

Alignment 1: *litR* and $\Delta litR$ alignment

AWOD_I_0419 (*litR* Gene ID: 28539952 and flanking region sequence)

AM-01 (forward sequence)

AM-02 (complemented reverse sequence)

	5 15 25 35 45 55
AWOD_I_041	TACCACCTTA CCGATATAAG GTAGGTTACG ATATTTTTGT GCGTAGTCGA TACCAACACC
AM-01	-----
AM-02	-----

	65 75 85 95 105 115
AWOD_I_041	AACAACAAAC TCATCCGGAA TAGAAAAACC AATCCAATCC ACTTTAACAT CAACTTCACG
AM-01	-----
AM-02	-----

	125 135 145 155 165 175
AWOD_I_041	TCGAGAAGGT TTATCAAGCA GTGTACAAAT CGTAATTGAG TTTGGCTCAC GAATAGACAA
AM-01	-----
AM-02	-----

	185 195 205 215 225 235
AWOD_I_041	GATCTCACAC ACTTTACTTA GTGTATTACC GGTATCTATA ATGTCTTCTA CTAATAGGAT
AM-01	-----
AM-02	-----

	245 255 265 275 285 295
AWOD_I_041	GTCTTTACCT TTTATATCAT CATCAAGATC TTTCAAAATT CGTACGTCAC GCGTACTTTC
AM-01	-----
AM-02	-----

	305 315 325 335 345 355
AWOD_I_041	CATGCTATTT CCATAGCTTG ATGCTGTTCAT AAAATCAACG GTCATTGGTG TATCAATCGC
AM-01	-----
AM-02	-----

	365 375 385 395 405 415
AWOD_I_041	TCGTGTCTAAA TCAGCCATAA ATACAAATGA GCCACG-TAA TAAACCAATC ATCACTAAGC
AM-01	-----
AM-02	-----TGA GCCACGGTAA TAAACCAATC ATCACTAAGC

	425 435 445 455 465 475
AWOD_I_041	TATCAGACTC TTTATAATGT TCAGAAATCT GTTGACCTAA TTCTTTAACA CGTTGAGTAA
AM-01	CAT-AGACTC TTTATA-TGT TCAGAAATCT GTTGACCTAA TTCTTTAACA CGTTGAGTAA
AM-02	TATCAGACTC TTTATAATGT TCAGAAATCT GTTGACCTAA TTCTTTAACA CGTTGAGTAA

	485 495 505 515 525 535
AWOD_I_041	CCTCTTGTTT AGAGATCATC ACTTCTACTG TATGTTTCAT ACTGTCTCAC TTATTGTTG
AM-01	CCTCTTGTTT AGAGATCATC ACTTCTACTG TATGTTTCAT ACTGTCTCAC TTATTGTTG
AM-02	CCTCTTGTTT AGAGATCATC ACTTCTACTG TATGTTTCAT ACTGTCTCAC TTATTGTTG

	545 555 565 575 585 595
AWOD_I_041	AGCCTACCTG CGGCAGGATT TAGATCTATA CAGTTTACAA CAAAAGCGCA CCTGAGATAG
AM-01	AGCCTACCTG CGGCAGGATT TAGATCTATA CAGTTTACAA CAAAAGCGCA CCTGAGATAG
AM-02	AGCCTACCTG CGGCAGGATT TAGATCTATA CAGTTTACAA CAAAAGCGCA CCTGAGATAG

	605 615 625 635 645 655
AWOD_I_041	GGACAATTAT AAAAGTTTTT CATACTCTT TAGGATTAAG AGAAATTGTC TGATAAAATT
AM-01	GGACAATTAT AAAAGTTTTT CATACTCTT TAGGATTAAG AGAAATTGTC TGATAAAATT
AM-02	GGACAATTAT AAAAGTTTTT CATACTCTT TAGGATTAAG AGAAATTGTC TGATAAAATT


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AM-02      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1445      1455      1465      1475      1485      1495
AWOD_I_041 ATGTATTTAT AAATAATATT CAGAAC~~~T CAGAAAGTAG ATAAT~~~A AAAAACCGCT
AM-01      ~~~~~ ~~~TAATATT CAGAAC---T CAGAAAGTAG ATAAT---A AAAAACCGCT
AM-02      ~~~~~ ~~~TAATATT CAGAAC---T CAGAAAGTAG ATAAT---A AAAAACCGCT

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1505      1515      1525      1535      1545      1555
AWOD_I_041 GA~~~CTAAT CAGCGGTTTT TTTATATTTA AATTCTAATG GTTTAAGAGA AATTATTTCT
AM-01      GA---CTAAT CAGCGGTTTT TTTATATTTA AATTCTAATG GTTTAAGAGA AATTATTTCT
AM-02      GA---CTAAT CAGCGGTTTT TTTATATTTA AATTCTAATG GTTTAAGAGA AATTATTTCT

