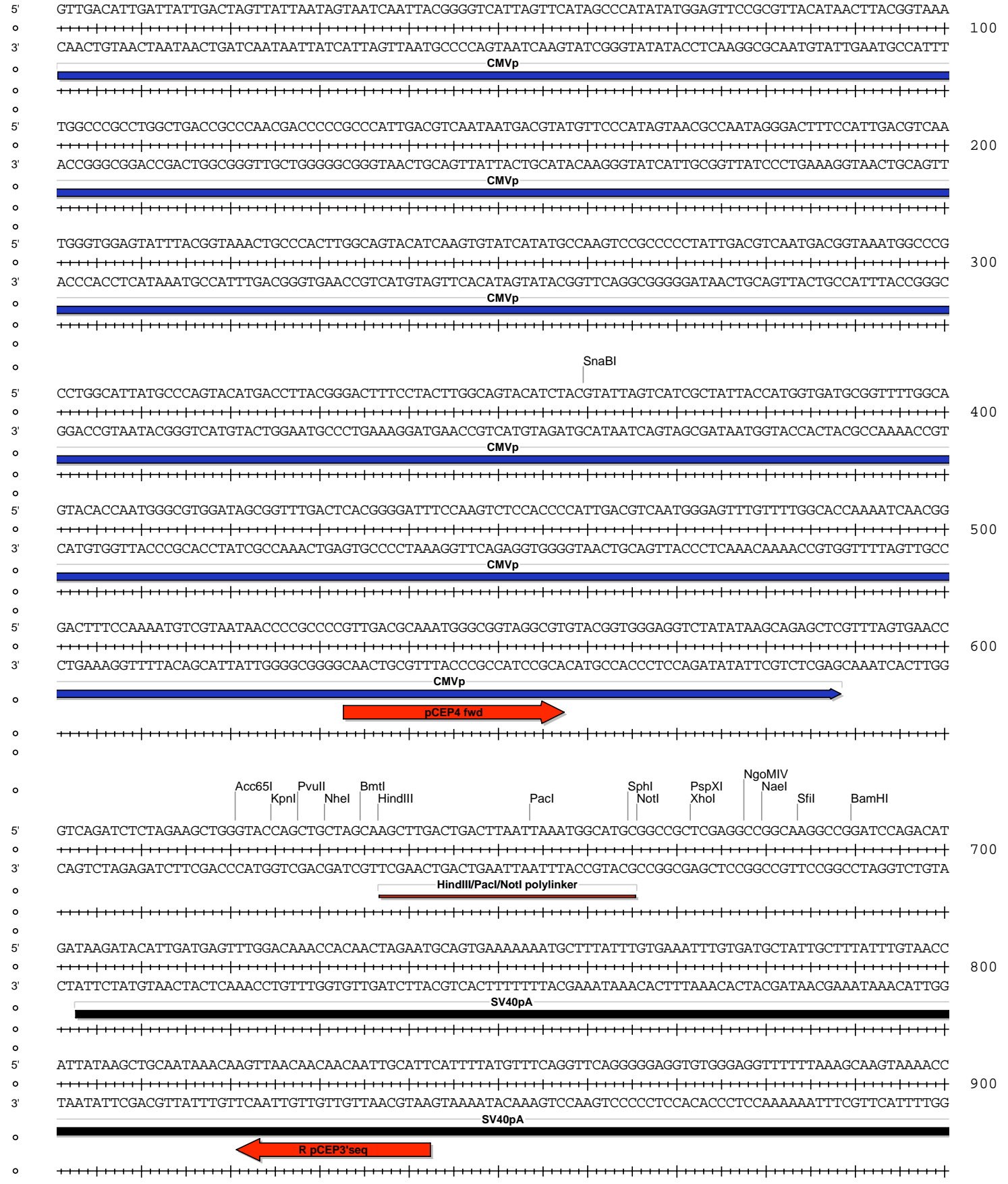


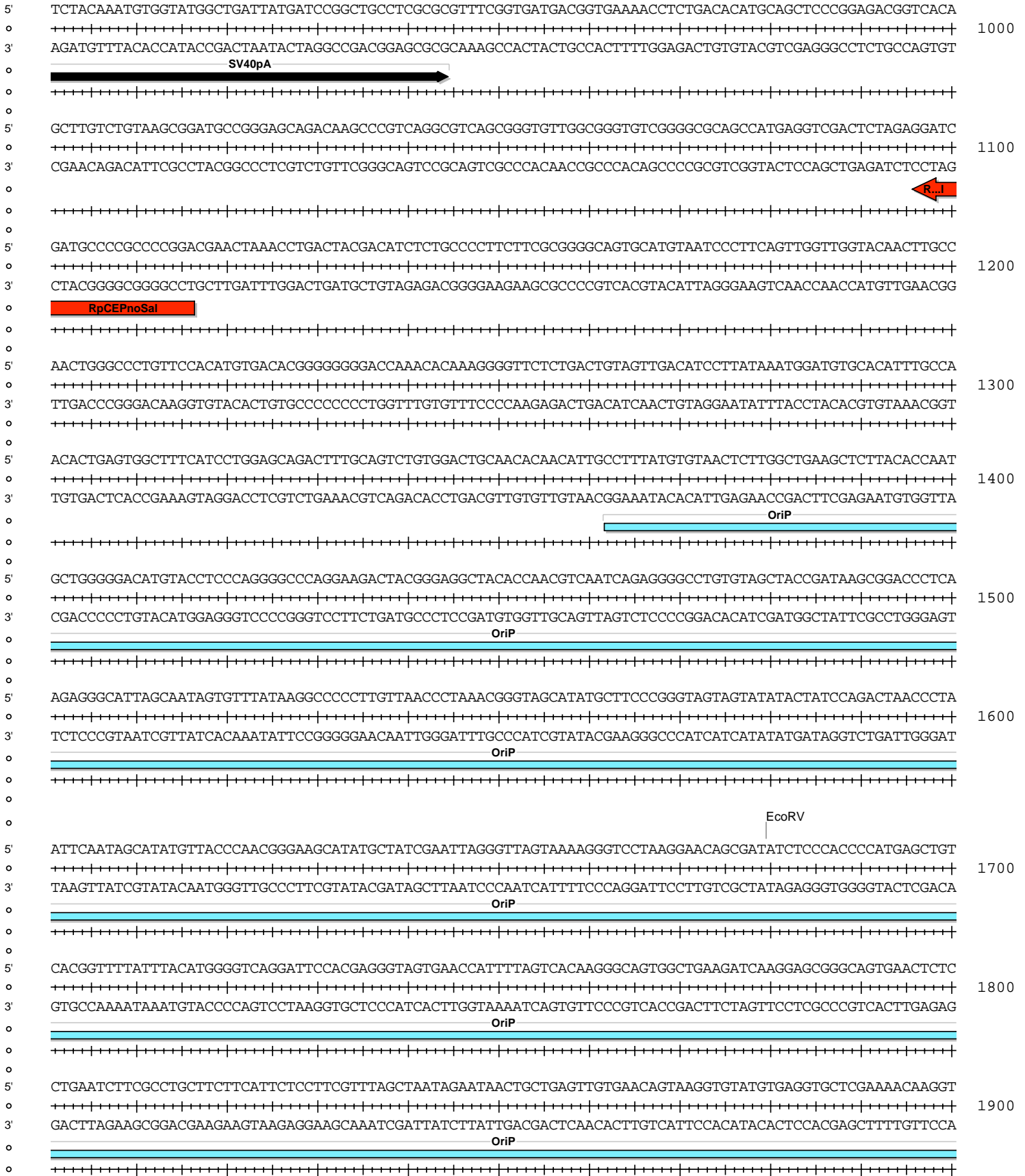
pCEP4 + polylinker

Absent Sites	0	AarI, AbsI, AfeI, AflI, AgeI, AleI, AscI, BarI, BarI', BbeI, BclI, BplI, BsiWI, BssHII, BstZ17I, FseI, FspAI, KasI, MauBI, MreI, NarI, PmeI, PmlI, PstI, PstI', SapI, SbfI, SfoI, SgrDI, SrfI, SwaI
Acc65I	1	621
AjuI	1	9141
AjuI'	1	9109
Alol	1	1954
Alol'	1	1922
AsiSI	1	8792
AvrII	1	5521
BaeI	1	2160
BaeI'	1	2127
BamHI	1	690
BbvCI	1	3846
BmtI	1	635
BsrGI	1	10167
BstBI	1	8279
BstEII	1	5886
EcoNI	1	5881
EcoRV	1	1680
HindIII	1	637
KpnI	1	625
NaeI	1	680
NgoMIV	1	678
NheI	1	631
NotI	1	666
NruI	1	7978
NsiI	1	3231
PacI	1	654
PshAI	1	8455
PspXI	1	672
PvuII	1	628
SexAI	1	3405
SfiI	1	684
SgrAI	1	4047
SnaBI	1	360
SphI	1	665
StuI	1	5810
XhoI	1	672
XmnI	1	6377

