

pJZ4

GAL1 promoter

1 CCATTATCTT AGCCTAAAA AACCTTCTCT TTGGAACTTT 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 CGTGCGTCCT CGTCTTCACC
CACTGTCGGG AGGCTTCCTT CTGAGAGGAG GCACGCAGGA GCAGAAGTGG

AgeI

GAL1 promoter

151 GGTCGCGTTC CTGAAACGCA GATGTGCCTC GCGCCGCACT GCTCCGAACA
CCAGCGCAAG GACTTTGCGT CTACACGGAG CGCGGCGTGA CGAGGCTTGT

AgeI

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 GTTTTTTAGC 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 ATACTTTCAA CATTTTCGGT TTGTATTACT
GACGTATTGG TGAAATTGAT TATGAAAGTT GTAAAAGCCA AACATAATGA

GAL1 promoter

451 TCTTATTCAA ATGTAATAAA AGTATCAACA AAAAATTGTT AATATACCTC
AGAATAAGTT TACATTATTT TCATAGTTGT TTTTAAACAA TTATATGGAG

GAL1 promoter

NLS

HindIII

+1

501 TATACTTTAA CGTCAAGGAG GAATTAAGCT TATGGGTGCT CCTCCAAAA
ATATGAAATT GCAGTTCCTC CTTAATTCGA ATACCCACGA GGAGGTTTTT

M G A P P K K .

pJZ4

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          NLS
          |-----|
+1 • K K R K V A G I N K D I E E C N A
551 AGAAGAGAAA GGTAGCTGGT ATCAATAAAG ATATCGAGGA GTGCAATGCC
    TCTTCTCTTT CCATCGACCA TAGTTATTTT TATAGCTCCT CACGTTACGG
          B42AD
+1 I I E Q F I D Y L R T G Q E M P M •
601 ATCATTGAGC AGTTTATCGA CTACCTGCGC ACCGGACAGG AGATGCCGAT
    TAGTAACTCG TCAAATAGCT GATGGACGCG TGGCCTGTCC TCTACGGCTA
          B42AD
+1 • M E M A D Q A I N V V P G M T P K T •
651 GGAAATGGCG GATCAGGCGA TTAACGTGGT GCCGGGCATG ACGCCGAAAA
    CCTTTACCGC CTAGTCCGCT AATTGCACCA CGGCCCGTAC TCGCGCTTTT
          B42AD
+1 • T I L H A G P P I Q P D W L K S N
701 CCATTCTTCA CGCCGGGCCG CCGATCCAGC CTGACTGGCT GAAATCGAAT
    GGTAAGAAGT GCGGCCCGGC GGCTAGGTCG GACTGACCGA CTTTAGCTTA
          B42AD
+1 G F H E I E A D V N D T S L L L S •
751 GGTTTTCATG AAATTGAAGC GGATGTTAAC GATACCAGCC TCTTGCTGAG
    CCAAAGTAC TTAACTTCG CCTACAATTG CTATGGTCGG AGAACGACTC
          HA tag
          |-----|
          B42AD
+1 • S G D A S Y P Y D V P D Y A S
801 TGGAGATGCC TCCTACCCTT ATGATGTGCC AGATTATGCC TCTCCCGAAT
    ACCTCTACGG AGGATGGGAA TACTACACGG TCTAATACGG AGAGGGCTTA
          PmeI
          |-----|
          EcoRI
          |-----|
          SfiI
          |-----|
851 TGCCTGCAGG CTGTTTAAAC GAATTCCTAG GCGCGCCGGC CCTAGGGGCC
    ACGGACGTCC GACAAATTTG CTTAAGGATC CGCGCGGCCG GGATCCCCGG
          XhoI
          |-----|
          CYC1 Terminator
          |-----|
901 GAGCTCGAGG GCGCGCCTAG GCCGGCCATC ATGTAATTAG TTATGTCACG
    CTCGAGCTCC CGCGCGGATC CGGCCGGTAG TACATTAATC AATACAGTGC
          CYC1 Terminator
          |-----|
951 CTTACATTCA CGCCCTCCCC CCACATCCGC TCTAACCGAA AAGGAAGGAG
    GAATGTAAGT GCGGGAGGGG GGTGTAGGCG AGATTGGCTT TTCCTTCCTC
          CYC1 Terminator
          |-----|
1001 TTAGACAACC TGAAGTCTAG GTCCCTATTT ATTTTTTTTAT AGTTATGTTA
    AATCTGTTGG ACTTCAGATC CAGGGATAAA TAAAAAATA TCAATACAAT
  