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1565      1575      1585      1595      1605      1615
AWOD_I_041 TTCTCTTTAC TGCTTTTGCA TTTGGAAGGT CAGTAATAGA ACCTTCATAA ATTTTCAGCAG
AM-01      TTCTCTTTAC TGCTTTTGCA TTTGGAAGGT CAGTAATAGA ACCTTCATAA ATTTTCAGCAG
AM-02      TTCTCTTTAC TGCTTTTGCA TTTGGAAGGT CAGTAATAGA ACCTTCATAA ATTTTCAGCAG

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1625      1635      1645      1655      1665      1675
AWOD_I_041 CCATACCAAT TGATTCATGC AATGTTGGGT GAGCATGGAT AGTTAGTGCG AT~~ATCTTC
AM-01      CCATACCAAT TGATTCATGC AATGTTGGGT GAGCATGGAT AGTTAGTGCG AT--ATCTTC
AM-02      CCATACCAAT TGATTCATGC AATGTTGGGT GAGCATGGAT AGTTAGTGCG AT--ATCTTC

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1685      1695      1705      1715      1725      1735
AWOD_I_041 TGCATCACAA CCCATTTCGA TTGCAAGGCC AATTTCACCA AGAAGCTCAC CAGCATTAGT
AM-01      TGCATCACAA CCCATTTCGA TTGCAAGGCC AATTTCACCA AGAAGCTCAC CAGCATTAGT
AM-02      TGCATCACAA CCCATTTCGA T-GCAAGGCC AAT--CACCA AGAG---TAC CAGCTCC---

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1745      1755      1765      1775      1785      1795
AWOD_I_041 ACCAACAATA GCACCACCGA TAACACGGTT AGTGTCTTTA TCAAAAAGAA GCTTAGTTAG
AM-01      ACCAACAATA GCACCACCGA ATAACACGA- -----
AM-02      -----

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1805      1815      1825      1835      1845      1855
AWOD_I_041 ACCATCAGCA CAATCTGAAG CGATTGCACG GCCTGATGCA GCCCAAGGGA AGCTTGCTGC
AM-01      -----
AM-02      -----

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1865      1875      1885      1895      1905      1915
AWOD_I_041 TTCGTAATTA ATACCTTCAG CTTTGTCTTC TTTTCTGTT TTACCAACCC AAGCGACTTC
AM-01      -----
AM-02      -----

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1925      1935      1945      1955      1965      1975
AWOD_I_041 TGGCTCAGTA TAAGCAATTG AAGGAATTAC TTTAGGATCG AAGTAGTGCT TCTTACCAGA
AM-01      -----
AM-02      -----

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1985      1995      2005      2015      2025      2035
AWOD_I_041 AATAACTTCA GCAGCTACGT GACCTTCATG CACAC.....
AM-01      -----
AM-02      -----

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      2045      2055      2065      2075      2085      2095
AWOD_I_041 -----
AM-01      -----
AM-02      -----

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      2105      2115      2125      2135      2145      2155
AWOD_I_041 -----
AM-01      -----
AM-02      -----

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      2165      2175      2185      2195      2205      2215
AWOD_I_041 -----

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AM-01 -----
AM-02 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      2225      2235      2245      2255      2265      2275
AWOD_I_041 .....
AM-01 -----
AM-02 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      2285      2295      2305      2315      2325      2335
AWOD_I_041 .....
AM-01 -----
AM-02 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      2345      2355      2365      2375      2385      2395
AWOD_I_041 .....
AM-01 -----
AM-02 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      2405      2415      2425      2435      2445      2455
AWOD_I_041 .....
AM-01 -----
AM-02 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      2465      2475      2485      2495      2505      2515
AWOD_I_041 .....
AM-01 -----
AM-02 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      2525      2535      2545      2555      2565      2575
AWOD_I_041 .....
AM-01 -----
AM-02 -----

.....|.....| .....|.....| ..
      2585      2595
AWOD_I_041 .....
AM-01 -----
AM-02 -----

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Alignment 2: *litR* and *litR'* alignment

AWOD_I_0419 (*litR* and flanking region sequence)

AM-02 (*litR'* forward sequence)

AM-01 (*litR'* reverse complemented sequence replicate 1)

AM-3 (*litR'* reverse complemented sequence replicate 2)

