

```

                                GAL1 promoter
1  CCATTATCTT AGCCTAAAA AACCTTCTCT TTGGAAC TTT CAGTAATACG
   GGTAATAGAA TCGGATTTTT TTGGAAGAGA AACCTTGAAA GTCATTATGC
-----
                                GAL1 promoter
51 CTTAACTGCT CATTGCTATA TTGAAGTACG GATTAGAAGC CGCCGAGCGG
   GAATTGACGA GTAACGATAT AACTTCATGC CTAATCTTCG GCGGCTCGCC
-----
                                GAL1 promoter
101 GTGACAGCCC TCCGAAGGAA GACTCTCCTC CGTGCGTCTT CGTCTTCACC
     CACTGTCGGG AGGCTTCCTT CTGAGAGGAG GCACGCAGGA GCAGAAGTGG
-----
                                GAL1 promoter
AgeI
151 GGTCGCGTTC CTGAAACGCA GATGTGCCTC GCGCCGCACT GCTCCGAACA
     CCAGCGCAAG GACTTTGCGT CTACACGGAG CGCGGCGTGA CGAGGCTTGT
-----
                                GAL1 promoter
201 ATAAAGATTC TACAATACTA GCTTTTATGG TTATGAAGAG GAAAAATTGG
     TATTTCTAAG ATGTTATGAT CGAAAATACC AATACTTCTC CTTTTTAACC
-----
                                GAL1 promoter
251 CAGTAACCTG GCCCCACAAA CCTTCAAATG AACGAATCAA ATTAACAACC
     GTCATTGGAC CGGGGTGTTT GGAAGTTTAC TTGCTTAGTT TAATTGTTGG
-----
                                GAL1 promoter
301 ATAGGATGAT AATGCGATTA GTTTTTTTAGC CTTATTTCTG GGGTAATTAA
     TATCCTACTA TTACGCTAAT CAAAAATCG GAATAAAGAC CCCATTAATT
-----
                                GAL1 promoter
351 TCAGCGAAGC GATGATTTTT GATCTATTAA CAGATATATA AATGCAAAAA
     AGTCGCTTCG CTAATAAAAA CTAGATAATT GTCTATATAT TTACGTTTTT
-----
                                GAL1 promoter
401 CTGCATAACC ACTTTAACTA AACTTTTCAA CATTTTCGGT TTGTATTACT
     GACGTATTGG TGAAATTGAT TATGAAAGTT GTAAAAGCCA AACATAATGA
-----
                                GAL1 promoter
451 TCTTATTCAA ATGTAATAAA AGTATCAACA AAAAATTGTT AATATACCTC
     AGAATAAGTT TACATTATTT TCATAGTTGT TTTTAAACAA TTATATGGAG
-----
                                GAL1 promoter                                HA tag
+2                                     M   A   S   Y   P   Y
501 TATACTTTAA CGTCAAGGAG GAATTAACTA TAATGGCCTC CTACCCTTAT
     ATATGAAATT GCAGTTCCTC CTTAATTGAT ATTACCGGAG GATGGGAATA
-----
                                HA tag                                EcoRI                                SfiI
