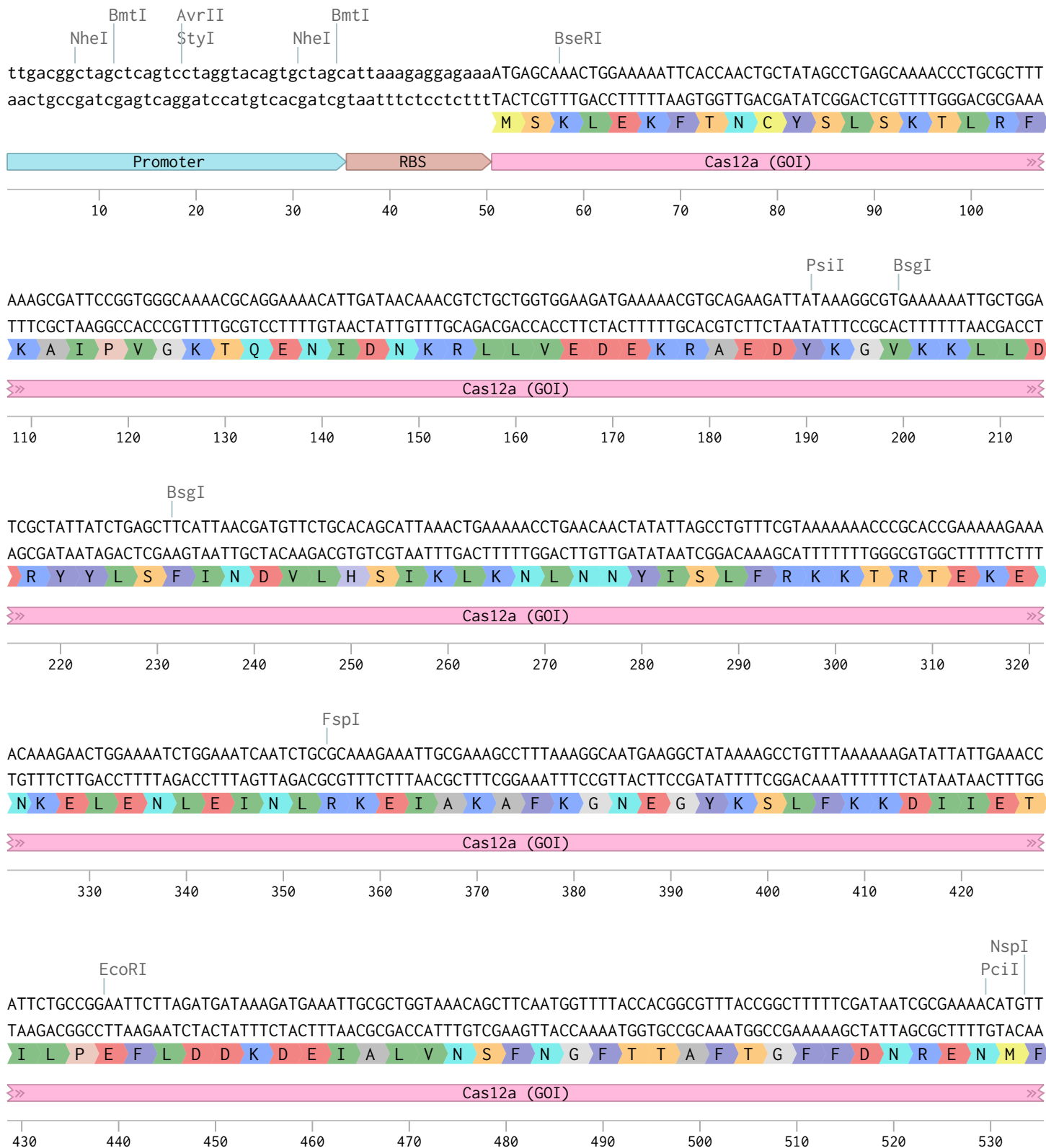


# Modified Cas12a Plasmid (5935 bp)



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ATCGCTCCTTCGTTTTTCGTTGAGGTAACGCAAAGCGACGTAATTACTTTTAGACTGGGCGATATAATCGTTGTACCTATAAAAACTTTCCAGCTACGCTAGAAAC

