



**PvuI (7)**  
**SgfI (6)**
**MfeI (82)**

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGGAAAGTATGTCGTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)**
**PvuII (239)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTAGCGCGCTCTCCACGCTTTGCTGACCCTGCTTGCTCAACTCTACGCTTTTGTTCGTTT

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**BstEII (555)**

501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTCCACATGGAAAATTTGAAGCATATTATCACCTTGCCAGGT

**AgeI (552) NcoI (560)**

1▶ M E N L K H I I T L G Q V

**NgoMIV (644)**

601 CATCCACAAAACGGTGTGAAGAGATGAAATACTGCAAGAAACAGTGCCGGCGCTGGGCCACCGCGTCTCGGCTGATCAAGCCTCTGGAGATGCTCCAG

13▶ I H K R C E E M K Y C K K Q C R R L G H R V L G L I K P L E M L Q

**HpaI (732)**

701 GACCAAGGAAAGAGGAGCGTGCCTCTGAGAAGTTAACACAGCCATGAACCGCTTCAAGGCTGCCCTGGAGGAGCTAATGGGAGATAGAAAAGTTCA

47▶ D Q G K R S V P S E K L T T A M N R F K A A L E E A N G E I E K F

**PstI (816)**

801 GCAATAGATCCAATATCTGCAGGTTTCTAACAGCAAGCCAGGACAAAATACTTTCAAGGACGTGAACAGGAAGCTGAGTGTCTGGAAGGAGCTCTC

80▶ S N R S N I C R F L T A S Q D K I L F K D V N R K L S D V W K E L S

**BstAPI (918)**

901 GCTGTTACTTCAGGTTGAGCAACGCATGCCTGTTTCACCCATAAGCCAAGGAGCGTCTGGGCACAGGAAGATCAGCAGGATGCAGACGAAGACAGGCGA

113▶ L L L Q V E Q R M P V S P I S Q G A S W A Q E D Q Q D A D E D R R

1001 GCTTCCAGATGCTAAGAAGAGATAATGAAAAATAGAAGCTTCACTGAGACGATTAGAAATCAACATGAAAGAAATCAAGGAAACTTTGAGGCAATATT

147▶ A F Q M L R R D N E K I E A S L R R L E I N M K E I K E T L R Q Y

**NsiI (1110)**
**BamHI (1168)**

1101 TACCACAAAATGCATGCAGGAGATCCCGCAAGAGCAAATCAAGGAGATCAAGAAGGAGCAGCTTTCCAGGATCCCCGTGGATTCTGCTAAGGGAAAATGA

180▶ L P P K C M Q E I P Q E Q I K E I K K E Q L S G S P W I L L R E N E

1201 AGTCAGCACACTTTATAAAGGAGAATACCACAGAGCTCCAGTGGCCATAAAAGTATTCAAAAACTCCAGGCTGGCAGCATTGCAATAGTGAGGCAGACT

213▶ V S T L Y K G E Y H R A P V A I K V F K K L Q A G S I A I V R Q T

**BstBI (1330)**

1301 TTCAATAAGGAGATCAAAACCATGAAGAAATTCGAATCTCCCAACATCCTGCGTATATTTGGGATTTGCATTGATGAAACAGTGACTCCGCCTCAATTCT

247▶ F N K E I K T M K K F E S P N I L R I F G I C I D E T V T P P Q F

**ScaI (1412)**
**SacI (1426)**  
**EcoO109I (1426)**

1401 CCATTGTCATGGAGTACTGTGAACCTCGGACCTGAGGAGCTGTTGGATAGGGAAAAAGACCTCACACTTGGCAAGCGCATGGTCTAGTCTGGGGGC

280▶ S I V M E Y C E L G T L R E L L D R E K D L T L G K R M V L V L G A

**StuI (1506)**

1501 AGCCCGAGGCCTATACCGGCTACACCATTGAGAAGCACCTGAACTCCAGGAAAAATCAGAAGCTCAAACCTCTGGTAACTCAAGGCTACCAAGTGAAG

313▶ A R G L Y R L H H S E A P E L H G K I R S S N F L V T Q G Y Q V K

**Tth111I (1666)**

1601 CTTGCAGGATTTGAGTTGAGGAAAACACAGACTTCCATGAGTTTGGAACTACGAGAGAAAAGACAGACAGAGTCAAATCTACAGCATATCTCTCACCTC

347▶ L A G F E L R K T Q T S M S L G T T R E K T D R V K S T A Y L S P

**EcoRV (1786)**

1701 AGGAACTGGAAGATGATTTTTATCAATATGATGAAAGTCTGAAATATACAGCTTTGGAATCGTCCTCTGGGAAATCGCCACTGGAGATATCCCGTTTCA

380▶ Q E L E D V F Y Q Y D V K S E I Y S F G I V L W E I A T G D I P F Q

**DraIII (1856)**

1801 AGGCTGTAATTCTGAGAAGATCCGCAAGCTGGTGGCTGTGAAGCGGCAGCAGGAGCCACTGGGTGAAGACTGCCCTTCCAGAGCTGCGGGAGATCATTGAT

413▶ G C N S E K I R K L V A V K R Q Q E P L G E D C P S E L R E I I D

**Bsp120I (1907)**
**XcmI (1994)**

1901 GAGTGGCGGGCCCATGATCCCTCTGTGCGGCCCTGTGGATGAAATCTTAAAGAACTCTCCACCTTTTCTAAGTAGTGTATCAAAATCTAAACCAAGG

447▶ E C R A H D P S V R P S V D E I L K K L S T F S K •

**NheI (2013)**

2001 AGTCTCTGGACAAGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAA

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**HpaI (2151)**
**MfeI (2162)**

2101 ATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAACAAGTTAACAAACAATTCATTCTTTATGTTTCAGGTTTCAGGGGGAGG

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**EcoRI (2247)**

2201 TGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACT

