

**Table S1.** Homologies between the alpha ring and its complementary strand antiAL and 5S rRNA sequences from Archaea. Inside the 5S sequences, we represent in red the pentanucleotides (in blue if they are adjacent) common with AL, and in green if they are common with antiAL. The expected value of the percentage of the pentamers coming from AL or antiAL rings in the 5S structure is equal to  $2.1\% \pm 2.3\%$  (1-sided 0.95-confidence interval). All observed 5S sequences have more than 4.4% of pentamers from AL and only 3% from anti-AL, where:

**AL: ATGGTACTGCCATTCAAGATGA**      **antiAL: TCATCTTGAATGGCAGTACCAT**

>NZ\_JAGGMO010000007.1 Methanococcus voltae strain DSM 14649 Ga0466840\_07  
TACGGCGGTCATAGCGGAGGTGTTCCATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCAGC  
GATTCTTAA**GTACTGCCATATGGT**GGGAA**CAAGATGACGCTGCCG**GATC

AL-Pentamer number	5S sequence length	Percentage of AL pentamers
14	111	<b>12.6</b>

TACGGCGGTCATAGCGGAGGTGTTCCATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCAGC  
GATTCTTAA**GTACT**GCCATATGGTGGGAACAAGATGACGCTGCCGATC

AntiAL-pentamer number **3**

>A00001 Methanococcus voltae  
TGATACGGCGGTCATAGCGGAGGTGTCCATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCA  
GCGATTCTTAA**GTACTGCCATATGGT**GGGAA**CAAGATGACGCTGCCG**GATCAC

14 116 **12.1**

TGATACGGCGGTCATAGCGGAGGTGTCCATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCA  
GCGATTCTTAA**GTACT**GCCATATGGTGGGAACAAGATGACGCTGCCGATCAC

**3**

>NZ\_JAGGMO010000007.1 Methanococcus voltae strain DSM 14649 Ga0466840\_07  
CATAACGGTCATAGCGGAGGTGTACATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCAGCG  
ATTTCTTAA**GTACTGCCATATGGT**GGGAA**CAAGATGACGCTGTTAGTC**

13 109 **11.9**

CATAACGGTCATAGCGGAGGTGTACATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCAGCG  
ATTTCTTAA**GTACT**GCCATATGGTGGGAACAAGATGACGCTGTTAGTC

**3**

>NR\_075764.1 Methanococcus voltae A3 strain A3 5S ribosomal RNA, complete sequence  
TAACGGTCATAGCGGAGGTGTACATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCAGCGAT  
TTCTTAA**GTACTGCCATATGGT**GGGAA**CAAGATGACGCTGTTAGTCA**

13 109 **11.9**

TAACGGTCATAGCGGAGGTGTACATCCGATCC**CAATTC**CGATCTCGGAAATTAAGCCCTCCAGCGAT  
TTCTTAA**GTACT**GCCATATGGTGGGAACAAGATGACGCTGTTAGTCA

**3**

>NZ\_AJJU01000016.1 Imtechella halotolerans K1 Contig16, whole genome shotgun sequence  
TAAGGTGGTTATAGCA**AATGGG**GCTCACCTCTTACCTTTCCGAACAGAGTAGTTAAGC**CCATTAGCG**  
C**AGATGGTACTGCCAT**CCGGTGGGAGAGTATGTCGCCGCCTTCT

12 106 **11.3**

TAAGGTGGTTATAGCA**AATGGG**GCTCACCTCTTACCTTTCCGAACAGAGTAGTTAAGC**CCATTAGCG**  
CAGATGGTACTGCCATCCGGTGGGAGAGTATGTCGCCGCCTTCT

**2**

>JMFY01000026.1 Clostridium sp. HMP27 Clostridium-HMP27 contig\_26, whole genome shotgun sequence  
TCTGGTGATTATGGCTTGAAGGTAACACCCGTAC**CCATTC**CGAACACGAAGGTTAAGCT**TTC**AAAG  
CGCC**AATGGTACTGCC**GGGGAGGCCCGGTGGGAGAGTAGGTCGT**TGCC**AGAT