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pJZ4

CYC1 Terminator

1051 GTATTAAGAA CGTTATTTAT ATTTCAAATT TTTCTTTTTT TTCTGTACAG
CATAATTCTT GCAATAAATA TAAAGTTTAA AAAGAAAAAA AAGACATGTC

CYC1 Terminator

1101 ACGCGTGTAC GCATGTAACA TTATACTGAA AACCTTGCTT GAGAAGGTTT
TGCGCACATG CGTACATTGT AATATGACTT TTGGAACGAA CTCTTCCAAA

CYC1 Terminator

F1 Ori

1151 TGGGACGCTC GAAGGCTTTA ATTTGCGTCG ACAATTGTAA ACGTTAATAT
ACCCTGCGAG CTTCCGAAAT TAAACGCAGC TGTTAACATT TGCAATTATA

F1 Ori

1201 TTTGTTAAAA TTCGCGTTAA ATTTTTGTTA AATCAGCTCA TTTTTTAACG
AAACAATTTT AAGCGCAATT TAAAAACAAT TTAGTCGAGT AAAAAATTGC

F1 Ori

1251 AATAGCCCGA AATCGGCAAA ATCCCTTATA AATCAAAAGA ATAGACCGAG
TTATCGGGCT TTAGCCGTTT TAGGGAATAT TTAGTTTTCT TATCTGGCTC

F1 Ori

1301 ATAGGGTTGA GTGTTGTTCC AGTTTCCAAC AAGAGTCCAC TATTAAAGAA
TATCCCAACT CACAACAAGG TCAAAGGTTG TTCTCAGGTG ATAATTTCTT

F1 Ori

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GCACCTGAGG TTGCAGTTTC CCGCTTTTTT CCAGATAGTC CCGCTACCGG

F1 Ori

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GTGATGCACT TGGTAGTGGG ATTAGTTCAA AAAACCCCGAG CTCCACGGCA

F1 Ori

1451 AAAGCAGTAA ATCGGAAGGG TAAACGGATG CCCCATTTA GAGCTTGACG
TTTCGTCATT TAGCCTTCCC ATTTGCCTAC GGGGGTAAAT CTCGAACTGC

F1 Ori

1501 GGGAAAGCCG GCGAACGTGG CGAGAAAGGA AGGGAAGAAA GCGAAAGGAG
CCTTTTCGGC CGCTTGCACC GCTCTTTCCT TCCCTTCTTT CGCTTTCCTC

F1 Ori

NotI

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GCCCCAGCTG ATCGCCGGCG AAGCTGGACG TCGTTAAGAC TTGGTCAGGA

1601 AAAACGAGTA AATAGGACCG GCAATTCTTC AAGCAATAAA CAGGAATACC
TTTTGCTCAT TTATCCTGGC CGTTAAGAAG TTCGTTATTT GTCCTTATGG

2 µm Ori

HindIII

1651 AATTATTAAA AGATAACTTA GTCAGATCGT ACAATAAAGC TTTGAAGAAA
TTAATAATTT TCTATTGAAT CAGTCTAGCA TGTTATTTTCG AAACCTTCTTT

pJZ4

2 μ m Ori

1701 AATGCGCCTT ATTCAATCTT TGCTATAAAA AATGGCCCAA AATCTCACAT
 TTACGCGGAA TAAGTTAGAA ACGATATTTT TTACCGGGTT TTAGAGTGTA

2 μ m Ori

1751 TGGAAGACAT TTGATGACCT CATTCTTTTC AATGAAGGGC CTAACGGAGT
 ACCTTCTGTA AACTACTGGA GTAAAGAAAG TTACTTCCCG GATTGCCTCA

2 μ m Ori

1801 TGACTAATGT TGTGGGAAAT TGGAGCGATA AGCGTGCTTC TGCCGTGGCC