pCEP4 + polylinker



pCEP4 + polylinker



o

5' TTCAGGTGACGCCCCAGAATAAAAATTTGGACGGGGGTTTCAGTGGTGGCATTGTGCTATGACACCAATATAACCCCTCACAAACCCCTTGGGCAATAAAT 2000
o
3' AAGTCCACTGCGGGGTCTTATTTTAAACCTGCCCCCAAGTCAACCACCGTAACACGATACTGTGGTTATATTGGGAGTGT'TGGGGAACCCGTTATTTTA
o
OriP

o

5' ACTAGTGTAGGAATGAAACATTCTGAATATCTTTAACAATAGAAATCCATGGGGTGGGGACAAGCCGTAAAGACTGGATGTCCATCTCACACGAATTTAT 2100
o
3' TGATCACATCCTTACTTTGTAAGACTTATAGAAATGTTATCTTTAGGTACCCACCCCTGTTCCGCATTCTGACCTACAGGTAGAGTGTGCTTAAATA
o
OriP

o

5' GGCTATGGGCAACACATAATCCTAGTGAATATGATACTGGGGTTATTAAGATGTGTCCAGGCAGGGACCAAGACAGGTGAACCATGTTGTTACACTCT 2200
o
3' CCGATACCCGTTGTGTATTAGGATCACGTTATACTATGACCCCAATAATCTACACAGGTCGGTCCCTGGTCTGTCCACTTGGTACAACAATGTGAGA
o
OriP

o

5' ATTTGTAACAAGGGGAAAGAGAGTGGACGCCGACAGCAGCGGACTCCACTGGTGTCTCTAACACCCCCGAAAATTAACGGGGCTCCACGCCAATGGGG 2300
o
3' TAAACATTGTTCCCTTTCTCTCACCTGCGGCTGTGTCGCCTGAGGTGACCAACAGAGATTGTGGGGCTTTTAAATTTGCCCGAGGTGCGGTTACCCC
o
OriP

o

5' CCCATAACAAAGACAAGTGGCCACTCTTTTTTTTTGAAATTTGTGGAGTGGGGGCACGCGTCAGCCCCACACGCCGCCCTGCGGTTTTGGACTGTAAAAT 2400
o
3' GGGTATTTGTTTCTGTTCCACCGGTGAGAAAAAAACTTTAACACCTCACCCCGTGCAGTCGGGGGTGTGCGGGGGACGCCAAAACCTGACATTTTA
o
OriP

o

5' AAGGGTGAATAACTTGGCTGATTGTAACCCCGCTAACCACTGCGGTCAAACCACTTGCCACAAAACCACTAATGGCACCCCGGGAATACCTGCATAA 2500
o
3' TTCCACATTATTGAACCGACTAACATTGGGGCGATTGGTGACGCCAGTTTGGTGAACGGGTGTTTGGTGATTACCGTGGGGCCCTTATGGACGTATT
o
OriP

o

5' GTAGGTGGGCGGCCAAGATAGGGCGCGATTGCTGCGATCTGGAGGACAAATTACACACACTTGCCTGAGCGCAAGCACAGGGTTGTTGGTCTCA 2600
o
3' CATCCACCCGCCGTTCTATCCCGCGCTAACGACGCTAGACCTCCTGTTTAAATGTGTGTGAACGCGGACTCGCGGTTTCGTGCCAACACCAGGAGT
o
OriP

o

5' TATTCACGAGGTCGCTGAGAGCACGGTGGGCTAATGTTGCCATGGGTAGCATATACTACCCAAATATCTGGATAGCATATGCTATCCTAATCTATATCTG 2700
o
3' ATAAGTGCTCCAGCGACTCTCGTGCCACCCGATTACAACGGTACCCATCGTATATGATGGGTTTATAGACCTATCGTATACGATAGGATTAGATATAGAC
o
OriP

o

5' GGTAGCATAGGCTATCCTAATCTATATCTGGGTAGCATATGCTATCCTAATCTATATCTGGGTAGTATATGCTATCCTAATTTATATCTGGGTAGCATAG 2800
o
3' CCATCGTATCCGATAGGATTAGATATAGACCCATCGTATACGATAGGATTAGATATAGACCCATCATATACGATAGGATTAATATAGACCCATCGTATC
o
OriP

