

APPENDIXES



Appendix 1. Raw sequence data of the two regions within the β -tubulin gene (designated as β -tub 1a/1b and β -tub 2a/2b) and the ITS1, conserved 5.8S and ITS2 regions of the rDNA operon. The start of each region is indicated above the alignment. The exon regions of the β -tubulin gene as well as the conserved 5.8S region of the rDNA operon are indicated in red. Unknown sequence characters are indicated with a “N”, while gaps inserted to achieve sequences alignment are indicated with “-”. Bases matching those of **CMW 2113** are indicated with a “.”.

[	10	20	30	40	50	60	70	80	90]
[	β-tub 1a/1b →								
CMW 2113	TGACCAGCCG TGGCGCCCAC TCCTTCCGCG CTGTCACGGT GCCCGAGTTG ACCCAGCAGA TGTTTCGACCC CAAGAACATG ATGGCTGCCT								
CMW 8755	.....C.....								
CMW 62	.....C.....								
CMW 8758	GA.....	.....A.....	.....C.....						
CMW 8757	.....C.....								
CMW 1853	.....C.....								
CMW 1840	.....C.....								
CMW 8756	.....C.....								
CMW 2632	.....C.....								
CMW 1652	.....CC.A.C.C.....								
CMW 7047	.....CC.C.C.....								
CMW 7048	.....T.....CC.C.C.....								
CMW 2498	.....C.C.T.T.C.C.....A.....								
[	100	110	120	130	140	150	160	170	180]
[.								
CMW 2113	CTGACTTCCG CAACGGTCGC TACCTGACGT GCTCCGCCAT CTTGTAAGTC CCCC--GCC- --CCTCGC- -GCCTCGGGG CGCCTC--G								
CMW 8755	.....A.A.....								
CMW 62	.....							
CMW 8758	.....T.....A.A.A.....								
CMW 8757	.....T.....A.A.A.....								
CMW 1853	.....T.....AA.A.A.....								
CMW 1840	.....A.A.....								
CMW 8756	.....A.A.....								
CMW 2632	.....N.A.....								
CMW 1652	.....A.T.....T TT.TT.T.T TTT.....A A.T...AC. AA.G..TTG.								
CMW 7047	.....A.T.....T TT.TT.T.T TTT.....A G.T..A.ACA AA.G..TTCG.								
CMW 7048	.....A.T.....T TT.TT.T.T TTT.....A G.T..A.ACA AA.G..TTG.								
CMW 2498	.....T.....TAA.T.C.....A -.AAATAAA ATGG..GCGC								
[	190	200	210	220	230	240	250	260	270]
[.								
CMW 2113	GCCG----- -AAGCTCGTC TGCTAACCCCT CATCGTCC-- -AGCCGTGGC AAGGTCTCCA TGAAGGAGGT CGAGGACCAG ATGCGCAACG								
CMW 8755	.....							
CMW 62	.....							
CMW 8758	.....T.....T.....T.....T.....T.....T.....								
CMW 8757	.....T.....T.....T.....T.....T.....T.....								
CMW 1853	.....T.....T.....T.....-.....T.....T.....								
CMW 1840	.....T.....T.....T.....T.....T.....T.....								
CMW 8756	.....T.....T.....T.....T.....T.....T.....								
CMW 2632	.....T.....T.....T.....T.....T.....T.....								
CMW 1652	..T.TTTGGC T.C.CT... -T.CT.T.. TCC.C.T.TC T.....T.....A.....								
CMW 7047	..T.TTGGGC T.C.CT... -T.CT.T.. TCC.C.T.TC T.....G..T.....A.....								
CMW 7048	..T.TTTGGC T.C.CT... -T.CT.T.. TCC.C.T.TT T.....T.....A.....								
CMW 2498	..T.....------ -A.....- -G.TC T.....A.....								

	280	290	300	310	320	330	340	350	360]
[
[
CMW 2113	TCCAGAGCAA	GAACTCGTCC	TACTTCGTCG	AGTGGATCCC	CAACAACGTC	CAGACCGCCC	TCTGCTCCAT	CCCCCCAAG	GGTCTCAAGA
CMW 8755
CMW 62
CMW 8758	A.	.....	.....	.....	.....	.....	.....
CMW 8757
CMW 1853
CMW 1840
CMW 8756
CMW 2632
CMW 1652	T.	.....	.....	T.	.....	C.
CMW 7047	T.	.....	T.	T.	G.	C.A.
CMW 7048	T.	.....	.....	T.	G.	C.
CMW 2498	A.	.....	.....	.....	.....	G.	T.	.....

	370	380	390	400	410	420	430	440	450]
[
[
CMW 2113	TGTCCTCCAC	CTTTGTTGGC	AACTCCACTG	CCATCCAGGA	GCTCTTCAAG	CGTATCGGCG	AGCAGTTCAC	TGCTATGTTT	CGTCGCAAGG
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1652	G.	C.	C.	.....	.....	G.	T.	C.C.	G.
CMW 7047	G.	C.	C.	.....	A.	G.	.....	C.C.	G.
CMW 7048	G.	C.	C.	.....	.....	G.	T.	C.C.	G.
CMW 2498	T.	C.G.T	G.	T.	G.	G.G.	.....	C.	G.

	460	470	480	490	500	510	520	530	540]
[
[
CMW 2113	CTTTCTTGCA	TTGGTACACT	GGGACGCGAC	ACGGCGGTCT	CGAGACCGCG	AT-GGTAGTG	GTGGCTTCAG	TACTGACCGC	GACCGC-AGG
CMW 8755	T.	.....	.....	.....
CMW 62
CMW 8758	T.	G.	.....	.....	.....
CMW 8757	T.	G.	.....	.....	.....
CMW 1853	T.	G.	.....	.....	.....
CMW 1840	T.	G.	.....	.....	.....
CMW 8756	T.	G.	.....	.....	.....
CMW 2632	T.	G.	.....	.....	.....
CMW 1652	A.T	A.TACA	-----C	C.GCA	CA.A.GGA	G.....T	AAT
CMW 7047	A.T	A.TACA	-----C	C.GCA	CA.A.GGA	G.....T	AAT
CMW 7048	A.T	A.TACA	-----C	C.GCA	CA.A.GGA	G.....T	AAT
CMW 2498	C.-C	G.A.C.G	AC.CG.GA.A	AC.ACC.C	AA.A.GT	G.....T	ATTT

	550	560	570	580	590	600	610	620	630]	
[.]	
[
CMW 2113	CAAACCATCT	CTGGCGAGCA	CGGCCTCGAC	AGCAATGGCG	TGTACGTACC	CT---CCTGT	TGCACCAGGC	GG-----CGC	GCCTCGAGCT	
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....	.....C	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....C	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....C	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....C	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....T	.....C	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....C	.....	.....	.....
CMW 1652	.....	.....C	.....	.....	.....	.....ATCT.G.C	.....T.C.A..CA	.....A.ACAGA...	.....A..T.....
CMW 7047	.....	.....C	.....	.....	.....	.....ATCT.G.C	.....T.C.A..CA	.....A.ACAGA...	.....A..T.....
CMW 7048	.....	.....C	.....	.....	.....	.....ATCT.G.C	.....T.C.A..CA	.....A.ACAGA...	.....A..T.....
CMW 2498	.....	.....	.....	.....	.....T.C...	.....TCACATTCCC	.....C.ACT.A	.....TCTTGGC.T	.....T.T..CG...
[.]	
[
CMW 2113	TCCC-GCTGA	CCACTGCACA	GC	TACAACGG	CACCTCCGAG	CTCCAGCTCG	AGCGCATGAA	CGTCTACTTC	AACGAGGTAT	GTCTG-TCGG
CMW 8755
CMW 62
CMW 8758
CMW 8757
CMW 1853
CMW 1840C
CMW 8756CT
CMW 2632C
CMW 1652T..T.....CA..TTTA...
CMW 7047T..T.....CA..TTTA...
CMW 7048T..T.....CA..TTTA...
CMW 2498GG..A....A.TC...TT.....T..T...AAA.---
[.]	
[
CMW 2113	G--ACCAGGC	T-GGCGCGTC	-ATCCCGCC-	----CGCGAA	CCCCCTGTGC	GTGACC----	-----	-----GAGC	TCCCGCT---	
CMW 8755	.....	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....T	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....T	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 1652	.....TG.T..A..	.....CAA..T..	.....C.T..G..	.....AA.C.C.CCC	.....T.C	.....G.G..TT..	.....GACTTCTGGT	.....ATAGGC....	.....T..T..TCT
CMW 7047	.....TG.T..A..	.....CAA..T..	.....C.C.T..G.C	.....A.CC.C.CCC	.....T.C	.....G.G..CTC.	.....GACTTCTGGT	.....ATAGGC....	.....T..T..TCT
CMW 7048	.....TG.T..A..	.....CAA..T..	.....C.C.T..G.C	.....AACC.C.CCC	.....T.C	.....G.G..CTC.	.....GACTTCTGGT	.....ATAGGC....	.....T..T..TCT
CMW 2498	.....-...-..ACT	.....GCACAT.A..	.....C....GA...	.....AT.T.C..	.....A.GG.T.A.	.....T--G..GTCG	.....CCCG.....	.....C--.....	

	820	830	840	850	860	870	880	890	900]
[
[
CMW 2113	GACGCGCTCC	TGTCACAGGC	CTCCGGCAAC	AAGTATGTCC	CCCgcGCCGT	CCTCGTCGAT	CTCGAGCCCG	GCACCATGGA	CGCCGTCCGT
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....T	.....	.....	.....T	.....	.....
CMW 2632	.....	.....	.....	.....T	.....	.....	.....T	.....	.....
CMW 1652	.....T	.....TGTC	.....	.....T	.....	.....	.....T	.....T	.....C
CMW 7047	.....T	.....TGTC	.....	.....T	.....	.....	.....T	.....T	.....C
CMW 7048	.....T	.....TGTC	.....	.....T	.....	.....	.....T	.....T	.....C
CMW 2498	A...T.-.TA	.CG.C	.....	.....T	.....T	.....	.....T	.....	.....

	910	920	930	940	950	960	970	980	990]
[
[
						Histone H3 →			
CMW 2113	GCCGGCCCCCT	TCGGCCAGCT	GTCGCCCCC	GACAACCTCG	TCTTCGGCCA	GTCCACCGGT	GGCAAGGCC	CCCGTAAGCA	GCTCGCCTCC
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1652	.....T	.....T.T	.....T	.....	.....T	.....T	.....T	.....	.....G
CMW 7047	.....T	.....T.T	.....T	.....	.....T	.....T	.....T	.....	.....G
CMW 7048	.....T	.....T.T	.....T	.....	.....T	.....T	.....T	.....	.....G
CMW 2498	.....T	.....T	.....C	.....	.....	.....	.....	.....	.....

	1000	1010	1020	1030	1040	1050	1060	1070	1080]
[
[
CMW 2113	AAGGCTGCTC	GCAAGTCCGC	CCCCTCCACC	GGTGGTGTC	AGAAGCCTCA	CCGCTACAAG	CCCGTACTG	TCGCTCTGCG	TGAGATTCGT
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....T	.....	.....	.....	.....C	.....	.....
CMW 8757	.....	.....	.....T	.....	.....	.....	.....C	.....	.....
CMW 1853	.....	.....	.....T	.....	.....	.....	.....C	.....	.....
CMW 1840	.....	.....	.....T	.....	.....	.....	.....C	.....	.....
CMW 8756	.....	.....	.....T	.....	.....	.....	.....C	.....	.....
CMW 2632	.....	.....	.....T	.....	.....	.....	.....C	.....	.....
CMW 1652	.....C	.....	.....	.....A	.....	.....	.....T	.....C	.....C
CMW 7047	.....C	.....	.....	.....A	.....	.....	.....T	.....C	.....C
CMW 7048	.....C	.....	.....	.....A	.....	.....	.....T	.....C	.....C
CMW 2498	.....	.....	.....G.A.T	.....A	.....	.....	.....T	.....C	.....G

	1090	1100	1110	1120	1130	1140	1150	1160	1170]
[
[
CMW 2113	CGCTACCAGA	AGTCCACCGA	GTTGCTTATC	CGCAAGCTCC	CCTTCCAGCG	CCTGGTGAGC	AACCAACCCC	TTTGACCGCC	GTCGTGTCAT
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....T.....	.....C.....	.....	.....T.....	.....T..A..	.....A.....	.....	.....C.....	.....
CMW 8757	.....T.....	.....C.....	.....	.....	.....	.....A.....	.....	.....C.....	.....
CMW 1853	.....T.....	.....C.....	.....	.....	.....	.....	.....	.....C.....	.....
CMW 1840	.....	.....C.....	.....	.....	.....	.....	.....	.....C.....	.....
CMW 8756	.....	.....C.....	.....	.....	.....	.....	.....	.....C.....	.....
CMW 2632	.....	.....C.....	.....	.....	.....	.....	.....	.....C.....	.....
CMW 1652	.....	.....C...C...	.....	.....	.....T.....	.....T CTT---	.....	.....CTCGTT..	.....T..C..GG.C
CMW 7047	.....	.....C...C...	.....	.....	.....T.....	.....T CTT---	.....	.....CTCGTT..	.....T..C..GG.C
CMW 7048	.....	.....C...C...	.....	.....	.....T.....	.....T CTT---	.....	.....CTCGTT..	.....T..C..GG.C
CMW 2498	.....AG.....	.....C...G...	.....	.....	.....T.....	.....AT.T TG.--	.....	.....CGC.AT...	.....CA.CACG.--

	1180	1190	1200	1210	1220	1230	1240	1250	1260]
[
[
CMW 2113	G-----	-TGCCTTTGC	TGACTCGTTC	TGTTTCCCTA	C--GACAG	GT CCGTGAGATC	GCCCAGGACT	TCAAGTCCGA	CCTCCGCTTC
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....T.....	.....	.....T.....	.....	.....T..T
CMW 8757	.....	.....	.....	.....	.....T.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....T.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1652	..ATTTGTGTC	GC.A..C...	ATCT.AC.GA	C.CC.T..AC	..CCA.....	...C...T	.....	.....	.....T...T...
CMW 7047	..ATTTGTGTC	GC.A..C...	ATCT.AC.GA	C.CC.T..AC	..CCA.....	...C...T	.....	.....	.....T...T...
CMW 7048	..ATTTGTGTC	GC.A..C...	ATCT.AC.GA	C.CC.T..AC	..CCA.....	...C...T	.....	.....	.....T...T...
CMW 2498	-.....	..C.A.CC...	.....-A.CA	..CGCCT...T	...A.T.....	.....	.....	.....	.....T

	1270	1280	1290	1300	1310	1320	1330	1340	1350]
[
[
CMW 2113	CAGTCCTCCG	CCATCGGTGC	CCTGCAGGAG	TCCGTCGAGT	CCTACCTCGT	CTCTCTCTTC	GAGGACACCA	ACCTGTGCGC	CATCCACGCC
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....T.G..	..A..T.....	.....	.....	.....T.....	.....	.....	.....T.....	.....T.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....T.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....T.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....T.....	.....	.....
CMW 1652	.....G.....	.....G.....	.....	.....T.....	.....	.....T...C.....	.....	.....	.....
CMW 7047	.....G.....	.....G.....	.....	.....T.....	.....	.....T...C.....	.....	.....	.....
CMW 7048	.....G.....	.....G.....	.....	.....T.....	.....	.....T...C.....	.....	.....	.....
CMW 2498	.....T.....	.....	.....G.....	.....	.....T...A.....	.....	.....	.....	.....

```

[           1360 ]
[           .   ]
CMW 2113 AAGCGTGTCA CCATC
CMW 8755  .....
CMW 62    .....
CMW 8758  .....T
CMW 8757  .....
CMW 1853  .....
CMW 1840  .....
CMW 8756  .....
CMW 2632  .....
CMW 1652  .....
CMW 7047  .....
CMW 7048  .....
CMW 2498  .....

```


Appendix 2. Raw sequence data of the two regions sequenced within the β -tubulin gene (designated as β -tub 1a/1b and β -tub 2a/2b) and the ITS1, conserved 5.8S and ITS2 regions of the rDNA operon. The start of each region is indicated above the alignment. The exon regions of the β -tubulin gene as well as the conserved 5.8S region of the rDNA operon are in bold and boxed. Unknown sequence characters are indicated with a “N”, while gaps inserted to achieve sequences alignment are indicated with “-“. Bases matching those of **CMW 8757** are indicated with a “.”.

```

[           10           20           30           40           50]
[  $\beta$ -tub 1a/1b → . . . . . ]
CMW 8757 TGACCAGCCG TGGCGCCCAC TCCTCCGCG CTGTCACCGT GCCCGAGTTG
CMW 1853 . . . . .
CMW 9927 . . . . .
CMW 9929 . . . . .
CMW 9928 . . . . .
CMW 9327 . . . . .
CMW 9328 . . . . .
CMW 9932 . . . . .
CMW 62 . . . . .
CMW 2113 . . . . . G . . . . .
CMW 8755 . . . . .
CMW 8756 . . . . .
CMW 9906 . . . . .
CMW 9903 . . . . . G . . . . .
CMW 1651 . . . . . .CC. . . . . C. . . . .
CMW 1654 . . . . . .CC.A. . . . . C. . . . .
CMW 2498 . . . . . .C. . . . . T..T..C.C

```

```

[           60           70           80           90          100]
[ . . . . . ]
CMW 8757 ACCCAGCAGA TGTTGACCC CAAGAACATG ATGGCTGCCT CTGACTTCCG
CMW 1853 . . . . .
CMW 9927 . . . . .
CMW 9929 . . . . .
CMW 9928 . . . . .
CMW 9327 . . . . .
CMW 9328 . . . . .
CMW 9932 . . . . .
CMW 62 . . . . .
CMW 2113 . . . . .
CMW 8755 . . . . .
CMW 8756 . . . . .
CMW 9906 . . . . .
CMW 9903 . . . . .
CMW 1651 . . . . .
CMW 1654 . . . . .
CMW 2498 . . . . . A . . . . .

```

```

[           110          120          130          140          150]
[ . . . . . ]
CMW 8757 CAACGGTCGC TACCTGACGT GCTCCGCCAT CTTGTAAGTC TCCCGCCCCT
CMW 1853 . . . . .
CMW 9927 . . . . . C. . . . .
CMW 9929 . . . . . C. . . . .
CMW 9928 . . . . . C. . . . .
CMW 9327 . . . . . C. . . . .
CMW 9328 . . . . . C. . . . .
CMW 9932 . . . . . C. . . . .
CMW 62 . . . . . C. . . . .
CMW 2113 . . . . . C. . . . .
CMW 8755 . . . . . C. . . . .
CMW 8756 . . . . . C. . . . .
CMW 9906 . . . . . C. . . . .
CMW 9903 . . . . . C. . . . .
CMW 1651 . . . . . .A. . . . . T. . . . . T .T.TG. .T.
CMW 1654 . . . . . .A. . . . . T. . . . . T .T.TGT.T.
CMW 2498 . . . . . .T. . . . . C. .TAAGT.C

```



```

[
[
160      170      180      190      200]
[
CMW 8757  CGCGCCTCGG AGAGCATCGG CCGAA-G-CT T-----GTCT G-CTAACTCT
CMW 1853  .....A .....
CMW 9927  .....G.....G.....
CMW 9929  .....G.....G.....
CMW 9928  .....G.....G.....
CMW 9327  .....G.C..C....C.....C..
CMW 9328  .....G.C..C....C.....C..
CMW 9932  .....G.C..C....C.....C..
CMW 62    .....G.C..C....C.....C..
CMW 2113  .....G.C..C....C.....C..
CMW 8755  .....G.....C.....C..
CMW 8756  .....G.....
CMW 9906  .....G.....
CMW 9903  .....G.....C.....
CMW 1651  TT.CT.G.AA GT--.-...A --...C.T.. .GGGCT..T. .G....C..
CMW 1654  TT.CT.G.AA GT--.-...A --...C.T.. .GGGCT..T. .G....C..
CMW 2498  .CTCG.A.AA .T.AA... .CGC.... GAACT...-- -G.-----

```

```

[
[
210      220      230      240      250]
[
CMW 8757  TATCG---TC -----C-AGCCGT GGCAAGGTCT CCATGAAGGA
CMW 1853  .....
CMW 9927  .....
CMW 9929  .....
CMW 9928  .....
CMW 9327  C.....
CMW 9328  C.....
CMW 9932  C.....
CMW 62    C.....
CMW 2113  C.....
CMW 8755  C.....
CMW 8756  .....
CMW 9906  .....
CMW 9903  .....
CMW 1651  G-.TTTC.. TCTTCCCCTT CT.A.....T.....
CMW 1654  G-.TTTC.. TCTTCCCCTT CT.T.....T.....
CMW 2498  -----T.....A.....

```

```

[
[
260      270      280      290      300]
[
CMW 8757  GGTGAGGAC CAGATGCGCA ATGTCCAGAG CAAGAACTCG TCCTACTCG
CMW 1853  .....
CMW 9927  ...C.....
CMW 9929  ...C.....
CMW 9928  ...C.....
CMW 9327  ...C.....C.....
CMW 9328  ...C.....C.....
CMW 9932  ...C.....C.....
CMW 62    ...C.....C.....
CMW 2113  ...C.....C.....
CMW 8755  ...C.....C.....
CMW 8756  .....C.....
CMW 9906  .....C.....
CMW 9903  .....C.....
CMW 1651  A..C.....C.....
CMW 1654  A..C.....C.....
CMW 2498  ...C.....C.....A

```



	310	320	330	340	350]
[.]
[.]
CMW 8757	TCGAGTGGAT	CCCCAACAAAC	GTCCAGACCG	CCCTCTGCTC	CATCCCCCCC
CMW 1853
CMW 9927
CMW 9929
CMW 9928
CMW 9327
CMW 9328T.....	.....
CMW 9932
CMW 62
CMW 2113
CMW 8755
CMW 8756
CMW 9906
CMW 9903T.....	.....
CMW 1651T.....	.....	.....	.....T.....
CMW 1654T.....	.....	.....	.....T.....
CMW 2498G.....	.....T.....