 ACTGATTACA ACACCCTTTA ACCTCGCTAT TCGCACGAAG ACGGCACCGG

2 μ m Ori

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 TCCTGTTGCA TATGAGTAGT CTATTGTCGT TATGGACTAG TGATGAAGCG

2 μ m Ori

1901 ACTAGTTTCT CGGTACTIONG CATATGATCC AATATCAAAG GAAATGATAG
 TGATCAAAGA GCCATGATAC GTATACTAGG TTATAGTTTC CTTTACTATC

2 μ m Ori

1951 CATTGAAGGA TGAGACTAAT CCAATTGAGG AGTGGCAGCA TATAGAACAG
 GTAACCTCCT ACTCTGATTA GGTAACTCC TCACCGTCGT ATATCTTGTC

2 μ m Ori

2001 CTAAAGGGTA GTGCTGAAGG AAGCATAACGA TACCCCGCAT GGAATGGGAT
 GATTTCCCAT CACGACTTCC TTCGTATGCT ATGGGGCGTA CCTTACCCTA

2 μ m Ori

2051 AATATCACAG GAGGTACTIONG ACTACCTTTC ATCCTACATA AATAGACGCA
 TTATAGTGTC CTCCATGATC TGATGGAAAG TAGGATGTAT TTATCTGCGT

2 μ m Ori

2101 TATAAGTACG CATTTAAGCA TAAACACGCA CTATGCCGTT CTTCTCATGT
 ATATTCATGC GTAAATTCGT ATTTGTGCGT GATACGGCAA GAAGAGTACA

2 μ m Ori

2151 ATATATATAT ACAGGCAACA CGCAGATATA GGTGCGACGT GAACAGTGAG
 TATATATATA TGTCCGTTGT GCGTCTATAT CCACGCTGCA CTTGTCACTC

2 μ m Ori

2201 CTGTATGTGC GCAGCTCGCG TTGCATTTTC GGAAGCGCTC GTTTTCGGAA
 GACATACACG CGTCGAGCGC AACGTAAAAG CCTTCGCGAG CAAAAGCCTT

2 μ m Ori

2251 ACGCTTTGAA GTTCCTATTC CGAAGTTCCT ATTCTCTAGA AAGTATAGGA
 TGCGAAACTT CAAGGATAAG GCTTCAAGGA TAAGAGATCT TTCATATCCT

2 μ m Ori

2301 ACTTCAGAGC GCTTTTGAAA ACCAAAAGCG CTCTGAAGAC GCACTTTCAA
 TGAAGTCTCG CGAAAACCTT TGGTTTTTCGC GAGACTTCTG CGTGAAAGTT

pJZ4

2 μ m Ori

2351 AAAACCAAAA ACGCACCGGA CTGTAACGAG CTACTAAAAT ATTGCGAATA
TTTTGGTTTT TGCCTGGCCT GACATTGCTC GATGATTTTA TAACGCTTAT

2 μ m Ori

2401 CCGCTTCCAC AAACATTGCT CAAAAGTATC TCTTTGCTAT ATATCTCTGT
GGCGAAGGTG TTTGTAACGA GTTTTCATAG AGAAACGATA TATAGAGACA

2 μ m Ori

2451 GCTATATCCC TATATAACCT ACCCATCCAC CTTTCGCTCC TTGAACTTGC
CGATATAGGG ATATATTGGA TGGGTAGGTG GAAAGCGAGG AACTTGAACG

2 μ m Ori

2501 ATCTAAACTC GACCTCTACA TTTTTTATGT TTATCTCTAG TATTACTCTT
TAGATTTGAG CTGGAGATGT AAAAAATACA AATAGAGATC ATAATGAGAA

2 μ m Ori

2551 TAGACAAAAA AATTGTAGTA AGAACTATTC ATAGAGTGAA TCGAAAACAA
ATCTGTTTTT TTAACATCAT TCTTGATAAG TATCTCACTT AGCTTTTGTT

2 μ m Ori