+2   D   V   P   D   Y   A   S   P   E   F
551 GATGTGCCAG ATTATGCCTC TCCCGAATTC CTAGGCGCGC CGGCCCTAGG
     CTACACGGTC TAATACGGAG AGGGCTTAAG GATCCGCGCG GCCGGGATCC
-----

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	SfiI ~~~~~		HindIII ~~~~~		ADH Terminator ~~~~~
		XhoI ~~~~~			
601	GGCCGAGCTC CCGGCTCGAG	GAGAAGCTTT CTCTTCGAAA	GACTTCTTC CCTGAAGAAG	GCCAGAGGTT CGGTCTCCA	TGGTCAAGTC ACCAGTTCAG
	ADH Terminator ~~~~~				
651	TCCAATCAAG AGGTTAGTTC	GTTGTCGGCT CAACAGCCGA	TGTCTACCTT ACAGATGGAA	GCCAGAAATT CGGTCTTTAA	TACGAAAAGA ATGCTTTTCT
	ADH Terminator ~~~~~				
701	TGGAAAAGGG ACCTTTTCCC	TCAAATCGTT AGTTTAGCAA	GGTAGATACG CCATCTATGC	TTGTTGACAC AACAACTGTG	TTCTAAATAA AAGATTTATT
	ADH Terminator ~~~~~				
751	GCGAATTTCT CGCTTAAAGA	TATGATTTAT ATACTAAATA	GATTTTATT CTAAAATAA	ATTAAATAAG TAATTTATTC	TTATAAAAAA AATATTTTTT
	ADH Terminator ~~~~~				
801	AATAAGTGTA TTATTCACAT	TACAAATTTT ATGTTTAAAA	AAAGTGA CTC TTTCACTGAG	TTAGGTTTTA AATCCAAAAT	AAACGAAAAT TTTGCTTTTA
	ADH Terminator ~~~~~				
851	TCTTGTTCTT AGAACAAGAA	GAGTAACTCT CTCATTGAGA	TTCCTGTAGG AAGGACATCC	TCAGGTTGCT AGTCCAACGA	TTCTCAGGTA AAGAGTCCAT
	ADH Terminator ~~~~~				
901	TAGCATGAGG ATCGTACTCC	TCGCTCTTAT AGCGAGAATA	TGACCACACC ACTGGTGTGG	TCTACCGGCA AGATGGCCGT	TGCCGAGCAA ACGGCTCGTT
	ADH Terminator ~~~~~				
951	ATGCCTGCAA TACGGACGTT	ATCGCTCCCC TAGCGAGGGG	ATTCACCCA TAAAGTGGGT	ATTGTAGATA TAACATCTAT	TGCTAACTCC ACGATTGAGG
	ADH Terminator ~~~~~				
1001	AGCAATGAGT TCGTTACTCA	TGATGAATCT ACTACTTAGA	CGGTGTGTAT GCCACACATA	TTTATGTCCT AAATACAGGA	CAGAGGACAA GTCTCCTGTT
	ADH Terminator ~~~~~		BamHI ~~~~~		NotI ~~~~~
1051	CACCTGTTGT GTGGACAACA	AATCGTTCTT TTAGCAAGAA	CCACACGGAT GGTGTGCCTA	CCTCTAGAGT GGAGATCTCA	CGACTAGCGG GCTGATCGCC
	ADH Terminator ~~~~~				
1101	CCGCTTCGAC GGCGAAGCTG	CTGCAGCAAT GACGTCGTTA	TCTGAACCAG AGACTTGGTC	TCCTAAAACG AGGATTTTGC	AGTAAATAGG TCATTTATCC
1151	ACCGGCAATT TGGCCGTTAA	CTTCAAGCAA GAAGTTCGTT	TAAACAGGAA ATTTGTCCTT	TACCAATTAT ATGGTTAATA	TAAAAGATAA ATTTTCTATT
	ADH Terminator ~~~~~				
	2 μ m Ori ~~~~~				
			HindIII ~~~~~		