	360	370	380	390	400]
[.]
[.]
CMW 8757	AAGGGTCTCA	AGATGTCTC	CACCTTTGTT	GGCAACTCCA	CTGCCATCCA
CMW 1853
CMW 9927
CMW 9929
CMW 9928
CMW 9327
CMW 9328
CMW 9932
CMW 62
CMW 2113
CMW 8755
CMW 8756
CMW 9906
CMW 9903C.....	.....
CMW 1651	.....C.....	.....	.....G.....C.....	.....	.....C.....
CMW 1654	.....C.....	.....	.....G.....C.....	.....	.....C.....
CMW 2498T.....C.....G.....	.....T.....G.....	.....T.....

	410	420	430	440	450]
[.]
[.]
CMW 8757	GGAGCTCTTC	AAGCGTATCG	GCGAGCAGTT	CACTGCTATG	TTCCGTCGCA
CMW 1853
CMW 9927
CMW 9929
CMW 9928
CMW 9327
CMW 9328
CMW 9932
CMW 62
CMW 2113
CMW 8755
CMW 8756
CMW 9906
CMW 9903
CMW 1651G.....	.....	.....T..C..C.....	.....G.....
CMW 1654G.....	.....	.....T..C..C.....	.....G.....
CMW 2498	.....G.....	.....G.G.....	.....	.....C.....	.....G.....

```

[           460           470           480           490           500]
[           .           .           β-tub 2a/2b → .           .]
CMW 8757  AGGCTTTCTT GCATTGGTAC ACTGGGACGC GAC--ACGGC GGTCT-CGAG
CMW 1853  .....
CMW 9927  .....
CMW 9929  .....
CMW 9928  .....
CMW 9327  .....G....
CMW 9328  .....G....
CMW 9932  .....G....
CMW 62    .....
CMW 2113  .....
CMW 8755  .....
CMW 8756  .....
CMW 9906  .....
CMW 9903  .....
CMW 1651  .....A. .T. .A. TACA....--
CMW 1654  .....A. .T. .A. TACA....--
CMW 2498  .....C..CG CCGCG... T----...C
    
```

```

[           510           520           530           540           550]
[           .           .           .           .           .]
CMW 8757  ACCGTGATGG TGGTGGTGGC TTCAGT----- ---ACTGACC GCG-ACCGC-
CMW 1853  .....
CMW 9927  .....T.....C..
CMW 9929  .....T.....C..
CMW 9928  .....T.....C..
CMW 9327  ...A....A.....G....
CMW 9328  ...A....A.....G....
CMW 9932  ...A....A.....G....
CMW 62    ...C....A.....
CMW 2113  ...C....A.....
CMW 8755  ...A.....
CMW 8756  .....
CMW 9906  ...C....A.....G
CMW 9903  .....
CMW 1651  ..----.C. .CA.CA.A. .GGA..... .G..... T....AAT.
CMW 1654  ..----.C. .CA.CA.A. .GGA..... .G..... T....AAT.
CMW 2498  ..GCGACA-- -ATAC.ACCT C-G.AGCATC GTTG..... T....ATTT
    
```

```

[           560           570           580           590           600]
[           .           .           .           .           .]
CMW 8757  AGGCAAACCA TCTCTGGCGA GCACGGCCTC GACAGCAATG GCGTGTACGT
CMW 1853  .....
CMW 9927  .....
CMW 9929  .....
CMW 9928  .....
CMW 9327  .....
CMW 9328  .....
CMW 9932  .....
CMW 62    .....
CMW 2113  .....
CMW 8755  .....
CMW 8756  .....
CMW 9906  .....
CMW 9903  .....
CMW 1651  .....C.....
CMW 1654  .....C.....
CMW 2498  .....T.C
    
```

```

[           610           620           630           640           650]
[           .           .           .           .           .]
CMW 8757 ACCCTCCTGC TGCACCAGGC GCGCGCCTC GAG-----
CMW 1853 .....
CMW 9927 .....A.....
CMW 9929 .....A.....
CMW 9928 .....A.....
CMW 9327 .....T.....
CMW 9328 .....T.....
CMW 9932 .....T.....
CMW 62 .....T.....
CMW 2113 .....T.....
CMW 8755 .....T.....
CMW 8756 .....
CMW 9906 .....
CMW 9903 .....
CMW 1651 .....AT-- .----.---. .T.C.AAGCA -. .ACAGACG CGACTTGAGC
CMW 1654 .....AT-- .----.---. .T.C.AAGCA -. .ACAGACG CGACTTGAGC
CMW 2498 ...-. .ACAT .C.CTGCCCA CTGATCTTGG CCTCTCTTCC GG.CTTGGCA

```

```

[           660           670           680           690           700]
[           .           .           .           .           .]
CMW 8757 CTTCCCCTG ACCACTGCAC AGCTACAACG G-CACCTCCG AGCTCCAGCT
CMW 1853 .....
CMW 9927 .....
CMW 9929 .....
CMW 9928 .....
CMW 9327 .....
CMW 9328 .....
CMW 9932 .....
CMW 62 .....
CMW 2113 .....
CMW 8755 .....
CMW 8756 .....C.....
CMW 9906 .....C.....
CMW 9903 .....C.....
CMW 1651 T...T... ..CA..T.....
CMW 1654 T...T... ..CA..T.....
CMW 2498 -----... ..A.TC...T ..T..... ..T..T. ....

```

```

[           710           720           730           740           750]
[           .           .           .           .           .]
CMW 8757 CGAGCGCATG AACGTCTACT TCAACGAGGT ATGTCTGTCC GGACCA----
CMW 1853 .....
CMW 9927 .....
CMW 9929 .....
CMW 9928 .....
CMW 9327 .....
CMW 9328 .....
CMW 9932 .....
CMW 62 .....
CMW 2113 .....
CMW 8755 .....
CMW 8756 .....
CMW 9906 .....
CMW 9903 .....
CMW 1651 ..... ..T..... ..TATC ..GTG.TACA
CMW 1654 ..... ..T..... ..TATC ..GTG.T.CA
CMW 2498 ..... ..A...AACAA CTG.ACATCA

```



```

[
[
760      770      780      790      800]
[
CMW 8757  GGCTGGGGCG TCATCCCGCC CGCGA----- ACCCCCTGTG CGT-----
CMW 1853  .....
CMW 9927  .....
CMW 9929  .....
CMW 9928  .....
CMW 9327  .....
CMW 9328  .....
CMW 9932  .....
CMW 62    .....
CMW 2113  .....C.....
CMW 8755  .....
CMW 8756  .T.....
CMW 9906  .T.....T.....
CMW 9903  .T.....T.....
CMW 1651  A...ACAAGC .TCCA..TGG GC.A-..... .CCCC .CCTTTCCGG
CMW 1654  A...-CAAGC .TC-A..T.G GC-A-..... .CCCC .CCTTTCCGG
CMW 2498  TC.ATCC.AC -....T.CAA .A..GTTTAC TG..GTC.CC ...-.....

```

```

[
[
810      820      830      840      850]
[
CMW 8757  -GACCGAGCT CCCGCTGACG C-GC-----T CCT-GTCA-- -----
CMW 1853  .....
CMW 9927  .....
CMW 9929  .....
CMW 9928  .....
CMW 9327  .....
CMW 9328  .....
CMW 9932  .....
CMW 62    .....
CMW 2113  .....
CMW 8755  .....
CMW 8756  .....
CMW 9906  .....
CMW 9903  .....-... ..-T..... T..T.....
CMW 1651  G.C.TTCTGA .TTCTG.TAT AG..GAGCA. ....----CT TCTGACGCG.
CMW 1654  G.C.TT--GA .TTCTG.TAT AG..GAGCT. ....----CT TCTGACGCG.
CMW 2498  .....TC... AA..TGTTAT .GC.....- -----.----.. ..-.....

```

```

[
[
860      870      880      890      900]
[
CMW 8757  -----C A-G GCCTCCG GCAACAAGTA TGTCCCCGC GCCGTCCTCG
CMW 1853  .....
CMW 9927  .....
CMW 9929  .....
CMW 9928  .....
CMW 9327  .....
CMW 9328  .....
CMW 9932  .....
CMW 62    .....
CMW 2113  .....
CMW 8755  .....
CMW 8756  .....T.....
CMW 9906  .....T.....
CMW 9903  .....A...T..G.....T.....T.....
CMW 1651  CTTCTTGTC. ....T.....
CMW 1654  CTTCTTGTC. ....T.....
CMW 2498  .....T..T.....

```



	910	920	930	940	950]
[.]
[.]
CMW 8757	TCGATCTCGA	GCCCCGGCACC	ATGGACGCCG	TCCGTGCCGG	CCCCTTCGGC
CMW 1853	.....	.....	.....	.....	.....
CMW 9927	....C.....	.....	.....	.....	.....
CMW 9929	....C.....	.....	.....	.....	.....
CMW 9928	....C.....	.....	.....	.....	.....
CMW 9327	.....	.....	.....	.....	.....
CMW 9328	.....	.....	.....	.....	.....
CMW 9932	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....
CMW 8756	.....T.....	.....	.....	.....	.....
CMW 9906	.....T.....	.....	.....	.....	.....
CMW 9903	.T.....	A..T.....	.....	.T.....	.....
CMW 1651	.....	.....T.....	.....T.....	....C..T..	.....T..T
CMW 1654	.....	.....T.....	.....T.....	....C..T..	.....T..T
CMW 2498	.....	.....T.....	.....	.....T.....	.....T.....

	960	970	980	990	1000]
[	.	.	.	ITS1 →	.]
[	.	.	.	ITS1 →	.]
CMW 8757	CAGCTGTTCC	GCCCCGACAA	CTTCGTCTTC	GGCCAGTCC	CCAGATACCC
CMW 1853	.....	.....	.....	.....	.....
CMW 9927	..A.....	.....	.....	.....	.....
CMW 9929	..A.....	.....	.....	.....	.....
CMW 9928	..A.....	.....	.....	.....	.....
CMW 9327	.....	.....T.....	.....	.....	.....
CMW 9328	.....	.....T.....	.....	.....	.....
CMW 9932	.....	.....T.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	.....	.....
CMW 9903	.....G.....	.....	.....	.....	.....
CMW 1651	.....T.....	.....	.....T.....	.....	.....
CMW 1654	.....T.....	.....	.....T.....	.....	.....
CMW 2498	.....C.....	.....	.....	.....	.....A.....

	1010	1020	1030	1040	1050]
[.]
[.]
CMW 8757	TTTGTGAACT	TATA-CCTTT	TTATC-GTTG	CCTCGGCGCC	GAGCC----G
CMW 1853
CMW 9927
CMW 9929
CMW 9928
CMW 9327
CMW 9328
CMW 9932G.....	.....	.....	.....
CMW 62
CMW 2113
CMW 8755
CMW 8756
CMW 9906
CMW 9903
CMW 1651A..A..	.....	.....T.....	.....TCTG.
CMW 1654A..A..	.....	.....T.....	.....TCTG.
CMW 2498---T.....	.....T.....	.....T.....-


```

[           1060           1070           1080           1090           1100]
[           .           .           .           .           .]
CMW 8757 GGAGTGCT-- -----C TTCTGTGCTC CC-----
CMW 1853 .....
CMW 9927 .....
CMW 9929 .....
CMW 9928 .....
CMW 9327 .....
CMW 9328 .....
CMW 9932 .....
CMW 62 .....
CMW 2113 .....
CMW 8755 .....
CMW 8756 .....
CMW 9906 .....
CMW 9903 .....
CMW 1651 ..G.G.G.TG GCGAAGGCAG ATTTTCTTC. ....CCC... ..TCCCCCCC
CMW 1654 ..G.G.G.TG GCGAAGGCAG ATTTTCTTC. ....CCC... ..TCCCCCCC
CMW 2498 ----.G... ..C. C..G.G.-. ..T.....
    
```

```

[           1110           1120           1130           1140           1150]
[           .           .           .           .           .]
CMW 8757 ----CCACC GCGCAAGCAG T-----GGA GCAGGCCCGC CGGCGGCCCA
CMW 1853 .....
CMW 9927 .....G.
CMW 9929 .....G.
CMW 9928 .....G.
CMW 9327 .....
CMW 9328 .....
CMW 9932 .....
CMW 62 .....
CMW 2113 .....
CMW 8755 .....
CMW 8756 .....
CMW 9906 .....
CMW 9903 .....
CMW 1651 CTCTT.... .T....A.G. .TGTTGG...
CMW 1654 CTCTT.... .T....A.G. .TGTTGG...
CMW 2498 .....-..... -.T.GG.TGT .....-.. .ACA.....T .....A.
    
```

```

[           1160           1170           1180           1190           1200]
[           .           .           .           .           .]
CMW 8757 CCAAA-CTCT TTGTTTTTAG AACGTATCTC TTCTGAGTGT TTATA-ACAA
CMW 1853 .T.....
CMW 9927 .....
CMW 9929 .....
CMW 9928 .....
CMW 9327 .....
CMW 9328 .....
CMW 9932 .....
CMW 62 .....
CMW 2113 .....
CMW 8755 .....
CMW 8756 .....
CMW 9906 .....
CMW 9903 .....
CMW 1651 .T..... .T...C..... .AC A..A.C.A..
CMW 1654 .T..... .T...C..... .AC A..A.C.A..
CMW 2498 ..T..... .-.....C .CT.A.A.- --.....CAC A--A.--.C
    
```

```

[           1210           1220           1230           1240           1250]
[           .           5.8S →           .           .           .]
CMW 8757  A-CAAATGAA TCAAAACTTT CAACAACGGA TCTCTTGGTT CTGGCATCGA
CMW 1853    .....
CMW 9927    .....
CMW 9929    .....
CMW 9928    .....
CMW 9327    .....
CMW 9328    .....
CMW 9932    .....
CMW 62      .....
CMW 2113    .....
CMW 8755    .....
CMW 8756    .....
CMW 9906    .....
CMW 9903    .....
CMW 1651    .A-.....
CMW 1654    .A-.....
CMW 2498    .T-.....
    
```

```

[           1260           1270           1280           1290           1300]
[           .           .           .           .           .]
CMW 8757  TGAAGAACGC AGCGAAATGC GATAAGTAAT GTGAATTGCA GAATTCAGTG
CMW 1853    .....
CMW 9927    .....
CMW 9929    .....
CMW 9928    .....
CMW 9327    .....
CMW 9328    .....
CMW 9932    .....
CMW 62      .....
CMW 2113    .....
CMW 8755    .....
CMW 8756    .....
CMW 9906    .....
CMW 9903    .....
CMW 1651    .....
CMW 1654    .....
CMW 2498    .....
    
```

```

[           1310           1320           1330           1340           1350]
[           .           .           .           .           .]
CMW 8757  AATCATCGAA TCTTTGAACG CACATTGCGC CCGCTGGAAT TCCAGCGGGC
CMW 1853    .....
CMW 9927    .....
CMW 9929    .....
CMW 9928    .....
CMW 9327    .....T.....
CMW 9328    .....T.....
CMW 9932    .....T.....
CMW 62      .....T.....
CMW 2113    .....
CMW 8755    .....
CMW 8756    .....CG.....
CMW 9906    .....
CMW 9903    .....
CMW 1651    .....G.....
CMW 1654    .....G.....
CMW 2498    .....T...T...G.A...
    
```

```

[           1360           1370           1380           1390           1400]
[           .           . ITS2 →           .           .           .]
CMW 8757   ATGCCTGTTT GAGCGTCATT TCAACCCTCA AGCCTGGCTT GGTGTTGGGG
CMW 1853   .....
CMW 9927   .....
CMW 9929   .....
CMW 9928   .....
CMW 9327   .....
CMW 9328   .....
CMW 9932   .....
CMW 62     .....
CMW 2113   .....
CMW 8755   .....
CMW 8756   .....
CMW 9906   .....
CMW 9903   .....
CMW 1651   .....T.....
CMW 1654   .....T.....
CMW 2498   .....A.....
    
```

```

[           1410           1420           1430           1440           1450]
[           .           .           .           .           .]
CMW 8757   CACTACCTGT TC-ACAGCGG GTAGGCCCTG AAATTTAATG GCGGGCTCGC
CMW 1853   .....
CMW 9927   .....G.....
CMW 9929   .....G.....
CMW 9928   .....G.....
CMW 9327   .....
CMW 9328   .....
CMW 9932   .....
CMW 62     .....
CMW 2113   .....
CMW 8755   .....
CMW 8756   ...G...TT.....G.....
CMW 9906   ...G...TT.....G.....
CMW 9903   ...G...TT.....G.....
CMW 1651   T...C...AAA..----.....G.....
CMW 1654   T...C...AAA..----.....G.....
CMW 2498   ...G.T.C. .ACC..AGAA .C.....C.G...A.....
    
```

```

[           1460           1470           1480           1490           1500]
[           .           .           .           .           .]
CMW 8757   TAAGACTCTG AGCGTAGTAG TTTTATC-- ----ACCTCG CTTTGAAGG
CMW 1853   .....
CMW 9927   .....
CMW 9929   .....
CMW 9928   .....
CMW 9327   .....
CMW 9328   .....
CMW 9932   .....
CMW 62     .....
CMW 2113   .....
CMW 8755   .....
CMW 8756   .....A.....
CMW 9906   .....
CMW 9903   .....
CMW 1651   .....T.TTC TTCA.....
CMW 1654   .....C.....T.TTC TTCA.....
CMW 2498   C.G...C.C. ....C.....--A.A... ..C.....
    
```



```

[
[
1510      1520      1530]
[
CMW 8757  AT-TAGCGGT -GCTCTTGCC G-TAAAACC
CMW 1853  .....
CMW 9927  .....
CMW 9929  .....
CMW 9928  .....
CMW 9327  .....
CMW 9328  .....
CMW 9932  .....
CMW 62    .....
CMW 2113  .....
CMW 8755  .....
CMW 8756  .....CGA.. ...C.....
CMW 9906  .....
CMW 9903  .....
CMW 1651  .....T.....
CMW 1654  .....T.....
CMW 2498  CCC.G..... ...C.-... .T.-...

```



Appendix 3. Raw sequence data of the two regions within the β -tubulin gene (designated as β -tub 1a/1b and β -tub 2a/2b) and the ITS1, conserved 5.8S and ITS2 regions of the rDNA operon. The start of each region is indicated above the alignment. The exon regions of the β -tubulin gene as well as the conserved 5.8S region of the rDNA operon are indicated in bold and boxed. Unknown sequence characters are indicated with a “N”, while gaps inserted to achieve sequences alignment are indicated with “-“. Bases matching those of **CMW 1856** are indicated with a “.”

[	10	20	30	40	50	60	70	80]
[β -tub 1a/1b →]
CMW 1856	TGACCAGCCG	TGGCGCCCAC	TCCTFCCGCG	CTGTCACCGT	GCCCGAGTTG	ACCCAGCAGA	TGTTTCGACCC	CAAGAACATG	
CMW 8756	
CMW 9903	
CMW 9906G.	.....	.....	.....	.....	.....
CMW 2631	
CMW 2632	
CMW 3839	
CMW 8651	
CMW 8650	
CMW 8649	
CMW 62	
CMW 2113G.	.....	.....	.....	.....
CMW 8755	
CMW 8757	
CMW 1853	
CMW 10667A.	.....G.	.....	.....
CMW 10668	
CMW 10774	
CMW 10776	
CMW 10775	
CMW 10777A.	.....	.....
CMW 10778A.	.....	.....
CMW 10781CC.	.....T.	.....	.....	.....
CMW 10779CC.	.....T.	.....	.....	.....
CMW 10780CC.	.....T.	.....	.....	.....
CMW 10455T.	.....	.....CC.	.....T.	.....	.....	.....
CMW 10477T.	.....	.....CC.	.....T.	.....	.....	.....
CMW 10518T.	.....	.....CC.A.	.....T.	.....	.....	.....
CMW 10463T.	.....	.....CC.	.....T.	.....	.....	.....
CMW 7047CC.	.....C.	.....	.....	.....
CMW 7048T.	.....CC.	.....C.	.....	.....	.....
CMW 5288	.....C.	.....	.....T.	.....C.	.....	.....C.C	.....	.....
CMW 5587	.....C.	.....	.....T.	.....C.	.....	.....C.C	.....	.....