2601 TACGAAAATG TAAACATTC CTATACGTAG TATATAGAGA CAAAATAGAA
ATGCTTTTAC ATTTGTAAAG GATATGCATC ATATATCTCT GTTTTATCTT

2 μ m Ori

2651 GAAACCGTTC ATAATTTTCT GACCAATGAA GAATCATCAA CGCTATCACT
CTTTGGCAAG TATTAAAAGA CTGGTACTT CTTAGTAGTT GCGATAGTGA

2 μ m Ori

2701 TTCTGTTTAC AAAGTATGCG CAATCCACAT CGGTATAGAA TATAATCGGG
AAGACAAGTG TTTCATACGC GTTAGGTGTA GCCATATCTT ATATTAGCCC

2 μ m Ori

2751 GATGCCTTTA TCTTGAAAAA ATGCACCCGC AGCTTCGCTA GTAATCAGTA
CTACGGAAAT AGAACTTTTT TACGTGGGCG TCGAAGCGAT CATTAGTCAT

2 μ m Ori

2801 AACGCGGGAA GTGGAGTCAG GCTTTTTTTTA TGGAAGAGAA AATAGACACC
TTGCGCCCTT CACCTCAGTC CGAAAAAAT ACCTTCTCTT TTATCTGTGG

2 μ m Ori

2851 AAAGTAGCCT TCTTCTAACC TTAACGGACC TACAGTGCAA AAAGTTATCA
TTTCATCGGA AGAAGATTGG AATTGCCTGG ATGTCACGTT TTTCAATAGT

2 μ m Ori

2901 AGAGACTGCA TTATAGAGCG CACAAAGGAG AAAAAAAGTA ATCTAAGATG
TCTCTGACGT AATATCTCGC GTGTTTCCTC TTTTTTTCAT TAGATTCTAC

2 μ m Ori

2951 CTTTGTTAGA AAAATAGCGC TCTCGGGATG CATTTTTGTA GAACAAAAAA
GAAACAATCT TTTTATCGCG AGAGCCCTAC GTAAAAACAT CTTGTTTTTT

pJZ4

2 μ m Ori

3001 GAAGTATAGA TTCTTTGTTG GTAAAATAGC GCTCTCGCGT TGCATTTCTG
CTTCATATCT AAGAAACAAC CATTTTATCG CGAGAGCGCA ACGTAAAGAC

2 μ m Ori

3051 TTCTGTAAAA ATGCAGCTCA GATTCTTTGT TTGAAAAATT AGCGCTCTCG
AAGACATTTT TACGTCGAGT CTAAGAAACA AACTTTTTTAA TCGCGAGAGC

2 μ m Ori

3101 CGTTGCATTT TTGTTTTACA AAAATGAAGC ACAGATTCTT CGTTGGTAAA
GCAACGTAAA AACAAAATGT TTTTACTTCG TGTCTAAGAA GCAACCATTT

2 μ m Ori

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TATCGCGAAA GCGCAACGTA AAGACAAGAC ATTTTTACGT CGAGTCTAAG

2 μ m Ori

3201 TTTGTTTGAA AAATTAGCGC TCTCGCGTTG CATTTTTGTT CTACAAAATG
AAACAACTT TTTAATCGCG AGAGCGCAAC GTAAAAACAA GATGTTTTAC

2 μ m Ori

3251 AAGCACAGAT GCTTCGTAA CAAAGATATG CTATTGAAGT GCAAGATGGA
TTCGTGTCTA CGAAGCAATT GTTTCTATAC GATAACTTCA CGTTCTACCT

2 μ m Ori

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TTGCGTCTTT TACTTGGCCC CTACGCTGCA CGTTCTAATG GATACGTTAT

2 μ m Ori

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CTACGTTATC AAAGAGGTCC TTGGCTTTAT GTATGTAACA GAAGGCATTT

2 μ m Ori