12 113 **10.6**

TCTGGTGATTATGGCTTGAAGGTAACACCCGTAC**CCATTC**CGAACACGAAGGTTAAGCTTCAAAG  
CGCC**AATGGTACTGCC**GGGGAGGCCCGGTGGGAGAGTAGGTCGTG**CC**CAGAT

**7**

>NR\_075496.1 Methanococcus aeolicus Nankai-3 strain Nankai-3 5S ribosomal RNA, complete sequence

TAACGGTCATAGCGAAGGTGTTATATCCGATCC**CAATTC**CGATCTCGGAAAT**CAAG**CCCTTCAGCG  
ATTCCCTAAG**TACTGCCATTC**GGTGGAAACAGGGAGACGCTGTTAGT

11 108 **10.2**

TAACGGTCATAGCGAAGGTGTTATATCCGATCC**CAATTC**CGATCTCGGAAATCAAGCCCTTCAGCGA  
TTCCCTAAG**TACTGCCATTC**GGTGGAAACAGGGAGACGCTGTTAGT

**5**

>NZ\_KB907848.1 Hymenobacter aerophilus DSM 13606 H145DRAFT\_scaffold00049.49

**AATGGT**GGCTTTAGCCCGGGTGTTCACCTCTT**CCATTC**CGAACAGAGTCGTTAAGCCCCGGAGCG  
CCT**ATGGTACTGCC**TTACCGGTGGGAGAGTCGGTCGCCGCCAACC

11 108 **10.2**

**AATGGT**GGCTTTAGCCCGGGTGTTCACCTCTT**CCATTC**CGAACAGAGTCGTTAAGCCCCGGAGCG  
CCTATGGTACTGCCTTACCGGTGGGAGAGTCGGTCGCCGCCAACC

**3**

>MGWI01000006.1 Flavobacteria bacterium GWF1\_32\_7 gwfl\_scaffold\_15, whole genome shotgun sequence  
GGGCTCACCTCTT**CCATTC**CGAACAGAGAAGTTAAGCCCGATTGCGC**AGATGGTACTGC**AGTTA  
TGTGGGAGAGTATGTCGCCGCCTTTC

9 87 **10.3**

GGGCTCACCTCTT**CCATTC**CGAACAGAGAAGTTAAGCCCGATTGCGCAGATGGTACT**GCAGTTA**  
TGTGGGAGAGTATGTCGCCGCCTTTC

**3**

>NR\_103393.1 Thermobifida fusca YX strain YX 5S ribosomal RNA, complete sequence

TACGGCGGTCATAGCGGGCGGGGTCCACCCGGTCC**CAATTC**CGAACCCGGTCGTTAAGCCGCCCAGC  
GCCGATGGTACTGCCCTGTGGTGGGGTGGGAGAGTAGGACACCGCCGTAC

9 112 **8**

TACGGCGGTCATAGCGGGCGGGGTCCACCCGGT**CCATTC**CGAACCCGGTCGTTAAGCCGCCCAG  
CGCCGATGGTACTGCCCTGTGGTGGGGTGGGAGAGTAGGACACCGCCGTAC

**2**

>NZ\_BCRL01000048.1 Rhodococcus hoagii NBRC 101255 = C 7 strain NBRC 101255, whole genome

TACGGCG**GCCAT**AGCGGAGGGGAAACGCCCGGT**CCATTC**CGAACCCGGAAGCTAAGCCCTCCA  
GCGCCG**ATGGTACTGC**ACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAAC

9 113 **8**

TACGGCGGCCATAGCGGAGGGGAAACGCCCGGT**CCATTC**CGAACCCGGAAGCTAAGCCCTCCAG  
CGCCGATGGTACTGCACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAAC

**2**

>NR\_075410.1 Rhodococcus jostii RHA1 strain RHA1 5S ribosomal RNA, complete sequence

AGTTACGGCG**GCCAT**AGCGGAGGGGAAACGCCCGGT**CCATTC**CGAACCCGGAAGCTAAGCCCT  
CCAGCGCCG**ATGGTACTGC**ACCCGACAGGGTGTGGGAGAGTAGGACACCGCCGAAC

