Template Alignment: 2020-11-16_G09_ASASO14BSP1

gctgctgccagtggcgataagtcgtgtcttaccgggttggactcaagacgatagttaccggataaggcgcagcggtcgggctgaacggggggttcgtgca

10	20	30	40	50	60	70	80	90	100

ori

ColE1 origin

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1

cacagcccagcttggagcgaacgacctacaccgaactgagatacctacagcgtgagctatgagaaagcgccacgcttccctgaagggagaaaggcggacag

110	120	130	140	150	160	170	180	190	200

ori

ColE1 origin

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1

gtatccggtaagcggcagggtcggaacaggagagcgcacgagggagcttccaggggggaaacgcctggtatctttatagtcctgtcgggtttcgccacctc

| 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300 |

pBR322ori-F

ori

ColE1 origin

template sequence pAS0.14 (mScarletI)

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aligned sequence 2020-11-16_G09_ASASO14BSP1

tgacttgagcgtcgattttttgtgatgctcgtcaggggggcggagcctatggaaaaacgccagcaacgcggccttttttacggttcctggccttttgctggc

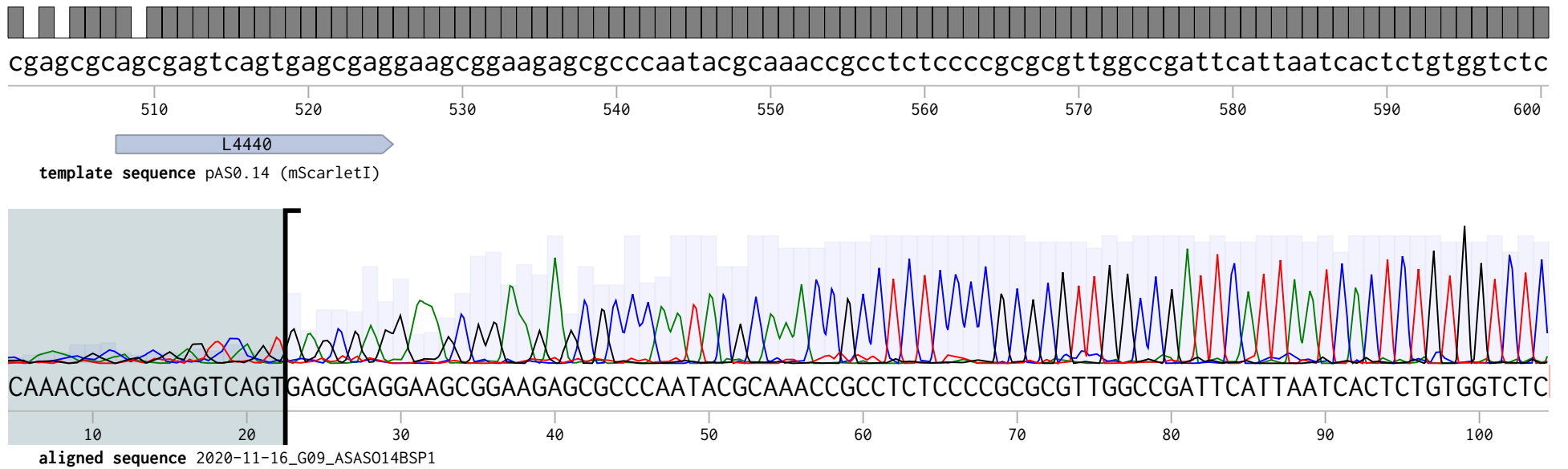| 310 | 320 | 330 | 340 | 350 | 360 | 370 | 380 | 390 | 400 |

ori

ColE1 origin

template sequence pAS0.14 (mScarletI)

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aligned sequence 2020-11-16_G09_ASASO14BSP1

cttttgctcacatgttctttcctgcgttatcccctgattctgtggataaccgtattaccgcctttgagtgagctgataccgctcgccgcagccgaacgac

410 420 430 440 450 460 470 480 490 500

template sequence pAS0.14 (mScarletI)

TCAC

2 4

aligned sequence 2020-11-16_G09_ASASO14BSP1

cgagcgcagcgagtcagtgagcgaggaagcggaagagcgcccaatacgcaaaccgcctctccccgcgcgttggccgattcattaatcactctgtggtctc

510 520 530 540 550 560 570 580 590 600

L4440

template sequence pAS0.14 (mScarletI)

CAAACGCACCGAGTCAGTGAGCGAGGAAGCGGAAGAGCGCCCAATACGCAAACCGCCTCTCCCCGCGCGTTGGCCGATTCATTAATCACTCTGTGGTCTC

10 20 30 40 50 60 70 80 90 100

aligned sequence 2020-11-16_G09_ASASO14BSP1

aaatgagtaaaggagaagctgtgattaaagagttcatgcgcttcaaagttcacatggagggttctatgaacggtcacgagttcgagatcgaaggcgaagg

610　　620　　630　　640　　650　　660　　670　　680　　690　　700
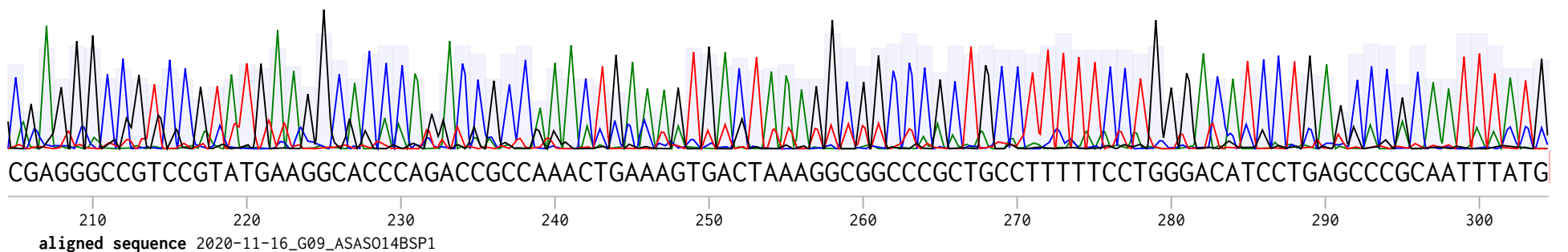
mScarletI

template sequence pAS0.14 (mScarletI)