1201	CTTAGTCAGA GAATCAGTCT	TCGTACAATA AGCATGTTAT	AAGCTTTGAA TTCGAAACTT	GAAAAATGCG CTTTTTACGC	CCTTATTCAA GGAATAAGTT

pRF4-6o

2 μ m Ori

1251 TCTTTGCTAT AAAAAATGGC CAAAATCTC ACATTGGAAG ACATTTGATG
 AGAAACGATA TTTTTTACCG GGTTTTAGAG TGTAACCTTC TGTAAACTAC

2 μ m Ori

1301 ACCTCATTTC TTTC AATGAA GGGCCTAACG GAGTTGACTA ATGTTGTGGG
 TGGAGTAAAG AAAGTTACTT CCCGGATTGC CTCAACTGAT TACAACACCC

2 μ m Ori

1351 AAATTGGAGC GATAAGCGTG CTTCTGCCGT GGCCAGGACA ACGTATACTC
 TTTAACCTCG CTATTCGCAC GAAGACGGCA CCGGTCCTGT TGCATATGAG

2 μ m Ori

1401 ATCAGATAAC AGCAATACCT GATCACTACT TCGCACTAGT TTCTCGGTAC
 TAGTCTATTG TCGTTATGGA CTAGTGATGA AGCGTGATCA AAGAGCCATG

2 μ m Ori

1451 TATGCATATG ATCCAATATC AAAGGAAATG ATAGCATTGA AGGATGAGAC
 ATACGTATAC TAGGTTATAG TTTCCTTTAC TATCGTAACT TCCTACTCTG

2 μ m Ori

1501 TAATCCAATT GAGGAGTGGC AGCATATAGA ACAGCTAAAG GGTAGTGCTG
 ATTAGTTAA CTCCTCACCG TCGTATATCT TGTCGATTTC CCATCACGAC

2 μ m Ori

1551 AAGGAAGCAT ACGATACCCC GCATGGAATG GGATAATATC ACAGGAGGTA
 TTCCTTCGTA TGCTATGGGG CGTACCTTAC CCTATTATAG TGTCCTCCAT

2 μ m Ori

1601 CTAGACTACC TTTCATCCTA CATAAATAGA CGCATATAAG TACGCATTTA
 GATCTGATGG AAAGTAGGAT GTATTTATCT GCGTATATTC ATGCGTAAAT

2 μ m Ori

1651 AGCATAAACA CGCACTATGC CGTTCCTTCTC ATGTATATAT ATATACAGGC
 TCGTATTTGT GCGTGATACG GCAAGAAGAG TACATATATA TATATGTCCG

2 μ m Ori

1701 AACACGCAGA TATAGGTGCG ACGTGAACAG TGAGCTGTAT GTGCGCAGCT
 TTGTGCGTCT ATATCCACGC TGCACCTGTC ACTCGACATA CACGCGTCGA

2 μ m Ori

1751 CGCGTTGCAT TTTCGGAAGC GCTCGTTTTT GGAACGCTT TGAAGTTCCT
 GCGCAACGTA AAAGCCTTCG CGAGCAAAG CCTTTGCGAA ACTTCAAGGA

2 μ m Ori

1801 ATTCCGAAGT TCCTATTCTC TAGAAAGTAT AGGAACTTCA GAGCGCTTTT
 TAAGGCTTCA AGGATAAGAG ATCTTTCATA TCCTTGAAGT CTCGCGAAAA

2 μ m Ori

1851 GAAAACCAAA AGCGCTCTGA AGACGCACTT TCAAAAACC AAAAACGCAC
 CTTTTGGTTT TCGCGAGACT TCTGCGTGAA AGTTTTTTTG TTTTTGCGTG

pRF4-60

2 μ m Ori

1901 CGGACTGTAA CGAGCTACTA AAATATTGCG AATACCGCTT CCACAAACAT
GCCTGACATT GCTCGATGAT TTTATAACGC TTATGGCGAA GGTGTTTGTA

2 μ m Ori

1951 TGCTCAAAAG TATCTCTTTG CTATATATCT CTGTGCTATA TCCCTATATA
ACGAGTTTTTC ATAGAGAAAC GATATATAGA GACACGATAT AGGGATATAT

2 μ m Ori

2001 ACCTACCCAT CCACCTTTCG CTCCTTGAAC TTGCATCTAA ACTCGACCTC
