

1	REP frag. DR	Left End	130
1-1296422	CGGACCGGGGCCCTTTCGCGGGTAAACCCGCTCCTACAGGGGACCATTTGTT	CCGTGTAGGAGATCACCAGCCCTTCCGGGTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTC	CGCAGCG
2-1439937	GGGTGAACCCGCTCCTACAGGTACGGCGCAGAAATTCGAAATCTGTGGGGG	CCCTGTAGGAGATCACCAGCCCTTCCGGGTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTC	CGCAGCG
7'-5224683	TAGCCAAATAGATGATGGTTGCCTGGGCCGGCCCTTTCGCGGGTAAACCG	CCCTGTAGGAGATCACCAGCCCTTCCGGGTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTC	CGCAGCG
6'-4075799	GGTAAACCCGCTCCTACAACGTGCGGCACAGTTTCAAAGGCTGTGACAT	CCCCGTAGGAGATCACCAGCCCTTCCGGGTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTC	CGCAGCG
5'-3828362	ACCGCCGGTGATGTAAGTCGCTTCGCTGACGTGTTTTTCAGCGCCCTC	GCCCGTAGGAGATCACCAGCCCTTCCGGGTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTC	CGCAGCG
Consensus	a....g.t.t.....g...gg.cc.gc.tt.....g.....c.	cCc.GTAGGAGATCACCAGCCCTTCCGGGTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTC	CGCAGCG
131	Left End		
1-1296422	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTT	CGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA	
2-1439937	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTT	CGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA	
7'-5224683	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTT	CGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA	
6'-4075799	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTT	CGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA	
5'-3828362	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTT	CGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA	
Consensus	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTT	CGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA	
261	ORF		
1-1296422	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTACGCTGTGACCACGTATGAGAGAGTGAACCC	TTTCGCCACCGTGTGCCCCGCGCGCCCTTTATCCTGCGAGGATTTCATCA	
2-1439937	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTACGCTGTGACCACGTATGAGAGAGTGAACCC	TTTCGCCACCGTGTGCCCCGCGCGCCCTTTATCCTGCGAGGATTTCATCA	
7'-5224683	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTACGCTGTGACCACGTATGAGAGAGTGAACCC	TTTCGCCACCGTGTGCCCCGCGCGCCCTTTATCCTGCGAGGATTTCATCA	
6'-4075799	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTACGCTGTGACCACGTATGAGAGAGTGAACCC	TTTCGCCACCGTGTGCCCCGCGCGCCCTTTATCCTGCGAGGATTTCATCA	
5'-3828362	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTACGCTGTGACCACGTATGAGAGAGTGAACCC	TTTCGCCACCGTGTGCCCCGCGCGCCCTTTATCCTGCGAGGATTTCATCA	
Consensus	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTACGCTGTGACCACGTATGAGAGAGTGAACCC	TTTCGCCACCGTGTGCCCCGCGCGCCCTTTATCCTGCGAGGATTTCATCA	
391	ORF		
1-1296422	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTTCGAGAGCAT	TTTCGTGGCGGTTCGATCCCCGGCACGAAAATCCCGTCCAGTCGTTACAGTC	
2-1439937	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTTCGAGAGCAT	TTTCGTGGCGGTTCGATCCCCGGCACGAAAATCCCGTCCAGTCGTTACAGTC	
7'-5224683	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTTCGAGAGCAT	TTTCGTGGCGGTTCGATCCCCGGCACGAAAATCCCGTCCAGTCGTTACAGTC	
6'-4075799	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTTCGAGAGCAT	TTTCGTGGCGGTTCGATCCCCGGCACGAAAATCCCGTCCAGTCGTTACAGTC	
5'-3828362	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTTCGAGAGCAT	TTTCGTGGCGGTTCGATCCCCGGCACGAAAATCCCGTCCAGTCGTTACAGTC	
Consensus	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTTCGAGAGCAT	TTTCGTGGCGGTTCGATCCCCGGCACGAAAATCCCGTCCAGTCGTTACAGTC	
521	ORF		
1-1296422	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGG	TTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTTGACGTT	
2-1439937	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGG	TTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTTGACGTT	
7'-5224683	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGG	TTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTTGACGTT	
6'-4075799	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGG	TTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTTGACGTT	
5'-3828362	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGG	TTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTTGACGTT	
Consensus	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGG	TTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTTGACGTT	