AAATGAGTAAAGGAGAAGCTGTGATTAAAGAGTTCATGCGCTTCAAAGTTCACATGGAGGGTTCTATGAACGGTCACGAGTTCGAGATCGAAGGCGAAGG

110　　120　　130　　140　　150　　160　　170　　180　　190　　200

aligned sequence 2020-11-16_G09_ASASO14BSP1

cgagggccgtccgtatgaaggcacccagaccgccaaactgaaagtgactaaaggcggcccgctgccttttcctgggacatcctgagcccgcaatttatg

710　　720　　730　　740　　750　　760　　770　　780　　790　　800

mScarletI

template sequence pAS0.14 (mScarletI)
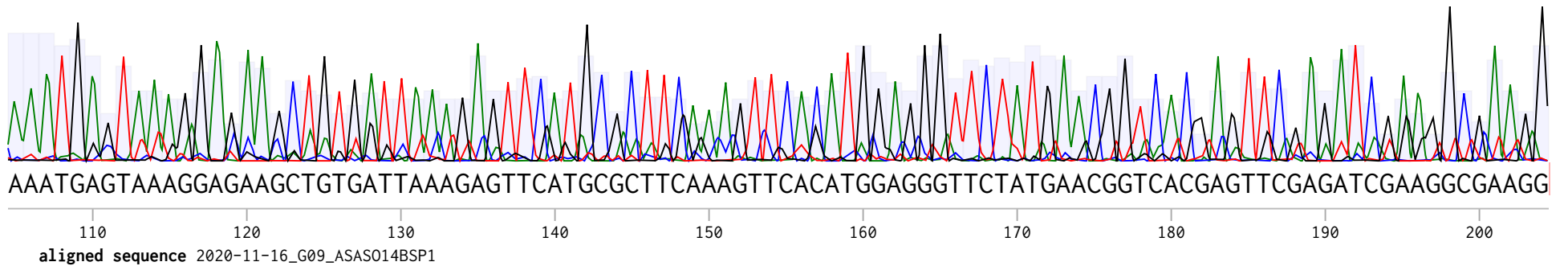
CGAGGGCCGTCCGTATGAAGGCACCCAGACCGCCAAACTGAAAGTGACTAAAGGCGGCCCGCTGCCTTTTTCCTGGGACATCCTGAGCCCGCAATTTATG

210　　220　　230　　240　　250　　260　　270　　280　　290　　300

aligned sequence 2020-11-16_G09_ASASO14BSP1

tacggttctagggcgttcatcaaacacccagcggatatcccggactattataagcagtcttttccggaaggtttcaagtgggaacgcgtaatgaattttg

810 820 830 840 850 860 870 880 890 900

mScarletI

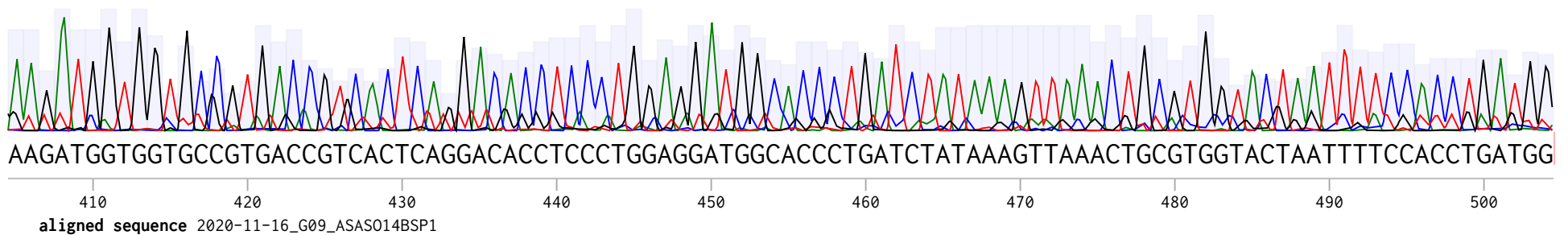**template sequence** pAS0.14 (mScarletI)
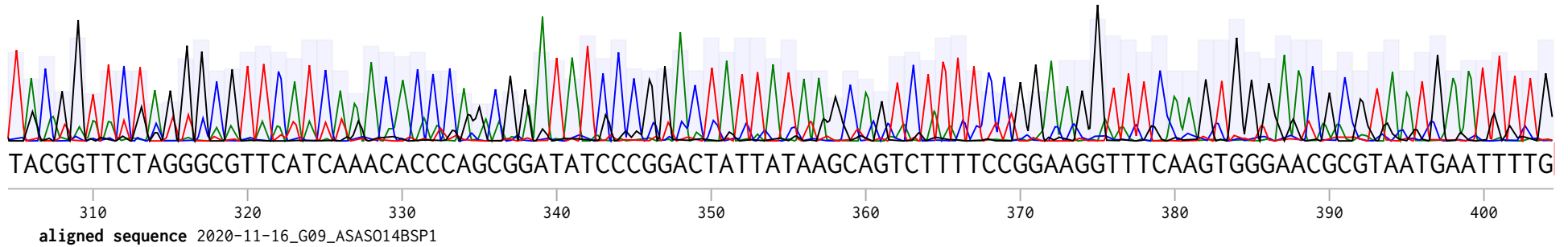
TACGGTTCTAGGGCGTTCATCAAACACCCAGCGGATATCCCGGACTATTATAAGCAGTCTTTTCCGGAAGGTTTCAAGTGGGAACGCGTAATGAATTTTG