	90	100	110	120	130	140	150	160]
[.
[.
CMW 1856	ATGGCTGCCT	CTGACTTCCG	CAACGGTCGC	TACCTGACGT	GCTCCGCCAT	CTTGTAAGTC	CCCCGCCCCCT	CGCGCCTCGG
CMW 8756
CMW 9903
CMW 9906
CMW 2631
CMW 2632
CMW 3839
CMW 8651
CMW 8650
CMW 8649
CMW 62
CMW 2113
CMW 8755
CMW 8757	T.....	.....
CMW 1853	T.....	.....A
CMW 10667	T.....	.....
CMW 10668	.....C.....	.....C.....	.....	.....	.....	.....	T.....	.....
CMW 10774
CMW 10776T.....	.....A.....	.....	.....	T.....T.....	.....A
CMW 10775	T.....	.....
CMW 10777T.....	.....	.....	.....	T.....	.....G..
CMW 10778	T.....	G.....G..
CMW 10781G.....	.....A.....	.....T.....	.....	.A..T..T.A	.AGA...C.
CMW 10779T.....	.....	.A..T..T.A	.AGA...C.
CMW 10780T.....	.....	.A..T..T.A	.AGA...C.
CMW 10455T.....	.....T	GTTTTTTTTT	TT.TT...TT
CMW 10477T.....	.....T	GTTTTTTTTT	TT.TT...TT
CMW 10518T.....	.....T.....	.....T.....	.....T	TT.T.TGT..	TCT-----
CMW 10463T.....	.....A.....	.....T.....	.....T	TT.TATA...	T-----
CMW 7047A.....	.....T.....	.....T	TT.TTGT.T.	TT-----
CMW 7048A.....	.....T.....	.....T	TT.TTGT.T.	TT-----
CMW 5288	.....C.....	.....	.....T..T.....	.....	.....T.....	.....	...T.AG.A.	.T-----
CMW 5587	.....C.....	.....	.....T..T.....	.....	.....T.....	.....	...T.AG.A.	.T-----

	170	180	190	200	210	220	230	240]
[
[
CMW 1856	GGAGCA----	-----	-TCGGCCGAA	GCTT-----	---GTCTGCT	AACTCTTATC	GTC-----	-----
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....C.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	..C..C....	.....	.....	..C.....	.....	..C..C....	.....	.....
CMW 2113	..C..C....	.....	.....	..C.....	.....	..C..C....	.....	.....
CMW 8755	.....	.....	.....	..C.....	.....	..C..C....	.....	.....
CMW 8757	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10668	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10781	A.GT.-....	.....	.....	..C.....	.....G....	..C.CCC..	CC.CTCCCC	CCAAAA....
CMW 10779	A.GT.-....	.....	.....	..C.....	.....G....	..C.CCC..	CC.C.CC...	..AAAA....
CMW 10780	A.GT.-....	.....	.....	..C.....	.....G....	..C.CCC..	CC.C.CC...	..AAAA....
CMW 10455	CCCCTTGCCT	CCTCGCAAGT	C...ATAA.G	T.G.CTCTGG	CTT..T....	..C-.GT.T	C..TCCCCC	CCCCCAAC..
CMW 10477	CCCCTTGCCT	CCTCGCAAGT	C...ATGA.G	T.G.CTCTGG	CTT..T....	..C-.GT.T	C..TCCCCC	CCCCCAAC..
CMW 10518	-----....	CCTCGCAGGC	C...CATGA.C	ATC.TG..GG	CTTT.TG...	..C.CATGT	T..TCTCTTT	CCCCCTTC..
CMW 10463	-----....	.CTCGCAAGC	C...ATGA.C	ATC.CG..GG	CTTC.TG...	..C.CACGT	T..TCTCTTT	C.....CTC
CMW 7047	-----....	CCTCGCAGGT	C.A.A.AA.C	.T..CG..GG	CTGT.GG...	..C..GTCT	T..TCTCTT.	CCCC.TTCTC
CMW 7048	-----....	CCTCGCAGGT	C...A.AA.C	.TC.TG..GG	CTGT.TG...	..C..GTCT	T..TCTCTT.	CCCC.TTCTT
CMW 5288	----CCACA	CGACCCAAGT	-----	-----	..GT.TGCGC	GCTGACAC.G	T--...CTTC	.....
CMW 5587	----CCACA	CGACCCAAGT	-----	-----	..GT.TGCGC	GCTGACAC.G	T--...CTTC	.....

	250	260	270	280	290	300	310	320]
[
[
CMW 1856	CAG	CCGTGGC	AAGGTCTCCA	TGAAGGAGGT	TGAGGACCAG	ATGCGCAACG	TCCAGAGCAA	GAACTCGTCC TACTTCGTCG
CMW 8756	.	.	.	.	.	.	.	.
CMW 9903	.	.	.	.	.	.	.	.
CMW 9906	.	.	.	.	.	.	.	.
CMW 2631	.	.	.	.	.	.	.	.
CMW 2632	.	.	.	.	.	.	.	.
CMW 3839	.	.	.	.	.	.	.	.
CMW 8651	.	.	.	.	.	.	.	.
CMW 8650	.	.	.	.	.	.	.	.
CMW 8649	.	.	.	.	.	.	.	.
CMW 62	.	.	.	C	.	.	.	.
CMW 2113	.	.	.	C	.	.	.	.
CMW 8755	.	.	.	C	.	.	.	.
CMW 8757	.	.	.	.	T	.	.	.
CMW 1853	.	.	.	.	T	.	.	.
CMW 10667	.	.	.	.	T	.	.	.
CMW 10668	.	.	.	.	T	.	.	.
CMW 10774	.	.	.	.	.	.	.	.
CMW 10776	.	.	.	.	T	G	.	.
CMW 10775	.	.	.	.	T	.	.	.
CMW 10777	.	.	.	.	T	.	.	.
CMW 10778	.	.	.	.	T	.	.	.
CMW 10781	.	T	.	C	.	.	G	T
CMW 10779	.	T	.	C	.	.	G	T
CMW 10780	.	T	.	C	.	.	G	T
CMW 10455	.	.	.	A	.	.	.	.
CMW 10477	.	.	.	A	.	.	.	.
CMW 10518	T	G	.	C	.	T	.	.
CMW 10463	T	.	.	C	.	.	.	.
CMW 7047	T	G	T	A	C	.	.	.
CMW 7048	T	T	.	A	C	.	.	.
CMW 5288	T	A	.	C	.	.	.	.
CMW 5587	T	A	.	C	.	.	.	.

	330	340	350	360	370	380	390	400]
[
[
CMW 1856	AGTGGATCCC	CAACAACGTC	CAGACCGCCC	TCTGCTCCAT	CCCCCCAAG	GGTCTCAAGA	TGTCCCTCCAC	CTTTGTTGGC
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	T.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10668	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	..G.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10781	.....	.....	T.....	.....	T.....	.....	C.....	.....
CMW 10779	.....	.....	T.....	.....	T.....	.....	C.....	.....
CMW 10780	.....	.....	T.....	.....	T.....	.....	C.....	.....
CMW 10455	.....	.....	.....	.....	.....	.....	C.....	.....
CMW 10477	.....	.....	.....	.....	.....	.....	C.....	.....
CMW 10518	..A.....	.....	.....	.....	.....	T.....	.....	.....
CMW 10463	..A.....	.....	.....	.....	.....	.....	T.....	.....
CMW 7047	.....	T.....	.....	.....	T.....	.....	G.....	.....
CMW 7048	.....	T.....	.....	.....	T.....	.....	G.....	.....
CMW 5288	..A....T..	.....	.....	.....	.....	.....	.....	.....
CMW 5587	..A....T..	.....	.....	.....	.....	.....	.....	.....

	410	420	430	440	450	460	470	480]
[.
[.
CMW 1856	AACTCCACTG	CCATCCAGGA	GCTCTTCAAG	CGTATCGGCG	AGCAGTTCAC	TGCTATGTTC	CGTCGCAAGG	CTTTCTTGCA
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....C.	.....	.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10668	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10781	.....C.	.....	.....	.....G.T.	.....A.	.....C.C.	.....	.....
CMW 10779	.....C.	.....	.....	.....G.T.	.....	.....C.C.	.....	.....
CMW 10780	.....C.	.....	.....	.....G.T.	.....	.....C.C.	.....	.....
CMW 10455	.....C.	.....	.....	.....G.	.....	.....C.C.	.....	.....
CMW 10477	.....C.	.....	.....	.....G.	.....	.....C.C.	.....	.....
CMW 10518	.....C.	.....	.....	.....G.	.....	.....C.C.	.....	.....
CMW 10463	.....C.	.....	.....	.....G.	.....	.....C.C.	.....	.....
CMW 7047	.....C.	.....	.....A.	.....G.	.....	.....C.C.	.....G.	.....
CMW 7048	.....C.	.....	.....	.....G.	.....T.	.....C.C.	.....G.	.....
CMW 5288	.....G.	.....T.	.....G.	.....G.	.....	.....C.	.....A.G.	.....
CMW 5587	.....G.	.....T.	.....G.	.....G.	.....	.....C.	.....A.G.	.....

	490	500	510	520	530	540	550	560]
[	β-tub 2a/2b →							
[
CMW 1856	TTGGTACACT	GGCAAACCAT	CTCTGGCGAG	CACGGCCTCG	ACAGCAATGG	CGTGTACGT	-----ACCCTC	C-----TGCT
CMW 8756
CMW 9903
CMW 9906
CMW 2631
CMW 2632
CMW 3839
CMW 8651
CMW 8650
CMW 8649
CMW 62T.
CMW 2113T.
CMW 8755T.
CMW 8757
CMW 1853
CMW 10667
CMW 10668
CMW 10774
CMW 10776	C.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	C.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777
CMW 10778
CMW 10781C.....	.....	.....	.....	.....T..A	.....CAGT.....A	.....ACGGC.....
CMW 10779C.....	.....	.....	.....	.....T..A	.....CAGT.....A	.....ACGGC.....
CMW 10780C.....	.....	.....	.....	.....T..A	.....CAGT.....A	.....ACGGC.....
CMW 10455	.....T.....	.....C.....	.....	.....	.....G.....	.....T..A	.....CCGTG..T.A	.....ACCGGCTT..
CMW 10477	.....T.....	.....C.....	.....	.....	.....G.....	.....T..A	.....CCGTG..T.A	.....ACCGGCTT..
CMW 10518C.....	.....T.....	.....	.....	.....T..A	.....CTCT...-..-..	.....CGGCTT-
CMW 10463C.....	.....T..T.....	.....	.....	.....T..A	.....CCCT...-..-..	.....CGGCTT-
CMW 7047C.....	.....	.....	.....	.....A	.....CCCT..T-..-..	.....CGGCTT-
CMW 7048C.....	.....	.....	.....	.....A	.....CCCT..T-..-..	.....CGGCTT-
CMW 5288T.....	.....	.....A	.....CCTCGTA-..	.....CCTGCC-.A
CMW 5587T.....	.....	.....T..A	.....CCTCGTA-..	.....CCTGCC-.A

	570	580	590	600	610	620	630	640]
[
[
CMW 1856	GCACCAGG--	----CGG---	CGCGCCTCGA	GCTT-CCC-G	CTGACCA-CC	GCACAGC	TAC AACGGCACCT	CCGAGCTCCA
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10668	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10781	----...CC	GAGA.A.ACG	...C.--G	...T.T	.....	.....	.....	.....
CMW 10779	----...CC	GAGA.A.ACG	...C.--G	...T.T	.....	.....	.....	.....
CMW 10780	----...CC	GAGA.A.ACG	...C.--G	...T.T	.....	.....	.....	.....
CMW 10455	-.C...ACA	A.GA.A.ACG	...CTT--..	...CT.TT	.....A..	A.....	..T.....	.....
CMW 10477	-.C...ACA	A.GA.A.ACG	...CTT--..	...CT.TT	.....A..	A.....	..T.....	.....
CMW 10518	-.C...-CA	A.GATA.ACG	..ACTTGT..	..AC.T.T	.....T.....	A..T.....	.....	.....
CMW 10463	-.C...-CA	A.GATA.ACG	..ACTTGT..	...T.T	.....G....	A..T.....	.....	.....
CMW 7047	-.C.A.-CA	A.GA.A.ACG	..ACTT--..	...T.T	.....	A..T.....	.....	.....
CMW 7048	-.C.A.-CA	A.GA.A.ACG	..ACTT--..	...T.T	.....	A..T.....	.....	.....
CMW 5288	CTGGTCTCGT	CCTCTCCCTC	-----G	...GG.-A	.....A..T	.....T...	.....T.	.....
CMW 5587	CTGGTCTCGT	CCTCTCCCTC	-----G	...GG.-A	.....A..TT	.....T...	.....T.	.....

	650	660	670	680	690	700	710	720]
[
[
CMW 1856	GCTCGAGCGC	ATGAACGTCT	ACTTCAACGA	G	GTATGTC	T-----	CGG--GAC-C	A-GGCTGGGG CGTCATCCC-
CMW 8756T.....	.....
CMW 9903T.....	.....
CMW 9906T.....	.....
CMW 2631
CMW 2632
CMW 3839
CMW 8651
CMW 8650
CMW 8649
CMW 62
CMW 2113
CMW 8755
CMW 8757
CMW 1853
CMW 10667
CMW 10668T.....	.....
CMW 10774
CMW 10776
CMW 10775
CMW 10777
CMW 10778
CMW 10781	...T.....	.....	.....	.....	-T .AT.....	...GC.....	.....C.A.	.AC...TT.
CMW 10779	...T.....	.....	.....	.....	-T .AT.....	...GC.....	.....C.A.	.AC...TT.
CMW 10780	...T.....	.....	.....	.....	-T .AT.....	...GC.....	.....C.A.	.AC...TTT
CMW 10455	CT .ATCATCCAT	...GT.....	...A...CAA.	.A...CAT.TC
CMW 10477	CT .ATCATCCAT	...GT.....	...A...CAA.	.A...CAT.TC
CMW 10518	-T .AT.....	...GT.....	.....C.A.	.A...CAT.TC
CMW 10463	-T .AT.....	...GT.....	.....C.A.	.A...CAT.T.
CMW 7047T.....	.....	-T .AT.....	...GT..T..	...A-...CAA.	.T..CA..TC
CMW 7048T.....	.....	-T .AT.....	...GT..T..	...A-...CAA.	.T..CA..TC
CMW 5288A...--	AACAGCCACG	TC.TCA.TT.	.AATT..ACA	ACCT.CGG.A
CMW 5587A...--	AACAGCCACG	TC.TCA.TC.	.AATT..ACA	ACCT.CGG.A

	730	740	750	760	770	780	790	800]
[
[
CMW 1856	GCCC-GC-GA	--ACCCCC--	-----	--TGTGCGT-	-----GACC-	-----GA	GC-----TCC	CG-----CTGA
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.T.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10668	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	.....	.....	.....	.....	.....	.....	.....	.....C.....
CMW 10781	...T...T..	.C.....CC	CCCCCTT...	..-----	....C...T	CT.GGCCT..	C.GGGCG...	..-CTT.....
CMW 10779	...T...T..	AC.....CC	CCCCCTT.CT	TT-----	....C...T	CT.GGCCT..	C.GGGCG...	..-CTT.....
CMW 10780	...TT..T..	.C.....CC	CCCCCTT.CT	TT-----	....C...T	CTTGGCCT..	C.GGGCG...	..-CTT.....
CMW 10455	.A..TTGG.C	CCC..AA.CC	CCTCTCCC..	..-----	.....TT	CT.GGCATAG	..GAAGT...	..TCTTT....
CMW 10477	.A..TTGG.C	CCC..AA.CC	CCTCTCCC..	..-----	.....TT	CT.GGCATAG	..GAAGT...	..TCTTT....
CMW 10518	AG--...-C	CC----A.CC	CTGTTCC...	..-----	..CTCC..TT	CT.GGTACAG	..GAGCT...	..-TCTT....
CMW 10463	-----	.C.A...CC	CCCCCTCCA	AA.CCCG.GC	CCCTC...TT	CT.GGCATAG	..GAGCT...	..-TCTT....
CMW 7047	.G.-----	.C.....CC	CCCCC...CT	TTC.G.GCCC	TC.....TT	CT.GGTATAG	..GAGCT...	..-TCTT....
CMW 7048	.G.-----	.C.A...CC	CCCCC...CT	TTCCG.G.CC	CTC.....TT	CT.GGTATAG	..GAGCT...	..-TCTT....
CMW 5288	-----	.....	.....TGGT	TTCCC..CG.	....TCG..A	AGGCCTTGCT	AACGCAT.--	-----AT
CMW 5587	-----	.....	.....TGGT	TTC.C..CG.	....TCG..A	AGGCCTTGCT	AACGCAT.--	-----AT

	810	820	830	840	850	860	870	880]
[
[
CMW 1856	CGCG-CTCCT	GTCACAG	GCC TCCGGCAACA	AGTATGTTCC	CCGCGCCGTC	CTCGTCGATC	TCGAGCCTGG	CACCATGGAC
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 2113	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 8755	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 8757	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 1853	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10667	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10668	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10774	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10776	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10775	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10777	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10778	.....	.....	.....	.....C.....	.....	.....	.....C.....	.....
CMW 10781	.....G.....	CGTT.....	.....	.....C.....	.....T.....	.....	.....C.....	.....T.....T.....
CMW 10779	.....G.....	CGTT.....	.....	.....C.....	.....T.....	.....	.....C.....	.....T.....T.....
CMW 10780	.....	CGTT.....	.....	.....C.....	.....T.....	.....	.....C.....	.....T.....T.....
CMW 10455	.....CT.TT.....	.....-.....T.....	.....C.....	.....	.....	.....	.....G.....	.....T.....T.....
CMW 10477	.....CT.TT.....	.....-.....T.....	.....C.....	.....	.....	.....	.....G.....	.....T.....T.....
CMW 10518	.....T.....	TATC.....	.....A.....	.....	.....T.....	.....	.....C.....	.....T.....
CMW 10463	.....T.....	TATC.....	.....A.....	.....	.....A.....	.....	.....C.....	.....T.....T.....
CMW 7047	.....T.....	TGTC.....	.....	.....	.....	.....	.....C.....	.....T.....T.....
CMW 7048	.....T.....	TGTC.....	.....	.....	.....	.....	.....C.....	.....T.....T.....
CMW 5288	.....C.....	.....	.....	.....G.....	.....T.....	.....	.....C.....	.....T.....
CMW 5587	.....C.....	.....	.....	.....G.....	.....T.....	.....	.....C.....	.....T.....

	890	900	910	920	930	940	950	960]
[	.	.	.	.	.	.	ITS 1 →	.]
CMW 1856	GCCGTCCGTG	CCGGCCCCCT	CGGCCAGCTG	TTCCGCCCCG	ACAACTTCGT	CTTCGGCCAG	TCC	CCCAGAT ACCC-TTTGT
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	A	.....
CMW 2632	.....	.....	.....	G	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	.....	.....	.....	.....	.....	.....	G	.....
CMW 10668	.....	.....	.....	-	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10781	.....C	.....T	.....T	.....T	.....	.....T	.....	.....C.A
CMW 10779	.....C	.....T	.....T	.....T	.....	.....T	.....	.....C.A
CMW 10780	.....C	.....T	.....T	.....T	.....	.....T	.....	.....C.A
CMW 10455	.....C	.....T	.....T	.....T	.....	.....T	.....	.....
CMW 10477	.....C	.....T	.....T	.....T	.....	.....T	.....	.....
CMW 10518	.....C	.....T	.....T	.....T	.....	.....T	.....	.....
CMW 10463	.....C	.....T	.....T	.....T	.....	.....T	.....	.....
CMW 7047	.....C	.....T	.....T	.....T	.....	.....T	.....	.....
CMW 7048	.....C	.....T	.....T	.....T	.....	.....T	.....	.....
CMW 5288	.....	.....T	.....	.....	.....	.....	.....	.....A
CMW 5587	.....	.....T	.....	.....	.....	.....	.....	.....A

```

[          970          980          990          1000          1010          1020          1030          1040]
[          .          .          .          .          .          .          .          .]
CMW 1856  GAACTTATA- CCTTTTTT-AT C--GTTGCCT CGGCGCCGAG CC----GGGA GTGCTCTTCT GTGC-----
CMW 8756  .....
CMW 9903  .....
CMW 9906  .....
CMW 2631  .....
CMW 2632  .....
CMW 3839  .....
CMW 8651  .....
CMW 8650  .....
CMW 8649  .....
CMW 62    .....
CMW 2113  .....
CMW 8755  .....
CMW 8757  .....
CMW 1853  .....
CMW 10667 .....
CMW 10668 .....
CMW 10774 .....
CMW 10776 .....
CMW 10775 .....
CMW 10777 .....
CMW 10778 .....
CMW 10781 ...A.....      .A.A ATT..... T.....  .C.GG... .ACGGGA.A. AGAAAAATAT TCTTTTCTTT
CMW 10779 .....      .A.A ATT.....      .C.GG... .ACGGGA.A. AGAAAAATAT .CTTTTCTTT
CMW 10780 .....      .A.A ATT.....      .C.GG... .ACGGGA.A. AGAAAAATAT .CTTTTCTTT
CMW 10455 .....      .A.....      T.....  .C.GG...G AG.GAAAAAA AAAAAAAAAA GGGGGGAAAT
CMW 10477 .....      .A.....      -.....  T.....  .C.GG...G AG.GAAAAAA AAAAAAAAAA GGGGGGAAAT
CMW 10518 .....C..... .A.....      T.....  .CCGG...G .ATT.T.--G AGAGAGTC.. TCTCTCCT
CMW 10463 .....C..... .A.....      T.....  .CCGG...G .ATT.T.--G AGAGAGTC.. TCTCTCCT
CMW 7047  .....A .A.....      T.....  .C.GG...G .G.T.GGC-G AA.GCAGA.. TTTTCTCCT
CMW 7048  .....A .A.....      T.....  .C.GG...G .G.T.GGC-G AA.GCAGA.. TTTTCTCCT
CMW 5288  .....      .A.....      .A.....  .A GGCCGGCC--
CMW 5587  .....      .A.....      .A.....  .A GGCCGGCC--

```

	1050	1060	1070	1080	1090	1100	1110	1120]
[.
[.
CMW 1856	-----TCCC C-----	-----	-----	-CACC---GC	GCAAGCAGT-	-----	--GGAGCAGG	CCC GCCGCG
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10668	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10781	TCCCGN....	.TCCCTT...	.....	....ACC.T	....A.G..G	TGTTG....G	TG.....	.....
CMW 10779	TCCCGC....	.TCCCT...	.....	....ACC.T	....A.G..G	TGTTG....G	TG.....	.....
CMW 10780	TCCCGC....	.TCCCTT...	.....	....ACC.T	....A.G..G	TGTTG....G	TG.....	.....
CMW 10455	TCTGTT....	.TTTTTCTTT	TTCCCCCCT	--T.CCCTT	CATCCGT..A	AAATCGGGTG	CT.....	.....
CMW 10477	TCTGTT....	.TTTTTCTTT	TTCCCCCCT	--T.CCCTT	CATCCGT..A	AAATCGGGTG	CT.....	.....
CMW 10518	TCCTTC----	..TCGC...	.....	CTT.TC...T	....A.G...	TGTTG.....	.....	.....
CMW 10463	TCCTTC----	..TCGC...	.....	CTT.TACC.T	....A.G...	TGTTG.....	.....	.....
CMW 7047	TC.....	.TCCC....	TTCCCCCCT	CTT..ACC.T	....A.G...	TGTTG.....	.G.....	.....
CMW 7048	TC.....	.TCCC....	TTCCCCCCT	CTT..ACC.T	....A.G...	TGTTG.....	.G.....	.....
CMW 5288	.....----	.....	TCCCCACCGA	GG--.CCCTT	.GG.A..A-	.....	.....C	..GC.G.CG.
CMW 5587	.....----	.....	TCCCCACCGA	GG--.CCCTT	.GG.A..A-	.....	.....C	..GC.G.CG.