S E E A K S T S I A F R C I N E N L T R Y I S N M D I F E K V D A I F

Cas12a (GOI)

540 550 560 570 580 590 600 610 620 630 640

PfoI

ATAAACATGAAGTCCAGGAAATCAAAGAAAAATCCTGAATAGCGATTATGATGTGGAAGATTTTTTTGAAGGCGAATTTTTAACTTTGTGCTGACCCAGGAAGGC  
TATTTGACTTCAGGTCCTTTAGTTTCTTTTTTAGACTTATCGCTAATACTACACCTTCTAAAAAACTTCCGCTTAAAAAATTGAAACACGACTGGGTCCTTCCG

D K H E V Q E I K E K I L N S D Y D V E D F F E G E F F N F V L T Q E G

Cas12a (GOI)

650 660 670 680 690 700 710 720 730 740

StuI

ATTGATGTGATAATGCCATTATTGGCGGCTTTGTGACCGAAAGCGGTGAAAAAATTAAGGCCTGAACGAATACATTAACCTGTATAACCAGAAAACCAAACAGAA  
TAACTACACATATTACGGTAATAACCGCCGAAACACTGGCTTTGCGCACTTTTTTAATTTCCGGACTTGCTTATGTAATTGGACATATTGGTCTTTTGGTTTGTCTT

I D V Y N A I I G G F V T E S G E K I K G L N E Y I N L Y N Q K T K Q K

Cas12a (GOI)

750 760 770 780 790 800 810 820 830 840 850

BlpI

EarI

ACTGCCGAAATTCAAACCGCTGTACAAACAGGTGCTGAGCGATCGTGAAAGCCTGAGCTTTTATGGCGAAGGTTACACCAGCGATGAAGAGGTGCTGGAAGTGTTC  
TGACGGCTTTAAGTTTGGCGACATGTTTGTCCACGACTCGCTAGCACTTTTCGGACTCGAAAAATACCGCTTCCAATGTGGTCGCTACTTCTCCACGACCTTCACAAAG

L P K F K P L Y K Q V L S D R E S L S F Y G E G Y T S D E E V L E V F

Cas12a (GOI)

860 870 880 890 900 910 920 930 940 950 960

GTAATACCCTGAATAAAAAATAGCGAAATTTTCAGCAGCATTAAAAAAGTGAAGAACTGTTTAAAAATTTTATGAATATAGCAGCGCGGGCATTTCGTAAAAAT  
CATTATGGGACTTATTTTTATCGCTTTAAAGTCGTCGTAATTTTTGACCTTTTACAAAAATTTTAACTACTTATATCGTCGCGCCGTAAGCAATTTTAA

R N T L N K N S E I F S S I K K L E K L F K N F D E Y S S A G I F V K N

Cas12a (GOI)