o

5' GCTATCCTAATCTATATCTGGGTAGCATATGCTATCCTAATCTATATCTGGGTAGTATATGCTATCCTAATCTGTATCCGGGTAGCATATGCTATCCTAA 2900
o
3' CGATAGGATTAGATATAGACCCATCGTATACGATAGGATTAGATATAGACCCATCATATACGATAGGATTAGACATAGGCCCATCGTATACGATAGGATT
o
OriP

o

pCEP4 + polylinker

5' TAGAGATTAGGGTAGTATATGCTATCCTAATTTATATCTGGGTAGCATATACTACCCAAATATCTGGATAGCATATGCTATCCTAATCTATATCTGGGTA
 3' ATCTCTAATCCCATCATATACGATAGGATTAATATAGACCCATCGTATATGATGGGTTTATAGACCTATCGTATACGATAGGATTAGATATAGACCCAT
 OriP

5' GCATATGCTATCCTAATCTATATCTGGGTAGCATAGGCTATCCTAATCTATATCTGGGTAGCATATGCTATCCTAATCTATATCTGGGTAGTATGCTA
 3' CGTATACGATAGGATTAGATATAGACCCATCGTATCCGATAGGATTAGATATAGACCCATCGTATACGATAGGATTAGATATAGACCCATCATATACGAT
 OriP

5' TCCTAATTTATATCTGGGTAGCATAGGCTATCCTAATCTATATCTGGGTAGCATATGCTATCCTAATCTATATCTGGGTAGTATGCTATCCTAATCTG
 3' AGGATTAATATAGACCCATCGTATCCGATAGGATTAGATATAGACCCATCGTATACGATAGGATTAGATATAGACCCATCATATACGATAGGATTAGAC
 OriP

NsiI

5' TATCCGGGTAGCATATGCTATCCTCATGCATATACAGTCAGCATATGATACCCAGTAGTAGAGTGGGAGTCTATCCTTTGCATATGCCGCCACCTCCCA
 3' ATAGGCCATCGTATACGATAGGAGTACGTATATGTCACTGATATACTATGGGTCATCATCTCACCTCACGATAGGAAACGTATACGGCGGTGGAGGGT
 OriP

5' AGGGGCGTGAATTTTCGCTGCTTGTCTTTTCTGCTGGTTGCTCCCATCTTAGGTGAATTTAAGGAGGCCAGGCTAAAGCCGTCGCATGTCTGATTG
 3' TCCCCGCACTTAAAAGCGACGAACAGGAAAGGACGACCAACGAGGTAAGAATCCACTTAAATTCCTCCGGTCCGATTTCCGCAGCGTACAGACTAAC
 OriP

SexAI

5' CTCACCAGGTAATGTCGCTAATGTTTCCAACCGGAGAAGGTGTTGAGCGCGGAGCTGAGTGACGTGACAACATGGGTATGCCCAATTGCCCATGTTG
 3' GAGTGGTCCATTTACAGCGATTACAAAAGGTTGCGCTCTTCCACAACCTCGCGCTCGACTCACTGCACTGTTGTACCATACGGGTTAACGGGTACAAC

5' GGAGGACGAAAATGGTGACAAGACAGATGGCCAGAAATACACCAACAGCACGCATGATGTCTACTGGGGATTTATTCTTTAGTGCGGGGAATACACGGC
 3' CCTCTGCTTTTACCAGTGTCTGCTACCGGCTTTATGTGGTTGTCGTGCGTACTACAGATGACCCCTAAATAAGAAATCACGCCCTTATGTGCCG

5' TTTTAATACGATTGAGGGCGTCTCCTAACAAGTTACATCACTCCTGCCCTTCTCACCTCATCTCCATCACCTCCTTCATCTCCGTCATCTCCGTCATC
 3' AAAATTATGCTAACTCCCGCAGAGGATTGTTCAATGTAGTGAGGACGGAAGGAGTGGGAGTAGAGGTAGTGGAGGAAGTAGAGGCAGTAGAGGCAGTAG
 EBNA-1

5' ACCCTCCGCGGCAGCCCCCTCCACCATAGGTGGAACCAGGGAGGCAAATCTACTCCATCGTCAAAGCTGCACACAGTCACCCTGATATTGCAGGTAGGA
 3' TGGGAGGCGCCGTCGGGAAGGTGGTATCCACCTTGGTCCCTCCGTTTAGATGAGGTAGCAGTTTCGACGTGTGTGAGTGGGACTATAACGTCATCCT
 EBNA-1