	1130	1140	1150	1160	1170	1180	1190	1200]
[							5.8S →	.]
[
CMW 1856	GCCCACCAA	CTCTTTGTTT	TTAGAA-CGT	ATCTCTTCTG	AGTGTTTATA	ACAAACAAA-	-TGAATCAA	AA ACTTTCAACA
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9903	.....	.....	.....	.....	.....	.....	.....	.....
CMW 9906	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2631	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 3839	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8651	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8650	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8649	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....T.....	.....	.....	.....	.....	.....	.....	.....
CMW 10667	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10668	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10774	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10776	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10775	.....T.....	.....	.....	.....	.....	.....	.....	.....
CMW 10777	.....T.....	.....	.....	.....	.....	.....	.....	.....
CMW 10778	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10781	...GTT... A.T.-	...A.AA...	...AA...A	...AA...A	...CA...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 10779	...GTT... ..-	...A.A...	...AA...A	...AA...A	...CA...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 10780	...GTT... ..-	...A.A...	...AA...A	...AA...A	...CA...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 10455	...TT... ..	...A...C.	...T.--A.	...T.--A.	...-...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 10477	...TT... ..	...A...C.	...T.--A.	...T.--A.	...-...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 10518	.....	...T...C.	...ACA.T.	...ACA.T.	...-...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 10463	.....	...T...C.	...ACA.T.	...ACA.T.	...-...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 7047	.....T.....	...T...C.	...ACA.A.	...ACA.A.	...CA...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 7048	.....T.....	...T...C.	...ACA.A.	...ACA.A.	...CA...A...A	...A...A...A	...A...A...A	...A...A...A
CMW 5288	C.-A.....	.....	C.TAG-.T.A	.....	.....A.	...A...T.A	...A...A...A	...A...A...A
CMW 5587	C.-A.....	.....	C.TAG-.T.A	.....	.....A.	...A...T.A	...A...A...A	...A...A...A

	1210	1220	1230	1240	1250	1260	1270	1280]
[.
[.
CMW 1856	ACGGATCTCT	TGGTTCTGGC	ATCGATGAAG	AACGCAGCGA	AATGCCATAA	GTAATGTGAA	TTGCAGAATT	CAGTGAATCA
CMW 8756
CMW 9903
CMW 9906
CMW 2631
CMW 2632
CMW 3839
CMW 8651
CMW 8650
CMW 8649
CMW 62
CMW 2113
CMW 8755
CMW 8757
CMW 1853
CMW 10667
CMW 10668
CMW 10774
CMW 10776
CMW 10775
CMW 10777
CMW 10778
CMW 10781T	.....	.....
CMW 10779
CMW 10780
CMW 10455
CMW 10477
CMW 10518A	.....	.....	.....	.....	.....
CMW 10463A	.....	.....	.....	.....	.....
CMW 7047
CMW 7048
CMW 5288
CMW 5587

[	1290	1300	1310	1320	1330	1340	1350	1360]
[	ITS 2 →							.]
CMW 1856	TCGAATCTTT	GAACGCACAT	TGCGCCCGCT	GGAATTCCAG	CGGGCAT-GC	CTGTTTCGAGC	GTCAT	TTCAA CCCTCAAGCC
CMW 8756
CMW 9903
CMW 9906
CMW 2631
CMW 2632
CMW 3839
CMW 8651
CMW 8650
CMW 8649
CMW 62
CMW 2113
CMW 8755
CMW 8757
CMW 1853
CMW 10667
CMW 10668
CMW 10774
CMW 10776
CMW 10775
CMW 10777
CMW 10778
CMW 10781T
CMW 10779T
CMW 10780T
CMW 10455T
CMW 10477T
CMW 10518
CMW 10463
CMW 7047T
CMW 7048T
CMW 5288
CMW 5587

[	1370	1380	1390	1400	1410	1420	1430	1440]
[
CMW 1856	TGGCTTGGTG	TTGGGGCACT	GCCTGTTTAA	CAGCGGGTAG	GCCCTGAAAT	TTAGTGGCGG	GCTCGCTAAG	ACTCTGAGCG
CMW 8756A..
CMW 9903
CMW 9906
CMW 2631
CMW 2632
CMW 3839	N.....	.....	.....	.....	.....	.....	.....
CMW 8651
CMW 8650
CMW 8649
CMW 62	A.....C-	.....	.....	A.....	.....	.....
CMW 2113	A.....C-	.....	.....	A.....	.....	.....
CMW 8755	A.....C-	.....	.....	A.....	.....	.....
CMW 8757	A.....C-	.....	.....	A.....	.....	.....
CMW 1853	A.....C-	.....	.....	A.....	.....	.....
CMW 10667	A.....-	.....	.....	A.....	.....	.....
CMW 10668	A.....-	.....	.....	A.....	.....	.....
CMW 10774	G.....	.....	.....	.....
CMW 10776	A.....-	.....G.	.....	A.....	.....	.....
CMW 10775	A.....C-	.....	.....	A.....	.....	.....
CMW 10777	A.....C-	.....	.....	A.....	.....	.....
CMW 10778	A.....C-	.....	.....	A.....	.....	.....
CMW 10781	T.....	A..C...---	A.A...-..	.....	.....	.....	.....
CMW 10779	T.....	A..CC...---	A.A...-..G.	.....	.....	.....	.....
CMW 10780	T.....	A..CC...---	A.A...-..	.....	.....	.....	.....
CMW 10455	.A.....	.....	A.TC...---	A.A...-..	.....	C.....	.....	.....
CMW 10477	.A.....	.....	A.TC...---	A.A...-..	.....	C.....	.....	.....
CMW 10518	T.....	A..C...---C	A.A...-..	.....	.....	.....	.....
CMW 10463	T.....	A..C...---C	A.A...-..	.....	.....	.....	.....
CMW 7047	T.....	A..C...---	A.A...-..	.....	.....	.....	.....
CMW 7048	T.....	A..C...---	A.A...-..	.....	.....	.....	.....
CMW 5288	A.....	..T.CCGAG.	GG.A.--C..	.....	C.....A	.....C.G.	..C.C.....
CMW 5587	A.....	..T.CCGAG.	GG.A.--C..	.....	C.....A	.....C.G.	..C.C.....

```

[
[
1450      1460      1470      1480      1490      1500  ]
[
CMW 1856 TAGTA--GTT TTTAT---CA -CCTCGCTTT GGAA-GGATT A-GCGG-TGC TCTTGCCGTA AAACC
CMW 8756 ..... CGA..... C.....
CMW 9903 .....
CMW 9906 .....
CMW 2631 .....
CMW 2632 ..... A.....
CMW 3839 ..... A.....
CMW 8651 .....
CMW 8650 .....
CMW 8649 .....
CMW 62 .....
CMW 2113 .....
CMW 8755 .....
CMW 8757 .....
CMW 1853 .....
CMW 10667 .....
CMW 10668 .....
CMW 10774 ..... A.....
CMW 10776 .....
CMW 10775 .....
CMW 10777 ..... G.....
CMW 10778 .....
CMW 10781 .....GT... ..T-CT... A.....T.....
CMW 10779 .....GT... ..T-CT... A.....T.....
CMW 10780 .....GT... ..T-CT... A.....T.....
CMW 10455 .....GTT... ..T.CTT.C A.....A.....T...T.....
CMW 10477 .....GTT... ..T.CTT.C A.....A.....T...T.....
CMW 10518 .....GTT... ..---... A.....T.....
CMW 10463 .....GTT... ..---... A.....T.....
CMW 7047 .....GTT... ..T.CTT.. A.....T.....
CMW 7048 .....GTT... ..T.CTT.. A.....T.....
CMW 5288 .....GTTA- .A.--...-. .CC .....CCC TG.....C.-...T .....
CMW 5587 .....GTTA- .A.--...-. .CC .....CCC TG.....C.-...T .....
]
]

```


Appendix 4. Raw sequence data of the two regions within the β -tubulin gene (designated as β -tub 1a/1b and β -tub 2a/2b) and the ITS1, conserved 5.8S and ITS2 regions of the rDNA operon. The start of each region is indicated above the alignment. The exon regions of the β -tubulin gene as well as the conserved 5.8S region of the rDNA operon are in bold and boxed. Unknown sequence characters are indicated with a “N”, while gaps inserted to achieve sequences alignment are indicated with “-“. Bases matching those of **CMW 8756** are indicated with a “.

	10	20	30	40	50	60	70	80]
[
[
	β-tub 1a/1b →							
CMW 8756	TGACCAGCCG	TGGCGCCAC	TCCTTCCGCG	CTGTCACCGT	GCCCCGAGTTG	ACCCAGCAGA	TGTTGACCC	CAAGAACATG
CMW 1840
CMW 2632
CMW 8757	GA.....	.....	A.....	.....	.....	.....	.....	.....
CMW 10453	A.....	.....	.....
CMW 8758
CMW 1853
CMW 8755
CMW 62
CMW 2113	G.....	.....	.....	.....	.....
CMW 10469	T.....	.....	.....	C.G.....	.....	.....	.....
CMW 10470	T.....	.....	.....	C.G.....	.....	.....	.....
CMW 10471	T.....	.....	.....	C.G.....	.....	.....	.....
CMW 10442	TT.....	.....	C.....	C.....	.....	.....	.....
CMW 2091	TT.....	.....	C.....	C.....	.....	.....	.....
CMW 10465	T.....	.....	C.....	C.....	.....	.....	.....
CMW 10477	T.....	.....	CC.....	T.....	.....	.....	.....
CMW 10455	T.....	.....	CC.....	T.....	.....	.....	.....
CMW 10436	CA.T.....	G.....	T.....	CC.G.....	T.....	.....	A.....
CMW 10484	T.....	.....	T.....	CC.....	T.....	C.....	.....
CMW 1652	CC.A.....	C.....	.....	.....	.....
CMW 1651	CC.....	C.....	.....	.....	.....
CMW 7037	T.....	CC.....	.....	.....	.....	.....
CMW 7036	T.....	CC.....	.....	A.....	.....	.....
CMW 10518	T.....	.....	CC.A.....	T.....	.....	.....	.....
CMW 10463	T.....	.....	CC.....	T.....	.....	.....	.....
CMW 10454	T.....	.....	.....	T.T.C.C.....	.....	.....	.....
CMW 2498	C.....	T.T.C.C.....	A.....	.....	.....

	90	100	110	120	130	140	150	160]
[.
[.
CMW 8756	ATGGCTGCCT	CTGACTTCCG	CAACGGTCGC	TACCTGACGT	GCTCCGCCAT	CTTGTAAAGTC	CCCCGCCCCCT	CGCGCCT---
CMW 1840
CMW 2632
CMW 8757	T.....	.....	.....
CMW 10453	T.....	.....	.....
CMW 8758	T.....	.....	.....
CMW 1853	T.....	.....	.....
CMW 8755
CMW 62
CMW 2113
CMW 10469	T.....	.....	.....	..TAT..---
CMW 10470	T.....	.....	.....	..TAT..---
CMW 10471	T.....	.....	.....	..TAT..---
CMW 10442	...C...	.....	...C..T	.....	T.....	...G	GT-TC...C	ACACA.CC--
CMW 2091	...C...	.....	...C..T	.....	T.....	...G	GT-TC...C	ACACA.CC--
CMW 10465	...C...	.....	.....	.....	T.....	...G	GT.TC...C	.AACA.CCCA
CMW 10477	T.....	...G	GTTTTTTTTT	TT.TT..TTC
CMW 10455	T.....	...G	GTTTTTTTTT	TT.TT..TTC
CMW 10436	T.....	.....	----TATTTT	TT.TT.----
CMW 10484	T.....	.....	.....	T.....	.....	----TATTTT	TT.TT.----
CMW 1652A...	T.....	.....	----TTT.T	GT.TTT----
CMW 1651A...	T.....	.....	----TTT.T	GC.TTT----
CMW 7037G.....	...C..T	.....	T.....	...C..	----TTT.TG	.TTCTT----
CMW 7036G.....	...C...	.....	T.....	...C..	----TTTT-G	T--CTT----
CMW 10518T...	...T...	T.....	.....	----TTT.TG	T.TCTT----
CMW 10463	T.....	...A...	T.....	.....	----TTT.TA	TA.CTT----
CMW 10454	T.....	...T...	.....	T.....	.....	----TTAT..	.TAT.-----
CMW 2498T...	T.....	.....	----C...TA	A.TC.-----

	170	180	190	200	210	220	230	240]
[
[
CMW 8756	-----	CGGGG-AGCA TC	-----	-----GGCC	GAAGCTTGTC	T---GCTAAC	TCT-----TA	TCG--TC---
CMW 1840	-----	.....	-----	-----	.....	-----	-----	-----
CMW 2632	-----	.....	-----	-----	.....	-----	-----	-----
CMW 8757	-----	.A. ....	-----	-----	.....	-----T.	-----	-----
CMW 10453	-----	.A. ....	-----	-----	.....	-----	-----	-----
CMW 8758	-----	.A. ....	-----	-----	.....	-----	-----	-----
CMW 1853	-----	.AA. ....	-----	-----	.....	-----	-----	-----
CMW 8755	-----	.....	-----	-----	.....C.	-----	C.-----C.	-----
CMW 62	-----	.....-C..C	-----	-----	.....C.	-----	C.-----C.	-----
CMW 2113	-----	.....-C..C	-----	-----	.....C.	-----	C.-----C.	-----
CMW 10469	-----	.A.-CA.G	-----	-----T	T.G.T.	-----	C.-----	..C-----
CMW 10470	-----	.A.-CA.G	-----	-----T	T.G.T.	-----	C.-----	..C-----
CMW 10471	-----	.A.-CA.G	-----	-----T	T.G.T.	-----	C.-----	..C-----
CMW 10442	-----	GTT.-C..C	TTGGGGGGC	-----T.T.	AGG.....T	TTT...G..	C.C-----	..CC-----
CMW 2091	-----	GCT.-C..C	TTGGGGGGC	-----T.T.	AGG.....T	TTT...G..	C.C-----	..CC-----
CMW 10465	GACC----	CC.T.-C..C	TTGGCGGGA	GAGGGCT.T.	AGG.....T	CT-.....	C.C-----	..CCC-----
CMW 10477	CCCCTTGCCCT	.CTC.-CAAG	.TTCGATAAA	GTCGTCTCT-	--G.....T	-----	C-.GTTTC.C	..CCCC.CCC
CMW 10455	CCCCTTGCCT	.CTC.-CAAG	.TTCGATAAA	GTCGTCTCT-	--G.....T	-----	C-.GTTTC.C	..CCCC.CCC
CMW 10436	---CTTGCCT	.CTC.-CAGG	.TGGATGAA	CTCGTCTTT-	--G.....T	-----	C-.GCCT-.C	C.CCCC.CCC
CMW 10484	---CTTGCCT	.CTC.-CAAG	.TGGATGAA	CTCGTCTCT-	--G.....T	-----	C-.GCCT-.C	C.CCCC.CCC
CMW 1652	-----T	.CTC.-CAAG	.TCGACGAA	--CGTCTTG-	--G...GT.T	G---.....	C..GTCTT.C	..TCT..CCC
CMW 1651	-----T	.CTC.-CAAG	.TCGACGAA	--CGTCTTG-	--G...GT.T	G---.....	C..GTCTT.C	..TCT..CCC
CMW 7037	-----CTCT	ATCTCACAA.	.TCGGATCC	ACC-TCTCG-	--G.....T	TT-.....	C..GCTTTCC	..TC-..CCC
CMW 7036	-----CTCT	GTCTCACAA.	.TCGGATCC	ACC-TCTCG-	--G.....T	TT-.....	C..GCTTTCC	..TC-..CCC
CMW 10518	-----CTC	.TC.-CAGG	C.TCCATGAA	--CATCTTG-	--G...T.T	G---.....	C.CATGTT.C	..TCT.TCCC
CMW 10463	-----	.TC.-CAAG	C.TCGATGAA	--CATCTCG-	--G...C.T	G---.....	C.CACGTT.C	..TCT.TCCT
CMW 10454	-----	.CA.-CTTC	G.TG-----	-----CTTG-	--GCGCGTCG	-----G..	.A.--GTT.-	-----
CMW 2498	-----	.CTC.-CA..	AATA-----	-----	--.AA.G...	GCGC...G..	A..GTGCT--	-----

	250	260	270	280	290	300	310	320]
[
[
CMW 8756	-----CAGC	CGTGGCAAGG	TCTCCATGAA	GGAGGTTGAG	GACCAGATGC	GCAACGTCCA	GAGCAAGAAC	TCGTCCTACT
CMW 1840	-----							
CMW 2632	-----							
CMW 8757	-----					T.		
CMW 10453	-----					T.		
CMW 8758	-----					T.		
CMW 1853	-----					T.		
CMW 8755	-----			C.				
CMW 62	-----			C.				
CMW 2113	-----			C.				
CMW 10469	-----		T.	C.				
CMW 10470	-----		T.	C.				
CMW 10471	-----	G.	T.	C.				
CMW 10442	-----			C.				
CMW 2091	-----			C.	A.			
CMW 10465	-----			C.				
CMW 10477	CCCAAC			A.				
CMW 10455	CCCAAC			A.				
CMW 10436	CCCAACT			C.				
CMW 10484	CCCAACT			C.				
CMW 1652	TTCT-CT	T.		A.	C.			
CMW 1651	TTCT-CA	T.		A.	C.			
CMW 7037	TA----			C.				
CMW 7036	TA----			C.				
CMW 10518	CCTT-CT	G.		C.		T.		
CMW 10463	-----CT			C.				
CMW 10454	-----T			C.				T.
CMW 2498	-----CT	A.		C.				A.

	330	340	350	360	370	380	390	400]
[
[
CMW 8756	TCGTCGAGTG	GATCCCCAAC	AACGTCCAGA	CCGCCCTCTG	CTCCATCCCC	CCCAAGGGTC	TCAAGATGTC	CTCCACCTTT
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	...A.....	.....	.....	.....	.....	.....	.....	.....
CMW 10453	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10469	.....	.....	.....	.....	.....T	.....	.....	.....C
CMW 10470	.....	.....	.....	.....	.....T	.....G.....	.....	.....C
CMW 10471	.....	.....	.....	.....	.....T	.....	.....A.....	.....C
CMW 10442	.....	.....	.....	.....	.....	.....G.....	.....	.....
CMW 2091	.....	.....	.....	.....	.....	.....G.....	.....	.....
CMW 10465	.....	.....	.....T.....	.....	.....	.....	.....	.....
CMW 10477	.....	.....	.....	.....	.....	.....C.....	.....	.....
CMW 10455	.....	.....	.....	.....	.....	.....C.....	.....	.....
CMW 10436	.....	.....	.....	.....	.....	.....C.....	.....	.....
CMW 10484	.....	.....	.....	.....	.....	.....C.....	.....	.....
CMW 1652	.....T.....	.....	.....	.....	.....T.....	.....C.....	.....	.....G.....
CMW 1651	.....T.....	.....	.....	.....	.....T.....	.....C.....	.....	.....G.....
CMW 7037	.....	.....	.....	.....T.....	.....	.....G.....C.....	.....	.....
CMW 7036	.....	.....	.....	.....T.....	.....	.....G.....C.....	.....	.....
CMW 10518	.....A.....	.....	.....A.....	.....	.....	.....T.....C.....	.....	.....T.....
CMW 10463	.....A.....	.....	.....	.....	.....	.....C.....	.....	.....T.....
CMW 10454	.....	.....	.....	.....T.....	.....G.....T.....	.....G.....C.....	.....	.....T.....C
CMW 2498	.....	.....	.....	.....	.....G.....T.....	.....	.....	.....T.....C

	410	420	430	440	450	460	470	480]	
[	.	.	β -tub 2a/2b	.	.	.	.	.]
CMW 8756	GTTGGCAACT	CCACTGCCAT	C	CAGGAGCTC	TTCAAGCGTA	TCGGCGAGCA	GTTCACTGCT	ATGTTCCGTC	GCAAGGCTTT
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10453	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10469	.....	T.....	.....	.....	G.....	.....	.....	.....
CMW 10470	.....	T.....	.....	.....	G.....	A.....	.....	.....
CMW 10471	.....	T.....	.....	.....	G.....	.....	.....	.....
CMW 10442	.....	T.C.....	.....	T.....	CG.T.....	.....	C.C.....	.....
CMW 2091	.....	T.C.....	.....	T.....	CG.T.....	.....	C.C.....	.....
CMW 10465	.....	C.T.....	.....	.....	CG.T.....	.....	C.C.....	.....
CMW 10477	..C.....	..C.....	.....	.....	G.....	.....	C.C.....	.....
CMW 10455	..C.....	..C.....	.....	.....	G.....	.....	C.C.....	.....
CMW 10436	..C.....	..C.....	.....	.....	G.....	.....	C.C.....	.....
CMW 10484	..C.....	..C.....	.....	.....	G.....	.....	C.C.....	.....
CMW 1652	..C.....	..C.....	.....	.....	G.....	.....	T.C.C.....	G.....
CMW 1651	..C.....	..C.....	.....	.....	G.....	.....	T.C.C.....	G.....
CMW 7037	..C.....	..C.....	.....	.....	G.T.....	.....	C.C.....	G.....
CMW 7036	..C.....	..C.....	.....	.....	G.T.....	.....	C.C.....	G.....
CMW 10518	..C.....	..C.....	.....	.....	G.....	.....	C.C.....	.....
CMW 10463	..C.....	..C.....	.....	.....	G.....	.....	C.C.....	.....
CMW 10454	..G.....	..G.....	T.....	.....	T.....	.....	G.....	.....
CMW 2498	..G.T.....	..G.....	T.....	.....	G.....	.....	G.....	.....