310 320 330 340 350 360 370 380 390 400

aligned sequence 2020-11-16_G09_ASASO14BSP1

aagatggtggtgccgtgaccgtcactcaggacacctccctggaggatggcaccctgatctataaagttaaactgcgtggtactaattttccacctgatgg

910 920 930 940 950 960 970 980 990 1,000

mScarletI

template sequence pAS0.14 (mScarletI)

AAGATGGTGGTGCCGTGACCGTCACTCAGGACACCTCCCTGGAGGATGGCACCCTGATCTATAAAGTTAAACTGCGTGGTACTAATTTTCCACCTGATGG

410 420 430 440 450 460 470 480 490 500

aligned sequence 2020-11-16_G09_ASASO14BSP1

cccggtgatgcagaaaaagacgatgggttgggaggcgtctaccgaacgcttgtatccggaagatggtgtgctgaaaggcgacattaaaatggccctgcgc

1,010   1,020   1,030   1,040   1,050   1,060   1,070   1,080   1,090   1,100

mScarletI

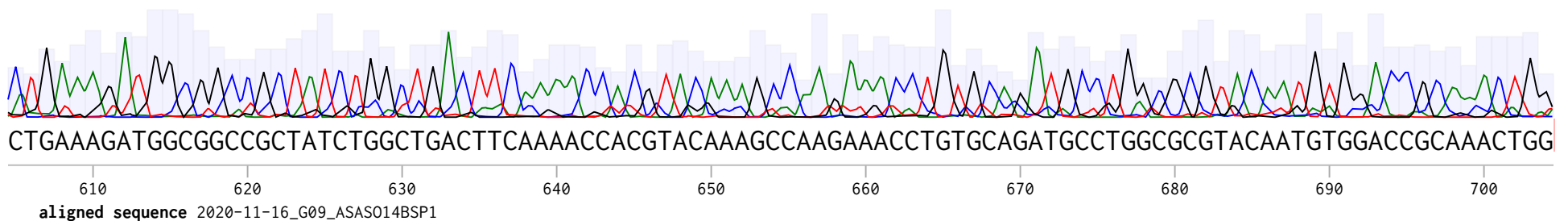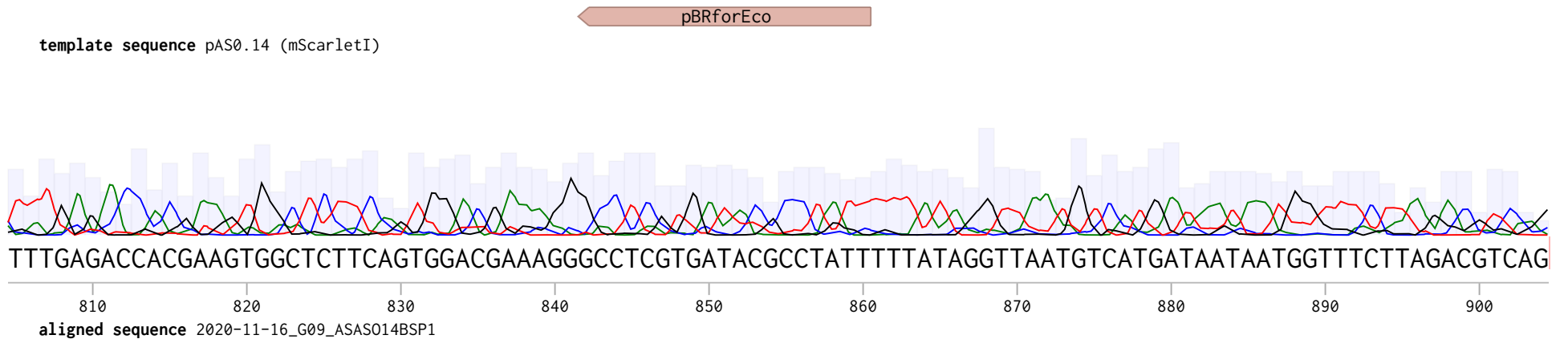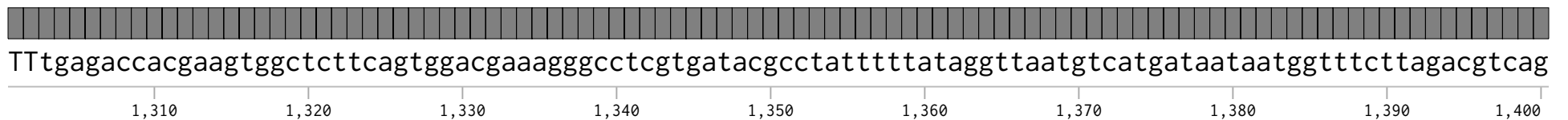**template sequence** pAS0.14 (mScarletI)