BbvCI

5' GCGGGCTTTGTCATAACAAGGTCCTTAATCGCATCCTTCAAACCTCAGCAAATATATGAGTTTGTAAAAAGACCATGAAATAACAGACAATGGACTCCC
 3' CGCCCGAAACAGTATTGTTCCAGGAATTAGCGTAGGAAGTTTGGAGTCGTTTATATACTCAAACATTTTCTGGTACTTTATGTCTGTTACCTGAGGG
 EBNA-1

pCEP4 + polylinker

5' TCGTGATACGCCCTATTTTTATAGGTTAATGTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAACCCCTATTTG 6100
 +-----+
 3' AGCACTATGCGGATAAAAATATCCAATTACAGTACTATTATTACCAAAGAATCTGCAGTCCACCGTGAAAAGCCCCTTTACACGCGCCTTGGGGATAAAC
 +-----+

5' TTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCCTGATAAATGCTTCAATAATATTGAAAAGGAAGAGTATGAGTATTCAA 6200
 +-----+
 3' AAATAAAAAGATTTATGTAAGTTTATACATAGGCGAGTACTCTGTTATTGGGACTATTTACGAAGTTATTATAACTTTTCCCTTCTCATACTCATAAGTT
 +-----+
 AMP R

5' CATTTCCGTGTCGCCCTTATTCCCTTTTTTGGCGCATTTTGCCTTCCTGTTTTTGTCTACCCAGAAACGCTGGTGAAAAGTAAAAGATGCTGAAGATCAGT 6300
 +-----+
 3' GTAAAGGCACAGCGGGAATAAGGGAAAAACGCCGTAAAACGGAAGGACAAAAACGAGTGGGTCCTTTCGACCACCTTCATTTTCTACGACTTCTAGTCA
 +-----+
 AMP R

5' TGGGTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTTCGCCCGAAGAACGTTTTTCCAATGATGAGCACTTTTAA 6400
 +-----+
 3' ACCCACGTGCTCACCCAATGTAGCTTGACCTAGAGTTGTGCGCATTCTAGGAACTCTCAAAAAGCGGGCTTCTTGCAAAGGTTACTACTCGTGAAAATT
 +-----+
 AMP R

5' AGTTCTGCTATGTGGCGCGTATTATCCCGTGTGACGCGGGCAAGAGCAACTCGGTGCGCCGATACACTATTCTCAGAATGACTTGGTTGAGTACTCA 6500
 +-----+
 3' TCAAGACGATACACCGCCATAATAGGGCACAACCTGCGGCCGTTCTCGTTGAGCCAGCGGCGTATGTGATAAGAGTCTTACTGAACCAACTCATGAGT
 +-----+
 AMP R

5' CCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGTGCCATAACCATGAGTGATAAACTGCGGCCAACTTACTTCTGA 6600
 +-----+
 3' GGTCAAGTGTCTTTTCGTAGAATGCCTACCGTACTGTCACTTCTTAATACGTACGACGGTATTGGTACTCACTATTGTGACGCCGGTTGAATGAAGACT
 +-----+
 AMP R

5' CAACGATCGGAGGACCGAAGGAGCTAACCGTTTTTGCACAAACATGGGGATCATGTAACCTCGCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCAT 6700
 +-----+
 3' GTTGCTAGCCTCCTGGCTTCCTCGATTGGCGAAAAACGTGTTGTACCCCTTAGTACATTGAGCGGAACTAGCAACCCTTGGCCTCGACTTACTTCGGTA
 +-----+
 AMP R