970 980 990 1,000 1,010 1,020 1,030 1,040 1,050 1,060 1,070

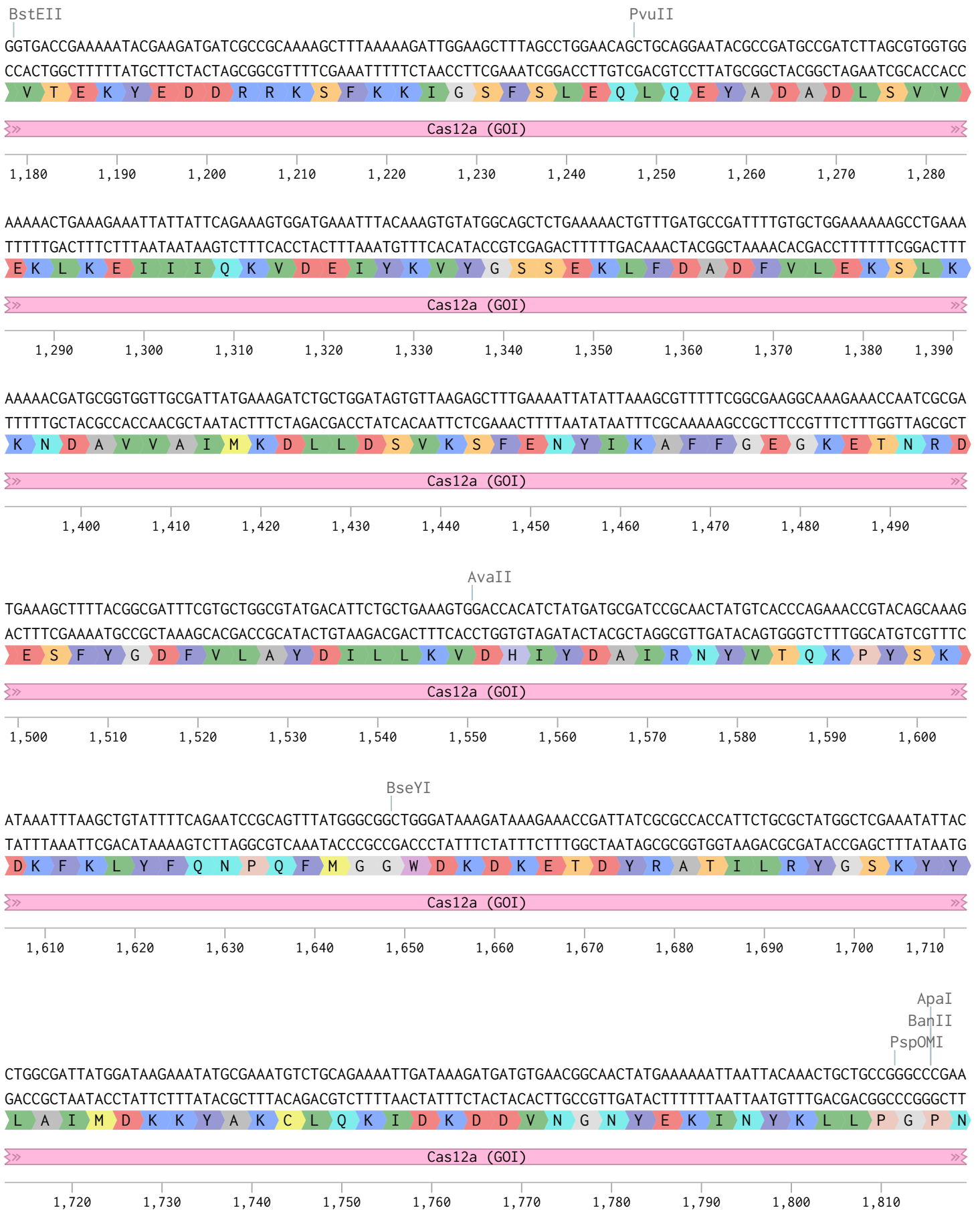
EcoRV

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CCGGGCGCGTAATCGTGGTAATCGTTTCTATAGAAACCACTTACCTTACCTAAGCACTATTTACCTTGCCTTATACTACTATAAGTAGACTTTTTTTTCGCCA

G P A I S T I S K D I F G E W N V I R D K W N A E Y D D I H L K K K A V

Cas12a (GOI)

1,080 1,090 1,100 1,110 1,120 1,130 1,140 1,150 1,160 1,170



CAAAATGCTGCCGAAAGTGTCTTCTCAGCAAAAAATGGATGGCATACTATAATCCGAGCGAAGATATTCAGAAAAATTTACAAAAACGGCACGTTTAAAAAGGCGATA  
GTTTTACGACGGCTTTACAAGAAGTCGTTTTTACCTACCGTATGATATTAGGCTCGCTTCTATAAGTCTTTTAAATGTTTTGCCGTGCAAATTTTTCCGCTAT