2301 TGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGACGCTCACCTTCTTTTCATGGAGTTAAGA

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2401 TATAGTGTATTTTCCAAGTTTGAAGTCTTCTCATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATAGTAAATATTCAGAAATA

SapI (2429) SspI (2486)

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2501 ATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTT

SwaI (2500) EcoO109I (2561)

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2601 AGGGAACAAAGGAACCTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGG

141 • N R T Y K L P I L E E I T T

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2701 TTTTGACCAGCTTGCATTTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGTCATGCCACAGGGGCTGACCACCCTGAT

126 K V L K G N M E I L V F C D P A Y D S I L E R C M G C P S V V R I

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2801 GGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCA

93 S R D V E D S Y P H R V A V I T D F D K Q G N S V A S G I A I A E

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2901 GCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCCGCCCGACATGGTGTGTTGT

59 A C V T V R G I Y A E I H V A S I I E G T K T R I A A G V H H K N D

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3001 CCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGT

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

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3101 CGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCATAAACGAGCTCTGCT

AseI (3133)

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3201 TATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAAGTCCCGTTGATTTACTAGTCAAAAC

SpeI (3288)

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3301 AAACCTCCATTGACGTCAATGGGGTGGAGACTTGAAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGACTGCCAAAACCGCATCATCATGG

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3401 TAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCATAAAGTCAATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGAC

SnaBI (3416)

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3501 GTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGCAAGTGGGCGAGTTTACCGTAAATACTCCACCATTGACGTCAATGAAAAGTCCCT

NdeI (3521)

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3601 ATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACGC

SdaI (3699)

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3701 CTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGCTGGCGTTTTTTCATAGGCTCCGCCCCCT

PacI (3707) BspLU11I (3717)

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3801 GACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCTGGAAGCTCCCTCGTGCCT

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3901 CTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTC

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4001 GGTGTAGTTCGTTGCTCCAAGCTGGGCTGTGTGACGAACCCCGTTCCAGCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCG

ApaLI (4031)

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4101 GTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTA

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4201 ACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAAC

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4301 CACCGCTGGTAGCGGTGGTTTTTTTGTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGAC

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4401 GCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTACA

EagI (4467) PacI (4447) SwaI (4456) NotI (4466)

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4501 TCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCAGTGCA

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4601 AGTGCAGTGCCAGAACATTTCTATCGAA