3401 GCGCTAGACT ATATATTATT ATACAGGTTT AAATATACTA TCTGTTTCAG
CGCGATCTGA TATATAATAA TATGTCCAAG TTTATATGAT AGACAAAGTC

2 μ m Ori

3451 GGAAACTCC CAGGTTCCGA TGTTCAAAT TCAATGATGG GTAACAAGTA
CCTTTTGAGG GTCCAAGCCT ACAAGTTTTA AGTTACTACC CATTGTTTAT

2 μ m Ori

3501 CGATCGTAAA TCTGTAAAAC AGTTTGTCGG ATATTAGGCT GTATCTCCTC
GCTAGCATTT AGACATTTTG TCAAACAGCC TATAATCCGA CATAGAGGAG

2 μ m Ori

3551 AAAGCGTATT CGAATATCAT TGAGAAGCTG CAGGCAAGTG CACAAACAAT
TTTCGCATAA GCTTATAGTA ACTCTTCGAC GTCCGTTTAC GTGTTTGTTA

TRP1 Gene

3601 ACTTAAATAA ATACTACTCA GTAATAACCT ATTTCTTAGC ATTTTTGACG
TGAATTTATT TATGATGAGT CATTATTGGA TAAAGAATCG TAAAAACTGC

TRP1 Gene

3651 AAATTTGCTA TTTTGTTAGA GTCTTTTACA CCATTTGTCT CCACACCTCC
 TTAAACGAT AAAACAATCT CAGAAAATGT GGTAACAGA GGTGTGGAGG

TRP1 Gene

3701 GCTTACATCA ACACCAATAA CGCCATTTAA TCTAAGCGCA TCACCAACAT
 CGAATGTAGT TGTGGTTATT GCGGTAAATT AGATTCGCGT AGTGGTTGTA

TRP1 Gene

3751 TTTCTGGCGT CAGTCCACCA GCTAACATAA AATGTAAGCT TTCGGGGCTC
 AAAGACCGCA GTCAGGTGGT CGATTGTATT TTACATTCGA AAGCCCCGAG

TRP1 Gene

HindIII

3801 TCTTGCCTTC CAACCCAGTC AGAAATCGAG TTCCAATCCA AAAGTTCACC
 AGAACGGAAG GTTGGGTCAG TCTTTAGCTC AAGGTTAGGT TTTCAAGTGG

TRP1 Gene

3851 TGTCCACCT GCTTCTGAAT CAAACAAGGG AATAAACGAA TGAGGTTTCT
 ACAGGGTGGA CGAAGACTTA GTTTGTTCCC TTATTTGCTT ACTCCAAAGA

TRP1 Gene

3901 GTGAAGCTGC ACTGAGTAGT ATGTTGCAGT CTTTTGGAAA TACGAGTCTT
 CACTTCGACG TGACTCATCA TACAACGTCA GAAACCTTT ATGCTCAGAA

TRP1 Gene

3951 TTAATAACTG GCAAACCGAG GAACTCTTGG TATTCTTGCC ACGACTCATC
 AATTATTGAC CGTTTGGCTC CTTGAGAACC ATAAGAACGG TGCTGAGTAG

TRP1 Gene

4001 TCCATGCAGT TGGACGATAT CAATGCCGTA ATCATTGACC AGAGCCAAAA
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TRP1 Gene

4051 CATCCTCCTT AGGTTGATTA CGAAACACGC CAACCAAGTA TTTCGGAGTG
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TRP1 Gene

4101 CCTGAACTAT TTTTATATGC TTTTACAAGA CTTGAAATTT TCCTTGCAAT
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TRP1 Gene

4151 AACCGGGTCA ATTGTTCTCT TTCTATTGGG CACACATATA ATACCCAGCA
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TRP1 Gene