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.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      5      15      25      35      45      55
AWOD_I_041 TACCACCTTA CCGATATAAG GTAGGTTACG ATATTTTTGT GCGTAGTCGA TACCAACACC
AM-02 ~~~~~
AM-3 -----
AM-01 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      65      75      85      95      105      115
AWOD_I_041 AACAAACAAAC TCATCCGGAA TAGAAAAACC AATCCAATCC ACTTAAACAT CAACTTCACG
AM-02 ~~~~~
AM-3 -----
AM-01 -----

.....|.....| .....|.....| .....|.....| .....|.....| .....|.....|
      125      135      145      155      165      175
AWOD_I_041 TCGAGAAGGT TTATCAAGCA GTGTACAAAT CGTAATTGAG TTTGGCTCAC GAATAGACAA
AM-02 ~~~~~
AM-3 -----

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AM-01 -----

      ....|....| ....|....| ....|....| ....|....| ....|....|
      185      195      205      215      225      235
AWOD_I_041 GATCTCACAC ACTTTACTTA GTGTATTACC GGTATCTATA ATGTCTTCTA CTAATAGGAT
AM-02 ~~~~~
AM-3 -----
AM-01 -----

      ....|....| ....|....| ....|....| ....|....| ....|....|
      245      255      265      275      285      295
AWOD_I_041 GTCTTTACCT TTTATATCAT CATCAAGATC TTTCAAAATT CGTACGTCAC GCGTACTTTC
AM-02 ~~~~~
AM-3 -----
AM-01 -----

      ....|....| ....|....| ....|....| ....|....| ....|....|
      305      315      325      335      345      355
AWOD_I_041 CATGCTATTT CCATAGCTTG ATGCTGTCAT AAAATCAACG GTCATTGGTG TATCAATCGC
AM-02 ~~~~~
AM-3 -----
AM-01 -----

      ....|....| ....|....| ....|....| ....|....| ....|....|
      365      375      385      395      405      415
AWOD_I_041 TCGTGTAAA TCAGCCATAA ATACAAATGA GCCACGTAAT AAACCAATCA TCACTAAGCT
AM-02 ~~~~~
AM-3 -----
AM-01 -----C

      ....|....| ....|....| ....|....| ....|....| ....|....|
      425      435      445      455      465      475
AWOD_I_041 ATCAGACTCT TTATAATGTT CAGAAATCTG TTGACCTAAT TCTTTAACAC GTTGAGTAAC
AM-02 ~~~~~
AM-3 -----
AM-01 AT-AGACTCT TTATA-TGTT CAGAAATCTG TTGACCTAAT TCTTTAACAC GTTGAGTAAC

      ....|....| ....|....| ....|....| ....|....| ....|....|
      485      495      505      515      525      535
AWOD_I_041 CTCTTGTTCA GAGATCATCA CTTCTACTGT ATGTTTCATA CTGTCTCACT TATTCGTTGA
AM-02 ~~~~~
AM-3 -----
AM-01 CTCTTGTTCA GAGATCATCA CTTCTACTGT ATGTTTCATA CTGTCTCACT TATTCGTTGA

      ....|....| ....|....| ....|....| ....|....| ....|....|
      545      555      565      575      585      595
AWOD_I_041 GCCTACCTGC GGCAGGATTT AGATCTATAC AGTTTACAAC AAAAGCGCAC CTGAGATAGG
AM-02 ~~~~~
AM-3 -----
AM-01 GCCTACCTGC GGCAGGATTT AGATCTATAC AGTTTACAAC AAAAGCGCAC CTGAGATAGG

      ....|....| ....|....| ....|....| ....|....| ....|....|
      605      615      625      635      645      655
AWOD_I_041 GACAATTATA AAAGTTTTTC ATACCTCTTT AGGATTAAAA GAAATTGTCT GATAAAATTA
AM-02 TGAGATAGGA CCATATAAAA GTTTTCATAC TCTTAGATAA AAGAATGTCT GATAAAATTA
AM-3 -----
AM-01 GACAATTATA AAAGTTTTTC ATACCTCTTT AGGATTAAAA GAAATTGTCT GATAAAATTA

      ....|....| ....|....| ....|....| ....|....| ....|....|
      665      675      685      695      705      715
AWOD_I_041 GTTAAAATAA AATGGTTTAT ACGGTAACA ACTGTAATTT TTTAAAATAA CCTTTAACCA
AM-02 GTAAAATAAA ATGGTTATAC GGTAACAAC TGTAATTTT TAAAATAACC CTTTAAACCA
AM-3 -----
AM-01 GTTAAAATAA AATGGTTTAT ACGGTAACA ACTGTAATTT TTTAAAATAA CCTTTAACCA