TGGATGGGTA GGTGGAAAGC GAGGAACTTG AACGTAGATT TGAGCTGGAG

2 μ m Ori

2051 TACATTTTTT ATGTTTATCT CTAGTATTAC TCTTTAGACA AAAAAATTGT
ATGTAAAAAA TACAAATAGA GATCATAATG AGAAATCTGT TTTTTTAACA

2 μ m Ori

2101 AGTAAGAACT ATTCATAGAG TGAATCGAAA ACAATACGAA AATGTAAACA
TCATTCTTGA TAAGTATCTC ACTTAGCTTT TGTTATGCTT TTACATTTGT

2 μ m Ori

2151 TTTCTTATAC GTAGTATATA GAGACAAAAT AGAAGAAACC GTTCATAATT
AAAGGATATG CATCATATAT CTCTGTTTTA TCTTCTTTGG CAAGTATTAA

2 μ m Ori

2201 TTCTGACCAA TGAAGAATCA TCAACGCTAT CACTTTCTGT TCACAAAGTA
AAGACTGGTT ACTTCTTAGT AGTTGCGATA GTGAAAGACA AGTGTTTCAT

2 μ m Ori

2251 TGCGCAATCC ACATCGGTAT AGAATATAAT CGGGGATGCC TTTATCTTGA
ACGCGTTAGG TGTAGCCATA TCTTATATTA GCCCCTACGG AAATAGAACT

2 μ m Ori

2301 AAAAATGCAC CCGCAGCTTC GCTAGTAATC AGTAAACGCG GGAAGTGGAG
TTTTTACGTG GCGGTCGAAG CGATCATTAG TCATTTGCGC CCTTCACCTC

2 μ m Ori

2351 TCAGGCTTTT TTTATGGAAG AGAAAATAGA CACCAAAGTA GCCTTCTTCT
AGTCCGAAAA AAATACCTTC TCTTTTATCT GTGGTTTCAT CGGAAGAAGA

2 μ m Ori

2401 AACCTTAACG GACCTACAGT GCAAAAAGTT ATCAAGAGAC TGCATTATAG
TTGGAATTGC CTGGATGTCA CGTTTTTCAA TAGTTCTCTG ACGTAATATC

2 μ m Ori

2451 AGCGCACAAA GGAGAAAAAA AGTAATCTAA GATGCTTTGT TAGAAAAATA
TCGCGTGTTT CCTCTTTTTT TCATTAGATT CTACGAAACA ATCTTTTTAT

2 μ m Ori

2501 GCGCTCTCGG GATGCATTTT TGTAGAACAA AAAAGAAGTA TAGATTCTTT
CGCGAGAGCC CTACGTAAAA ACATCTTGTT TTTTCTTCAT ATCTAAGAAA

2 μ m Ori

2551 GTTGGTAAAA TAGCGCTCTC GCGTTGCATT TCTGTTCTGT AAAAATGCAG
CAACCATTTT ATCGCGAGAG CGCAACGTAA AGACAAGACA TTTTACGTC

2 μ m Ori

2601 CTCAGATTCT TTGTTTGAAA AATTAGCGCT CTCGCGTTGC ATTTTTGTTT
GAGTCTAAGA AACAACTTT TTAATCGCGA GAGCGCAACG TAAAAACAAA

2 μ m Ori

2651 TACAAAAATG AAGCACAGAT TCTTCGTTGG TAAAATAGCG CTTTCGCGTT
ATGTTTTTAC TTCGTGTCTA AGAAGCAACC ATTTTATCGC GAAAGCGCAA

2 μ m Ori

2701 GCATTTCTGT TCTGTAAAAA TGCAGCTCAG ATTCTTTGTT TGAAAAATTA
CGTAAAGACA AGACATTTTT ACGTCGAGTC TAAGAAACAA ACTTTTTAAT

2 μ m Ori

2751 GCGCTCTCGC GTTGCATTTT TGTTCTACAA AATGAAGCAC AGATGCTTCG
CGCGAGAGCG CAACGTAAAA ACAAGATGTT TTACTTCGTG TCTACGAAGC

2 μ m Ori

2801 TTAACAAAGA TATGCTATTG AAGTGCAAGA TGGAAACGCA GAAAATGAAC
AATTGTTTCT ATACGATAAC TTCACGTTCT ACCTTTGCGT CTTTTACTTG