	490	500	510	520	530	540	550	560]
[.]
[.
CMW 8756	CTTGCATTGG	TACTACTGG	<u>CA AACCATCTCT</u>	<u>GCGAGCAG</u>	<u>GCCTCGACAG</u>	<u>CAATGGCGT</u>	G TACGT---	AC CCT-----
CMW 1840
CMW 2632
CMW 8757
CMW 10453
CMW 8758
CMW 1853
CMW 8755
CMW 62
CMW 2113
CMW 10469C	.....T	.....	.....	.....T	.....C
CMW 10470C	.....T	.....	.....	.....T	.....C
CMW 10471C	.....T	.....	.....	.....T	.....C
CMW 10442C	.....C	.....	.....	.....G	.....T	.....TGT
CMW 2091C	.....C	.....	.....	.....G	.....T	.....TGT
CMW 10465C	.....C	.....T	.....	.....	.....T	.....T
CMW 10477T	.....C	.....	.....	.....G	.....T	.....G.GCCTTAC
CMW 10455T	.....C	.....	.....	.....G	.....T	.....G.GCCTTAC
CMW 10436T	.....C	.....T	.....	.....G	.....T	.....G.ACCTTAC
CMW 10484T	.....C	.....T	.....	.....G	.....T	.....G.ACCTTAC
CMW 1652C	.....	.....	.....	.....	.....ATCT---
CMW 1651C	.....	.....	.....	.....	.....ATCT---
CMW 7037G	.....	.....	.....	.....T	.....ACACCATAC
CMW 7036G	.....	.....	.....	.....T	.....ACACCATAC
CMW 10518C	.....T	.....	.....	.....T	.....T.ACCT---
CMW 10463C	.....T	.....T	.....	.....T	.....ACCT---
CMW 10454T	.....	.....T	.....G	.....	.....AACCT---
CMW 2498T.C	.....ACCT---



	570	580	590	600	610	620	630	640]
[
[
CMW 8756	-CCTGCTG-C	ACCAGGC---	---GGCGCGC	CTC--GAG--	CTTCCC-GCT	GACCA-CCGC	ACAGC	<u>TACAA CGGCACCTCC</u>
CMW 1840	.....-	.....	.....	.....	.....	.....T..	.....	.....
CMW 2632	.....-	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....-	.....	.....	.....	.....	.....T..	.....	.....
CMW 10453	.....-	.....	.....	.....	.....	.....T..	.....	.....
CMW 8758	.....-	.....	.....	.....	.....	.....T..	.....	.....
CMW 1853	.....-	.....	.....	.....	.....	.....T..	.....	.....
CMW 8755	.....T..	.....	.....	.....	.....	.....T..	.....	.....
CMW 62	.....T..	.....	.....	.....	.....	.....T..	.....	.....
CMW 2113	.....T..	.....	.....	.....	.....	.....T..	.....	.....
CMW 10469	A.TGCTC---	C..G...---	---A.....	.....	.....	.....A..	.....	.....
CMW 10470	A.TGCTC---	C..G...---	---A.....	.....	.....	.....A..	.....	.....
CMW 10471	A.TGCTC---	C..G...---	---A.....	.....	.....	.....A..	.....	.....
CMW 10442	A.TGCTG---	C..G.C.---	---A.....	.....G.CC	.....C..	.....	.....	.....
CMW 2091	A.TGCTG---	C..G.C.---	---A.....	.....G.CC	.....C..	.....	.....	.....
CMW 10465	A...CGGCTT	C..CA..AAG	ATA.A...A	.TGT...A-	.....T-..	..T...A.	.T.....	.....
CMW 10477	A..G...TTG	C...A.AAG	ACA.A....	..T--...CT	..C.TT-..	.....A..A.	.....T.	.....
CMW 10455	A..G...TTG	C...A.AAG	ACA.A....	..T--...CT	..C.TT-..	.....A..A.	.....T.	.....
CMW 10436	A..G...TTG	C...A.AAG	ACA.A....	..T--...CT	..C.TT-..	.....A..A.	.T.....	T.....
CMW 10484	A..G...TTG	C...A.AAG	ACA.A....	..T--...CT	..C.TT-..	.....A..A.	.T.....	T.....
CMW 1652	--G...T--	C...A..AAG	ACA.A...A	..T--...CT	T.C.T--..	.....A.	.T.....	.....
CMW 1651	--G...T--	C...A..AAG	ACA.A...A	..T--...CT	T.C.T--..	.....A.	.T.....	.....
CMW 7037	C.TACAC.G.	GG.CCA.GCA	AGAT.GA...	GG.TC.G.CT	..C.T--..	.....C....	.T.....	.....
CMW 7036	C.TACAC.G.	GG.CCA.GCA	AGAT.GA...	GG.TC.G.CT	T.C.T--..	A...C....	GT.....	.....
CMW 10518	--G...T--	C..CA..AAG	ATA.A...A	.TGT...AC	T.C.T--..	..T...A.	.T.....	.....
CMW 10463	--G...T--	C..CA..AAG	ATA.A...A	.TGT...CT	T.C.T--..	..G...A.	.T.....	.....
CMW 10454	--.C.AT--	C-.CAA.TTG	CGC.TTTGC.	.A--GAGCCT	.GCAGTGA..	.....-T.AA	.....T.....	.....T..T
CMW 2498	--.ACA.T--	C..T.C.CAC	TGATCTTG..	...TCTTCCG	GC.TGGCA..	...A.-T...	.T..T.....	.....T..T



	650	660	670	680	690	700	710	720]
[
[
CMW 8756	GAGCTTCAGC	TCGAGCGCAT	GAACGTCTAC	TTCAACGAG	TATGTC--TG	TC-----G	GG--AC-CAG	T-CTGGGGCG
CMW 1840	.....C.....	.....	.....	.....	.....--..	.....	.....	.....
CMW 2632	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....
CMW 8757	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....
CMW 10453	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....
CMW 8758	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....
CMW 1853	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....
CMW 8755	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....
CMW 62	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....
CMW 2113	.....C.....	.....	.....	.....	.....--..	.....	.....G-	.....C...
CMW 10469	.....C.....	.....G..	.....	.....	.....A--A	..T-----	..-C...A	G-....TGA
CMW 10470	.....C.....	.....G..	.....	.....	.....A--A	..T-----	..-C...A	G-....TGA
CMW 10471	.....C.....	.....G..	.....	.....	.....A--A	..T-----	..-C...A	G-....TGA
CMW 10442	.....C.....	.....	.....	.....	.....--A	..G-----	..-G...GC	C---TG-
CMW 2091	.....C.....	.....	.....	.....	.....--A	..G-----	..-G...GC	C---TG-
CMW 10465	.....C.....	.....	.....	.....	.....-T.A	.....	..TG...G-	....CGA
CMW 10477	.....C.....	.....	.....	.....	.....CT.A	..ATCCATC.	..TG...GG	....CAA
CMW 10455	.....C.....	.....	.....	.....	.....CT.A	..ATCCATC.	..TG...GG	....CAA
CMW 10436	.....C.....	.....	.....	.....	.....CT.A	..ATC-----	..TG...G-	....CGA
CMW 10484	.....C.....	.....	.....	.....	.....CT.A	..ATC-----	..TG...G-	....CGA
CMW 1652	.....C.....	.....	.....T	.....	.....-T.A	.....	..TG.T...A	G-....CAA
CMW 1651	.....C.....	.....	.....T	.....	.....-T.A	.....	..TG.TA...A	G-..A--CAA
CMW 7037	.....C.....	.....	.....	.....	.....-T.A	.....	..TG...GC	....CGA
CMW 7036	.....C.....	.....	.....	.....	.....-T..	.....	..CTG...GC	....C.A
CMW 10518	.....C.....	.....	.....	.....	.....-T.A	.....	..TG...G-	....CGA
CMW 10463	.....C.....	.....	.....	.....	.....-T.A	.....	..TG...G-	....CGA
CMW 10454	.....C.....	.....	.....	.....	.....--AA	..A-----	..-AT...ATT	GC...ATC.C
CMW 2498	.....C.....	.....	.....	.....	..A...--AA	CA-----A	C-TGCACATC	AT.CATCCGA

	730	740	750	760	770	780	790	800]
[
[
CMW 8756	T-CATCCCGC	CCG-----	-----CG	AACCCCC--T	GTG-----	--CGTGACCG	AG-CTCCCG-	-----CT
CMW 1840	..	..	..	..	..	..	..	..
CMW 2632	..	..	..	..	..	..	..	..
CMW 8757	..	..	..	..	..	..	..	..
CMW 10453	..	..	..	..	..	..	..	..
CMW 8758	..	..	..	..	..	..	..	..
CMW 1853	..	..	..	..	..	..	..	..
CMW 8755	..	..	..	..	..	..	..	..
CMW 62	..	..	..	..	..	..	..	..
CMW 2113	..	..	..	..	..	..	..	..
CMW 10469	--.CGT.AT.	T.-----	GCCCG-----	CGG.TT.--.	.G-----	--.A.....	.....T-	-----
CMW 10470	--.CGT.AT.	T.-----	GCCCG-----	CGG.TT.--.	.G-----	--.A.....	.....T-	-----
CMW 10471	--.CGT.AT.	T.-----	GCCCG-----	CGG.TT.--.	.G-----	--.A.....	.....T-	-----
CMW 10442	--GCGTG---	-----	GCCCCGCC..	CGG.....	.G-----	-----	.....A-	-----
CMW 2091	--GCGTG---	-----	GCCCCGCC..	CGG.....	.G-----	-----	.....A-	-----
CMW 10465	G-.....AT.	T.AGCCCA--	CCCCTGTT.C	CT..A.TTC.	.G-----	--TACAGG..	..CT...-TC	TT-----
CMW 10477	G-.....AT.	T..ACCTTGG	GCCCCCAAC	CC..T.T-CC	CG--ACTTCT	GG.A.AGG..	.AGT....TC	TTT-----
CMW 10455	G-.....AT.	T..ACCTTGG	GCCCCCAAC	CC..T.T-CC	CG--ACTTCT	GG.A.AGG..	.AGT....TC	TTT-----
CMW 10436	A-.....AT.	T..ACAT---	-CCCCCCC.C	CCTTTTT-CC	CG--ATTTTG	GGAAAAGG.A	.ACT.T..TT	TTTTTAACGC
CMW 10484	A-.....AT.	T..ACAT---	-CCCCCCC.C	CC.TTTT-CC	.A--AATTTG	GGAAAAGGGA	.-CT.T..TT	TTTTTAAAGG
CMW 1652	GCTTC-A.CT	.G.C-A----	ACCCCCC.C	CC.TTT.CGG	.GCCTT--GA	CTTC..GTAT	..G.GA-GCT	TCCTCTT-..
CMW 1651	GCTTC.A.CT	GG.CCA----	ACCCCCC.C	CC.TTT.CGG	.GCCTTCTGA	CTTC..GTAT	..G.GA-GCA	TCCTCTT-..
CMW 7037	GC....-AT.	.T.CCTCCTC	CCTCCTCAT-	----.TCG	.G.CTTTTGT	GG-CCTGA.C	GAG..TG.C-	----CTT-..
CMW 7036	GC....-AT.	.T.CCTCCTG	CCTCCTCCT-	---T..ATCG	.GACTTCTGT	GG-CCTGA.C	GAG..TG.C-	----CTT-..
CMW 10518	GCATC.-AT.	T.AGCCCA--	CCCCTGTT--	-----	--CCCTC-CA	CTTC..GTAC	..G.GA-GCT	TCCTCTT-..
CMW 10463	GCATC.-AT.	T.AACCCC--	CCCCCCT.C	C.AAT..CGG	.CCCCTC-GA	CTTC..G.AT	..G.GA-GCT	TCCTCTT-..
CMW 10454	CC-C...CA	A.TCCACCCC	ACCCCCCAGC	T.TG-----	-----GCTGC	CTTCGCT.TC	TCGAG.T.TA	-----T.
CMW 2498	CCATCT..AA	.AC-----	-----	-----GGT.	TA-----	---C..C.GT	C.C.C---.G	ACCTCGC-TA

	810	820	830	840	850	860	870	880]
[.
[.
CMW 8756	GACGCGC---	-----T-C	CTGTCACAGG	CCTCCGGCAA	CAAGTATGTT	CCCCGCGCCG	TCCTCGTCGA	TCTCGAGCCT
CMW 1840	.....	-----	.....	.....	.....	.....	.....	.....C
CMW 2632	.....	-----	.....	.....	.....	.....	.....	.....C
CMW 8757	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 10453	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 8758	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 1853	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 8755	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 62	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 2113	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 10469	.....	-----	T.....	.....	.....A.....	.....	.....T.....	.....C
CMW 10470	.....	-----	T.....	.....	.....A.....	.....	.....T.....	.....C
CMW 10471	.....	-----	T.....	.....	.....A.....	.....	.....T.....	.....C
CMW 10442	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 2091	.....	-----	.....	.....	.....C	.....	.....	.....C
CMW 10465	.....	-----	T. T.A.....	.....	.....A.....	.....	.....T.....	.....C
CMW 10477	.....	-----	TT T.....	T.....	.....C.....	.....	.....	.....G
CMW 10455	.....	-----	TT T.....	T.....	.....C.....	.....	.....	.....G
CMW 10436	-C.TTTTTTT	TTTTTTT.TT	T.-----	T.....	.....C.....	.....	.....	.....C
CMW 10484	.C.TTTTTTT	TTTTTTT.TT	T.-----	T.....	.....C.....	.....	.....	.....C
CMW 1652	.....	-----	T. T.....	.....	.....	.....	.....	.....C
CMW 1651	.....	-----	T. T.....	.....	.....	.....	.....	.....C
CMW 7037	.....T---	-----	T. TC.....	.....	.....	.....	.....	.....C
CMW 7036	.....T---	-----	T. TC.....	.....	.....	.....	.....	.....C
CMW 10518	.....	-----	T. T.A.....	.....	.....A.....	.....	.....T.....	.....C
CMW 10463	.....	-----	T. T.A.....	.....	.....A.....	.....	.....A.....	.....C
CMW 10454	.....T---	-----	TC.....	T.....	.....	.....T.....	.....	.....C
CMW 2498	....T.T---	-----	.A TC.C.....	.....	.....	.....T.....	.....	.....C



	890	900	910	920	930	940	950	960]
[								ITS1 →]
[
CMW 8756	GGCACCATGG	ACGCCGTCCG	TGCCGGCCCC	TTCGGCCAGC	TGTCCGCCC	CGACAACCTC	GTCTTCGGCC	AGTCC
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....A
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10453	.....	.....	.....	.....	.....	.....	.....	.....T.....
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10469	..T.....	.....C.....	..T.....	..T..G.....	.....T.....	.....	.....	.....
CMW 10470	..T.....	.....C.....	..T.....	..T..G.....	.....T.....	.....	.....	.....
CMW 10471	..T.....	.....C.....	..T.....	..T..G.....	.....T.....	.....	.....	.....
CMW 10442	..T.....	.....C.....	.....	.....	.....	.....	.....	.....
CMW 2091	..T.....	.....C.....	.....	.....	.....	.....	.....	.....
CMW 10465	..T.....	.....C.....	.....T.....	.....	.....T.....	.....	.....T.....	.....
CMW 10477	..T.....	..T.....	.....C.....	.....T..T.....	.....T.....	.....	.....T.....	.....
CMW 10455	..T.....	..T.....	.....C.....	.....T..T.....	.....T.....	.....	.....T.....	.....
CMW 10436	..T.....	..T.....	.....C.....	.....T..T.....	.....T.....	.....	.....T.....	.....
CMW 10484	..T.....	..T.....	.....C.....	.....T..T.....	.....T.....	.....	.....T.....	.....
CMW 1652	..T.....	..T.....	.....C..T.....	.....T..T.....	.....T.....	.....	.....T.....	.....
CMW 1651	..T.....	..T.....	.....C..T.....	.....T..T.....	.....T.....	.....	.....T.....	.....
CMW 7037	..T.....	..T.....	.....C.....	.....	.....T.....	.....	.....	.....
CMW 7036	..T.....	..T.....	.....C.....	.....	.....T.....	.....	.....	.....
CMW 10518	..T.....	.....	.....C.....	.....T.....	.....T.....	.....	.....T.....	.....
CMW 10463	..T.....	..T.....	.....C.....	.....T..T.....	.....T.....	.....	.....T.....	.....
CMW 10454	..T.....	.....T.....	.....	.....T.....	.....A.....	.....	.....T.....	.....
CMW 2498	..T.....	.....	.....T.....	.....T.....	.....C.....	.....	.....	.....

```

[
[
          970          980          990          1000          1010          1020          1030          1040]
[
CMW 8756 ATACCCT-TT GTGAACTTAT ACCTTTTT-- -ATCGTTGCC TCGGCGCCGA GC-CGGGAGT -----
CMW 1840 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 2632 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 8757 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 10453 .....-.. .....-.. .....-.. .....-.. .....-.. .....-T..... .....-.. .....-..
CMW 8758 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 1853 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 8755 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 62 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 2113 .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-.. .....-..
CMW 10469 .....-.. .....-.. .....A...-.. .....T...-..G.C .....-.. .....-.. .....-..
CMW 10470 .....-.. .....-.. .....A...-.. .....T...-..G.C .....-.. .....-.. .....-..
CMW 10471 .....-.. .....-.. .....A...-.. .....T...-..G.C .....-.. .....-.. .....-..
CMW 10442 .....-.. .....-.. .....A...-.. .....T...-T...G.C .....-.. .....-.. .....-..
CMW 2091 .....-.. .....-.. .....A...-.. .....T...-T...G.C .....-.. .....-.. .....-..
CMW 10465 .....-.. .....-.. .....A...T- .....T...-T...G.C .....-.. .....-.. .....-..
CMW 10477 .....-.. .....-.. .....A...-.. .....T...C...G.G AGGGAAAAAA AAAAAAAAAA
CMW 10455 .....-.. .....-.. .....A...-.. .....T...C...G.- AGGGAAAAAA AAAAAAAAAA
CMW 10436 .....-.. .....-.. .....AC...-G..... .....T...C...G.G GAGGAAACAA GTAAAAGAGG
CMW 10484 .....-.. .....-.. .....AC...-G..... .....T...C...G.G GAGGAAACAA GTAAAAGAGG
CMW 1652 .....-.. .....-.. .....A.CA...T- .....T...CTCT.G.G G----- -GGGTTGGC
CMW 1651 .....-.. .....-.. .....A.CA...T- .....T...CTCT.G.G G----- -GGGTTGGC
CMW 7037 .....-A..... .....-.. .....TT A..... .....T...C...G.G ----- --AA-----
CMW 7036 .....-A..... .....-.. .....TT -..... .....T...C...G.G G----- --AA-----
CMW 10518 .....-.. .....C...-CA...T- .....T...C.C..G.G G----- --GA-TTTTT
CMW 10463 .....-.. .....C...-CA...T- .....T...C.C..G.G G----- --GA-TTTTT
CMW 10454 .A.....T.. .....-.. .....A...-.. .....T...----- -----
CMW 2498 .A.....-.. .....-.. .....A...-C.- .....TA----- -----

```



	1050	1060	1070	1080	1090	1100	1110	1120]
[
[
CMW 8756	-----	-----G	CTCTT--CTG	TGCTCCCC-	-----	ACCGCGCAAG	CA---GTG--	-GAGCAGGCC
CMW 1840	-----	-----	.....	.....	-----	.....C	G.---	.....
CMW 2632	-----	-----	.....	.....	-----	.....	---	.....
CMW 8757	-----	-----	.....	.....	-----	.....	---	.....
CMW 10453	-----	-----	.....	.....	-----	.....	---	.....
CMW 8758	-----	-----	.....	.....	-----	.....	---	.....
CMW 1853	-----	-----	.....	.....	-----	.....	---	.....
CMW 8755	-----	-----	.....	.....	-----	.....	---	.....
CMW 62	-----	-----	.....	.....	-----	.....	---	.....
CMW 2113	-----	-----	.....	.....	-----	.....	---	.....
CMW 10469	-----	-----A	...CTT...	.TG....C	-----C	...T....	.G-----	.....
CMW 10470	-----	-----A	...CTT...	.TG....C	-----C	...T....	.G-----	.....
CMW 10471	-----	-----A	...CTT...	.TG....C	-----C	...T....	.G-----	.....
CMW 10442	-----	-----A	...C----	...C....	-----	...T....	.G-----	.....
CMW 2091	-----	-----A	...C----	...C....	-----	...T....	.G-----	.....
CMW 10465	-----	-----A	...C----	.ATG....C	CCT-----T	...TA.TC.	.G---.G-	.....
CMW 10477	GGGGGAAAAT	TTGTTTCCCC	.T.T-T.T	.TTC....C	TTCCCCTTTA	T...G.A.A	ATCGG.G.CT	G..A.....
CMW 10455	GGGGGAAAAT	TCTGTTTCCC	.T.C--.T	.TTC....C	TTCCCCTTCA	T...T.T.A	ATCGG...CT	G.....G.
CMW 10436	AGAATCTTTT	TC---TCCTT	.T.C-T.T	.TTC....C	TTCCCCTCCA	T...T.T...	A.CGGT..CT	G.....
CMW 10484	AGAATCTTTT	TC---TCCTT	.T.C-T.T	.TTC....C	TTCCCCTCCA	T...T.T...	A.CGGT..CT	G.....
CMW 1652	GAAGGCAGAT	TTTCTTCCTT	...CCC-TCC	CT.C....C	T----CTTCC	...T...A	.GGTT..TGG	G.....
CMW 1651	GAAGGCAGAT	TTTCTTCCTT	...CCC-TCC	CT.C....C	T----CTTCC	...T...A	.GGTT..TGG	G.....
CMW 7037	GAG---AAAG	CTTG-----	.T.CCCTCC	CT.C...-TT	C-----ACGG	GTGTAAA..C	.CAGT..TG-	.....
CMW 7036	GAG---AAAG	CTTG-----	.T.CCCTCC	CT.C...TT	C-----ACGG	GTGTAAA..C	.-AGT..TG-	.....
CMW 10518	GAG---AGAG	TCTC-----T	...CC-T.C	CTTCT.G..T	TCT-----	...T...A	.GGTT..TG-	.....
CMW 10463	GAG---AGAG	TCTC-----T	...CC-T.C	CTTCT.G..T	TCT-----	...T...A	.GGTT..TG-	.....
CMW 10454	-----	-----	..GCC---C	..TC..T..G	GG--GATAGG	GG.C.C.TCT	.CGGA.G.GA	CA-.....
CMW 2498	-----	-----	..G-----	-.TC..T.GG	G-----G	C..T.A.CCT	.GGGT..T--	...ACA...