      ....|....| ....|....| ....|....| ....|....| ....|....|
      725      735      745      755      765      775
AWOD_I_041 CGTCATATTT TTAATTGATA ACATGAATAG TTGTTGAATA TATAAACAGC CTTATGTAAG
AM-02 CGTCATATTT TTAATTGATA ACATGAATAG TTGTTGAATA TATAAACAGC CTTATGTAAG
AM-3 -----
AM-01 CGTCATATTT TTAATTGATA ACATGAATAG TTGTTGAATA TATAAACAGC CTTATGTAAG

      ....|....| ....|....| ....|....| ....|....| ....|....|
      785      795      805      815      825      835
AWOD_I_041 GTTACTGAGT AGAATAATAA TAAAACCTA TATAAAATAA TAATTTGTTG GCAAGGATAT
AM-02 GTTACTGAGT AGAATAATAA TAAAACCTA TATAAAATAA TAATTTGTTG GCAAGGATAT
AM-3 -----

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AM-01	GTTACTGAGT	AGAATAATAA	TAAAACCCCTA	TATAAAATAA	TAATTTGTG	GCAAGGATAT

	845	855	865	875	885	895
AWOD_I_041	AAATAAATAT	GGATACGATC	CAAAAAAGAC	CGAGAACAAG	GCTATCTCCA	GAAAAGCGTA
AM-02	AAATAAATAT	GGATACGATC	CAAAAAAGAC	CGAGAACAAG	GCTATCTCCA	GAAAAGCGTA
AM-3	-----	-----	-----	-----	-----	---GAGCGTA
AM-01	AAATAAATAT	GGATACGATC	CAAAAAAGAC	CGAGAACAAG	GCTATCTCCA	GAAAAGCGTA

	905	915	925	935	945	955
AWOD_I_041	AAGAACAAC	TCTTGATATT	GCTATCGAGG	TATTTTCACA	ACGTGGTATC	GGCCGTGGCG
AM-02	AAGAACAAC	TCTTGATATT	GCTATCGAGG	TATTTTCACA	ACGTGGTATC	GGCCGTGGCG
AM-3	A~G~AC~ACT	TCTTGATATT	GCTATCGAGG	TATTTTCACA	ACGTGGTATC	GGCCGTGGCG
AM-01	AAGAACAAC	TCTTGATATT	GCTATCGAGG	TATTTTCACA	ACGTGGTATC	GGCCGTGGCG

	965	975	985	995	1005	1015
AWOD_I_041	GTCATGCTGA	TGTTGCTGAA	ATAGCACAAG	T--ATCAGTA	--GCAACTGT	GTTTAACTAT
AM-02	GTCATGCTGA	TGTTGCTGAA	ATAGCACAAG	T--ATCAGTA	--GCAACTGT	GTTTAACTAT
AM-3	GTCATGCTGA	TGTTGCTGAA	ATAGCACAAG	T--ATCAGTA	--GCAACTGT	GTTTAACTAT
AM-01	GTCATGCTGA	TGTTGCTGAA	ATAGCACAAG	T--ATCAGTA	--GCAACTGT	GTTTAACTAT

	1025	1035	1045	1055	1065	1075
AWOD_I_041	TTCCCTACAA	GAGAAGATCT	TGTTGATGAC	GTATTAACC	GAGTAGAAGA	TGAGTTCCAT
AM-02	TTCCCTACAA	GAGAAGATCT	TGTTGATGAC	GTATTAACC	GAGTAGAAGA	TGAGTTCCAT
AM-3	TTCCCTACAA	GAGAAGATCT	TGTTGATGAC	GTATTAACC	GAGTAGAAGA	TGAGTTCCAT
AM-01	TTCCCTACAA	GAGAAGATCT	TGTTGATGAC	GTATTAACC	GAGTAGAAGA	TGAGTTCCAT

	1085	1095	1105	1115	1125	1135
AWOD_I_041	TTATTTGTTA	AGAATTC AAT	CTCTCTAGAG	C-TTGACGTT	CGTACAAATC	TTCACTCACT
AM-02	TTATTTGTTA	AGAATTC AAT	CTCTCTAGAG	C~TTGACGTT	CGTACAAATC	TTCACTCACT
AM-3	TTATTTGTTA	AGAATTC AAT	CTCTCTAGAG	C-TTGACGTT	CGTACAAATC	TTCACTCACT
AM-01	TTATTTGTTA	AGAATTC AAT	CTCTCTAGAG	C-TTGACGTT	CGTACAAATC	TTCACTCACT