K M L P K V F F S K K W M A Y Y N P S E D I Q K I Y K N G T F K K G D

Cas12a (GOI)

1,820 1,830 1,840 1,850 1,860 1,870 1,880 1,890 1,900 1,910 1,920

TGTTCAACCTGAACGATTGTCATAAACTGATTGATTTCTTCAAAGATAGCATTAGTCGCTACCCGAAATGGAGCAACCGTATGATTTTAACTTTAGCGAAACCGAA  
ACAAGTTGGACTTGCTAACAGTATTTGACTAACTAAAGAAGTTTCTATCGTAATCAGCGATGGGCTTTACCTCGTTGCGCATACTAAAAATTGAAATCGCTTTGGCTT

M F N L N D C H K L I D F F K D S I S R Y P K W S N A Y D F N F S E T E

Cas12a (GOI)

1,930 1,940 1,950 1,960 1,970 1,980 1,990 2,000 2,010 2,020 2,030

AAATACAAAGATATTGCGGGCTTTACCGTGAAGTGAAGAACAAGGTTATAAAGTTAGCTTTGAAAGCGCCTCCAAAAAGAAGTGGATAAACTGGTGGAGGAAGG  
TTTATGTTTCTATAACGCCCCGAAATGGCACTTACCTTCTGTTCCAATATTCAATCGAACTTTGCGGAGGTTTTTCTTACCTATTTGACCACCTCCTTCC

K Y K D I A G F Y R E V E E Q G Y K V S F E S A S K K E V D K L V E E G

Cas12a (GOI)

2,040 2,050 2,060 2,070 2,080 2,090 2,100 2,110 2,120 2,130 2,140

CAAACTGTATATGTTTCAGATCTATAACAAAGATTTTAGCGATAAAAGCCACGGCACGCCGAATCTGCATACCATGTACTTTAACTGCTGTTTCGATGAAAACAATC  
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K L Y M F Q I Y N K D F S D K S H G T P N L H T M Y F K L L F D E N N

Cas12a (GOI)