CCCGGTGATGCAGAAAAAGACGATGGGTTGGGAGGCGTCTACCGAACGCTTGTATCCGGAAGATGGTGTGCTGAAAGGCGACATTAAAATGGCCCTGCGC

510   520   530   540   550   560   570   580   590   600
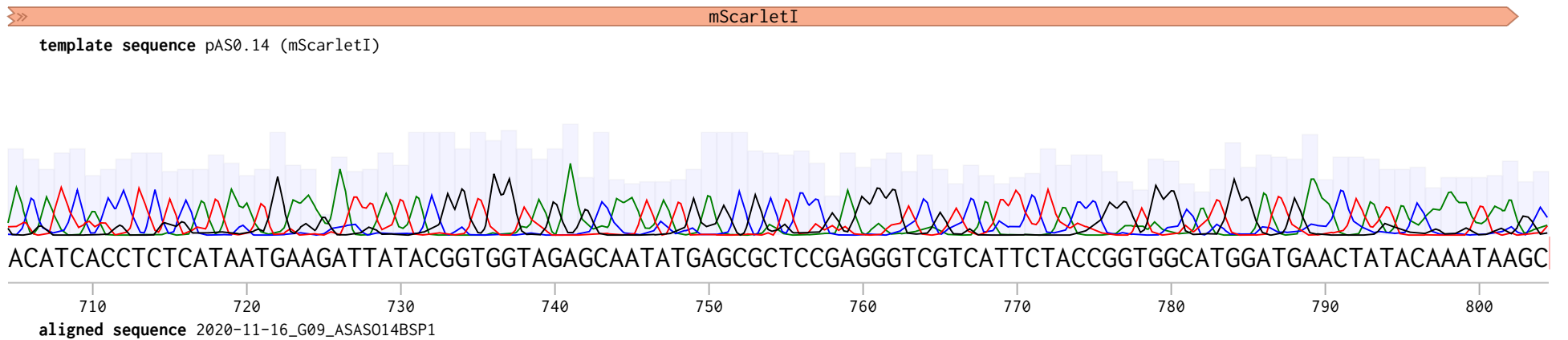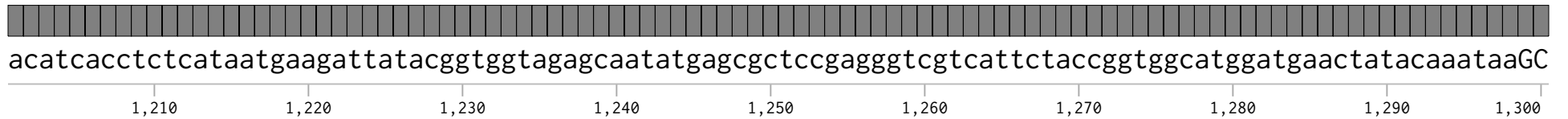
aligned sequence 2020-11-16_G09_ASASO14BSP1