[	1130	1140	1150	1160	1170	1180	1190	1200]
[								5.8S]
CMW 8756	CGCCGGCGGC	CCACCAAAC	CTTTGTTTTT	AGAA-CGTAT	CTCTTCTGAG	TG--TTTATA	ACAAACAAAT	GAATCAAAAC
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10453	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....T.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10469	.....T.....	.....C.....	.....	.....	.....T--.....	.....	.....	.....
CMW 10470	.....T.....	.....C.....	.....	.....	.....T--.....	.....	.....	.....
CMW 10471	.....T.....	.....C.....	.....	.....	.....T--.....	.....	.....	.....
CMW 10442	.....	.....	.....C.....	.....C.....	.....--.....C.....	.....	.....	.....
CMW 2091	.....	.....	.....C.....	.....C.....	.....--.....C.....	.....	.....	.....
CMW 10465	.....T.....	.....-G.....	.....	.....	.....--.....C.....	.....-CA...A	T.....	.....
CMW 10477	.C.....TT.....	T.....	.A.-.C.....	.T.T.....	T--.A-.A.....	.A...A.....	.....	.....
CMW 10455	.....TT.....	.....G.....	.A.A.C.....	.....T.....	T--.A-.A.....	.A...A.....	.....	.....
CMW 10436	.....T.....	.....	.A.-.C.....	.....	A--AA.A.....	CA...A.....	.....	.....
CMW 10484	.....T.....	.....	.A.-.C.....	.....	A--AA.A.....	CA...A.....	.....	.....
CMW 1652	.....T.....	.....	.T.-.C.....	.....	ACA.AA.C.....	-.A.....	.....	.....
CMW 1651	.....T.....	.....	.T.-.C.....	.....	ACA.AA.C.....	-.A.....	.....	.....
CMW 7037	.....TT.....	.....GT.....	.T.-.C.....	.....	----.C.....	-.C.A.....	.....	.....
CMW 7036	.....TT.....	.....GT.....	.T.-.C.....	.....	----.C.....	-.C.A.....	.....	.....
CMW 10518	.....	.....	.T.-.C.....	.....	ACA...A.....	-.A.....	.....	.....
CMW 10463	.....	.....	.T.-.C.....	.....	ACA...A.....	-.A.....	.....	.....
CMW 10454	.....T.TT.....	.....	.CTG--AG.A.....	.....	-----A.....	G.TTCT.....	.....	.....
CMW 2498	..T.....A...T.A.	.....	.C.C---GA	AA.....	C-----C.....	.A.-CAT.....	.....	.....

	1200	1210	1220	1230	1240	1250	1260	1270]
[.
[.
CMW 8756	TTTCAACAAC	GGATCTCTTG	GTTCTGGCAT	CGATGAAGAA	CGCAGCGAAA	TGCGATAAGT	AATGTGAATT	GCAGAATTCA
CMW 1840C.C...	...C...C.	.....	.....
CMW 2632
CMW 8757
CMW 10453C..A.....	.....	.....	.....
CMW 8758
CMW 1853
CMW 8755
CMW 62
CMW 2113
CMW 10469
CMW 10470
CMW 10471
CMW 10442
CMW 2091
CMW 10465
CMW 10477
CMW 10455
CMW 10436
CMW 10484
CMW 1652
CMW 1651
CMW 7037
CMW 7036
CMW 10518
CMW 10463
CMW 10454
CMW 2498

	1280	1290	1300	1310	1320	1330	1340	1350]
[.	ITS 2 →]
[.	ITS 2 →]
CMW 8756	GTGAATCATC	GAATCTTTGA	ACGCACATTG	CGCCCCGTGG	AATFCCAGCG	GGCATGCCTG	TTCGAGCGTC	ATTTCAACCC
CMW 1840	GC.....	.....	.....	.....	.....
CMW 2632	GC.....	.....	.....	.....	.....
CMW 8757
CMW 10453	GC.....	.....	.....	.....	.....
CMW 8758	GC.....	.....	.....	.....	.....
CMW 1853	GC.....	.....	.....	.....	.....
CMW 8755
CMW 62
CMW 2113	GC.....	.....	.....	.....	.....
CMW 10469	GC.....	.....	.....	.....	.....
CMW 10470	GC.....	.....	.....	.....	.....
CMW 10471	GC.....	.....	.....	.....	.....
CMW 10442	GC.....	.....	.....	.....	.....
CMW 2091	GC.....	.....	.....	.....	.....
CMW 10465	GC.....	.....	.....	.....	.....
CMW 10477	GC.....	.....	.....	.....	.....
CMW 10455	GC.....	.....	.....	.....	.....
CMW 10436	GC.....	C.....	.....	.....	.....
CMW 10484	GC.....	C.....	.....	.....	.....
CMW 1652	.....G.	.....	.....	GC.....	.....	-.....	.....	.....
CMW 1651	.....G.	.....	.....	GC.....	.....	-.....	.....	.....
CMW 7037	GC.....	.....	.....	.....	.....
CMW 7036	GC.....	.....	.....	.....	.....
CMW 10518	GC.....	.....	.....	.....	.....
CMW 10463	GC.....	.....	.....	.....	.....
CMW 10454	TC.....	T.....A.	.....	.....	.....
CMW 2498	TC.....	T.....G.A.	.....	.....	.....

	1360	1370	1380	1390	1400	1410	1420	1430]
[
[
CMW 8756	TCAAGCC---	TGGCTTGGTG	TTGGGGCACT	GCCTG-----	TTTTACAGCG	GGTAGGCCCT	GAAATTTAGT	GGCGGGCTCG
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2632	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8757	.....	.....	A.....	.....	..C.....	.....	.....A.	.....
CMW 10453	.....	.....	A.....	.....	.....	.....	.....A.	.....
CMW 8758	.....	.....	A.....	.....	..C.....	.....	.....A.	.....
CMW 1853	.....	.....	A.....	.....	..C.....	.....	.....A.	.....
CMW 8755	.....	.....	A.....	.....	..C.....	.....	.....A.	.....
CMW 62	.....	.....	A.....	.....	..C.....	.....	.....A.	.....
CMW 2113	.....	.....	A.....	.....	..C.....	.....	.....A.	.....
CMW 10469	.....	.....	A.....	.....	.AAA.....	.....	.....	.....
CMW 10470	.....	.....	A.....	.....	.AAA.....	.....	.....	.....
CMW 10471	.....	.....	A.....	.....	.AAA.....	.....	.....	.....
CMW 10442	.....	.....	A.....	.....	.ACA.....	.....	.....	.....
CMW 2091	.....	.....	A.....	.....	.ACA.....	.....	.....	.....
CMW 10465	.....	A.....	.....	A.....	.ACA.....	.....	.....A.	.....
CMW 10477	.....T---	A.....	.....	A.TC.....	.AAA.....	.....	.....C.	.....
CMW 10455	.....T---	A.....	.....	A.TC.....	.AAA.....	.....	.....C.	.....
CMW 10436	.....T---	.....	.....	A..C.....	.AAA.....	.....	.....	.....
CMW 10484	.....T---	.....	.....	A..C.....	.AAA.....	.....	.....	.....
CMW 1652	.....T---	.....	T.....	A..C.....	.AAA.....	.....	.....	.....
CMW 1651	.....T---	.....	T.....	A..C.....	.AAA.....	.....	.....	.....
CMW 7037	.....CCT	.....	.....	A..C.....	.AAA.....	.....	.....	.....
CMW 7036	.....CCT	.....	.....	A..CC.....	.AAC.....	.....	.....G.	.....
CMW 10518	.....	.....	T.....	A..C.....	.CAA.....	.....	.....	.....
CMW 10463	.....	.....	T.....	A..C.....	.CAA.....	.....	.....	.....
CMW 10454	.....	A.....	T.....	A...ACTGT	..AC.GGAG-	.....A.....	.....C.....	.....A.....
CMW 2498	.....	A.....	.....	---CTTC	..ACC..AGA	A.C.....	.....C.....	.....A.....

```

[
[
1440      1450      1460      1470      1480      1490      1500      1510]
[
CMW 8756   CTAAGACTCT GAACGTAGTA GTTTTTAT--- ---CACCTC GCTTTGGAA- GGATTA-CGA GTGCCCTT-G CCGTAAAACC
CMW 1840   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 2632   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 8757   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10453  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 8758   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 1853   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 8755   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 62     ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 2113   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10469  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10470  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10471  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10442  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 2091   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10465  ..... AGG..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10477  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10455  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10436  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10484  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 1652   ..... ..G.C..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 1651   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 7037   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 7036   ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10518  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10463  ..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G..... ..G.....
CMW 10454  ..C.G....C ..G..C.... ..AA----- ---AAC.... ..TC ..T.C.G-GCG CG.....--
CMW 2498  ..C.G...C.C ..G..C.... ..A----- ---AAC.... ..C....G .CCC.G-GCG .....-- ..T.....

```

Appendix 5. Raw sequence data of the two regions (designated as β -tub 1a/1b and β -tub 2a/2b) within the β -tubulin gene and the ITS1, 5.8S and ITS2 regions of the rDNA operon. The start of each region is indicated above the alignment. The exon regions of the β -tubulin gene as well as the conserved 5.8S region of the rDNA operon are in bold and boxed. Unknown sequence characters are indicated with a “N”, while gaps inserted to achieve sequences alignment are indicated with “-“. Bases matching those of **CMW 8757** are indicated with a “.”

[	10	20	30	40	50	60	70	80]
[β-tub 1a/b →]
CMW 8757	TGACCAGCCG TGGCGCCAC TCCTCCGCG CTGTCACCGT GCCCGAGTTG ACCCAGCAGA TGTTCGACCC CAAGAACATG								
CMW 8758	GA.....	.....	A.....	.....	.....	.....	.....	.....
CMW 1853	
CMW 62	
CMW 2113	G..	.....	.....	.....	.....
CMW 8755	
CMW 1840	
CMW 8756	
CMW 2628	
CMW 10782	T..	.....	CC..	T..	.....	.....	.....
CMW 10784	T..	.....	CC..	T..	.....	.....	.....
CMW 10783	T..	.....	CC..	T..	.....	.....	.....
CMW 10786	T..	.....	CC..	T..	.....	.....	.....
CMW 10787	T..	.....	CC..	T..	.....	.....	.....
CMW 11294	T..	.....	CC..	T..	.....	.....	.....
CMW 10785	I..	.....	CC..	I..	.....	.....	.....
CMW 10518	T..	.....	CC.A..	T..	.....	.....	.....
CMW 10463	T..	.....	CC..	T..	.....	.....	.....
CMW 10484	T..	T..	CC..	T..	C..	.....	.....
CMW 10436	CA.T..	G..T..	CC.G..	T..	.....	A..	.....
CMW 10790	CC..	C..	.....	.....	.....
CMW 7047	CC..	C..	.....	.....	.....
CMW 7048	T..	.....	CC..	C..	.....	.....	.....
CMW 1651	CC..	C..	.....	.....	.....
CMW 1652	CC.A..	C..	.....	.....	.....
CMW 10477	T..	.....	CC..	T..	.....	.....	.....
CMW 10455	T..	.....	CC..	T..	.....	.....	.....
CMW 10788	T..	.....	CC..	T..	.....	.....	.....
CMW 10789	T..	.....	CC..	T..	.....	.....	.....
CMW 10442	TT..	.....	C..	C..	.....	.....	.....
CMW 2091	TT..	.....	C..	C..	.....	.....	.....
CMW 10465	T..	.....	C..	C..	.....	.....	.....
CMW 5288	C..	.....	T..C..	.....	C.C	.....	.....
CMW 5587	C..	.....	T..C..	.....	C.C	.....	.....

[	90	100	110	120	130	140	150	160]
[.]
CMW 8757	ATGGCTGCCT	CTGACTTCCG	CAACGGTCCG	TACCTGACGT	GCTCCGCCAT	CTTGTAAGTC	TCCCGCCCC-	-----
CMW 8758-	-----
CMW 1853-	-----
CMW 62	C.....-	-----
CMW 2113	C.....-	-----
CMW 8755	C.....-	-----
CMW 1840	C.....-	-----
CMW 8756	C.....-	-----
CMW 2628	C.....-	-----
CMW 10782	T.....	T.....	T.....	T.....	.T.T.TGT.T	TCTCC----
CMW 10784	T.....	T.....	T.....A	T.....	.T.T.TGT.T	TCTCC----
CMW 10783	T.....	T.....	T.....	T.....	.T.T.TGT.T	TCTCC----
CMW 10786	T.....	T.....	T.....	T.....	.T.T.TGT.T	TCTCC----
CMW 10787	T.....	T.....	T.....	T.....	.T.T.TGT.T	TCTCC----
CMW 11294	T.....	T.....	T.....	T.....	.T.T.TGT.T	TCTCC----
CMW 10785	T.....	T.....	T.....	T.....	.T.T.TGT.T	TCTCC----
CMW 10518	T.....	T.....	T.....	T.....	.T.T.TGT.T	TCTCC----
CMW 10463	T.....	.....	A.....	T.....	T.....	.T.TATA..T	TC-----
CMW 10484	T.....	.....	.....	T.....	T.....	ATTTTTTT.TT	CCTT-----
CMW 10436	T.....	T.....	ATTTTTTT.TT	CCTT-----
CMW 10790	A.....	T.....	T.....	.T.TT-GT.T	TTCC-----
CMW 7047	A.....	T.....	T.....	.T.TT-GT.T	TTCC-----
CMW 7048	A.....	T.....	T.....	.T.TT-GT.T	TTCC-----
CMW 1651	A.....	T.....	T.....	.T.TT-G..T	TTCC-----
CMW 1652	A.....	T.....	T.....	.T.TT-GT.T	TTCC-----
CMW 10477	T.....	.....G	GTTTTTTTTTT	TTCTTCTTTC
CMW 10455	T.....	.....G	GTTTTTTTTTT	TTCTTCTTTC
CMW 10788	T.....	.....G	GTTTTTTTTTT	TTCTTCTTTC
CMW 10789	T.....	.....G	GTTTTTTTTTT	TTCTTCTTTC
CMW 10442	.....C.....	.....	.....C..T	.....	T.....	.....G	GT-----	-----TC
CMW 2091	.....C.....	.....	.....C..T	.....	T.....	.....G	GT-----	-----TC
CMW 10465	.....C.....	.....	.....	.....	T.....	.....G	GT-----	-----TC
CMW 5288	.....C.....	.....T..T	.....	.....	T.....	.....	C..T.AG.AT	CT-----
CMW 5587	.....C.....	.....T..T	.....	.....	T.....	.....	C..T.AG.AT	CT-----

```

[          170          180          190          200          210          220          230          240]
[          .          .          .          .          .          .          .          .]
CMW 8757 ----- --TCGC--GC CTCGGAGAGC ATCGGCCGAA ----- ---GCTTGTC T---GCTAAC TCTTATC---
CMW 8758 ----- .....T.....
CMW 1853 ----- .....A.....
CMW 62 ----- .....G.C.. C.....
CMW 2113 ----- .....G.C.. C.....
CMW 8755 ----- .....G.....
CMW 1840 ----- .....G.....
CMW 8756 ----- .....G.....
CMW 2628 ----- .....G.....
CMW 10782 ----- .....AG.. ..CAT..A. ...TTG---- ---G...T.T G---..... C.C-..GTTT
CMW 10784 ----- .....AG.. ..CAT..A. ...TTG---- ---G...T.T G---..... C.C-..GTTT
CMW 10783 ----- .....AG.. ..CAT..A. ...TTG---- ---G...T.T G---..... C.C-..GTTT
CMW 10786 ----- .....AG.. ..CAT..A. ...TTG---- ---G...T.T G---..... C.C-..GTTT
CMW 10787 ----- .....AA.. ..CAT..A. ...TTG---- ---G...T.T G---..... C.C-..GTTT
CMW 11294 ----- .....AA.. ..CAT..A. ...TTG---- ---G...T.T G---..... C.C-..GTTT
CMW 10785 ----- .....AA.. ..CAT..A. ...TTG---- ---G...T.T G ..... C.C ..GTTT
CMW 10518 ----- .....AG.. ..CAT..A. ...TTG---- ---G...T.T G---..... C.C-..GTTT
CMW 10463 ----- .....AA.. ..AT..A. ...TCG---- ---G...C.T G---..... C.C-.CGTTT
CMW 10484 -----GCCT CC...AA.T ..G.AT..A. ---TCGTCTC T----- ---G.....T ..... C-.GCC-TTC
CMW 10436 -----GCCT CC...AG.T ..G.AT..A. ---TCGTCTT T----- ---G.....T ..... C-.GCC-TTC
CMW 10790 ----- .....AG.T ...AC..A. G..T.G---- ---G...GT.G G---..... C..GTCTTTC
CMW 7047 ----- .....AG.T ...A.ACA.A. G.TTCG---- ---G...GT.G G---..... C..GTCTTTC
CMW 7048 ----- .....AG.T ...ACA.A. G..TTG---- ---G...GT.T G---..... C..GTCTTTC
CMW 1651 ----- .....AA.T ...AC..A. G..TTG---- ---G...GT.T G---..... C..GTCTTTC
CMW 1652 ----- .....AA.T ...AC..A. G..TTG---- ---G...GT.T G---..... C..GTCTTTC
CMW 10477 CCCCTTGCCT CC...AA.T T...ATA.AG ---TCGTCTC T----- ---G.....T ..... C-.GT.TCTC
CMW 10455 CCCCTTGCCT CC...AA.T T...ATA.AG ---TCGTCTC T----- ---G.....T ..... C-.GT.TCTC
CMW 10788 CCCCTTGCCT CC...AA.T T...AT..AG ---TCGTCTC T----- ---G.....T ..... C-.GT.TTTT
CMW 10789 CCCCTTGCCT CC...AA.T T...AT..AG ---TCGTCTC T----- ---G.....T ..... C-.GT.TTTT
CMW 10442 CCCCCACACA CCCGTTGG-- -----CGC. T.T..-G.G- ----GCTGTC AGG.....T .TTT...G.. C.C-----TA
CMW 2091 CCCCCACACA CCCGCTGG-- -----CGC. T.T..-G.G- ----GCTGTC AGG.....T .TTT...G.. C.C-----TA
CMW 10465 CCCCCAACAA CCC.AGACC. .CT..GCGC. T.T...G.G. GAGGGCTGTC AGG.....T .CT..... C.C-----TA
CMW 5288 -----CCACA CGA.C.AA.T ----- .T .GC-.GCTG A.ACTGT---
CMW 5587 -----CCACA CGA.C.AA.T ----- .T .GC-.GCTG A.ACTGT---