2 μ m Ori

2851 CGGGGATGCG ACGTGCAAGA TTACCTATGC AATAGATGCA ATAGTTTCTC
GCCCTACGC TGCACGTTCT AATGGATACG TTATCTACGT TATCAAAGAG

2 μ m Ori

2901 CAGGAACCGA AATACATACA TTGTCTTCCG TAAAGCGCTA GACTATATAT
GTCCTTGGCT TTATGTATGT AACAGAAGGC ATTTTCGCGAT CTGATATATA

2 μ m Ori

2951 TATTATACAG GTTCAAATAT ACTATCTGTT TCAGGGAAAA CTCCCAGGTT
ATAATATGTC CAAGTTTATA TGATAGACAA AGTCCCTTTT GAGGGTCCAA

2 μ m Ori

3001 CGGATGTTCA AAATTCAATG ATGGGTAACA AGTACGATCG TAAATCTGTA
GCCTACAAGT TTTAAGTTAC TACCCATTGT TCATGCTAGC ATTTAGACAT

2 μ m Ori

3051 AAACAGTTTG TCGGATATTA GGCTGTATCT CCTCAAAGCG TATTCGAATA
TTTGTCAAAC AGCCTATAAT CCGACATAGA GGAGTTTCGC ATAAGCTTAT

2 μ m Ori

3101 TCATTGAGAA GCTGCAGGCA AGTGCACAAA CAATACTTAA ATAAATACTA
AGTAACTCTT CGACGTCCGT TCACGTGTTT GTTATGAATT TATTTATGAT

TRP1 Gene

3151 CTCAGTAATA ACCTATTTCT TAGCATTTTT GACGAAATTT GCTATTTTGT
GAGTCATTAT TGGATAAAGA ATCGTAAAAA CTGCTTTAAA CGATAAAACA

TRP1 Gene

3201 TAGAGTCTTT TACACCATTT GTCTCCACAC CTCCGCTTAC ATCAACACCA
 ATCTCAGAAA ATGTGGTAAA CAGAGGTGTG GAGGCGAATG TAGTTGTGGT

TRP1 Gene

3251 ATAACGCCAT TTAATCTAAG CGCATCACCA ACATTTTCTG GCGTCAGTCC
 TATTGCGGTA AATTAGATTC GCGTAGTGGT TGTAAGAGAC CGCAGTCAGG

TRP1 Gene

HindIII

3301 ACCAGCTAAC ATAAAATGTA AGCTTTCGGG GCTCTCTTGC CTTCCAACCC
 TGGTCGATTG TATTTTACAT TCGAAAGCCC CGAGAGAACG GAAGGTTGGG

TRP1 Gene

3351 AGTCAGAAAT CGAGTTCCAA TCCAAAAGTT CACCTGTCCC ACCTGCTTCT
 TCAGTCTTTA GCTCAAGGTT AGGTTTTCAA GTGGACAGGG TGGACGAAGA

TRP1 Gene

3401 GAATCAAACA AGGGAATAAA CGAATGAGGT TTCTGTGAAG CTGCACTGAG
 CTTAGTTTGT TCCCTTATTT GCTTACTCCA AAGACACTTC GACGTGACTC

TRP1 Gene

3451 TAGTATGTTG CAGTCTTTTG GAAATACGAG TCTTTTAATA ACTGGCAAAC
 ATCATAACAAC GTCAGAAAAC CTTTATGCTC AGAAAATTAT TGACCGTTTG

TRP1 Gene

3501 CGAGGAACTC TTGGTATTCT TGCCACGACT CATCTCCATG CAGTTGGACG
 GCTCCTTGAG AACCATAAGA ACGGTGCTGA GTAGAGGTAC GTCAACCTGC

TRP1 Gene

3551 ATATCAATGC CGTAATCATT GACCAGAGCC AAAACATCCT CTTAGGTTG
 TATAGTTACG GCATTAGTAA CTGGTCTCGG TTTTGTAGGA GGAATCCAAC

TRP1 Gene

3601 ATTACGAAAC ACGCCAACCA AGTATTTTCGG AGTGCCTGAA CTATTTTTAT
 TAATGCTTTG TCGGTTGGT TCATAAAGCC TCACGGACTT GATAAAAATA