ctgaaagatggcggccgctatctggctgacttcaaaaccacgtacaaagccaagaaacctgtgcagatgcctggcgcgtacaatgtggaccgcaaactgg
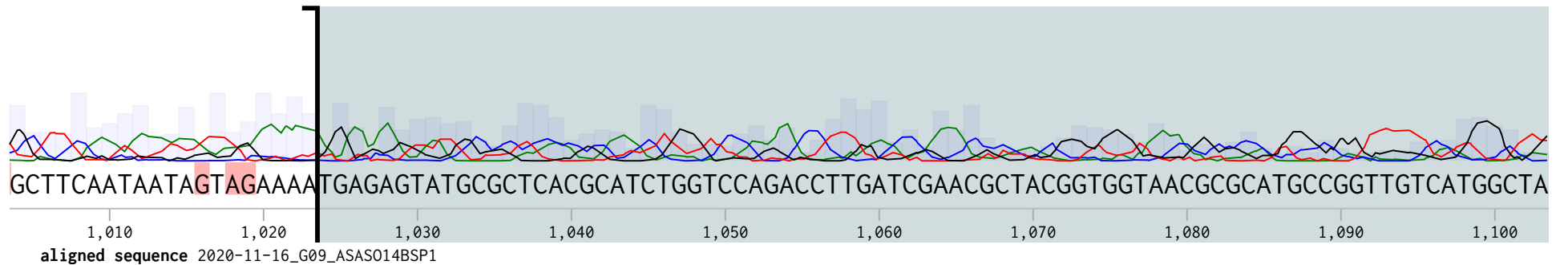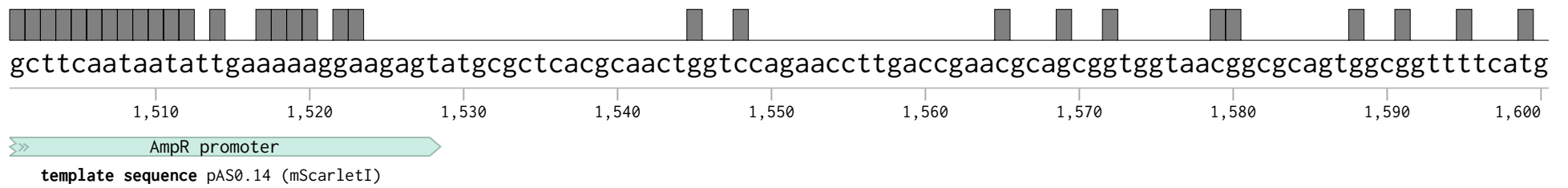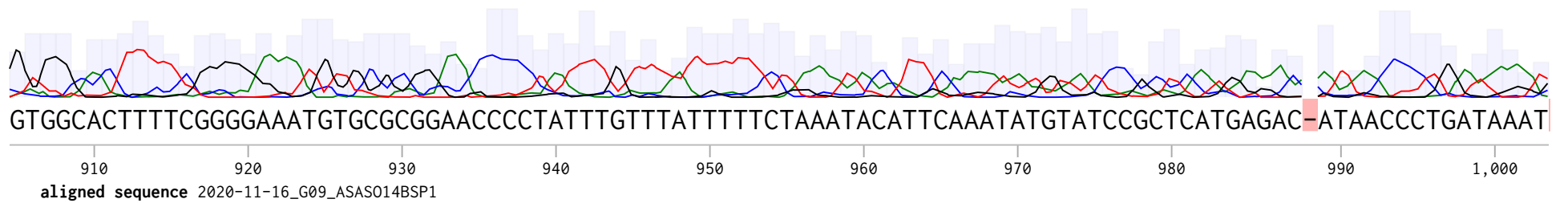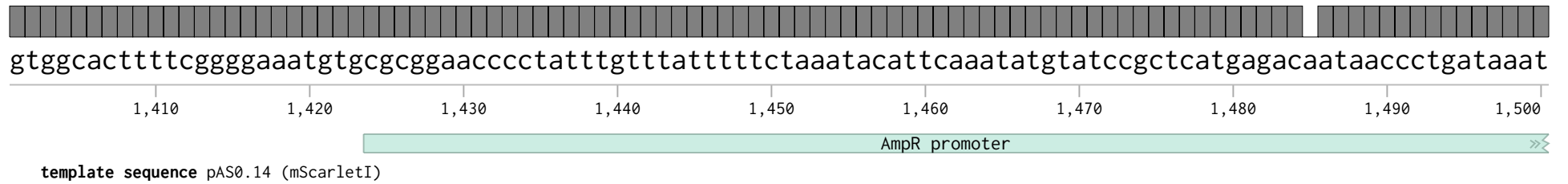
1,110   1,120   1,130   1,140   1,150   1,160   1,170   1,180   1,190   1,200
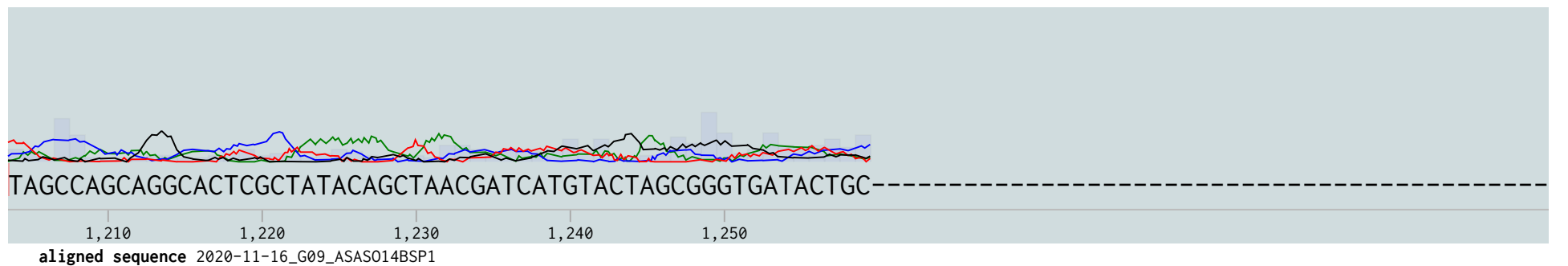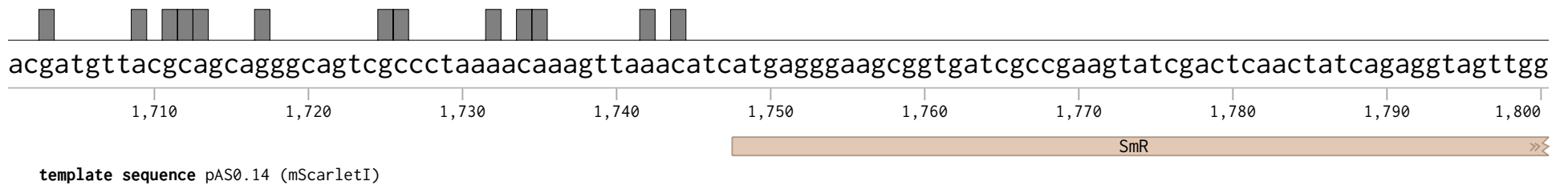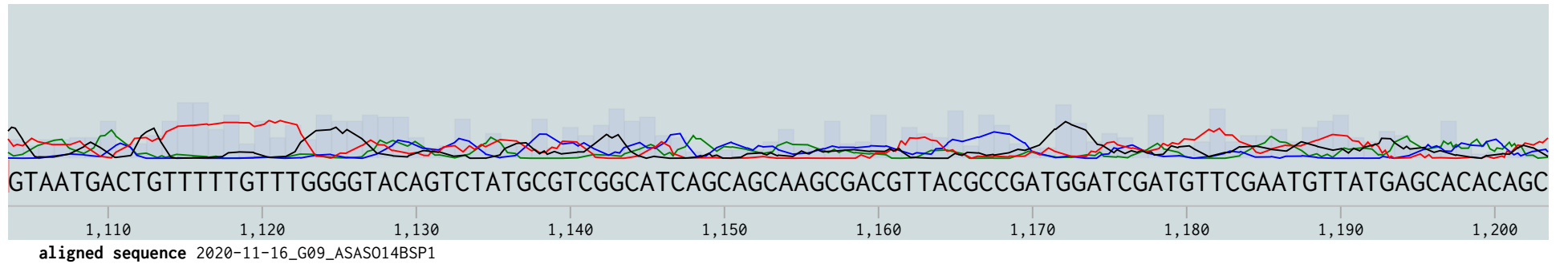
mScarletI

template sequence pAS0.14 (mScarletI)

CTGAAAGATGGCGGCCGCTATCTGGCTGACTTCAAAACCACGTACAAAGCCAAGAAACCTGTGCAGATGCCTGGCGCGTACAATGTGGACCGCAAACTGG

610   620   630   640   650   660   670   680   690   700

aligned sequence 2020-11-16_G09_ASASO14BSP1

acatcacctctcataatgaagattatacggtggtagagcaatatgagcgctccgagggtcgtcattctaccggtggcatggatgaactatacaaataaGC

1,210　1,220　1,230　1,240　1,250　1,260　1,270　1,280　1,290　1,300

mScarletI

template sequence pAS0.14 (mScarletI)