```



	250	260	270	280	290	300	310	320]
[
[
CMW 8757	-----	---GTCCAG	C CGTGGCAAGG	TCTCCATGAA	GGAGGTTGAG	GACCAGATGC	GCAATGTCCA	GAGCAAGAAC
CMW 8758	-----	---						
CMW 1853	-----	---						
CMW 62	-----	---			C		C	
CMW 2113	-----	---			C		C	
CMW 8755	-----	---			C		C	
CMW 1840	-----	---					C	
CMW 8756	-----	---					C	
CMW 2628	-----	---					C	
CMW 10782	CTCTCTTTCC	CCCT..T			C		C	T
CMW 10784	CTCTCTTTCC	CCCT..T			C		C	T
CMW 10783	CTCTCTTTCC	CCCT..T			C		C	T
CMW 10786	CTCTCTTTCC	CCCT..T			C	A	C	T
CMW 10787	CTCTCTTTCC	CCCT..T			C		C	T
CMW 11294	CTCTCTTTCC	CCCT..T			C		C	T
CMW 10785	CTCTCTTTCC	CCCT..T			C		C	T
CMW 10518	CTCTCTTTCC	CCCT..T	G		C		C	T
CMW 10463	CTCTCTTTCC	----.T			C		C	
CMW 10484	CCCCCCCCC	CCCAA.T			C		C	
CMW 10436	CCCCCCCCC	CCCAA.T			C		C	
CMW 10790	TCTCTTCCCC	TT-C..T	T		A.C		C	
CMW 7047	TCTCTTCCCC	TT-C..T	G.T		A.C		C	
CMW 7048	TCTCTTCCCC	TT-C.TT	T		A.C		C	
CMW 1651	TCTCTTCCCC	TT-C..A	T		A.C		C	
CMW 1652	TCTCTTCCCC	TT-C..T	T		A.C		C	
CMW 10477	TCCCCCCCC	CCCAA			A		C	
CMW 10455	TCCCCCCCC	CCCAA			A		C	
CMW 10788	TCCCCCCCC	C--AA..AG	G.G		A	A	C	
CMW 10789	TCCCCCCCC	C--AA..AG	G.G		A	A	C	
CMW 10442	TCC-----	---C			C		C	
CMW 2091	TCC-----	---C			C	A	C	
CMW 10465	TCC-----	--CC			C		C	
CMW 5288	-----	--CT..T	A		C		C	
CMW 5587	-----	--CT..T	A		C		C	

	330	340	350	360	370	380	390	400]
[.
[.
CMW 8757	TCGTCCTACT	TCGTCGAGTG	GATCCCCAAC	AACGTCCAGA	CCGCCCTCTG	CTCCATCCCC	CCCAAGGGTC	TCAAGATGTC
CMW 8758A.....	.....	.....	.....	.....	.....	.....
CMW 1853
CMW 62
CMW 2113
CMW 8755
CMW 1840
CMW 8756
CMW 2628
CMW 10782A.....	.....	.....	.....	.....	.....T.G..C.....	.....
CMW 10784A.....	.....	.....	.....	.....	.....T.G..C.....	.....
CMW 10783A.....	.....	.....	.....	.....	.....T.G..C.....	.....
CMW 10786A.....	.....	.....	.....	.....	.....T.G..C.....	.....
CMW 10787A.....	.....	.....	.....	.....	.....T.....C.....	.....
CMW 11294A.....	.....	.....	.....	.....	.....T.G..C.....	.....
CMW 10785A.....	.....	.....	.....	.....	.....T.G..C.....	.....
CMW 10518A.....	.....	.....A.....	.....	.....	.....T.....C.....	.....
CMW 10463A.....	.....	.....	.....	.....	.....	.....C.....
CMW 10484C.....
CMW 10436C.....
CMW 10790T.....	.....A.....	.....	.....T.....	.....	.....C.....
CMW 7047T.....	.....	.....T.....	.....T.....	.....G..C.....	.....A.....
CMW 7048T.....	.....	.....	.....T.....	.....G..C.....	.....
CMW 1651T.....	.....	.....	.....T.....	.....	.....C.....
CMW 1652T.....	.....	.....	.....T.....	.....	.....C.....
CMW 10477C.....
CMW 10455C.....
CMW 10788A.....	.....T.....	.....T.A.....	.....A.G..C.....	.....A.A.....
CMW 10789A.....	.....T.....	.....T.A.....	.....A.G..C.....	.....A.A.....
CMW 10442G.....	.....
CMW 2091G.....	.....
CMW 10465T.....	.....	.....	.....
CMW 5288A.....	.....T.....	.....	.....G.....	.....G.....	.....T.....	.....
CMW 5587A.....	.....T.....	.....	.....G.....	.....G.....	.....T.....	.....

	410	420	430	440	450	460	470	480]
[
[
CMW 8757	CTCCACCTTT	GTTGGCAACT	CCACTGCCAT	CCAGGAGCTC	TTCAAGCGTA	TCGGCGAGCA	GTTCACTGCT	ATGTTCCGTC
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2628	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10782	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10784	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10783	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10786	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10787	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 11294	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10785	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10518	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10463	..T.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10484	.....	..C.....	..C.....	.....	.....G	.....	.....C	.....
CMW 10436	.....	..C.....	..C.....	.....	.....G	.....	.....C	.....
CMW 10790	...G.....	..C.....	..C.....	.....	.....G	.....	...T..C..C	.....G.
CMW 7047	...G.....	..C.....	..C.....	.....	...A...G	.....	...C..C	.....G.
CMW 7048	...G.....	..C.....	..C.....	.....	.....G	.....	...T..C..C	.....G.
CMW 1651	...G.....	..C.....	..C.....	.....	.....G	.....	...T..C..C	.....G.
CMW 1652	...G.....	..C.....	..C.....	.....	.....G	.....	...T..C..C	.....G.
CMW 10477	.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10455	.....	..C.....	..C.....	.....	.....G	.....	.....C..C	.....
CMW 10788	..T.....	..G..G...	..C.....	T..A..A..T	..T...GG	..G..G..A..	.....C..C	.....A
CMW 10789	..T.....	..G..G...	..C.....	T..A..A..T	..T...GG	..G..G..A..	.....C..C	.....A
CMW 10442	.....	.....	..T..C....	.....T	.....CG	..T.....	.....C..C	.....
CMW 2091	.....	.....	..T..C....	.....T	.....CG	..T.....	.....C..C	.....
CMW 10465	.....	.....	..C..T...	.....	.....CG	..T.....	.....C..C	.....
CMW 5288	..T.....C	.....T...	..G.....T	.....G	.....G	.....	.....C	.....A.G.
CMW 5587	..T.....C	.....T...	..G.....T	.....G	.....G	.....	.....C	.....A.G.

	490	500	510	520	530	540	550	560]
	β-tub 2a/b →							
CMW 8757	GCAAGGCTTT	CTTGCATTGG	TACTACTGGCA	AACCATCTCT	GGCGAGCACG	GCCTCGACAG	CAATGGCGTG	TACGT ---AC
CMW 8758
CMW 1853
CMW 62
CMW 2113
CMW 8755
CMW 1840
CMW 8756
CMW 2628
CMW 10782C	.....T	.....	.....	.....T
CMW 10784T.C	.....A	.....T	.....	.....T.G
CMW 10783C	.....T	.....	.....	.....T
CMW 10786C	.....T	.....	.....	.....T
CMW 10787C	.....T	.....	.....	.....T
CMW 11294C	.....T	.....	.....	.....T
CMW 10785C	.....T	.....	.....	.....T
CMW 10518C	.....T	.....	.....	.....T
CMW 10463C	.....T	.....T	.....	.....T
CMW 10484T	.....C	.....T	.....	.....G	.....T
CMW 10436T	.....C	.....T	.....	.....G	.....T
CMW 10790C	.....	.....	.....	.....
CMW 7047C	.....	.....	.....	.....
CMW 7048C	.....	.....	.....	.....
CMW 1651C	.....	.....	.....	.....
CMW 1652C	.....	.....	.....	.....
CMW 10477C	.....	.....	.....G	.....T
CMW 10455C	.....	.....	.....G	.....T
CMW 10788	.....A	.....T	.....	.....C	.....	.....	.....G	.....T
CMW 10789	.....A	.....T	.....	.....C	.....	.....	.....G	.....T
CMW 10442	.....C	.....	.....C	.....C	.....	.....	.....G	.....T.TGT
CMW 2091	.....C	.....	.....C	.....C	.....	.....	.....G	.....T.TGT
CMW 10465	.....C	.....	.....C	.....C	.....T	.....	.....	.....T
CMW 5288T	.....	.....
CMW 5587T	.....	.....T

[	570	580	590	600	610	620	630	640]
[
CMW 8757	CCT-CCT---	----GCTG-C	ACCAG-GCGG	-----CGCGC	CTC--GAG-C	TTCCC--GCT	GACCA-CTGC	ACAGC TACAA
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	....T.	.....	.....	.....	.....	.....	.....
CMW 2113	.....	....T.	.....	.....	.....	.....	.....	.....
CMW 8755	.....	....T.	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....C.	.....
CMW 2628	.....	.....	.....	.....	.....	.....	.....C.	.....
CMW 10782	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 10784	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 10783	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 10786	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 10787	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 11294	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 10785	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 10518	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A.	....T--...	T...-CA.	.T.....
CMW 10463	..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...CT	....T--...	G...-CA.	.T.....
CMW 10484	.G.A...TAC	ACCG...TTG	C....ACAA.	ACAGA....	.T--...CT	C...TT-...	A.CA.	.T.....
CMW 10436	.G.A...TAC	ACCG...TTG	C....ACAA.	ACAGA....	.T--...CT	C...TT-...	A.CA.	.T.....
CMW 10790	...AT...---	--CG...T-	C.A...-CAA.	ACAGA...A	.T--...CT	....T--...	-CA.	.T.....
CMW 7047	...AT...---	--CG...T-	C.A...-CAA.	ACAGA...A	.T--...CT	....T--...	-CA.	.T.....
CMW 7048	...AT...---	--CG...T-	C.A...-CAA.	ACAGA...A	.T--...CT	....T--...	-CA.	.T.....
CMW 1651	...AT...---	--CG...T-	C.A...-CAA.	ACAGA...A	.T--...CT	....T--...	-CA.	.T.....
CMW 1652	...AT...---	--CG...T-	C.A...-CAA.	ACAGA...A	.T--...CT	....T--...	-CA.	.T.....
CMW 10477	.G.G...TAC	ACCG...TTG	C....ACAA.	ACAGA....	.T--...CT	C...TT-...	A.CA.	.....
CMW 10455	.G.G...TAC	ACCG...TTG	C....ACAA.	ACAGA....	.T--...CT	C...TT-...	A.CA.	.....
CMW 10788	.G.G...TAC	ACCG...TTG	C....ACAA.	ACAGA....	.T--...CT	C...TT-...	A.CA.	.....
CMW 10789	.G.G...TAC	ACCG...TTG	C....ACAA.	ACAGA....	.T--...CT	C...TT-...	A.CA.	.....
CMW 10442	.....	---ACTGCTG	C..G.CC---	---GA....	....G.C.	C.T..CC...	.....C.	.....
CMW 2091	.....	---ACTGCTG	C..G.CC---	---GA....	....G.C.	C.T..CC...	.....C.	.....
CMW 10465	T..A...---	--CG...T-	C....-CAA.	ATAGA...A	.TGT...A-	C.T..T-...	T...-CA.	.T.....
CMW 5288	.TCGTA.CC-	---CCTGCC.	..TG.TCTC.	TCCTCTC--	.....GG	C.TGGC-A..	..A....	...T....
CMW 5587	.TCGTA.CC-	---CCTGCC.	..TG.TCTC.	TCCTCTC--	.....GG	C.TGGC-A..	..AT...	...T....

	650	660	670	680	690	700	710	720]
[
[
CMW 8757	CGGCACCTCC	GAGCTCCAGC	TCGAGCGCAT	GAACGTCTAC	TTCAACGAG	G TATGTC-TGT	-----CG	G--GACCA-G
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2628	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10782	.....	.....	.....	.....	.....	.....TA T-----	.....GT.....	.....
CMW 10784	.....	.....	.....	.....	.....	.....C.TA T-----	.....GT.....	.....
CMW 10783	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 10786	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 10787	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 11294	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 10785	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 10518	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 10463	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 10484	T.....	.....	.....	.....	.....	.....C.TA T----CAT..	.....GT.....	.....
CMW 10436	T.....	.....	.....	.....	.....	.....C.TA T----CAT..	.....GT.....	.....
CMW 10790	.....	.....	.....	.....T.....	.....	.....-TA T-----	.....GT..T..-A	.....
CMW 7047	.....	.....	.....	.....T.....	.....	.....-TA T-----	.....GT..T..-A	.....
CMW 7048	.....	.....	.....	.....T.....	.....	.....-TA T-----	.....GT..T..-A	.....
CMW 1651	.....	.....	.....	.....T.....	.....	.....-TA T-----	.....GT..T..-A	.....
CMW 1652	.....	.....	.....	.....T.....	.....	.....-TA T-----	.....GT..T..-A	.....
CMW 10477	T.....	.....	.....	.....	.....	.....C.TA TCATCCAT..	.....GT.....A.	.....
CMW 10455	T.....	.....	.....	.....	.....	.....C.TA TCATCCAT..	.....GT.....A.	.....
CMW 10788	T.....	.....	.....	.....	.....	.....C.TA TCATCCAT..	.....GT.....A.	.....
CMW 10789	T.....	.....	.....	.....	.....	.....C.TA TCATCCAT..	.....GT.....A.	.....
CMW 10442	.....	.....	.....	.....	.....	.....-TA T-----G.	.....G.....	.....
CMW 2091	.....	.....	.....	.....	.....	.....-TA T-----G.	.....G.....	.....
CMW 10465	.....	.....	.....	.....	.....	.....-TA T-----	.....GT.....	.....
CMW 5288	.....T.....	.....	.....	.....	.....	.....A...-AAC AGCCACGT..	TCAATT..AA	.....
CMW 5587	.....T.....	.....	.....	.....	.....	.....A...-AAC AGCCACGT..	TCAAT...AA	.....

```

[
[
730      740      750      760      770      780      790      800]
[
CMW 8757 GC--TGGGGC GTC-ATCCCC CCCGCGAACC CCCTGTGCGT -----GACCG
CMW 8758 ..-.....
CMW 1853 ..-.....
CMW 62 ..-.....
CMW 2113 ..-...C..
CMW 8755 ..-.....
CMW 1840 T.-.....
CMW 8756 T.-.....
CMW 2628 ..-.....
CMW 10782 ..-.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGTACAGG..
CMW 10784 ..-.C.A.. A.AC...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGTACAGG..
CMW 10783 ..-.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGTACAGG..
CMW 10786 ..-.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGTACAGG..
CMW 10787 ..-.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGACA.GG..
CMW 11294 ..-.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGTACAGG..
CMW 10785 ..-.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC -----T GGTACAGG..
CMW 10518 ..-.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGTACAGG..
CMW 10463 ..-.C.A.. A..C...T.A A..C---C.. ..-...CC TCCCAAATCC CGGGCCCCCTC ---GACTTCT GGCATAGG..
CMW 10484 ..-.C.AA. A..C...T.. A.AT---C.. ..CCCC.C. -TTTCCGAAT TTTGGGAAAA GGGAA-CTTT -----C
CMW 10436 ..-.C.AA. A..C...T.. A.AT---C.. ..CCCC.T. -TTTCCCGAT TTTGGGAAAA GGCAAACCTT -----C
CMW 10790 ..-.CAA.. T..C.C.T.. G..A---... ..CCCC.CC -TTTCCGGGG CCC-TC---- ---GACTTCT GGTATAGG..
CMW 7047 ..-.CAA.. T..C.C.T.. G..A---C.. ..CCCC.CC -TTTCCGGGG CCC-TC---- ---GACTTCT GGTATAGG..
CMW 7048 ..-.CAA.. T..C.C.T.. G..A---... ..CCCC.CC CTTTCCGGGG CCC-TC---- ---GACTTCT GGTATAGG..
CMW 1651 ..-.CAA.. T..-C.T.. G..A---... ..CCCC.CC -TTTCCGGGG CCT-TCT--- ---GACTTCT GGTATAGG..
CMW 1652 ..-.CAA.. T..-C.T.. G..A---... ..CCCC.CC -TTTCCGGGG CCTT----- ---GACTTCT GGTATAGG..
CMW 10477 ..-.CAA.. A..C...T.. A..TT.GG.. ..CAAC.CC CTCTCCC--- -----GACTTCT GGCATAGG..
CMW 10455 ..-.CAA.. A..C...T.. A..TT.GG.. ..CAAC.CC CTCTCCC--- -----GACTTCT GGCATAGG..
CMW 10788 ..-.CAA.. A..C...T.. A..TT.GG.. ..CAAC.CC CTCTCCC--- -----GACTTCT GGCATAGG..
CMW 10789 ..-.CAA.. A..C...T.. A..TT.GG.. ..CAAC.CC CTCTCCC--- -----GACTTCT GGCATAGG..
CMW 10442 ..CC...C.T ----- --G..CCCG. ..GC.----- ---GCCCC-T GGCCT.....
CMW 2091 ..CC...C.T ----- --G..CCCG. ..GC.----- ---GCCCC-T GGCCT.....
CMW 10465 ..-C.C.A.. A..C...T.A G..C---... ..-...T.CC TCCACTTC-- -----T GGTACAGG..
CMW 5288 TTTGACAAC. TA.GGCA--- -----TG GTTTCCCGCC G---TCGC-C AAGGCCTTG- -----
CMW 5587 TTTGACAAC. TA.GGCA--- -----TG GTTTCCCGCC G---TCGC-C AAGGCCTTG- -----

```

```

[
[
      810      820      830      840      850      860      870      880]
[
CMW 8757   AGC-TCCC-- --GCTGACGC GCT-CCT--- -GTCA--CAG GCCTCCGGCA ACAAGTATGT CCCCCGCGCC GTCCTCGTCG
CMW 8758   .....-- --.....-- -.....-- -.....--
CMW 1853   .....-- --.....-- -.....-- -.....--
CMW 62     .....-- --.....-- -.....-- -.....--
CMW 2113   .....-- --.....-- -.....-- -.....--
CMW 8755   .....-- --.....-- -.....-- -.....--
CMW 1840   .....-- --.....-- -.....-- -.....--
CMW 8756   .....-- --.....-- -.....-- -.....--
CMW 2628   .....-- --.....-- -.....-- -.....--
CMW 10782  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 10784  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 10783  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 10786  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 10787  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 11294  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 10785  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 10518  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 10463  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...A
CMW 10484  TTTT.TTAAC GC..CTTTTT TT.TTT.TTT TT.T---... ..T...C.. ..T...T
CMW 10436  TTTT.TTAAC GC-.CTTTTT TT.TTT.TTT TT.T---... ..T...C.. ..T...T
CMW 10790  ...T...-TC TT-..... ..T.T.--- -.....-- ..T...T
CMW 7047   ...T...-TC TT-..... ..T.T.--- -.....-- ..T...T
CMW 7048   ...T...-TC TT-..... ..T.T.--- -.....-- ..T...T
CMW 1651   ...A...-TC TT-..... ..T.T.--- -.....-- ..T...T
CMW 1652   ...T...-TC TT-..... ..T.T.--- -.....-- ..T...T
CMW 10477  .AGT...TC TTT..... ..TTT.--- -.....-- ..T...C.. ..T...T
CMW 10455  .AGT...TC TTT..... ..TTT.--- -.....-- ..T...C.. ..T...T
CMW 10788  .AGT...TC TTT..... ..TTT.--- -.....-- ..T...C.. ..T...T
CMW 10789  .AGT...TC TTT..... ..TTT.--- -.....-- ..T...C.. ..T...T
CMW 10442  .....A- .....-- -.....-- -.....-- .....
CMW 2091   .....A- .....-- -.....-- -.....-- .....
CMW 10465  ...T...-TC TT-..... ..T.T.--- -A.---... ..A... ..T...T
CMW 5288   ----- --.A...- --CATT.--- -A..GCC.. ..T... ..G..T...
CMW 5587   ----- --.A...- --CATT.--- -A..GCC.. ..T... ..G..T...

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	890	900	910	920	930	940	950	960]
[.
[.
CMW 8757	ATCTCGAGCC	CGGCACCATG	GACGCCGTCC	GTGCCGGCCC	CTTCGGCCAG	CTGTTCCGCC	CCGACAACCTT	CGTCTTCGGC
CMW 8758
CMW 1853
CMW 62
CMW 2113
CMW 8755
CMW 1840
CMW 8756	T.....	.....	.....	.....	.....	.....	.....
CMW 2628	T.....	.....	.....	.....	.....	.....	.....
CMW 10782	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 10784	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 10783	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 10786	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 10787	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 11294	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 10785	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 10518	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 10463	T.....	T.....	C.....	.....	T.....	T.....	T.....
CMW 10484	T.....	T.....	C.....	.....	T.....	T.....	T.....
CMW 10436	T.....	T.....	C.....	.....	T.....	T.....	T.....
CMW 10790	T.....	T.....	C.....	T.....	T.....	T.....	T.....
CMW 7047	T.....	T.....	C.....	T.....	T.....	T.....	T.....
CMW 7048	T.....	T.....	C.....	T.....	T.....	T.....	T.....
CMW 1651	T.....	T.....	C.....	T.....	T.....	T.....	T.....
CMW 1652	T.....	T.....	C.....	T.....	T.....	T.....	T.....
CMW 10477	G.....	T.....	C.....	.....	T.....	T.....	T.....
CMW 10455	G.....	T.....	C.....	.....	T.....	T.....	T.....
CMW 10788	G.....	T.....	C.....	.....	T.....	T.....	T.....
CMW 10789	G.....	T.....	C.....	.....	T.....	T.....	T.....
CMW 10442	T.....	.....	C.....	.....	.....	.....	.....
CMW 2091	T.....	.....	C.....	.....	.....	.....	.....
CMW 10465	T.....	.....	C.....	.....	T.....	.....	T.....
CMW 5288	T.....	.....	.....	T.....	.....	.....	.....
CMW 5587	T.....	.....	.....	T.....	.....	.....	.....