2,150 2,160 2,170 2,180 2,190 2,200 2,210 2,220 2,230 2,240

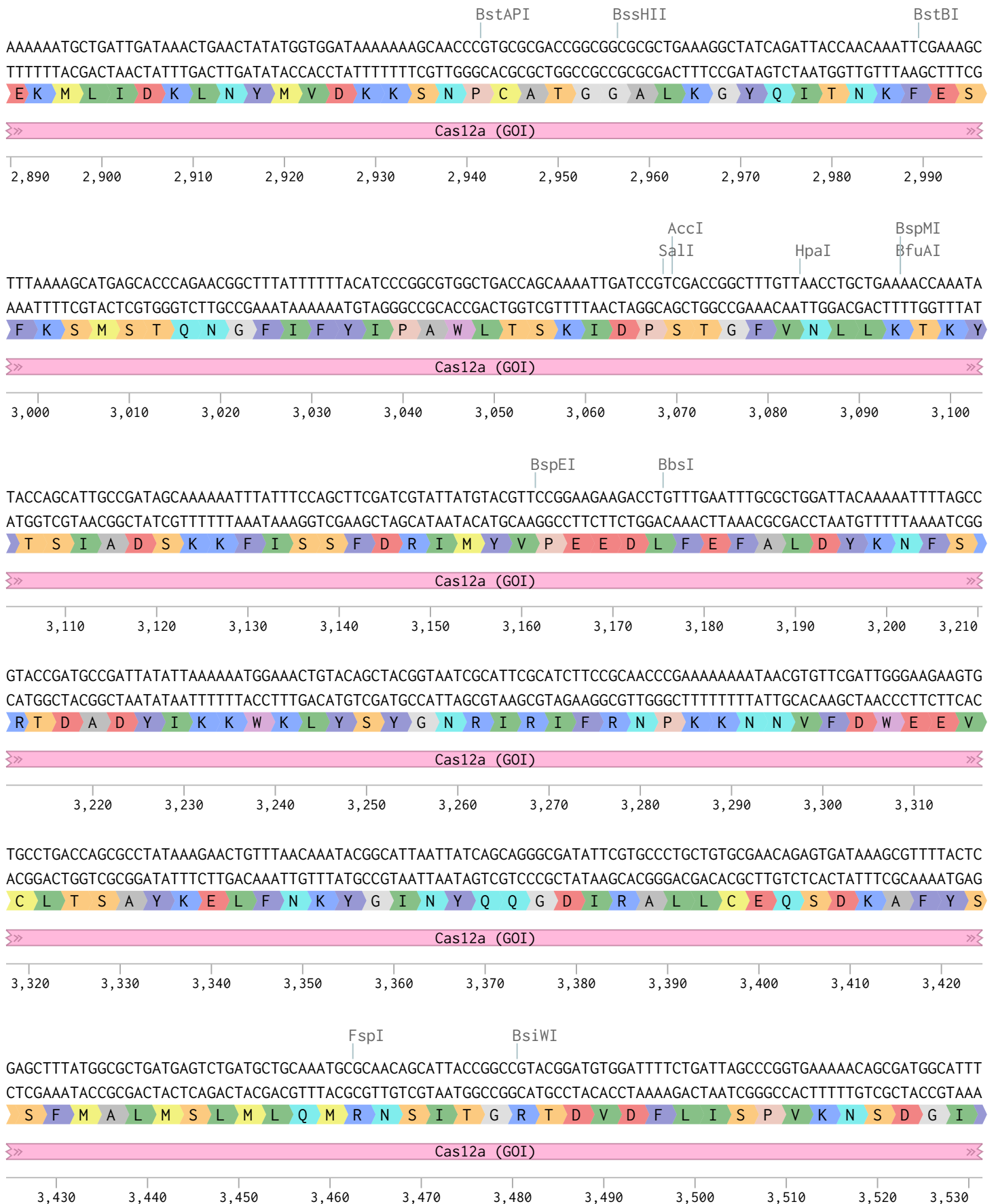
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