	651	ORF	780
1-1296422	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCAGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
2-1439937	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCAGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
7'-5224683	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCAGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
6'-4075799	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCAGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
5'-3828362	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCAGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
Consensus	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCAGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
	781	ORF	910
1-1296422	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTCATCAGTGATATTTCCGG		
2-1439937	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTCATCAGTGATATTTCCGG		
7'-5224683	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTCATCAGTGATATTTCCGG		
6'-4075799	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTCATCAGTGATATTTCCGG		
5'-3828362	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTCATCAGTGATATTTCCGG		
Consensus	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTCATCAGTGATATTTCCGG		
	911	ORF	1040
1-1296422	TGTAAGTGGCATGAAGATTTTGCGGGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
2-1439937	TGTAAGTGGCATGAAGATTTTGCGGGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
7'-5224683	TGTAAGTGGCATGAAGATTTTGCGGGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
6'-4075799	TGTAAGTGGCATGAAGATTTTGCGGGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
5'-3828362	TGTAAGTGGCATGAAGATTTTGCGGGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
Consensus	TGTAAGTGGCATGAAGATTTTGCGGGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
	1041	ORF	1170
1-1296422	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
2-1439937	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
7'-5224683	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
6'-4075799	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
5'-3828362	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
Consensus	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
	1171	ORF	1300
1-1296422	AGCCATCCAAGAAGCCTTTACGGAGCCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
2-1439937	AGCCATCCAAGAAGCCTTTACGGAGCCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
7'-5224683	AGCCATCCAAGAAGCCTTTACGGAGCCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
6'-4075799	AGCCATCCAAGAAGCCTTTACGGAGCCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
5'-3828362	AGCCATCCAAGAAGCCTTTACGGAGCCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
Consensus	AGCCATCCAAGAAGCCTTTACGGAGCCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		

	1301	ORF	1430
1-1296422	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCAAA		
2-1439937	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCAAA		
7'-5224683	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCAAA		
6'-4075799	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCAAA		
5'-3828362	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCAAA		
Consensus	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCAAA		
	1431	ORF	1560
1-1296422	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
2-1439937	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
7'-5224683	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
6'-4075799	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
5'-3828362	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
Consensus	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
	1561	ORF	1690
1-1296422	CGCATCAGTTGGCACGTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
2-1439937	CGCATCAGTTGGCACGTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
7'-5224683	CGCATCAGTTGGCACGTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
6'-4075799	CGCATCAGTTGGCACGTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
5'-3828362	CGCATCAGTTGGCACGTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
Consensus	CGCATCAGTTGGCACGTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
	1691	ORF	1820
1-1296422	ACTGGGGTATCAACTGGTGGCCGCTTGA		
2-1439937	ACTGGGGTATCAACTGGTGGCCGCTTGA		
7'-5224683	ACTGGGGTATCAACTGGTGGCCGCTTGA		
6'-4075799	ACTGGGGTATCAACTGGTGGCCGCTTGA		
5'-3828362	ACTGGGGTATCAACTGGTGGCCGCTTGA		
Consensus	ACTGGGGTATCAACTGGTGGCCGCTTGA		
	1821	Right End	1950
1-1296422	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
2-1439937	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
7'-5224683	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
6'-4075799	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
5'-3828362	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
Consensus	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
	1821	Right End	1950
1-1296422	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
2-1439937	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
7'-5224683	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
6'-4075799	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
5'-3828362	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		
Consensus	TGCCTTAGAAAAACAATGGGTTGCATTTTGTGTTGATGAGAGATCACCCAGCCCTTCCGGGCTGCGCTGTGCGACAGCAAACAGGATGCGCATGACGTCAGATC		