	1145	1155	1165	1175	1185	1195
AWOD_I_041	TTTAATGAAT	ATTATTGATG	CTGTTTCATTC	AGAAAATAAA	TGGATTAAAG	TGTGGTTTGA
AM-02	TTTAATGAAT	ATTATTGATG	CTGTTTCATTC	AGAAAATAAA	TGGATTAAAG	TGTGGTTTGA
AM-3	TTTAATGAAT	ATTATTGATG	CTGTTTCATTC	AGAAAATAAA	TGGATTAAAG	TGTGGTTTGA
AM-01	TTTAATGAAT	ATTATTGATG	CTGTTTCATTC	AGAAAATAAA	TGGATTAAAG	TGTGGTTTGA

	1205	1215	1225	1235	1245	1255
AWOD_I_041	ATGGAGTACA	TCAACGCGCG	AAGAAGTTTG	GCCTTTATTC	--TTAAGCAG	CCATGTGAAT
AM-02	ATGGAGTACA	TCAACGCGCG	AAGAAGTTTG	GCCTTTATTC	~TTAAGCAG	CCATGTGAAT
AM-3	ATGGAGTACA	TCAACGCGCG	AAGAAGTTTG	GCCTTTATTC	--TTAAGCAG	CCATGTGAAT
AM-01	ATGGAGTACA	TCAACGCGCG	AAGAAGTTTG	GCCTTTATTC	--TTAAGCAG	CCATGTGAAT

	1265	1275	1285	1295	1305	1315
AWOD_I_041	AATCAAAGA	TCATTTCGCAC	AATGTTTGCT	GAAGGTATAG	AGCGAAATGA	AGTGTGCAAT
AM-02	AATCAAAGA	TCATTTCGCAC	AATGTTTGCT	GAAGGTATAG	AGCGAAATGA	AGTGTGCAAT
AM-3	AATCAAAGA	TCATTTCGCAC	AATGTTTGCT	GAAGGTATAG	AGCGAAATGA	AGTGTGCAAT
AM-01	AATCAAAGA	TCATTTCGCAC	AATGTTTGCT	GAAGGTATAG	AGCGAAATGA	AGTGTGCAAT

	1325	1335	1345	1355	1365	1375
AWOD_I_041	GACCATACTT	CTGAAAATTT	GGCAAAAATG	CTACACGGGA	TTT---GTT	ATTC-TGTAT
AM-02	GACCATACTT	CTGAAAATTT	GGCAAAAATG	CTACACGGGA	TTT---GTT	ATTC-TGTAT
AM-3	GACCATACTT	CTGAAAATTT	GGCAAAAATG	CTACACGGGA	TTT---GTT	ATTC-TGTAT
AM-01	GACCATACTT	CTGAAAATTT	GGCAAAAATG	CTACACGGGA	TTT---GTT	ATTC-TGTAT

	1385	1395	1405	1415	1425	1435
AWOD_I_041	TTATTCAAGC	GAATCGTAGC	TCTTCATCTG	AAGAACTTGA	AGAAA--CAG	CTAA-TTGCT
AM-02	TTATTCAAGC	GAATCGTAGC	TCTTCATCTG	AAGAACTTGA	AGAAA~CAG	CTAA-TTGCT
AM-3	TTATTCAAGC	GAATCGTAGC	TCTTCATCTG	AAGAACTTGA	AGAAA--CAG	CTAA-TTGCT
AM-01	TTATTCAAGC	GAATCGTAGC	TCTTCATCTG	AAGAACTTGA	AGAAA--CAG	CTAAATTGCT

	1445	1455	1465	1475	1485	1495
AWOD_I_041	TCTTAAATAT	GTTATGTATT	TA-TAAATAA	TATTCAGAAC	TCAGAAAGTA	GATAATAAAA
AM-02	TCTTAAATAT	GTTATGTATT	TA~TAAATAA	TATTCAGAAC	TCAGAAAGTA	GATAATAAAA
AM-3	TCTTAAATAT	GTTATGTATT	TA-TAAATAA	TATTCAGAAC	TCAGAAAGTA	GATAATAAAA


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AM-01      .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2165      2175      2185      2195      2205      2215
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2225      2235      2245      2255      2265      2275
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2285      2295      2305      2315      2325      2335
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2345      2355      2365      2375      2385      2395
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2405      2415      2425      2435      2445      2455
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2465      2475      2485      2495      2505      2515
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2525      2535      2545      2555      2565      2575
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....
           .....|.....| .....|.....| .....|.....| .....|.....|
           2585      2595      2605      2615      2625
AWOD_I_041 .....
AM-02     -----
AM-3      .....
AM-01     .....