9 116 **7.8**

AGTTACGGCGGCCATAGCGGAGGGGAAACGCCCGGT**CCATTC**CGAACCCGGAAGCTAAGCCCTC  
CAGCGCCGATGGTACTGCACCCGACAGGGTGTGGGAGAGTAGGACACCGCCGAAC

**2**

> NR\_075246.1 Rhodococcus opacus B4 strain B4 5S ribosomal RNA, complete sequence

GTTACGGCG**GCCAT**AGCGGAGGGGAAACGCCCGGT**CCATTC**CGAACCCGGAAGCTAAGCCCTCC  
AGCGCCG**ATGGTACTGC**ACCCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

9 116 **7.8**

GTTACGGCGGCCATAGCGGAGGGGAAACGCCCGGT**CCATTC**CGAACCCGGAAGCTAAGCCCTCC  
AGCGCCGATGGTACTGCACCCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

**2**

> GenBank X55254.1 R. rhodochrous 5S rRNA

GTTACGGCG**GCCAT**AGCGACAGGGAAACGCCCGGT**CCATT**CCGAACCCGGAAGCTAAGCCTGTC  
TGCGCCG**ATGGTACTG**CACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

9 116 **7.8**

GTTACGGCGGCCATAGCGACAGGGAAACGCCCGGT**CCATT**CCGAACCCGGAAGCTAAGCCTGTC  
TGCGCCGATGGTACTGCACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

**2**

>NR\_075455.1 Methanoculleus marisnigri JR1 strain JR1 5S ribosomal RNA, complete sequence  
TAGCG**GCCAT**AGCAGAGGGGAAACACCTGGAC**CCATT**CCGAACCCAGCAGTTAAGCCCTCTCACG  
**TGCCATGTGGTACTG**AGGTGCGCGAGCCCTCGGGAAGCACGGCTCGCTGCTATTAC

9 117 **7.7**

TAGCGCCATAGCAGAGGGGAAACACCTGGAC**CCATT**CCGAACCCAG**GCAGT**TAAGCCCTCTCACG  
TGCCATGTGGTACTGAGGTGCGCGAGCCCTCGGGAAGCACGGCTCGCTGCTATTAC

**3**

>NZ\_LS992663.1 Rickettsia typhi isolate TM2540 chromosome TM2540  
CTTGGTGGTCATAGCATGAGTGAAACACACGATCCCATCCCGAACTCGAACGTGAAACCTCATAGC  
GCT**AATGGTACT**ATGTCATAAGTCATGGGAGAGTAAGT**CACTGCCA**AGC

8 111 **7.2**

CTTGGTGGTCATAGCATGAGTGAAACACACGATCCCATCCCGAACTCGAACGTGAAACCTCATAGC  
GCT**AATGGT**ACTATGTCATAAGTCATGGGAGAGTAAGTCACTGCCAAGC

**1**

> NR\_121856.1 Rhodococcus pyridinivorans 5S ribosomal RNA, complete sequence  
TACGGCGGTTCATAGCGACAGGGAAACGCCCGGT**CCATT**CCGAACCCGGAAGCTAAGCCTGTCTG  
CGCCG**ATGGTACTG**CACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAAC

8 113 **7.1**

TACGGCGGTTCATAGCGACAGGGAAACGCCCGGT**CCATT**CCGAACCCGGAAGCTAAGCCTGTCTG  
CGCCGATGGTACTGCACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAAC

**2**

>CR848038.1 Chlamydophila abortus strain S26/3, complete genome  
GCTTGGTGAT**AATGG**AAAAAGGGATACACCTGAT**ACCATT**CCGAACTCAGAAGTTAAGCCTTTTA  
TCGCCG**ATGGTACT**ATAC**CAAGA**GTATGGGAGAGTAGGTCTGTCGCCAAGCT

8 113 **7.1**

GCTTGGTGAT**AATGG**AAAAAGGGATACACCTGAT**TACCATT**CCGAACTCAGAAGTTAAGCCTTTTA  
TCGCCGATGGTACTATACACAAGAGTATGGGAGAGTAGGTCTGTCGCCAAGCT