	1951	Right End	2080
1-1296422	GAATGAGAGAGTGGCCCAAATGGCATCGGCGTTAATCCCTGTGCGGCACAGCTTGCTGTGACCACGTATAGAAGAGTGAACACTTCGCCGCCATTGACCCCGCGCGCCTGTTTTTTTCGCTAGAAAGAACA		
2-1439937	GAATGAGAGAGTGGCCCAAATGGCATCGGCGTTAATCCCTGTGCGGCACAGCTTGCTGTGACCACGTATAGAAGAGTGAACACTTCGCCGCCATTGACCCCGCGCGCCTGTTTTTTTCGCTAGAAAGAACA		
7'-5224683	GAATGAGAGAGTGGCCCAAATGGCATCGGCGTTAATCCCTGTGCGGCACAGCTTGCTGTGACCACGTATAGAAGAGTGAACACTTCGCCGCCATTGACCCCGCGCGCCTGTTTTTTTCGCTAGAAAGAACA		
6'-4075799	GAATGAGAGAGTGGCCCAAATGGCATCGGCGTTAATCCCTGTGCGGCACAGCTTGCTGTGACCACGTATAGAAGAGTGAACACTTCGCCGCCATTGACCCCGCGCGCCTGTTTTTTTCGCTAGAAAGAACA		
5'-3828362	GAATGAGAGAGTGGCCCAAATGGCATCGGCGTTAATCCCTGTGCGGCACAGCTTGCTGTGACCACGTATAGAAGAGTGAACACTTCGCCGCCATTGACCCCGCGCGCCTGTTTTTTTCGCTAGAAAGAACA		
Consensus	GAATGAGAGAGTGGCCCAAATGGCATCGGCGTTAATCCCTGTGCGGCACAGCTTGCTGTGACCACGTATAGAAGAGTGAACACTTCGCCGCCATTGACCCCGCGCGCCTGTTTTTTTCGCTAGAAAGAACA		

	2081	Right End	DR	REP fragments	.
1-1296422	GTGGGTTATCTTTTGTGTTGATAGAAAGCGGGTTTACCCGCGAAGAGGCCCT	GTGAGTTCGCTAAAGAGT	CAGAGGCCGAGCATATCCCGCGCCACTGCCTCGGCGATGCGAATGCCATCCACACCG		
2-1439937	GTGGGTTATCTTTTGTGTTGATAGAAAGCGGGTTTACCCGCGAAGAGGCCCG	CAAAGGCACCATCAAACGGT	CAGCCCTTCCACACCTGCGGGTTACACAGGTCCCGCGGCCGCTCGCCAGCAGC		
7'-5224683	GTGGGTTATCTTTTGTGTTGATAGAAAGCGGGTTTACCCGCGAAGAGGCCCG	CCGACCCAGCAGAGAACC	GACAGATGACCGACACCCCTTGGCAACCTCTACACAGTCCCTCGACAGCACC		
6'-4075799	GTGGGTTATCTTTTGTGTTGATAGAAAGCGGGTTTACCCGCGAAGAGGCCCG	ACCAGGCAACCGAACCTT	CAGGCCCGCCACCGCTCCAAGCAACACCTGTAACGGCCCGGAACACGTTCCGGGC		
5'-3828362	GTGGGTTATCTTTTGTGTTGATAGAAAGCGGGTTTACCCGCGAAGAGGCCCG	AAGCCTGTGCCATCCCTAAT	CCCGATCCCGTAGATCTAAATCTATTAATATCAATGGCCTATGCAATATTCTTA		
Consensus	GTGGGTTATCTTTTGTGTTGATAGAAAGCGGGTTTACCCGCGAAGAGGCCCG	.agGcc.g	.cag.ca.c..a...t...c...g.cc.....cc.....ca.cc...t.c..g.cc.....c.gc		

The Right Ends of the two IS_{Pu9} copies aligned below are shorter but the rest of the IS is identical and the sites of insertion are similar to the insertion sites of the five longer IS_{Pu9} copies aligned above.