TRP1 Gene

3651 ATGCTTTTAC AAGACTTGAA ATTTTCCTTG CAATAACCGG GTCAATTGTT
 TACGAAAATG TTCTGAACTT TAAAAGGAAC GTTATTGGCC CAGTTAACAA

TRP1 Gene

3701 CTCTTCTAT TGGGCACACA TATAATACCC AGCAAGTCAG CATCGGAATC
 GAGAAAGATA ACCCGTGTGT ATATTATGGG TCGTTCAGTC GTAGCCTTAG

TRP1 Gene

3751 TAGAGCACAT TCTGCGCCT CTGTGCTCTG CAAGCCGCAA ACTTTCACCA
 ATCTCGTGTA AGACGCCGGA GACACGAGAC GTTCGGCGTT TGAAAGTGGT

TRP1 Gene

3801 ATGGACCAGA ACTACCTGTG AAATTAATAA CAGACATACT CCAAGCTGCC
 TACCTGGTCT TGATGGACAC TTTAATTATT GTCTGTATGA GGTTCGACGG

TRP1 Gene

pRF4-60

3851 TTTGTGTGCT TAATCACGTA TACTCACGTG CTCAATAGTC ACCAATGCCC
 AAACACACGA ATTAGTGCAT ATGAGTGCAC GAGTTATCAG TGGTTACGGG

TRP1 Gene

3901 TCCCTCTTGG CCCTCTCCTT TTCTTTTTTC GACCGAATTT CTTGAAGACG
 AGGGAGAACC GGGAGAGGAA AAGAAAAAAG CTGGCTTAAA GAACTTCTGC

TRP1 Gene

3951 AAAGGGCCTC GTGATACGCC TATTTTTTATA GGTTAATGTC ATGATAATAA
 TTTCCCGGAG CACTATGCGG ATAAAAATAT CCAATTACAG TACTATTATT

4001 TGGTTTCTTA GACGTCAGGT GGCACTTTTC GGGGAAATGT GCGCGGAACC
 ACCAAAGAAT CTGCAGTCCA CCGTGAAAAG CCCCTTTACA CGCGCCTTGG

4051 CCTATTTGTT TATTTTTTCTA AATACATTCA AATATGTATC CGCTCATGAG
 GGATAAACAA ATAAAAAGAT TTATGTAAGT TTATACATAG GCGAGTACTC

ampR

4101 ACAATAACCC TGATAAATGC TTCAATAATA TTGAAAAAGG AAGAGTATGA
 TGTATTGGG ACTATTTACG AAGTTATTAT AACTTTTTTC TTCTCATACT

ampR

4151 GTATTCAACA TTTCCGTGTC GCCCTTATTC CCTTTTTTGC GGCATTTTGC
 CATAAGTTGT AAAGGCACAG CGGGAATAAG GGAAAAACG CCGTAAAACG

ampR

4201 CTTCTGTTT TTGCTCACCC AGAAACGCTG GTGAAAGTAA AAGATGCTGA
 GAAGGACAAA AACGAGTGGG TCTTTGCGAC CACTTTCATT TTCTACGACT

ampR

4251 AGATCAGTTG GGTGCACGAG TGGGTACAT CGAACTGGAT CTCAACAGCG
 TCTAGTCAAC CCACGTGCTC ACCCAATGTA GCTTGACCTA GAGTTGTCGC

ampR

4301 GTAAGATCCT TGAGAGTTTT CGCCCCGAAG AACGTTTTCC AATGATGAGC
 CATTCTAGGA ACTCTCAAAA GCGGGGCTTC TTGCAAAAGG TTRACTACTCG

ampR

4351 ACTTTTAAAG TTCTGCTATG TGGCGCGGTA TTATCCCGTG TTGACGCCGG
 TGAAAATTTT AAGACGATAC ACCGCGCCAT AATAGGGCAC AACTGCGGCC

ampR

4401 GCAAGAGCAA CTCGGTCGCC GCATACACTA TTCTCAGAAT GACTTGGTTG
 CGTTCTCGTT GAGCCAGCGG CGTATGTGAT AAGAGTCTTA CTGAACCAAC

ampR

4451 AGTACTCACC AGTCACAGAA AAGCATCTTA CGGATGGCAT GACAGTAAGA