**5**

>NR\_075339.1 Methanosphaera stadtmanae DSM 3091 strain DSM 3091 5S ribosomal RNA  
**TGGTAC**GGCGACCATAGCGATAGGGTCACATCTGAACTCGTCTCGATCTCAGTAATAAAGTCTATC  
CACGTTTTGTT**TGGTACT**AT**AGATGGT**AAGTCTATGGGAATTTCAGAAAG

8 112 **7.1**

TGGTACGGCG**ACCAT**AGCGATAGGGTCA**CATCT**GAACTCGTCTCGATCT**CAGTA**ATAAAGTCTAT  
CCACGTTTTGTTTGGTACTATAGATGGTAAGTCTATGGGAATTTCAGAAAG

**3**

> NR\_075227.1 Rhodococcus erythropolis 5S ribosomal RNA gene, complete sequence NCBI  
GTTACGGCGGTTCATAGCGAAGGGGAAACGCCCGGT**CCATT**CCGAACCCGGAAGCTAAGCCCTTC  
AGCGCCG**ATGGTACTG**CACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

8 116 **6.9**

GTTACGGCGGTTCATAGCGAAGGGGAAACGCCCGGT**CCATT**CCGAACCCGGAAGCTAAGCCCTTC  
AGCGCCGATGGTACTGCACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

**2**

>Rhodococcus globerulus strain 4J2A2, whole genome shotgun sequence NCBI: NZ\_CEDU01000055.1 5S

GTTACGGCGGTCATAGCGAAGGGGAAACGCCCGGTCC**CCATTCC**GGAACCCGGAAGCTAAGCCCTTC  
AGCGCCG**ATGGTACTGC**ACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

8 116 **6.9**

GTTACGGCGGTCATAGCGAAGGGGAAACGCCCGGTCC**CCATTCC**GGAACCCGGAAGCTAAGCCCTTC  
AGCGCCGATGGTACTGCACTCGACAGGGTGTGGGAGAGTAGGACACCGCCGAACA

2

>NR\_076076.1 Methanocaldococcus jannaschii DSM 2661 strain DSM 2661 5S ribosomal RNA  
**TGGTAC**GGCGGTCATAGCGGGGGGGCCACACCCGAACCCATCCCGAACTCGGAAGTTAAGCCCCC  
CAGCGATGCCCCG**GTACTGCCAT**CTGGCGGGAAAGGGGCGACACCGCCGGCCAC

8 116 **6.9**

TGGTACGGCGGTCATAGCGGGGGGGCCACACCCGAACCCATCCCGAACTCGGAAGTTAAGCCCCC  
CAGCGATGCCCCG**GTACTGCCATCT**GGCGGGAAAGGGGCGACACCGCCGGCCAC

2

>NR\_075165.1 Nanoarchaeum equitans Kin4-M 5S ribosomal RNA, complete sequence  
AGGTTTCGTGGGAGG**GCCATAG**CGGGCCCGGGAACACCCGTACCCATCTCGAACACGGAAGTTAA  
GCCGGGCCGCGTCCCGAG**TGGTACTGCC**CCGCGAAGGGGTGGGAAGCTCGGGATGCC

8 119 **6.7**

AGGTTTCGTGGGAGGGCCATAGCGGGCCCGGGAACACCC**GTACCCATCT**CGAACACGGAAGTTAA  
GCCGGGCCGCGTCCCGAGTGGTACTGCCCCGCGAAGGGGTGGGAAGCTCGGGATGCC

2

>NR\_103229.1 Methanosaeta harundinacea 6Ac strain 6Ac 5S ribosomal RNA, complete sequence  
CGAGTGTGGCG**GCCATAG**CGGGCCCGGGAACCTCTGAAC**CCATTCC**GAACTCAG**AAGATA**AAGCCC  
GCGTGCGTTCCAT**TACTGTACT**TAGGTGCGCGAGCCCTCGGGAAGTATGGATCG**CTGCCA**

8 119 **6.7**

CGAGTGTGGCGGCCATAGCGGGCCCGGGAACCTCTGAAC**CCATTCC**GAACTCAGAAGATAAAGCCCC  
CGTGCGTTCCATACTGTACTTAGGTGCGCGAGCCCTCGGGAAGTATGGATCGCTGCCA