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Alignment 3: *ainS* and Δ *ainS* alignment

AWOD_I_1040 (*ainS* Gene ID: 28540605 and flanking region sequence)

AM-01 (Δ *ainS* forward sequence)

AM-2 (Δ *ainS* reverse complement sequence)

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           .....|.....| .....|.....| .....|.....| .....|.....|
           5      15      25      35      45      55
AWOD_I_104 CATCTAGACG ACCAACAGAT ACCCAACGAG AATCTTTGAT TTTTGGTAAA CGATCAAAAA
AM-01      ~~~~~~

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AM-2      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
          ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
           65      75      85      95      105     115
AWOD_I_104 CGGTACGACG ACCTTCAGGA TCGTGGCGAG TACATAACTC ACCTTCTGGT TTGTGGTAAG
AM-01      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

          ....|....| ....|....| ....|....| ....|....| ....|....|
           125     135     145     155     165     175
AWOD_I_104 CAAGAACACG ACAGATTACT TCAGTAGACT CTTTACCCTA TACAACATGG CCATCGATAC
AM-01      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

          ....|....| ....|....| ....|....| ....|....| ....|....|
           185     195     205     215     225     235
AWOD_I_104 GAATTTTCGC ATCAACATTT TCTAGCGCAT CACCTAGTTT TGCAATCTGG CCATCAACAC
AM-01      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

          ....|....| ....|....| ....|....| ....|....| ....|....|
           245     255     265     275     285     295
AWOD_I_104 TAACACGATT AGACTGAATC ATCGTTTCTA ATTCACGACG AGAACCAAGA CCTGCTCGTG
AM-01      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2      ~~~~~ ~~~~~~TTTTT TTTTTTTTTY YYMMSSRRR RRRRGCGAGA CCTGCTCGTG

          ....|....| ....|....| ....|....| ....|....| ....|....|
           305     315     325     335     345     355
AWOD_I_104 CTAATACTTT CTGTAATTTT TCGCTCATTT TTTACCTTAT TATGTCGCCT TCACAGGCGT
AM-01      ~~~~GYACTT TCTGTATTTT TCGCTCATTT TTTACCTTAT TATGTCGCCT TCACAGGCGT
AM-2      CTAATACTTT CTGTAATTTT TCGCTCATTT TTTACCTTAT TATGTCGCCT TCACAGGCGT

          ....|....| ....|....| ....|....| ....|....| ....|....|
           365     375     385     395     405     415
AWOD_I_104 CAATTAGCTT TTATTAATCA AGGACCTATC TGAATAAGAT AAGATTCCTC AATCACTTTA
AM-01      CAATTAGCTT TTATTAATCA AGGACCTATC TGAATAAGAT AAGATTCCTC AATCACTTTA
AM-2      CAATTAGCTT TTATTAATCA AGGACCTATC TGAATAAGAT AAGATTCCTC AATCACTTTA

          ....|....| ....|....| ....|....| ....|....| ....|....|
           425     435     445     455     465     475
AWOD_I_104 AAATTTCTATA GAGGCTGATT ATACAATAAG GTTGTGACGA ATGGTAAAAA ATTAAGCACA
AM-01      AAATTTCTATA GAGGCTGATT ATACAATAAG GTTGTGACGA ATGGTAAAAA ATTAAGCACA
AM-2      AAATTTCTATA GAGGCTGATT ATACAATAAG GTTGTGACGA ATGGTAAAAA ATTAAGCACA

          ....|....| ....|....| ....|....| ....|....| ....|....|
           485     495     505     515     525     535
AWOD_I_104 AATTTATTTT ATGCTGACAT TTTTCAGTATG ATGATAGAGC AGCTTATAAA ACAAGCTGCT
AM-01      AATTTATTTT ATGCTGACAT TTTTCAGTATG ATGATAGAGC AGCTTATAAA ACAAGCTGCT
AM-2      AATTTATTTT ATGCTGACAT TTTTCAGTATG ATGATAGAGC AGCTTATAAA ACAAGCTGCT

          ....|....| ....|....| ....|....| ....|....| ....|....|
           545     555     565     575     585     595
AWOD_I_104 TATATCTATC AAATAAATAA CTGAACAACA ATTGCACAAT TGAATGCTC AAATATTTAT
AM-01      TATATCTATC AAATAAATAA CTGAACAACA ATTGCACAAT TGAATGCTC AAATATTTAT
AM-2      TATATCTATC AAATAAATAA CTGAACAACA ATTGCACAAT TGAATGCTC AAATATTTAT

          ....|....| ....|....| ....|....| ....|....| ....|....|
           605     615     625     635     645     655
AWOD_I_104 TTCAGGCTGA TATTACTTAA ACCAAAGGAG ATCCATATGA AATCGTTATA TAAAAAGTTA
AM-01      TTCAGGCTGA TATTACTTAA ACCAAAGGAG ATCCATATGA AATCGTTATA TAAAAAGTTA
AM-2      TTCAGGCTGA TATTACTTAA ACCAAAGGAG ATCCATATGA AATCGTTATA TAAAAAGTTA