4201 AGTCAGCATC GGAATCTAGA GCACATTCTG CGGCCTCTGT GCTCTGCAAG
 TCAGTCGTAG CCTTAGATCT CGTGTAAGAC GCCGGAGACA CGAGACGTTT

TRP1 Gene

4251 CCGCAAACCT TCACCAATGG ACCAGAATA CCTGTGAAAT TAATAACAGA
 GCGTTTGAA AGTGGTTACC TGGTCTTGAT GGACACTTTA ATTATTGTCT

TRP1 Gene

pJZ4

4301 CATACTCCAA GCTGCCTTTG TGTGCTTAAT CACGTATACT CACGTGCTCA
GTATGAGGTT CGACGGAAAC ACACGAATTA GTGCATATGA GTGCACGAGT

TRP1 Gene

4351 ATAGTCACCA ATGCCCTCCC TCTTGCCCTT CTCCTTTTCT TTTTTCGACC
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TRP1 Gene

4401 GAATTTCTTG AAGACGAAAG GGCCTCGTGA TACGCCTATT TTTATAGGTT
CTTAAAGAAC TTCTGCTTTC CCGGAGCACT ATGCGGATAA AAATATCCAA

TRP1 Gene

4451 AATGTCATGA TAATAATGGT TTCTTAGACG TCAGGTGGCA CTTTTCGGGG
TTACAGTACT ATTATTACCA AAGAATCTGC AGTCCACCGT GAAAAGCCCC

4501 AAATGTGCGC GGAACCCCTA TTTGTTTATT TTTCTAAATA CATTCAAATA
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4551 TGTATCCGCT CATGAGACAA TAACCCTGAT AAATGCTTCA ATAATATTGA
ACATAGGCGA GTACTCTGTT ATTGGGACTA TTTACGAAGT TATTATAACT

ampR

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ampR

4651 TTTTGCGGCA TTTTGCCTTC CTGTTTTTGC TCACCCAGAA ACGCTGGTGA
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ampR

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ampR

4751 CTGGATCTCA ACAGCGGTAA GATCCTTGAG AGTTTTTCGCC CCGAAGAACG
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ampR

4801 TTTTCCAATG ATGAGCACTT TTAAAGTTCT GCTATGTGGC GCGGTATTAT
AAAAGGTTAC TACTCGTGAA AATTTCAAGA CGATACACCG CGCCATAATA

ampR

4851 CCCGTGTTGA CGCCGGGCAA GAGCAACTCG GTCGCCGCAT ACACTATTCT
GGGCACAAC T GCGGCCGTT CTCGTTGAGC CAGCGGCGTA TGTGATAAGA

ampR

4901 CAGAATGACT TGGTTGAGTA CTCACCAGTC ACAGAAAAGC ATCTTACGGA
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ampR

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ampR

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TGTGACGCCG GTTGAATGAA GACTGTTGCT AGCCTCCTGG CTTCCTCGAT

ampR

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ampR

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ampR

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ampR

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GAATGAGATC GAAGGGCCGT TGTTAATTAT CTGACCTACC TCCGCCTATT

ampR

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ampR

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ampR

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ampR

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ampR

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GGAGTACTA ATTCGTAACC ATTGACAGTC TGGTTCAAAT GAGTATATAT

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5651 CCTTTTTTTC TGCGCGTAAT CTGCTGCTTG CAAACAAAAA AACCACCGCT
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pUC ori