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ampR

4501 GAATTATGCA GTGCTGCCAT AACCATGAGT GATAAACTG CGGCCAACTT
 CTTAATACGT CACGACGGTA TTGGTACTCA CTATTGTGAC GCCGGTTGAA

ampR

4551 ACTTCTGACA ACGATCGGAG GACCGAAGGA GCTAACCGCT TTTTTCACACA
TGAAGACTGT TGCTAGCCTC CTGGCTTCCT CGATTGGCGA AAAAACGTGT

ampR

4601 ACATGGGGGA TCATGTAAC TCGCTTGATC GTTGGGAACC GGAGCTGAAT
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ampR

4651 GAAGCCATAC CAAACGACGA GCGTGACACC ACGATGCCTG TAGCAATGGC
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ampR

4701 AACAACTGTTG CGCAAATAT TAACTGGCGA ACTACTTACT CTAGCTTCCC
TTGTTGCAAC GCGTTTGATA ATTGACCGCT TGATGAATGA GATCGAAGGG

ampR

4751 GGCAACAATT AATAGACTGG ATGGAGGCGG ATAAAGTTGC AGGACCACTT
CCGTTGTTAA TTATCTGACC TACCTCCGCC TATTTCAACG TCCTGGTGAA

ampR

4801 CTGCGCTCGG CCCTTCCGGC TGGCTGGTTT ATTGCTGATA AATCTGGAGC
GACGCGAGCC GGGAAGGCCG ACCGACCAA TAACGACTAT TTAGACCTCG

ampR

4851 CGGTGAGCGT GGTCTCGCG GTATCATTGC AGCACTGGGG CCAGATGGTA
GCCACTCGCA CCCAGAGCGC CATAGTAACG TCGTGACCCC GGTCTACCAT

ampR

4901 AGCCCTCCCG TATCGTAGTT ATCTACACGA CGGGGAGTCA GGCAACTATG
TCGGGAGGGC ATAGCATCAA TAGATGTGCT GCCCTCAGT CCGTTGATAC

ampR

4951 GATGAACGAA ATAGACAGAT CGCTGAGATA GGTGCCTCAC TGATTAAGCA
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ampR

5001 TTGGTAACTG TCAGACCAAG TTTACTCATA TATACTTTAG ATTGATTTAA
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5051 AACTTCATTT TTAATTTAAA AGGATCTAGG TGAAGATCCT TTTTGATAAT
TTGAAGTAAA AATTAATTT TCCTAGATCC ACTTCTAGGA AAAACTATTA

5101 CTCATGACCA AAATCCCTTA ACGTGAGTTT TCGTTCCACT GAGCGTCAGA
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5151 CCCCGTAGAA AAGATCAAAG GATCTTCTTG AGATCCTTTT TTTCTGCGCG
GGGCATCTT TTCTAGTTTC CTAGAAGAAC TCTAGGAAAA AAAGACGCGC

5201 TAATCTGCTG CTTGCAAACA AAAAAACCAC CGCTACCAGC GGTGGTTTGT
ATTAGACGAC GAACGTTTGT TTTTTTGGTG GCGATGGTCG CCACCAAACA

pUC ori

5251 TTGCCGGATC AAGAGCTACC AACTCTTTTT CCGAAGGTAA CTGGCTTCAG
AACGGCCTAG TTCTCGATGG TTGAGAAAAA GGCTTCCATT GACCGAAGTC

pRF4-6o

pUC ori

5301 CAGAGCGCAG ATACCAAATA CTGTCCTTCT AGTGTAGCCG TAGTTAGGCC