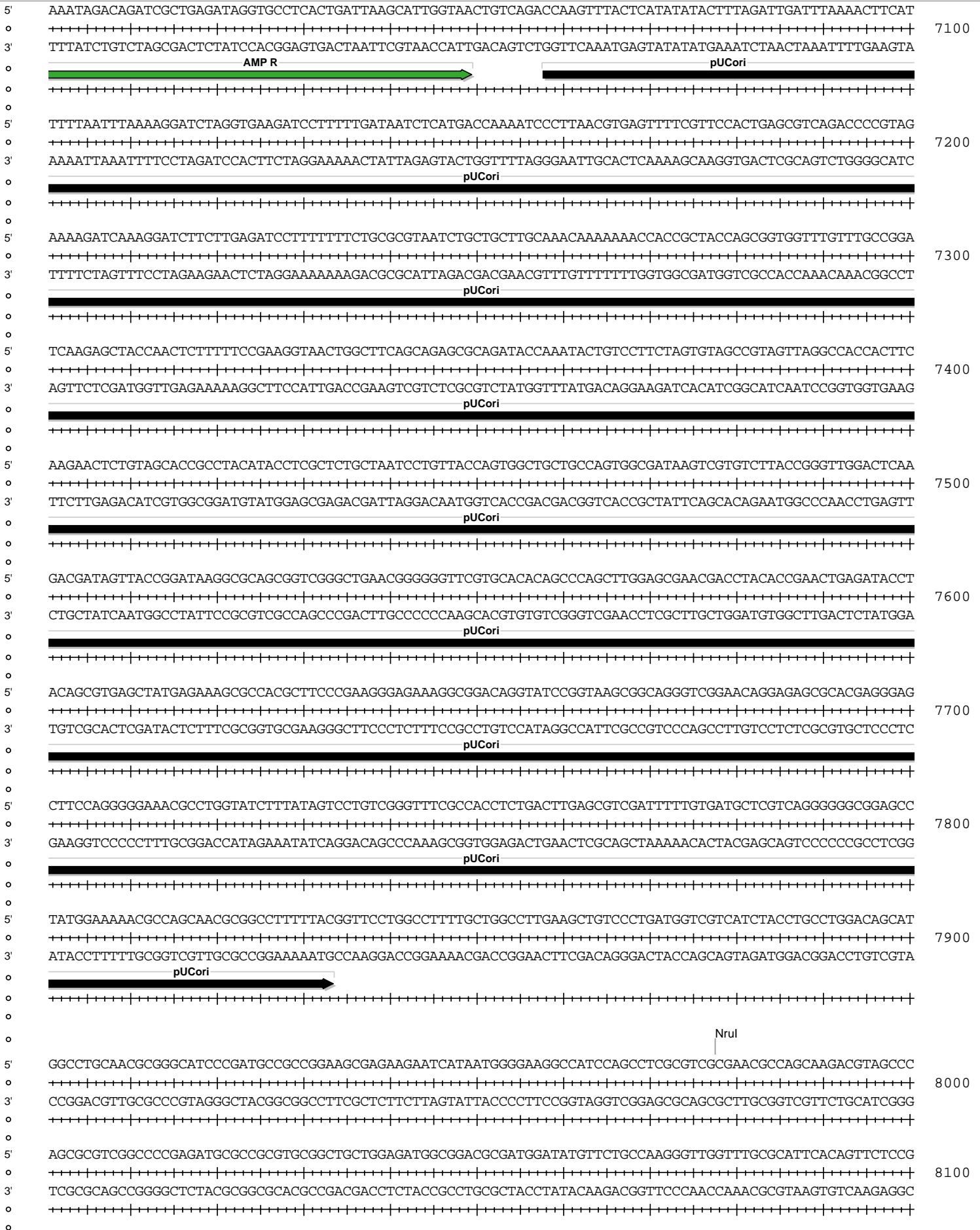
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 +-----+
 3' TGGTTTGTGCTGCTCGCACTGTGGTGTACGGACGTCGTTACCGTTGTTGCAACGCGTTTGATAAATGACCGCTTGATGAATGAGATCGAAGGGCCGTTGTT
 +-----+
 AMP R

5' TTAATAGACTGGATGGAGGCGGATAAAGTTGCAGGACCCTTCTGCGCTCGGCCCTCCGGCTGGCTGGTTTATTGCTGATAAATCTGGAGCCGGTGAGC 6900
 +-----+
 3' AATTATCTGACCTACCTCCGCCTATTTCAACGTCTGGTGAAGACGCGAGCCGGGAAGCCGACCGACCAATAACGACTATTTAGACCTCGGCCACTCG
 +-----+
 AMP R

5' GTGGGTCTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACG 7000
 +-----+
 3' CACCCAGAGCGCCATAGTAACGTCTGACCCCGGCTACCATTCGGGAGGGCATAGCATCAATAGATGTGTGCCCTCAGTCCGTTGATACCTACTTGC
 +-----+
 AMP R