5701 ACCAGCGGTG GTTTGTTTGC CGGATCAAGA GCTACCAACT CTTTTTCCGA
TGGTGCGCCAC CAAACAAACG GCCTAGTTCT CGATGGTTGA GAAAAAGGCT

pJZ4

pUC ori

5751 AGGTAAGTGG CTTTCAGCAGA GCGCAGATAC CAAATACTGT CCTTCTAGTG
TCCATTGACC GAAGTCGTCT CGCGTCTATG GTTTATGACA GGAAGATCAC

pUC ori

5801 TAGCCGTAGT TAGGCCACCA CTTCAAGAAC TCTGTAGCAC CGCCTACATA
ATCGGCATCA ATCCGGTGGT GAAGTTCTTG AGACATCGTG GCGGATGTAT

pUC ori

5851 CCTCGCTCTG CTAATCCTGT TACCAGTGGC TGCTGCCAGT GGCATAAAGT
GGAGCGAGAC GATTAGGACA ATGGTCACCG ACGACGGTCA CCGCTATTCA

pUC ori

5901 CGTGTCTTAC CGGGTTGGAC TCAAGACGAT AGTTACCGGA TAAGGCGCAG
GCACAGAATG GCCCAACCTG AGTTCTGCTA TCAATGGCCT ATTCCGCGTC

pUC ori

5951 CGGTCGGGCT GAACGGGGGG TTCGTGCACA CAGCCCAGCT TGGAGCGAAC
GCCAGCCCGA CTTGCCCCCC AAGCACGTGT GTCGGGTCGA ACCTCGCTTG

pUC ori

6001 GACCTACACC GAACTGAGAT ACCTACAGCG TGAGCTATGA GAAAGCGCCA
CTGGATGTGG CTTGACTCTA TGGATGTGCG ACTCGATACT CTTTCGCGGT

pUC ori

6051 CGTTCCCGA AGGGAGAAAG GCGGACAGGT ATCCGGTAAG CGGCAGGGTC
GCGAAGGGCT TCCCTCTTTC CGCCTGTCCA TAGGCCATTC GCCGTCCAG

pUC ori

6101 GGAACAGGAG AGCGCACGAG GGAGCTTCCA GGGGGAAACG CCTGGTATCT
CCTTGTCCTC TCGCGTGCTC CCTCGAAGGT CCCCTTTGCG GGACCATAGA

pUC ori

6151 TTATAGTCCT GTCGGGTTTC GCCACCTCTG ACTTGAGCGT CGATTTTTGT
AATATCAGGA CAGCCCAAAG CGGTGGAGAC TGAACTCGCA GCTAAAAACA

pUC ori

6201 GATGCTCGTC AGGGGGGCGG AGCCTATGGA AAAACGCCAG CAACGCGGCC
CTACGAGCAG TCCCCCGCC TCGGATACCT TTTTGCGGTC GTTGCGCCGG

6251 TTTTACGGT TCCTGGCCTT TTGCTGGCCT TTTGCTCACA TGTTCTTTCC
AAAAATGCCA AGGACCGGAA AACGACCGGA AAACGAGTGT ACAAGAAAGG

6301 TCGGTTATCC CCTGATTCTG TGGATAACCG TATTACCGCC TTTGAGTGAG
ACGCAATAGG GGACTAAGAC ACCTATTGGC ATAATGGCGG AACTCACTC

6351 CTGATAACGC TCGCCGCAGC CGAACGACCG AGCGCAGCGA GTCAGTGAGC
GACTATGGCG AGCGGCGTCG GCTTGCTGGC TCGCGTCGCT CAGTCACTCG

6401 GAGGAAGCGG AAGAGCGCCC AATACGCAA CCGCCTCTCC CCGCGCGTTG
CTCCTTCGCC TTCTCGCGGG TTATGCGTTT GCGGAGAGG GCGCGCAAC

6451 GCCGATTCAT TAATGCAGCT GGCACGACAG GTTTCCCGAC TGGAAAGCGG
CGGCTAAGTA ATTACGTCGA CCGTGCTGTC CAAAGGGCTG ACCTTTCGCC

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6501 GCAGTGAGCG CAACGCAATT AATGTGAGTT AGCTCACTCA TTAGGCACCC
      CGTCACTCGC GTTGCCTTAA TTACACTCAA TCGAGTGAGT AATCCGTGGG
.....
6551 CAGGCTTTAC ACTTTATGCT TCCGGCTCGT ATGTTGTGTG GAATTGTGAG
      GTCCGAAATG TGAAATACGA AGGCCGAGCA TACAACACAC CTTAACACTC
.....
6601 CGGATAACAA TTCACACAG GAAACAGCTA TGACATGATT ACGAATTAAT
      GCCTATTGTT AAAGTGTGTC CTTTGTGCGAT ACTGTACTAA TGCTTAATTA
.....
6651 TCGAGCTCGG TACC
      AGCTCGAGCC ATGG
.....
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