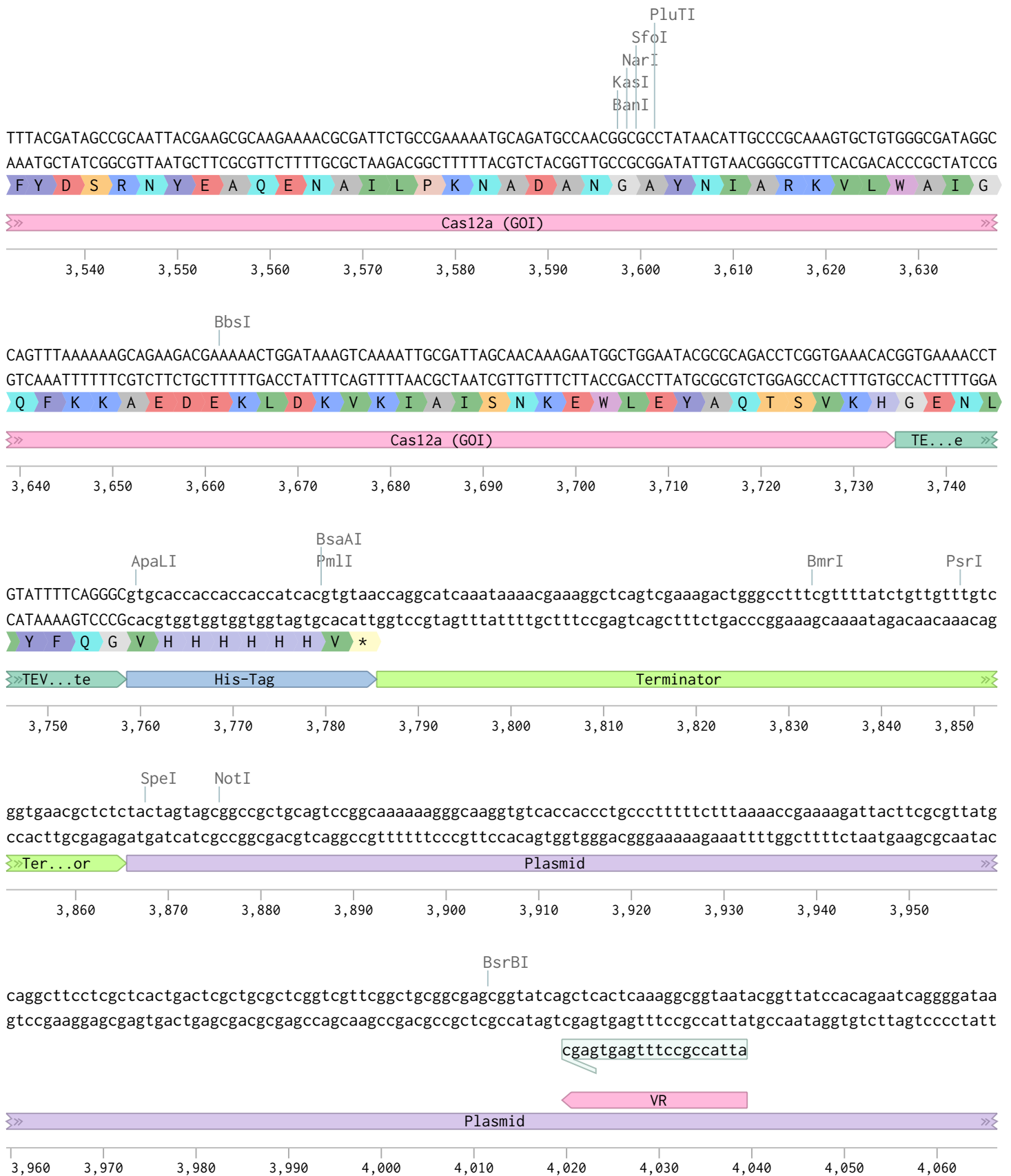
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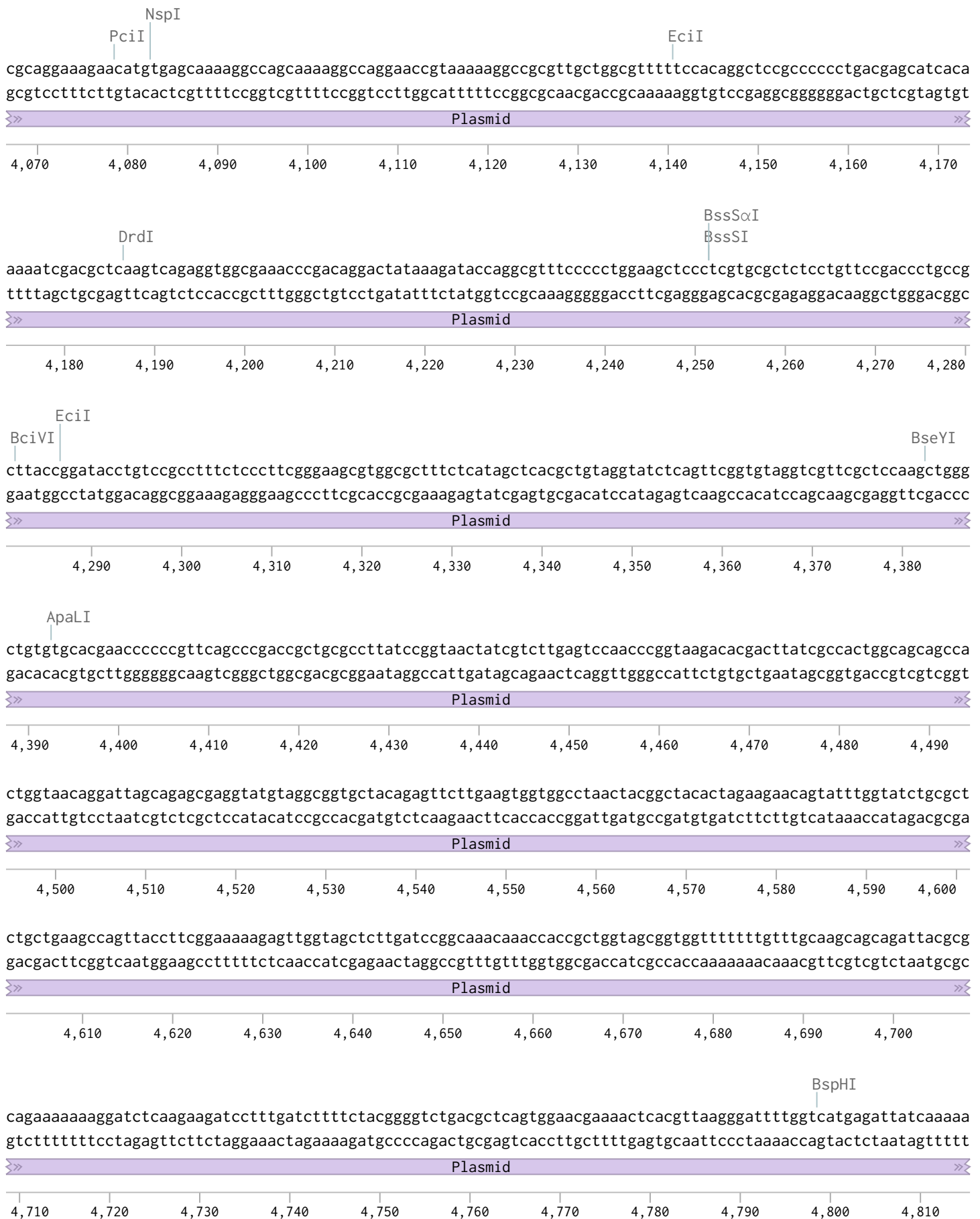
Cas12a (GOI)