XmnI

pCEP4 + polylinker



pCEP4 + polylinker

5' CAAGAATTGATTGGCTCCAATTCCTGGAGTGGTGAATCCGTTAGCGAGGTGCCGCCCTGCTTCATCCCCGTGGCCCGTTGCTCGCGTTTGCTGGCGGTGT
 8200
 3' GTTCTTAACTAACCGAGGTTAAGAACCTCACCACCTTAGGCAATCGCTCCACGGCGGGACGAAGTAGGGGCACCGGGCAACGAGCGCAAACGACCGCCACA

BstBI

5' CCCCAGGAAGAAATATATTTGCATGTCTTTAGTCTATGATGACACAAACCCCGCCAGCGTCTTGTTCATTGGCGAATTGGAACACGCAGATGCAGTCCGGG
 8300
 3' GGGGCCCTCTTTATATAAACGTACAGAAATCAAGATACTACTGTGTTTTGGGGCGGGTGCAGAACAGTAACCGCTTAAGCTTGTGCGTCTACGTACAGCCC

TKpromoter

5' GCGGCGCGGTCCGAGGTCCACTTCGCATATTAAGGTGACGCGTGTGGCTCGAACACCGAGCGACCCTGCAGCGACCCGCTTAACAGCGTCAACAGCGTG
 8400
 3' CGCCGCGCCAGGCTCCAGGTGAAGCGTATAATCCACTGCGCACACCGGAGCTTGTGGCTCGCTGGGACGTCGCTGGGCGAATTGTGCGAGTTGTGCGAC

TKpromoter

5' CCGCAGATCCCGGGGGCAATGAGATATGAAAAGCCTGAACTCACCGCGACGTCTGTGCGAGAAGTTCTGATCGAAAAGTTCGACAGCGTCTCCGACCT
 8500
 3' GGCGTCTAGGGCCCCCGTTACTCTATACTTTTCGACTTGAGTGGCGCTGCAGACAGCTCTTCAAAGACTAGCTTTTCAAGCTGTGCGAGAGGCTGGA

Hygro

5' GATGCAGCTCTCGGAGGGCGAAGAATCTCGTGCTTTCAGCTTCGATGTAGGAGGGCGTGGATATGTCTGCGGGTAAATAGCTGCGCCGATGGTTTCTAC
 8600
 3' CTACGTGAGAGCCTCCCGCTTCTTAGAGCACGAAAGTCGAAAGCTACATCCTCCCGCACCTATACAGGACGCCATTTATCGACGCGGCTACCAAAGATG

Hygro

5' AAAGATCGTTATGTTTATCGGCACCTTGCATCGGCCGCGCTCCCGAATCCGGAAGTGCCTGACATTGGGGAATTCAGCGAGAGCCTGACCTATTGCATCT
 8700
 3' TTTCTAGCAATACAAATAGCCGTGAAACGTAGCCGGCGGAGGGCTAAGGCCCTCACGAACTGTAACCCCTTAAGTCGCTCTCGGACTGGATAACGTAGA

Hygro

5' CCCGCCGTGCACAGGGTGTACGTTGCAAGACCTGCCTGAAACCGAACTGCCCGCTGTTCTGCAGCCGGTTCGCGGAGGCCATGGATGCGATCGCTGCGGC
 8800
 3' GGGCGGCACGTGTCCACAGTGCAACGTTCTGGACGGACTTTGGCTTGACGGGCGACAAGACGTCGGCCAGCGCCTCCGGTACCTACGCTAGCGACGCCG

Hygro

5' CGATCTTAGCCAGACGAGCGGGTTTCGGCCCATTCGGACCGCAAGGAATCGGTCAATACACTACATGGCGTGATTTTCATATGCGCGATTGCTGATCCCAT
 8900
 3' GCTAGAATCGGTCTGCTCGCCCAAGCCGGTAAGCCTGGCGTTCCTTAGCCAGTTATGTGATGTACCGCACTAAAGTATACGCGCTAACGACTAGGGGTA

Hygro

5' GTGTATCACTGGCAAACCTGTGATGGACGACACCGTCAGTGCGTCCGTCGCGCAGGCTCTCGATGAGCTGATGCTTTGGGCCGAGGACTGCCCCGAAGTCC
 9000
 3' CACATAGTGACCGTTTGACACTACCTGCTGTGGCAGTCACGCAGGCAGCGCTCCGAGAGCTACTCGACTACGAAACCCGGCTCTGACGGGGCTTCAGG