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pUC ori

5351 ACCACTTCAA GAACTCTGTA GCACCGCCTA CATACTCGC TCTGCTAATC
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pUC ori

5401 CTGTTACCAG TGGCTGCTGC CAGTGGCGAT AAGTCGTGTC TTACCGGGTT
GACAATGGTC ACCGACGACG GTCACCGCTA TTCAGCACAG AATGGCCCAA

pUC ori

5451 GGAICTAAGA CGATAGTTAC CGGATAAGGC GCAGCGGTTCG GGCTGAACGG
CCTGAGTTCT GCTATCAATG GCCTATTCCG CGTCGCCAGC CCGACTTGCC

pUC ori

5501 GGGGTTTCGTG CACACAGCCC AGCTTGGAGC GAACGACCTA CACCGAACTG
CCCCAAGCAC GTGTGTCGGG TCGAACCTCG CTTGCTGGAT GTGGCTTGAC

pUC ori

5551 AGATACCTAC AGCGTGAGCT ATGAGAAAGC GCCACGCTTC CCGAAGGGAG
TCTATGGATG TCGCACTCGA TACTCTTTCG CGGTGCGAAG GGCTTCCCTC

pUC ori

5601 AAAGGCGGAC AGGTATCCGG TAAGCGGCAG GGTCGGAACA GGAGAGCGCA
TTTCCGCCTG TCCATAGGCC ATTCGCCGTC CCAGCCTTGT CCTCTCGCGT

pUC ori

5651 CGAGGGAGCT TCCAGGGGGA AACGCCTGGT ATCTTTATAG TCCTGTCCGG
GCTCCCTCGA AGGTCCCCTT TTGCGGACCA TAGAAATATC AGGACAGCCC

pUC ori

5701 TTTCGCCACC TCTGACTTGA GCGTCGATTT TTGTGATGCT CGTCAGGGGG
AAAGCGGTGG AGACTGAACT CGCAGCTAAA AACACTACGA GCAGTCCCCC

pUC ori

5751 GCGGAGCCTA TGGAAAAACG CCAGCAACGC GGCCTTTTTTA CGGTTCTCTGG
CGCCTCGGAT ACCTTTTTGC GGTCGTTGCG CCGGAAAAAT GCCAAGGACC

5801 CCTTTTGCTG GCCTTTTGCT CACATGTTCT TTCCTGCGTT ATCCCCTGAT
GGAAAACGAC CGGAAAACGA GTGTACAAGA AAGGACGCAA TAGGGGACTA

5851 TCTGTGGATA ACCGTATTAC CGCCTTTGAG TGAGCTGATA CCGCTCGCCG
AGACACCTAT TGGCATAATG GCGGAAACTC ACTCGACTAT GCGGAGCGGC

5901 CAGCCGAACG ACCGAGCGCA GCGAGTCAGT GAGCGAGGAA GCGGAAGAGC
GTCGGCTTGC TGGCTCGCGT CGCTCAGTCA CTCGCTCCTT CGCCTTCTCG

5951 GCCCAATACG CAAACCGCCT CTCCCCGCGC GTTGGCCGAT TCATTAATGC
CGGGTTATGC GTTTGGCGGA GAGGGGCGCG CAACCGGCTA AGTAATTACG

6001 AGCTGGCACG ACAGGTTTCC CGACTGGAAA GCGGGCAGTG AGCGCAACGC
TCGACCGTGC TGTCCAAAGG GCTGACCTTT CGCCCGTCAC TCGCGTTGCG

6051 AATTAATGTG AGTTAGCTCA CTCATTAGGC ACCCCAGGCT TTACACTTTA
TTAATTACAC TCAATCGAGT GAGTAATCCG TGGGGTCCGA AATGTGAAAT

6101 TGCTTCCGGC TCGTATGTTG TGTGGAATTG TGAGCGGATA ACAATTTAC
ACGAAGGCCG AGCATAACAAC ACACCTTAAC ACTCGCCTAT TGTTAAAGTG

6151 ACAGGAAACA GCTATGACAT GATTACGAAT TAATTTCGAGC TCGGTACC
TGCCTTTGT CGATACTGTA CTAATGCTTA ATTAAGCTCG AGCCATGG