          ....|....| ....|....| ....|....| ....|....| ....|....|
           665     675     685     695     705     715
AWOD_I_104 TCAACATTTG ATCTAAACAA TCTAGATGAA GGGGCACAAA AAAAATCAAC AAAATGAGTT
AM-01      TCAACATTTG ATCTAAACAA TCTAG~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2      TCAACATTTG ATCTAAACAA TCTAG~~~~~ ~~~~~ ~~~~~ ~~~~~

          ....|....| ....|....| ....|....| ....|....| ....|....|
           725     735     745     755     765     775
AWOD_I_104 TATAAAAAAG CTGTACGATT ACTGCATAAA ATCAAATACA CCGAACCTTT TACAACAATT
AM-01      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2      ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

          ....|....| ....|....| ....|....| ....|....| ....|....|
           785     795     805     815     825     835
AWOD_I_104 AATTGAAGCT CGTAAACAGA CTATTTTATC TAAATTAAGT AACACAGATA CAGGTAACCT

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AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      845      855      865      875      885      895
AWOD_I_104 TTGCATCTA TTTTCGACAG AAGAAGCCAT AGCTCTCATA GGAAGCAAC CCTGCAATAT
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      905      915      925      935      945      955
AWOD_I_104 CTTACCTAAA CATTATTTTA TGATAGAGCA ACTTGCACAT AAATTATTG GATGTTTATT
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      965      975      985      995      1005     1015
AWOD_I_104 AAGATGTTGG ACTGAGTTTG AAATTTTCCG AACCATTCAA CATTATCAA ATAACTACCA
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1025     1035     1045     1055     1065     1075
AWOD_I_104 CACATATTCT AAACAAGAGC ATATTAATTC GGAATCAAAC ATCATTGATG AAGATTATCA
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1085     1095     1105     1115     1125     1135
AWOD_I_104 CTATGAAATA GTTAATGATA TTTCAAAGGA TAAACGTCTA TTTTATACCG ATTTTTGCGC
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1145     1155     1165     1175     1185     1195
AWOD_I_104 ACAACCACTG CTAATATCCG ACGCCATTGT CTTAATAAAT ATAACAACAT TTATTAAGA
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1205     1215     1225     1235     1245     1255
AWOD_I_104 ACATAAATGG TATGAAATGC TTAGTATTCT TGACATCTCA TCAAAGGAG AGCATTTTAT
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1265     1275     1285     1295     1305     1315
AWOD_I_104 TCTGTACCAA TTAAAGACAA ACAATAGTTA CCCTACCATT ATTTCTTCAG CGCTTATTGA
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1325     1335     1345     1355     1365     1375
AWOD_I_104 ACCATATCAA GACAAAGCAA -ACTGGCTGT TCTTAAATGA TTTCTTCCAA ACCAAACATT
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1385     1395     1405     1415     1425     1435
AWOD_I_104 GGAAAAATGA AGGAGTAACA GATTCTTTAC TATCTTT--- TTTCCCTAAA CTGAAAACAA
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1445     1455     1465     1475     1485     1495
AWOD_I_104 CATACTCTAA TGACCTCTCA -TCAGATAAT TCTAATTTAT CCAGTTCAGA TCTAGAAAAT
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1505     1515     1525     1535     1545     1555
AWOD_I_104 GCTATTTTCT CTTCTATCAT AGACAAAAGA AGTGTGTGTG GAGTGATCCG ATTTACCATC
AM-01 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~
AM-2 ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~ ~~~~~

      ....|....| ....|....| ....|....| ....|....| ....|....| ....|....|
      1565     1575     1585     1595     1605     1615