2

>NR\_075285.1 Thermoplasma volcanium GSS1 strain GSS1 5S ribosomal RNA, complete sequence  
GGCAACGGTCATAGCAATAGGGAAACACCAGATCC**CCATTCC**GAACTCGACGGTTAAGCCTGTTGC  
GTATTACGTT**GTA**CTGTATTCCGCGAG**GGTAC**GGGAAGCGTAGTATGCTGT**TGCCATT**

8 119 **6.7**

GGCAACGGTCATAGCAATAGGGAAACACCAGATCC**CCATTCC**GAACTCGACGGTTAAGCCTGTTGC  
GTATTACGTTGTACTGTATTCCGCGAGGGTACGGGAAGCGTAGTATGCTGTT**GCATT**

3

>NR\_075125.1 Methanosarcina mazei 5S ribosomal RNA gene, complete sequence  
AGTTTGGCG**GCCATAG**CGGGCAGGGCAACTCCTGTACCCATCCCGAACACAG**AAGATAAGCCTGCC**  
CGCGTTCCT**TACTGTACT**GAAGTGTGCGAGCCTTCGGGAAGTCTGGATCG**CTGCCA**AGCTCACCT

8 126 **6.4**

AGTTTGGCGGCCATAGC**GGCAG**GGGCAACTCCT**GTACCC**ATCCCGAACACAGAAGATAAGCCTGCC  
CGCGTTCCTTACTGTACTGAAGTGTGCGAGCCTTCGGGAAGTCTGGATCGCTGCCAAGCTCACCT

2

>NR\_075338.1 Methanosarcina barkeri str. Fusaro strain Fusaro 5S ribosomal RNA, complete sequence  
AGAGTTTGGCG**GCCATAG**CGGCAGTGTAACCTCCTGTACCCATCCCGAACACAGTAGATAAGC**CTG**  
**CCCGCGTTCCTTACTGTACTGA**AGTGTGCGAGCCTTCGGGAAGTCTGGATCG**CTGCCATA**CTCAC

8 127 **6.3**

AGAGTTTGGCGGCCATAGC**GGCAGT**GTAACCTCCT**GTACCC**ATCCCGAACAC**CAGTA**GATAAGCCTG  
CCCGCGTTCCTTACTGTACTGAAGTGTGCGAGCCTTCGGGAAGTCTGGATCGCTGCCATACTCACC

4

>NR\_075309.1 Methanococcus maripaludis S2 strain S2 5S ribosomal RNA, complete sequence

CATAACGGTCATAGCGGAGGAGTTACATCCGATCCCATCCCGATCTCGGAAATTAAGCCCTCCTGC  
G**ATTCA**TTAA**GTA****CTGCCAT**CTGGTGGGAACAATGTGACGCTGTTAGTC

7 111 **6.3**

CATAACGGTCATAGCGGAGGAGTTACATCCGATCCCATCCCGATCTCGGAAATTAAGCCCTCCTGC  
G**ATTCA**TTAA**AGTA****CTGCCATCT**GGTGGGAACAATGTGACGCTGTTAGTC

4

>NR\_075749.1 Methanocaldococcus infernus ME strain ME 5S ribosomal RNA  
TACGGCG**GCCAT**AGCGGGGGGGGCTACACCCGATC**CCATTCC**GAACTCGGAAGTTAAGCCCCCAG  
CGATGCCCCG**GTA****CTGCC**TTCTGGCGGGAAAGGGGCGACGCCGCCGGCC

7 111 **6.3**

TACGGCGGCCATAGCGGGGGGGGCTACACCCGATC**CCATTCC**GAACTCGGAAGTTAAGCCCCCAG  
CGATGCCCCG**AGTA****CTGC**TTCTGGCGGGAAAGGGGCGACGCCGCCGGCC

3

>NR\_103265.1 Nanoarchaeum equitans Kin4-M 5S ribosomal RNA, complete sequence  
GGAGGG**GCCAT**AGCGGCCCCGGGAACCAACCCGTACCCATCTCGAACACGGAAGTTAAGCCGGGCCG  
GTCCCGAG**TGGTA****CTGCC**CCGCGAAGGGGTGGGAAGCTCGGGATGCCCTCC