ACATCACCTCTCATAATGAAGATTATACGGTGGTAGAGCAATATGAGCGCTCCGAGGGTCGTCATTCTACCGGTGGCATGGATGAACTATACAAATAAGC

710　720　730　740　750　760　770　780　790　800

aligned sequence 2020-11-16_G09_ASASO14BSP1

TTtgagaccacgaagtggctcttcagtggacgaaagggcctcgtgatacgcctatttttataggttaatgtcatgataataatggtttcttagacgtcag

1,310　1,320　1,330　1,340　1,350　1,360　1,370　1,380　1,390　1,400

pBRforEco

template sequence pAS0.14 (mScarletI)

TTTGAGACCACGAAGTGGCTCTTCAGTGGACGAAAGGGCCTCGTGATACGCCTATTTTTATAGGTTAATGTCATGATAATAATGGTTTCTTAGACGTCAG

810　820　830　840　850　860　870　880　890　900

aligned sequence 2020-11-16_G09_ASASO14BSP1

gtggcactttttcgggggaaatgtgcgcggaaccccctatttgtttattttttctaaatacattcaaatatgtatccgctcatgagacaataaccctgataaat

1,410   1,420   1,430   1,440   1,450   1,460   1,470   1,480   1,490   1,500

AmpR promoter

template sequence pAS0.14 (mScarletI)

GTGGCACTTTTTCGGGGGAAATGTGCGCGGAACCCCCTATTTGTTTATTTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGAC−ATAACCCTGATAAAT

910   920   930   940   950   960   970   980   990   1,000

aligned sequence 2020-11-16_G09_ASASO14BSP1

gcttcaataatattgaaaaaggaagagtatgcgctcacgcaactggtccagaaccttgaccgaacgcagcggtggtaacggcgcagtggcggtttttcatg

1,510   1,520   1,530   1,540   1,550   1,560   1,570   1,580   1,590   1,600

AmpR promoter

template sequence pAS0.14 (mScarletI)

GCTTCAATAATAGTAGAAAATGAGAGTATGCGCTCACGCATCTGGTCCAGACCTTGATCGAACGCTACGGTGGTAACGCGCATGCCGGTTGTCATGGCTA

1,010   1,020   1,030   1,040   1,050   1,060   1,070   1,080   1,090   1,100

aligned sequence 2020-11-16_G09_ASASO14BSP1

gcttgttatgactgttttttttggggtacagtctatgcctcgggcatccaagcagcaagcgcgttacgccgtgggtcgatgtttgatgttatggagcagca

template sequence pAS0.14 (mScarletI)

GTAATGACTGTTTTTGTTTGGGGTACAGTCTATGCGTCGGCATCAGCAGCAAGCGACGTTACGCCGATGGATCGATGTTCGAATGTTATGAGCACACAGC

aligned sequence 2020-11-16_G09_ASASO14BSP1

acgatgttacgcagcagggcagtcgccctaaaacaaagttaaacatcatgagggaagcggtgatcgccgaagtatcgactcaactatcagaggtagttgg

template sequence pAS0.14 (mScarletI)

SmR

TAGCCAGCAGGCACTCGCTATACAGCTAACGATCATGTACTAGCGGGTGATACTGC--

aligned sequence 2020-11-16_G09_ASASO14BSP1

cgtcatcgagcgccatctcgaaccgacgttgctggccgtacatttgtacggctccgcagtggatggcggcctgaagccacacagcgatattgatttgctg

| 1,810 | 1,820 | 1,830 | 1,840 | 1,850 | 1,860 | 1,870 | 1,880 | 1,890 | 1,900 |

SmR

template sequence pAS0.14 (mScarletI)
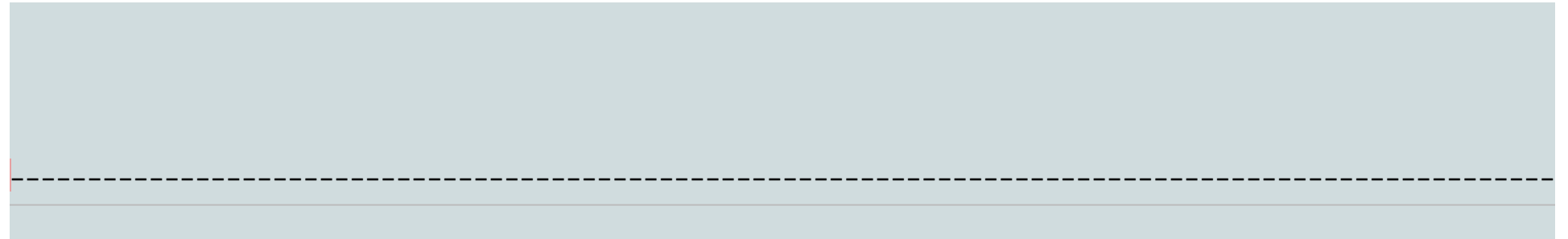
aligned sequence 2020-11-16_G09_ASASO14BSP1

gttacggtgaccgtaaggcttgatgaaacaacgcggcgagctttgatcaacgaccttttggaaacttcggcttcccctggagagagcgagattctccgcg

| 1,910 | 1,920 | 1,930 | 1,940 | 1,950 | 1,960 | 1,970 | 1,980 | 1,990 | 2,000 |