	1	REP frag.	DR	Left End	130
3-5452952	CGTTGCTGGCAGGCGTATTGCAAAAACCGTCTGATTGACGATACGCGAC	CACTGTAGG		GAGATCACCAGCCCTTCCGGGCTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTCCGCAGCG	
4'-2939439	TTGAGGCTGTGTTGATCCTTTCGCGGTGAACCGTTCTACAGCAGT	ACCTGTAGG		GATCACCAGCCCTTCCGGGCTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTCCGCAGCG	
Consensus	G..G.....C.....GC...	.CTGTAGG		GATCACCAGCCCTTCCGGGCTGCGCTGTGCGCGAGCAAACATGAGGTGTACGGCTTCAGTTCCGCAGCG	

	131	Left End	.
3-5452952	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTTTCGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA		
4'-2939439	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTTTCGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA		
Consensus	ACGCTGACATTTTGAAAAAGAAAAGGCGGTTGGCCCGGTAGGGCCAGCCGCCTTTTGCTTTGTTAGGGTTTCGTGTGCGCGGGACAGAGATCGTAGCCAGCACTGGTGTGTGTCTGCACACCCGCGTAGGA		

	261	ORF	390
3-5452952	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTCAGCTGTGACCACGTATGAGAGAGTGAACCCCTTCGCCACCGTGTGCCCGCGCGCCCTTTATCCTGCGAGGATTCATCA		
4'-2939439	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTCAGCTGTGACCACGTATGAGAGAGTGAACCCCTTCGCCACCGTGTGCCCGCGCGCCCTTTATCCTGCGAGGATTCATCA		
Consensus	GAGTGATCCGCACGGTATCGGCGTGAAGTCCCTGTAGGCATCAGCTGATTCAGCTGTGACCACGTATGAGAGAGTGAACCCCTTCGCCACCGTGTGCCCGCGCGCCCTTTATCCTGCGAGGATTCATCA		

	391	ORF	520
3-5452952	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTCGAGAGCATTCGTGGCGGTTCGATCCCCGGCAGCAAAATCCCGTCCAGTCGTTACAGTC		
4'-2939439	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTCGAGAGCATTCGTGGCGGTTCGATCCCCGGCAGCAAAATCCCGTCCAGTCGTTACAGTC		
Consensus	TGGCGCGCAAGCCTTCCAAGCAACGCTTTACCGTCGTCCATCCCGATTGCGCGGCGATCGATGTCGGTGGTCGAGAGCATTCGTGGCGGTTCGATCCCCGGCAGCAAAATCCCGTCCAGTCGTTACAGTC		