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AWOD_I_104  AATGGACCAC GCCCTAAATT AAACCAAT-A TATGTATTTA GCTCAAAAAG GATTAGCCAA
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      1625      1635      1645      1655      1665      1675
AWOD_I_104  TGCACCTCTAC AACTCAGGAA GAGATATGAT CTTTCTTAT ATAGAACAAC CCGCAATGGT
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      1685      1695      1705      1715      1725      1735
AWOD_I_104  TTTGTTTTTAC CAAGCAATAA ATAATGATAA CTGCTATAACA CCCTTCTTT TTA--CGAGC
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      1745      1755      1765      1775      1785      1795
AWOD_I_104  CACCAAGATA TCAACAACCTC AGGATTAATC ACATATAAAG GGATCTGCTT AACTAAGCAT
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      1805      1815      1825      1835      1845      1855
AWOD_I_104  ACAAGTAATG TGTTC AATCA ATATGATTTG AAATCTTATA ATGCTAAAAT TATAAAAAGA
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      1865      1875      1885      1895      1905      1915
AWOD_I_104  AGAAAAGATT TAAAACAACG ATGAGTTTCT TATAAATGTT AATTGGCTTC CCTAAAGATA
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      1925      1935      1945      1955      1965      1975
AWOD_I_104  ATCTATTGCT ATTTATTGCG GTATTCATTT TACTATGGGT AGCCTTCTTT ATCCGATCTT
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      1985      1995      2005      2015      2025      2035
AWOD_I_104  TATTTAAAGA TCGGATGGAG GTTGATCCTA AAATCTACTA CCCCTACATA GGGTATTCTA
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      2045      2055      2065      2075      2085      2095
AWOD_I_104  TTTTTATAGT CATTTGGATT TTAACCAACT TCTATTTTCA ATCTGAATTA TTATTAATCT
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      2105      2115      2125      2135      2145      2155
AWOD_I_104  TCAGTGAAAA AATTGCTCTT TATATGGCAA TAGCGGCCAA CCTCGCTTCA TATTTGCTT
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      2165      2175      2185      2195      2205      2215
AWOD_I_104  TTGCTTTTGC CTTTCTTTTT TCTTGTGCGC TCGTATCTAC TAGAAAAGAG AAAAAAATGG
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      2225      2235      2245      2255      2265      2275
AWOD_I_104  CATCTTGGCA GGTAGTTTTA TTTTACGCAG AAACCGCCTT TGCTCTCGCT ATCAACCTAA
AM-01        ~~~~~
AM-2        ~~~~~

      ....|.....| ....|.....| ....|.....| ....|.....| ....|.....| ....|.....|
      2285      2295      2305      2315      2325      2335
AWOD_I_104  TACCTAATTT AGCGGTTACT AATGTAAC TAATTGATAA AGGTGTTTTT ACCATTAATT
AM-01        ~~~~~
AM-2        ~~~~~

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	2345	2355	2365	2375	2385	2395
AWOD_I_104	TTGGACCATT	TGCTTCTATT	TTCTTTATCA	ATGCCTTTGT	CTTTATTGGT	TTAATCATCC
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2405	2415	2425	2435	2445	2455
AWOD_I_104	ATAATTTTTT	ACAATTAAGA	ACAAGTAAGC	TAAAACCTAA	CAAAGAAAAG	TCCATTTACT
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2465	2475	2485	2495	2505	2515
AWOD_I_104	TATTATTTGG	CATTCTTATT	TTTATGTCTT	CAACCATCAT	ATCTCAAGTT	ATTATTCCTA
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2525	2535	2545	2555	2565	2575
AWOD_I_104	TCGTATGGGG	GGATTTCTCT	TTTGCATGGC	TTCCGCCCGC	ACTTCTGTGA	ACTGAATCCG
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2585	2595	2605	2615	2625	2635
AWOD_I_104	TCCTTATTGG	TTATACCCTA	CTCTTTCATA	GATTATATAG	CCTACGTTAT	ATTCATACT
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2645	2655	2665	2675	2685	2695
AWOD_I_104	GGGCATGCTC	ATACACGATT	AATATAACTA	TATATCTAAT	ACCTATTACT	CTTATTTATT
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2705	2715	2725	2735	2745	2755
AWOD_I_104	TAACAAATGA	CAATATCAAC	TTACTATATA	CTTGCATTTT	TCTTATTATA	TATACTGGGT
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2765	2775	2785	2795	2805	2815
AWOD_I_104	TGTTTTGGGA	AAAAACACTT	AAAAAATCAA	AACTAGTTTC	TAGTCTATTA	ATTTACAAAA
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2825	2835	2845	2855	2865	2875
AWOD_I_104	ATAAGAAAAC	ACCTGTAGAA	GAAATATATG	ATATTGCCGA	TGAATTCAAA	TACTCTAGTC
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2885	2895	2905	2915	2925	2935
AWOD_I_104	AGCATGCTAT	GATCAAGTTA	GCTACACTTC	TAGATACTCC	ACAAGAAGAA	TTATTACTTG
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	2945	2955	2965	2975	2985	2995
AWOD_I_104	TTGGAAAAAA	TACTAATTAT	AATATTTTTA	TTCCACATCT	TAATCAATCT	AATTCGGCAC
AM-01	.....	.....	.....	.....	.....	.....
AM-2	.....	.....	.....	.....	.....	.....

	3005					
AWOD_I_104	TAGTTAAAG					
AM-01	.....				
AM-2	.....				