SmR

template sequence pAS0.14 (mScarletI)
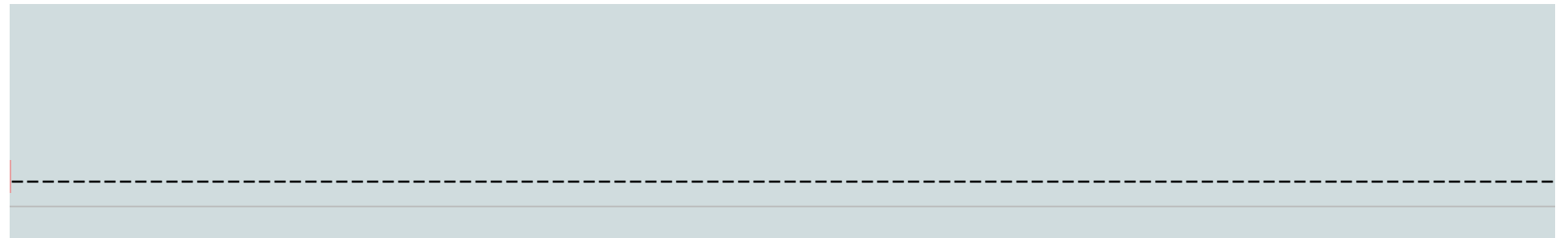
aligned sequence 2020-11-16_G09_ASASO14BSP1

ctgtagaagtcaccattgttgtgcacgacgacatcattccgtggcgttatccagctaagcgcgaactgcaatttggagaatggcagcgcaatgacattct

| | | | | | | | | | |
|2,010|2,020|2,030|2,040|2,050|2,060|2,070|2,080|2,090|2,100|

SmR

template sequence pAS0.14 (mScarletI)
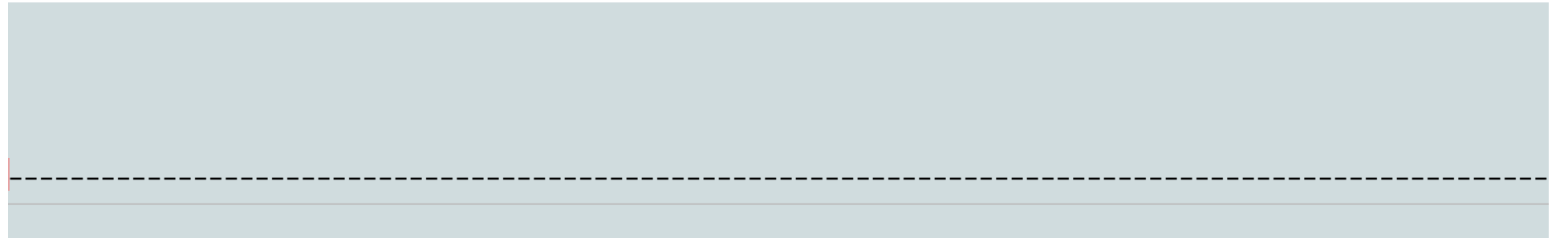
aligned sequence 2020-11-16_G09_ASASO14BSP1

tgcaggtatcttcgagccagccacgatcgacattgatctggctatcttgctgacaaaagcaagagaacatagcgttgccttggtaggtccagcggcggag

| | | | | | | | | | |
|2,110|2,120|2,130|2,140|2,150|2,160|2,170|2,180|2,190|2,200|

SmR

template sequence pAS0.14 (mScarletI)
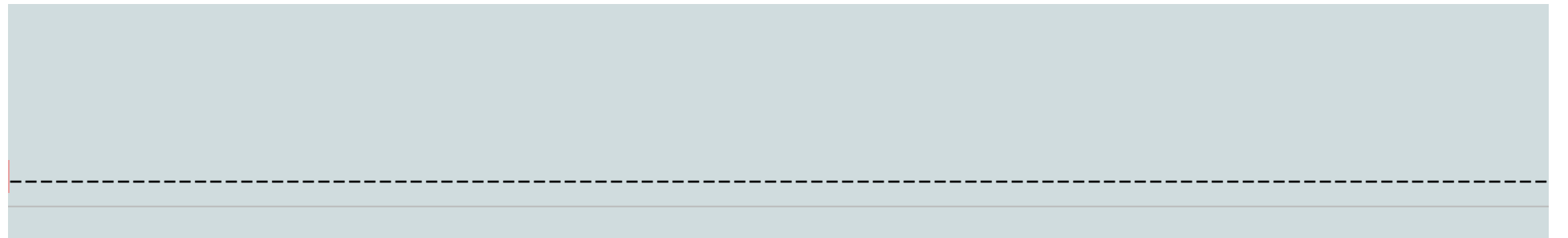
aligned sequence 2020-11-16_G09_ASASO14BSP1

gaactctttgatccggttcctgaacaggatctatttgaggcgctaaatgaaaccttaacgctatggaactcgccgcccgactgggctggcgatgagcgaa

2,210	2,220	2,230	2,240	2,250	2,260	2,270	2,280	2,290	2,300

SmR

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1

atgtagtgcttacgttgtcccgcatttggtacagcgcagtaaccggcaaaatcgcgccgaaggatgtcgctgccgactgggcaatggagcgcctgccggc

2,310	2,320	2,330	2,340	2,350	2,360	2,370	2,380	2,390	2,400

SmR

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1
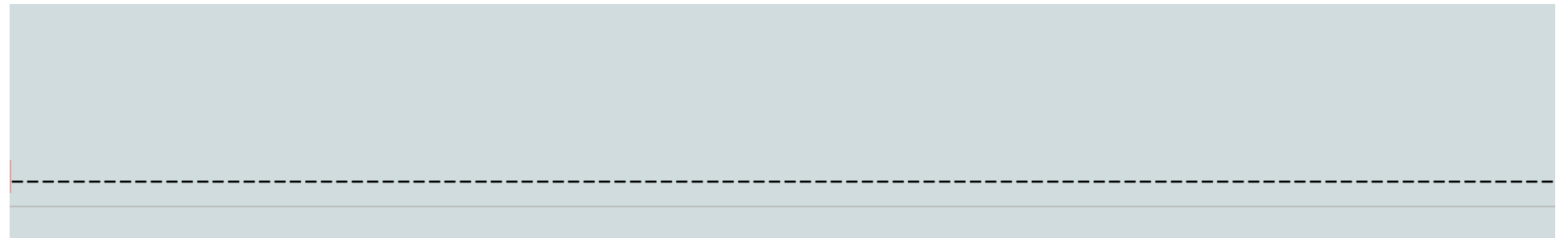
ccagtatcagcccgtcatacttgaagctagacaggcttatcttggacaagaagaagatcgcttggcctcgcgcgcagatcagttggaagaatttgtccat

| 2,410 | 2,420 | 2,430 | 2,440 | 2,450 | 2,460 | 2,470 | 2,480 | 2,490 | 2,500 |