2,250 2,260 2,270 2,280 2,290 2,300 2,310 2,320 2,330 2,340 2,350











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cctagaagtggatctaggaaaatttaatttttacttcaaaatttagttagatttcataataactcatgtgaaccagactgtcgagctccgaacctaaagagtggttat

Plasmid

4,820 4,830 4,840 4,850 4,860 4,870 4,880 4,890 4,900 4,910 4,920

EcoRV  
BamHI  
SacI  
Eco53kI

aaaaacgcccggcggaaccgagcgttctgaacaaatccagatggagttctgaggtcattactggatctatcaacaggagtccaagcgagctcgatatcaaatcag  
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Plasmid

4,930 4,940 4,950 4,960 4,970 4,980 4,990 5,000 5,010 5,020

ScaI

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ggggcgggacggtgagtagctcatgacaacattaagtaattcgtaagacgggtgtaccttcggtagtggttgcctactacttggaacttagcggtcgccgtagtcg

CmR

Plasmid

5,030 5,040 5,050 5,060 5,070 5,080 5,090 5,100 5,110 5,120 5,130

Pf1MI  
BsmAI  
BcoDI  
Esp3I  
BsmBI

StyI  
NcoI

MscI

PasI

acctgtgccttgctgataatatttcccatggtgaaaacggggcgaagaagttgtccatattggccacgtttaaatcaaaactggtgaaactcaccagggatt  
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CmR

Plasmid

5,140 5,150 5,160 5,170 5,180 5,190 5,200 5,210 5,220 5,230 5,240

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CmR

Plasmid

5,250 5,260 5,270 5,280 5,290 5,300 5,310 5,320 5,330 5,340 5,350