```

[
          970          980          990          1000          1010          1020          1030          1040]
[
          ITS 1 →          .          .          .          .          .          .          .]
CMW 8757  CAGTCC  CCCCA GATACCCTTT GTGAACTTAT A-CCTTTTT- ATCGTTGCCT CGGCGCCGAG CC--GGGAGT GCTCTTCTGT
CMW 8758  .....
CMW 1853  .....
CMW 62    .....
CMW 2113 .....
CMW 8755 .....
CMW 1840  ..... A .....
CMW 8756  .....
CMW 2628  .....
CMW 10782 ..... A...T ..... T... CC...G.G .T.GG.A.TG
CMW 10784 ..... A...- ..... T... CCC...G.G .T.GG.A.TG
CMW 10783 ..... A...T ..... T... CC...G.G .T.GG.A.TG
CMW 10786 ..... A...- ..... -T... CC...G.G .T.GG.A.TG
CMW 10787 ..... A...- ..... -T... CC...G.G .T.GG.A.TG
CMW 11294 ..... A...T ..... T... CC...G.G .T.GG.A.TG
CMW 10785 ..... A...- ..... T... CC...G.G .T.GG.A.TG
CMW 10518 ..... C...-A...- ..... T... CC...G.G .A.T..T---
CMW 10463 ..... C...-A...- ..... T... CC...G.G .A.T..T---
CMW 10484 ..... AC...-G ..... T... C...G.G .AGGAAACAA
CMW 10436 ..... AC...-G ..... T... C...G.G -AGGAAACAA
CMW 10790 ..... A.A...- ..... T... C...G.G .-----
CMW 7047  ..... A.A...- ..... T... C...G.G .GG-----
CMW 7048  ..... A.A...- ..... T... C...G.G .GG-----
CMW 1651  ..... A.A...- ..... T... TCT..G.G .GGG-----
CMW 1652  ..... A.A...- ..... T... TCT..G.G .GGG-----
CMW 10477 ..... A...- ..... T... C...G.- -GAGGGAAAA
CMW 10455 ..... A...- ..... T... C...G.- -GAGGGAAAA
CMW 10788 ..... A...- ..... T... C...G.- -GAGGGAAAA
CMW 10789 ..... A...- ..... T... C...G.- -GAGGGAAAA
CMW 10442 ..... A...- ..... T... T--..G.C A...C....
CMW 2091  ..... A...- ..... T... T--..G.C A...C....
CMW 10465 ..... A...T ..... T... T--..G.C A...C....
CMW 5288  ..... A ..... ---.A GGCC..CC-- -----
CMW 5587  ..... A ..... ---.A GGCC..CC-- -----

```

[	1050	1060	1070	1080	1090	1100	1110	1120]
[.]
CMW 8757	GC-----	-----	-----	-----	-----	-----	-----TCCC	C-CACCG--C
CMW 8758	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 1853	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 62	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 2113	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 8755	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 1840	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 8756	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 2628	..-----	-----	-----	-----	-----	-----	-----	-----
CMW 10782	AAAGAGAATA	AAAAAATACT	T-TTTTCTCT	CTCTCTCCC-	-----CTCT-	---CCCCC-	GC-----.TT	.-T....--T
CMW 10784	AAAGAGAATA	AAAAAATACT	T-TTTTCTCT	CTCTCTCCC-	-----CTCT-	---CCCCC-	GC-----.TT	.-T....--T
CMW 10783	AAAGAGAATA	AAAAAATACT	T-TTTTCTCT	CTCTCTCCC-	-----CTCT-	---CCCCC-	GC-----.TT	.-T....--T
CMW 10786	AAAGAGAAGA	AAAAAATACT	T-TTTTCTCT	CTCTCTTCC-	-----CTCC-	---CCCCCCC	GC-----.TT	.-T....--T
CMW 10787	AAAGAGAAGA	AAAAAATACT	T-TTTTCTCT	CTCTCTTCC-	-----CTCC-	---CCCCCCC	GC-----.TT	.-T....--T
CMW 11294	AAAGAGAATA	AAAAAATACT	T-TTTTCTCT	CTCTCTCTC-	---CCCTCT-	---CCCCC-	GC-----.TT	.-T....--T
CMW 10785	AAAGAGAAGA	AAAAAATACT	T-TTTTCTCT	CTCTCTTCC-	-----CTCC-	---CCCCCCC	GC-----.TT	.-T....--T
CMW 10518	---GAGA-GA	G-----	-TCTCTCT	CCTTCCTTC-	---TCGC-	-----	-----.TT	.-T....--T
CMW 10463	---GAGA-GA	G-----	-TCTCTCT	CCTTCCTTC-	---TCGC-	-----	-----.TT	.-T....--T
CMW 10484	.TAAAAGAGG	AGAATCTTTT	T-----CT	CCTTCCTTTC	TTTTT-----	---TCCCC	CCT-----	.T.CATCCGT
CMW 10436	.TAAAAGAGG	AGAATCTTTT	T-----CT	CCTTCCTTTC	TTTTT-----	---TCCCC	CCT-----	.T.CATCCGT
CMW 10790	-----TT	GGCGAAGGCA	G-ATTTTCTT	CCTTCTCCC-	-----CTCC-	---CTTCCCC	CCCCC..TT	-----T
CMW 7047	-----TT	GGCGAAGGCA	G-ATTTTCTT	CCTTCTCCC-	-----CTCC-	---CTTCCCC	CCC---.TT	-----T
CMW 7048	-----TT	GGCGAAGGCA	G-ATTTTCTT	CCTTCTCCC-	-----CTCC-	---CTTCCCC	CCC---.TT	-----T
CMW 1651	-----TT	GGCGAAGGCA	G-ATTTTCTT	CCTTCTCCC-	-----CTCC-	---CTTCCCC	CCC---.TT	-----T
CMW 1652	-----TT	GGCGAAGGCA	G-ATTTTCTT	CCTTCTCCC-	-----CTCC-	---CTTCCCC	CCC---.TT	-----T
CMW 10477	AAAAAAAAAA	AA--GGGGG	AAATTT-GTT	TCCCCCTTTT	TTTTTT-----	---TCCCC	CCT-----	.TTTATCCGG
CMW 10455	AAAAAAAAAA	AA--GGGGG	AAATTCGTGTT	TCCCCCTTTT	CTTTT-----	---TCCCC	CCT-----	.TTCATCCGT
CMW 10788	AAAAAAAAAA	AAAAGGGGG	AA-TTCTGTGTT	TCCCCCTTTT	CTTTT-----	---TCCCC	CCT-----	.TTCATCCGT
CMW 10789	AAAAAAAAAA	AAAAGGGGG	AA--TCGTGTT	TCCCCCTTTT	CTTTT-----	---TCCCC	CCT-----	.TTCATCCGT
CMW 10442	--GCC-----	-----	-----	-----	-----	-----	-----	----.ACCGT
CMW 2091	--GCC-----	-----	-----	-----	-----	-----	-----	----.ACCGT
CMW 10465	ATGCC-----	-----	-----	-----	-----	-----	-----CC...	.T--TACCGT
CMW 5288	-----	-----	-----	-----	-----TCCC	CACCGAGGCC	CCTT-----	-----
CMW 5587	-----	-----	-----	-----	-----TCCC	CACCGAGGCC	CCTT-----	-----

[	1130	1140	1150	1160	1170	1180	1190	1200]
[]
CMW 8757	GCAAG--CAG	T-----GGA	G--CAGGCC	GCCGGCGGCC	CACCAAAC	TTTGTTTT	GAA-CGTATC	TCTTCTGAGT
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	...C--G..	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2628	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10782	...A--G.	.TGTT--	.....	.....	.....	.....	T...C...	.....
CMW 10784	...A--G.	.TGTT--	.....	.....	.....	.....	T...C...	.....
CMW 10783	...A--G.	.TGTT--	.....	.....	.....	.....	T...C...	.....
CMW 10786	...A--G.	.TGTT--	.....	.....	.....	.....	T...C...	.....
CMW 10787	...A--G.	.TGTT--	.....	.....	.....	.....	T...C...	.....
CMW 11294	...A--G.	.TGTT--	.....	.....	.....	.....	T...C.TATCT	CT.CTGAGTA
CMW 10785	...A--C.	.TCTT--	.....	.....	.....	.....	T...C...	.....
CMW 10518	...A--G.	.TGTT--	.....	.....	.....	.....	T...C...	.....
CMW 10463	...A--G.	.TGTT--	.....	.....	.....	.....	T...C...	.....
CMW 10484	.T...AA.G.	.TGCT--	.....	.....	.....	.....	A...C...	.....
CMW 10436	.T...AA.G.	.TGCT--	.....	.....	.....	.....	A...C...	.....
CMW 10790	...A--G.	.TGTTGG.	.....	.....	.....	.....	T...C...	.....
CMW 7047	...A--G.	.TGTTGG.	.....	.....	.....	.....	T...C...	.....
CMW 7048	...A--G.	.TGTTGG.	.....	.....	.....	.....	T...C...	.....
CMW 1651	...A--G.	.TGTTGG.	.....	.....	.....	.....	T...C...	.....
CMW 1652	...A--G.	.TGTTGG.	.....	.....	.....	.....	T...C...	.....
CMW 10477	.A...AAT.G.	GGGCT--	A--.....	C.....	TT...T	.....	A...C...	T...T...
CMW 10455	.T...AAT.G.	GTGCT--	.....G.	.....	TT.....	.....G.	A...A.C...	.....T...
CMW 10788	.T...AAT.G.	GTGGT--	.....	.....	TT.....	.....	A...CC...	.....T...
CMW 10789	.T...AAT.G.	GTGCT--	.....	C.....	TT.....	.....	A...CC...	.....T...
CMW 10442	.....A	AGCGGT--G	.AG.....	.....	.....	.....	..C-.....	..C.....
CMW 2091	.....A	AGCGGT--G	.AG.....	.....	.....	.....	..C-.....	..C.....
CMW 10465	A....T.GC	G--GT--G	.AG.....	.....	T.....	.....G.	.....	.....
CMW 5288	-----G.	GAACAA--G	.AG...C.G	C.G.CG.C.-	A.....	.....C.T	AG----.GAA	.....
CMW 5587	-----G.	GAACAA--G	.AG...C.G	C.G.CG.C.-	A.....	.....C.T	AG----.GAA	.....

	1210	1220	1230	1240	1250	1260	1270	1280]
[	.	.	5.8S →	.	.	.	.	.]
[
CMW 8757	GTTTATAACA	AA-CAAA-TG	AATCA	AAACT TTCAACAACG	GATCTCTGG	TTCTGGCATC	GATGAAGAAC	GCAGCGAAAT
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....	.....	.....	.....	.....	.....	.....	.....C.C.....
CMW 8756	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2628	.....	.....	.....	.....	.....	.....	.....	.....
CMW 10782	ACA.TA...	..AA----	.....	.....	.....	.....	.....	.....
CMW 10784	ACA.TA...	..AA----	.....	.....	.....	.....	.....	.....
CMW 10783	ACA.TA...	..AA----	.....	.....	.....	.....	.....	.....
CMW 10786	ACA.TA...	..AA----	.....	.....	.....	.....	.....	.....
CMW 10787	ACA.TA...	..AA----	.....	.....	.....	.....	.....	.....
CMW 11294	CA...A...	..AA----	.....	.....	.....	.....	.....	.....
CMW 10785	ACA.TA...	..AA----	.....	.....	.....	.....	.....	.....
CMW 10518	ACA.T...	..AA...A	.....	.....	.....	.....	.....	.....A...
CMW 10463	ACA.T...	..AA...A	.....	.....	.....	.....	.....	.....A...
CMW 10484	AAA..A...	..AA...-	.....	.....	.....	.....	.....	.....
CMW 10436	AAA..A...	..AA...-	.....	.....	.....	.....	.....	.....
CMW 10790	ACA..A...	..AA...A	.....	.....	.....	.....	.....	.....
CMW 7047	ACA..A...	..AA...A	.....	.....	.....	.....	.....	.....
CMW 7048	ACA..A...	..AA...A	.....	.....	.....	.....	.....	.....
CMW 1651	ACA..A...	..AA...A	.....	.....	.....	.....	.....	.....
CMW 1652	ACA..A...	..AA...A	.....	.....	.....	.....	.....	.....
CMW 10477	T.-A.A.--	..AA...A	.....	.....	.....	.....	.....	.....
CMW 10455	T.-A.A.--	..AA...A	.....	.....	.....	.....	.....	.....
CMW 10788	T.-A.A.--	..AA...A	.....	.....	.....	.....	.....	.....
CMW 10789	T.-A.A.--	..AA...A	.....	.....	.....	.....	.....	.....
CMW 10442	.....C.A.	--.....-	.....	.....	.....	.....	.....	.....
CMW 2091	.....C.A.	--.....-	.....	.....	.....	.....	.....	.....
CMW 10465	.....C.A.	--CA...A-	.....	.....	.....	.....	.....	.....
CMW 5288	--A.A.A.	.-CAT..A.	.....	.....	.....	.....	.....	.....
CMW 5587	--A.A.A.	.-CAT..A.	.....	.....	.....	.....	.....	.....

	1290	1300	1310	1320	1330	1340	1350	1360]
[.
[.
CMW 8757	GCGATAAGTA	ATGTGAATTG	CAGAATTCAG	TGAATCATCG	AATCTTTGAA	CGCACATTGC	GCCCCGCTGGA	ATTCCAGCGG
CMW 8758	CG.....	.....
CMW 1853
CMW 62	CG.....	.....
CMW 2113
CMW 8755	CG.....	.....
CMW 1840	.C...C..	.....	.....	.....	.....	.....	.....	.....
CMW 8756	CG.....	.....
CMW 2628
CMW 10782
CMW 10784
CMW 10783	C AGC .AA.	.....	.....	.....	.....	.....	.....
CMW 10786
CMW 10787
CMW 11294
CMW 10785
CMW 10518
CMW 10463
CMW 10484	C.....
CMW 10436	C.....
CMW 10790	G.....	.....	.....	.....	.....	.....
CMW 7047
CMW 7048
CMW 1651	G.....	.....	.....	.....	.....
CMW 1652	G.....	.....	.....	.....	.....
CMW 10477
CMW 10455
CMW 10788
CMW 10789
CMW 10442
CMW 2091
CMW 10465
CMW 5288	T.....T	.....G.A..
CMW 5587	T.....T	.....G.A..

	1370	1380	1390	1400	1410	1420	1430	1440]
[
[			ITS 2 →					
CMW 8757	GCATGCCTGT	TCGAGCGTCA	TTTCAACCCT	CAAGCCTGGC	TTGGTGTGG	GGCACTACCT	GTTC-ACAGC	GGGTAGGCC
CMW 8758
CMW 1853
CMW 62
CMW 2113
CMW 8755
CMW 1840	G..	TT..	.....
CMW 8756	G..	TT..	.....
CMW 2628	G..	TT..	.....
CMW 10782	G..	.....	.....	.....	T..	C	---CA.A.
CMW 10784	T..	C	---CA.A.
CMW 10783	T..	C	---CA.A.
CMW 10786	T..	C	---CA.A.
CMW 10787	T..	C	---CA.A.
CMW 11294	T..	C	---CA.A.
CMW 10785	T..	C	---CA.A.
CMW 10518	T..	C	---CA.A.
CMW 10463	T..	C	---CA.A.
CMW 10484	T..	.....	.....	C	---A.A.
CMW 10436	T..	.....	.....	C	---A.A.
CMW 10790	T..	.....	T..	C	---A.A.
CMW 7047	T..	.....	T..	C	---A.A.
CMW 7048	T..	.....	T..	C	---A.A.
CMW 1651	T..	.....	T..	C	---A.A.
CMW 1652	T..	.....	T..	C	---A.A.
CMW 10477	T.A.	.....	.....	TC	---A.A.
CMW 10455	T.A.	.....	.....	TC	---A.A.
CMW 10788	T.A.	.....	.....	TC	---A.A.
CMW 10789	T.A.	.....	.....	TC	---A.A.
CMW 10442	---A.
CMW 2091	---A.
CMW 10465	A.	.....	.....	.....	---A.
CMW 5288	A.	.....	G.T. CC--G.G.	G.A.C.
CMW 5587	A.	.....	G.T. CC--G.G.	G.A.C.

[	1450	1460	1470	1480	1490	1500	1510	1520]
[]
CMW 8757	TGAAATTTAA	TGGCGGGCTC	GCTAAGACTC	TGAGCGTAGT	AGTTTTTAT-	-----CACCT	CGCTTTGGAA	-GGATTA-GC
CMW 8758	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1853	.....	.....	.....	.....	.....	.....	.....	.....
CMW 62	.....	.....	.....	.....	.....	.....	.....	.....
CMW 2113	.....	.....	.....	.....	.....	.....	.....	.....
CMW 8755	.....	.....	.....	.....	.....	.....	.....	.....
CMW 1840	.....G	.....	.....	.....	.....	.....	.....	.....
CMW 8756	.....G	.....	.....A	.....	.....	.....	.....	.....-CG
CMW 2628	.....G	.....	.....	.....	.....	.....	.....	.....A
CMW 10782	.....G	.....	.....	.....	.....T--	----CA	.....	.....
CMW 10784	.....G	.....	.....	.....	.....T--	----CA	.....	.....
CMW 10783	.....G	.....	.....	.....	.....T--	----CA	.....	.....
CMW 10786	.....G	.....	.....	.....	.....T--	----CA	.....	.....
CMW 10787	.....G	.....	.....	.....	.....T--	----CA	.....	.....
CMW 11294	.....G	.....N	.....	.....	.....T--	----CA	.....	.....
CMW 10785	.....C	.....	.....	.....	.....T--	----CA	.....	.....
CMW 10518	.....G	.....	.....	.....	.....T--	----CA	.....	.....
CMW 10463	.....G	.....	.....	.....	.....T--	----CA	.....	.....
CMW 10484	.....G	.....	.....	.....	.....T-	----C	.....	.....
CMW 10436	.....G	.....	.....	.....	.....T-	----C	.....	.....
CMW 10790	.....G	.....	.....	.....	.....T.T	TCTTCA	.....	.....
CMW 7047	.....G	.....	.....	.....	.....T.T	TCTTCA	.....	.....
CMW 7048	.....G	.....	.....	.....	.....T.T	TCTTCA	.....	.....
CMW 1651	.....G	.....	.....	.....	.....T.T	TCTTCA	.....	.....
CMW 1652	.....G	.....	.....C	.....	.....T.T	TCTTCA	.....	.....
CMW 10477	.....C.G	.....	.....	.....	.....T.T	TCTTC	.....A	.....
CMW 10455	.....C.G	.....	.....	.....	.....T.T	TCTTC	.....A	.....
CMW 10788	.....C.G	.....	.....	.....	.....T.T	TCTTC	.....A	.....
CMW 10789	.....C.G	.....	.....	.....	.....T.T	TCTTC	.....A	.....
CMW 10442	.....G	.....	.....	.....	.....	.....	.....G	.....
CMW 2091	.....G	.....	.....	.....	.....	.....	.....G	.....
CMW 10465	.....A.G	.....	.....AG	.....	.....	.....	.....G	.....
CMW 5288	.....C.G	.....A	.....C.G..C	C	.....A	-----C	TCGC.CC.G	A..CCCTG..
CMW 5587	.....C.G	.....A	.....C.G..C	C	.....A	-----C	TCGC.CC.G	A..CCCTG..


```

[                1530      1540]
[                .        . ]
CMW 8757      GG-TGCTCTT GCCGTAAAAC C
CMW 8758      ..-..... .
CMW 1853      ..-..... .
CMW 62        ..-..... .
CMW 2113     ..-..... .
CMW 8755     ..-..... .
CMW 1840     ..-..... .
CMW 8756     A.-...C... .
CMW 2628     ..-..... .
CMW 10782    ..T.....A .
CMW 10784    ..T.....A .
CMW 10783    ..T.....A .
CMW 10786    ..T..... .
CMW 10787    ..T..... .
CMW 11294    ..T.....G .
CMW 10785    ..T..... .
CMW 10518    ..T..... .
CMW 10463    ..T..... .
CMW 10484    ..T...T.. .
CMW 10436    ..T...T.. .
CMW 10790    ..T..... .
CMW 7047     ..T..... .
CMW 7048     ..T..... .
CMW 1651     ..T..... .
CMW 1652     ..T..... .
CMW 10477    ..T...T.. .
CMW 10455    ..T...T.. .
CMW 10788    ..T...T.. .
CMW 10789    ..T...T.. .
CMW 10442    ..-..... .
CMW 2091     ..-..... .
CMW 10465    ..-..... .
CMW 5288     ..-...C..- ..T... .
CMW 5587     ..-...C..- ..T... .

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