7 113 **6.2**

GGAGGGCCATAGCGGCCCCGGGAACCAACCC**GTACCCATCT**CGAACACGGAAGTTAAGCCGGGCCG  
CGTCCCGAGTGGTACTGCCCCGCGAAGGGGTGGGAAGCTCGGGATGCCCTCC

2

>NR\_103238.1 Methanothermobacter marburgensis str. Marburg strain Marburg 5S ribosomal RNA  
CATGGCGGTCATGGCGCAGGGGTTATACCTGATCTCGTTTCGATCTCAGTAGTTAAGTCCTGCTGCG  
TTGTGGGTGT**GTA****CTGCC**GTGTTTGCTGTGGGAAGC**CCATT****CACTGCC**AGCC

7 117 **6**

**CATGGC**GGT**CATGGC**GCAGGGGTTATACCTGATCTCGTTTCGATCT**CAGTA**GTTAAGTCCTGCTGC  
GTTGTGGGTGTGTACTGCGGTGTTTTGCTGTGGGAAGC**CCATT****CACTGCC**AGCC

4

>NR\_103433.1 Methanobolus psychrophilus R15 strain R15 5S ribosomal RNA, complete sequence  
TGGCG**GCCAT**AGCGGCGGGGCAATTCCTGTACCCTTCCGAACACAG**AAGATA**AGTCCGCCAGCG  
TTCC**ACTGTACTGA**AGTACGCGAGTCTTCGGGAACACGGATCG**CTGCCA**GCTC

7 117 **6**

TGGCGGCCATAGCGGCGGGGCAATTCCT**GTACC**CTTTCGAACACAGAAGATAAGTCCGCCAGCG  
TTCCATACTGTACTGA**AGTAC**GCGAGTCTTCGGGAACACGGATCGCTGCCAGCTC

2

>NR\_075663.1 Halomicrobium mukohataei DSM 12286 strain DSM 12286 5S ribosomal RNA  
AGGCG**GCCAT**AGCGGCAGGGAAACACCCGTACCCATCCCGAACACGGACGTTAAGC**CTGCCA**GC  
GTTGCGGTGA**GTA****CTG**GGGTGTGCGAACCCCTGGGAAAGCCGGTTCGCCGC**CTGCCA**

7 117 **5.9**

AGGCGGCCATAGCGGCGGGGCAATTCCT**GTACC**CTTTCGAACACAGAAGATAAGTCCGCCAGCG  
GTTGCGGTGA**AGTAC**TGGGGTGTGCGAACCCCTGGGAAAGCCGGTTCGCCGCCTGCCA

3

>NR\_075372.1 Methanospirillum hungatei JF-1 strain JF-1 5S ribosomal RNA, complete sequence  
AATAGCGGCCACAGCAGGTGTGTACACCCGTT**CCATTCC**GAAACACGGAAGTTAAGACACCTCA  
CGTG**GATGACGGTACTGAGGTAC**GCGAGTCCTCGGGAAATCATCCTCGCTGCTATTG

7 118 **5.9**

AATAGCGGCCACAGCAGGTGTGTACACCCGTT**CCATTCC**GAAACACGGAAGTTAAGACACCTCA  
CGTGGATGACGGTACTGAGGTACGCGAGTCCTCGGGAAAT**TCATC**CTCGCTGCTATTG

3

>NR\_075189.1 Methanocella arvoryzae MRE50 strain MRE50 5S ribosomal RNA, complete sequence

GTGGGTTTTGGCG**GCCAT**AGCACCAAGTGTTACACCCGGTC**CCATTCC**GAACCCGGAAGTTAAGCC  
TGGTCACGTAATATGCT**GTACTAA****GGTAC**GCGAGTCCCTGGGAACCATAATACG**CTGCCA**ACCCA  
CCAACAAT

7 134 **5.2**

GTGGGTTTTGGCGGCCATAGCACCAAGTGTTACACCCGGTC**CCATTCC**GAACCCGGAAGTTAAGCCT  
GGTCACGTAATATGCTGTACTAAGGTACGCGAGTCCCTGGGA**ACCATA**AATACGCTGCCAACCCACC  
AACAAT

**3**