SmR

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1

tacgtaaaaggcgagatcaccaaggtagtcggcaaataactgtcagaccaagtttactcatatactttagattgatttaaaacttcatttttaattta
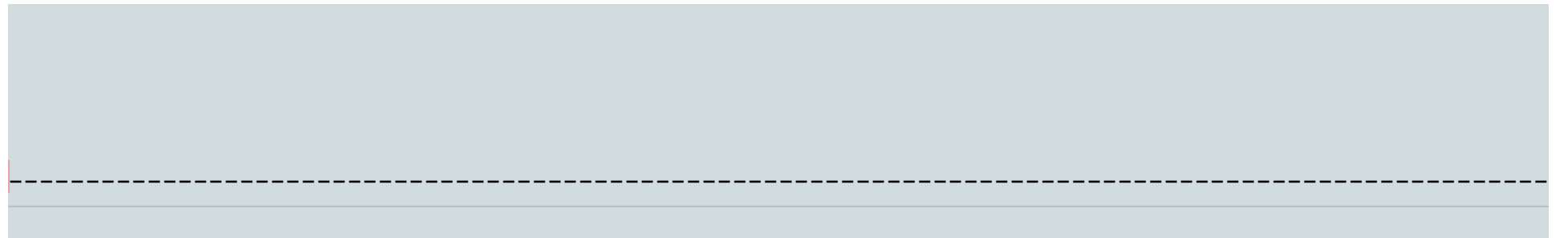
| 2,510 | 2,520 | 2,530 | 2,540 | 2,550 | 2,560 | 2,570 | 2,580 | 2,590 | 2,600 |

SmR

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1

aaaggatctaggtgaagatcctttttgataatctcatgaccaaaatcccttaacgtgagttttcgttccactgagcgtcagaccccgtagaaaagatcaa

2,610	2,620	2,630	2,640	2,650	2,660	2,670	2,680	2,690	2,700

ColE1 origin

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1

aggatcttcttgagatcctttttttctgcgcgtaatctgctgcttgcaaacaaaaaaccaccgctaccagcggtggtttgtttgccggatcaagagcta

2,710	2,720	2,730	2,740	2,750	2,760	2,770	2,780	2,790	2,800

ori

ColE1 origin

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1

ccaactctttttccgaaggtaactggcttcagcagagcgcagataccaaatactgtccttctagtgtagccgtagttaggccaccacttcaagaactctg
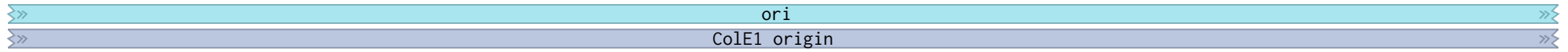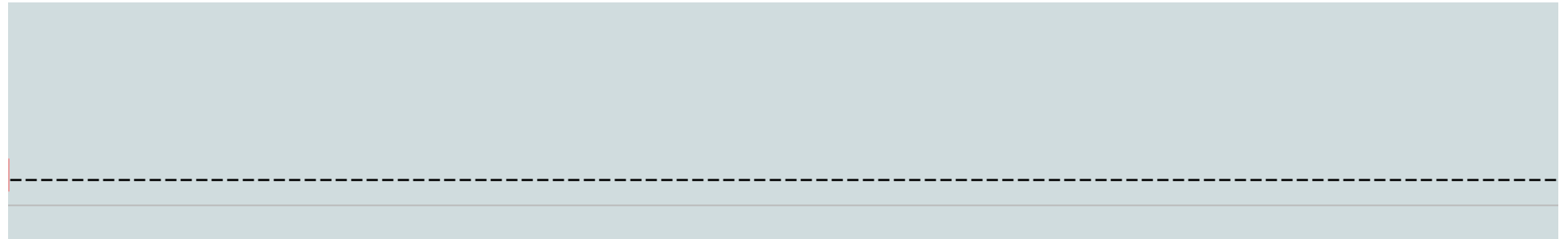
| 2,810 | 2,820 | 2,830 | 2,840 | 2,850 | 2,860 | 2,870 | 2,880 | 2,890 | 2,900 |

ori

ColE1 origin

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1
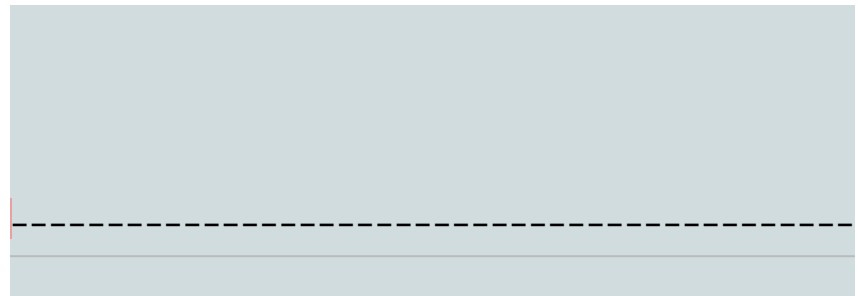
tagcaccgcctacatacctcgctctgctaatcctgttaccagtg

| 2,910 | 2,920 | 2,930 | 2,940 |

ori

ColE1 origin

template sequence pAS0.14 (mScarletI)

aligned sequence 2020-11-16_G09_ASASO14BSP1