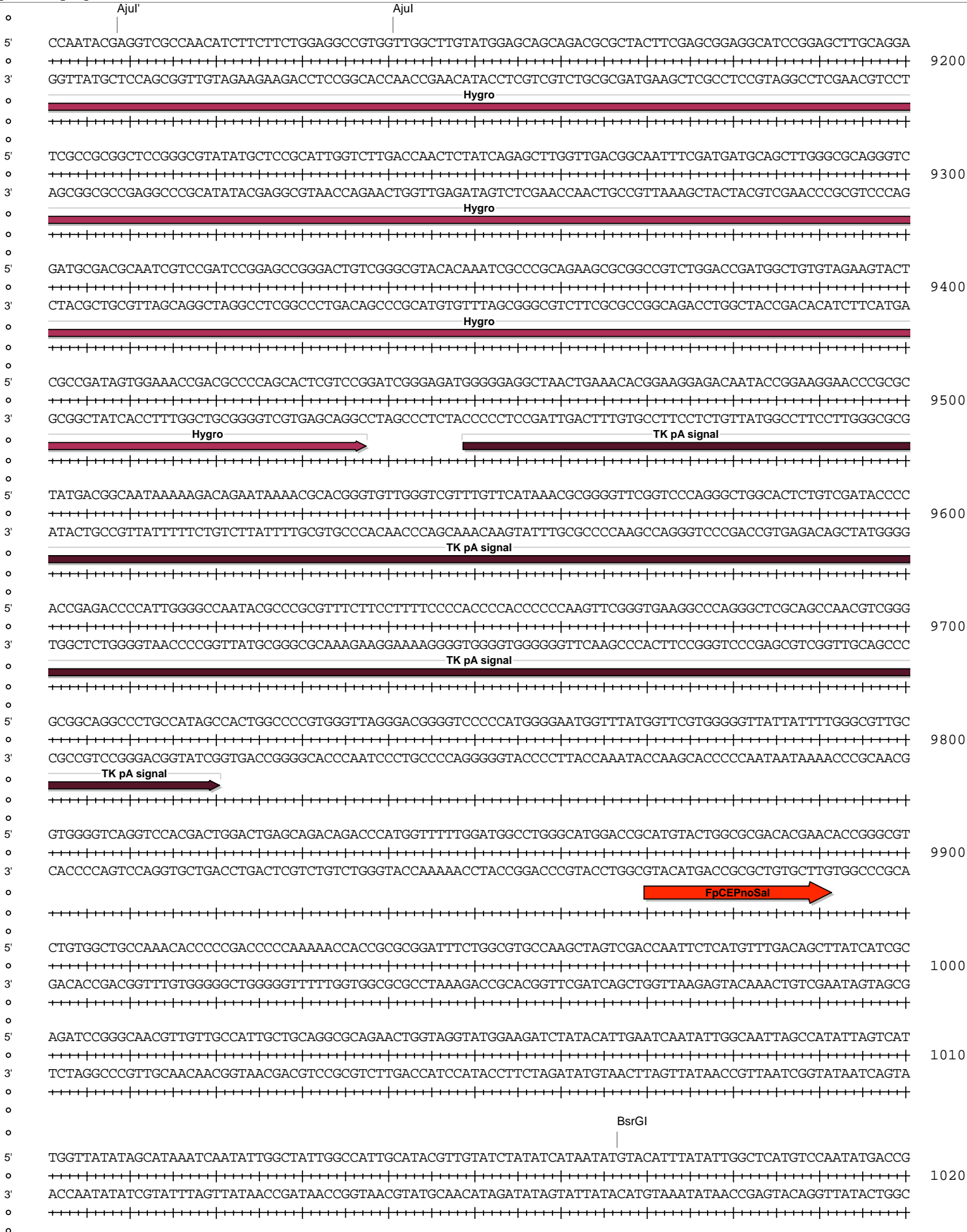
Hygro

5' GGCACCTCGTGCACGCGGATTTTCGGCTCCAACAATGTCTGACGGACAATGGCCGATAACAGCGGTCATTGACTGGAGCGAGGCGATGTTCCGGGGATTTC
 9100
 3' CCGTGGAGCACGTGCGCCTAAAGCCGAGGTTGTTACAGGACTGCCTGTTACCGCGTATTTGTCGCCAGTAACTGACCTCGCTCCGCTACAAGCCCTAAG

Hygro

AsiSI

pCEP4 + polylinker



pCEP4 + polylinker

5' CCAT
o ++++
3' GGTA
o ++++
o

10204