	521	ORF	650
3-5452952	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGGTTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTGACGTT		
4'-2939439	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGGTTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTGACGTT		
Consensus	CTTTACTGACGACCTGCTCAAGATGGCTAACTGGCTTGAAAGCCTGGGGATCAAGGTCGTTGCCATGGAATCCACGGGGGTTTATTGGATTCCAATTTACGAGATTCTCAGCGAGCGCGGTTTTGACGTT		
	651	ORF	780
3-5452952	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCACGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
4'-2939439	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCACGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
Consensus	TATCTCGTCAATGCCAGAGCAACTCGGCAAAATCACGGGCCGTAAATCAGATGTGCTGGATTGCCAGTGGATCTGGCAGCTGATGACTCATGGACTGCTCAGAGGCGCATTCGCCCCGATGATCTGACCT		
	781	ORF	910
3-5452952	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTATCAGTGATATTTCCGG		
4'-2939439	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTATCAGTGATATTTCCGG		
Consensus	GCTGCGTCCGGTCATTGGTCAGGCAGCGTGCTTCCAAAGTGAAAGACCAGGCGCAGACGCTGAACCGGATGCAAAAGGCCATGAGCCAAATGAACATCCAGCTGGCCAATGTATCAGTGATATTTCCGG		
	911	ORF	1040
3-5452952	TGTAAGTGGCATGAAGATTTTGC GGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACCTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
4'-2939439	TGTAAGTGGCATGAAGATTTTGC GGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACCTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
Consensus	TGTAAGTGGCATGAAGATTTTGC GGCCATCTGCGCAGGTGAACGGGACCCAGTGCAACTGGCTGAACCTAACCGACCGCCGCATCAAGGCAGGCAAGGAGGCTGTCGCTCGGAGTCTTCATGGCAATTGG		
	1041	ORF	1170
3-5452952	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
4'-2939439	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
Consensus	CGGCGCGAGCATTTGCATGCGCTAACTCAGGAATTGGCTGCCTATGACTTCCTGGAGCAGCAAAATTGCAGATTGTGACGACGCCATAAAAGCCGCGTTAGAGCAGTTGCCGGTGCTGCAAAACAAGCCAG		
	1171	ORF	1300
3-5452952	AGCCATCCAAGAAGCCTTTACGGAGCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
4'-2939439	AGCCATCCAAGAAGCCTTTACGGAGCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
Consensus	AGCCATCCAAGAAGCCTTTACGGAGCCACACCGAAACGGCGCCCAACAGACTGTATTGCATCAGACTTTGTGGAAAGTTCTTGGCGTGGACCTAACCGCAATTCCAACCATTTGGGGTGGACACTGCATT		
	1301	ORF	1430
3-5452952	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCCCAAA		
4'-2939439	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCCCAAA		
Consensus	AGTGCTGGCAGGGGAGATCGGTACAGATCTATCACGCTTCCCGTCTCACAGCACTTCTGCTCTTGTTGGGACTGGCTCCCCCTACCCGAATTTCCGGCGGTTCATCGACTGGCAGGTGGTGGGCCCCAAA		
	1431	ORF	1560
3-5452952	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
4'-2939439	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAAGGCCACTG		
Consensus	ATAGTCAATCGAGCAGCGCAAGCACTCAAGCAGGCTGCATCCAATGCCCGTAACGACAAGGGTTTCATTGGCGCATCGCACCAGGCCAGACTGACTCGAATGGATACCAGCTGCGCCATCAA . GCCACTG		
	1561	ORF	1690
3-5452952	CGCATCAGTTGGCAGCTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
4'-2939439	CGCATCAGTTGGCAGCTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAAACCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		
Consensus	CGCATCAGTTGGCAGCTCTGGTGTACAACCTGTTAACCAAGAAGCAGGCTTATGTTGAACAAGGTCTTGAGGAGTTCGAA . CCAGAAGCCAAGACCGGCAGGTCCGGGCTTTGCTTCGCAAAGCCCGGAA		

1691

ORF

Right End

DR

REP fragments

.

3-5452952

ACTGGGGTATCAACTGGTGGCCGCTTGA

GTGCTTAGAAAACAATGGGTTGCATTTGTTTGATGAGAG

CGGGTTTACCCGCGAATACGGTAG

TCGC

GGCAA

ACGGT

GAA

CGGC

GGTG

GAGAT

TGGCCAGC

4'-2939439

ACTGGGGTATCAACTGGTGGCCGCTTGA

GTGCTTAGAAAACAATGGGTTGCATTTGTTTGATGAGAG

CGGGTTTACCCGCGAAGGGGCCGG

CACAGGCAA

ACTCGAC

TTCA

GGTGTGAGT

GATATCCC

Consensus

ACTGGGGTATCAACTGGTGGCCGCTTGA

GTGCTTAGAAAACAATGGGTTGCATTTGTTTGATGAGAG

CGGGTT

.ACCCGCGAA

...G...G

....GGCAA

....GA

.C

.C

.GGTG

....T

.....C