



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

1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGTCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Psp1406I (203)**
**HindIII (245)**
**Bsu36I (291)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTACCGCGCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**BstEII (555)** **Bsp120I (564)**  
**AgeI (552)** **NcoI (560)**

501 TCTGTTTGTCCGGCTTACAGATCCAAGCTGTGACCGCGCTACCTGAGATCACCGGTACCATGGGCCCGCAGGCGGAGCTGGCAGGATGATTCTGCT

1▶ M G P Q A A A G R M I L L

**BamHI (654)**

601 GGTGGTCTGATGCTGTCTGCGAAGGTCGGGAGTGGAGCTTTGACGAGCACCGAGGATCCTGAGCCTCCCTCGGTGCCTGTACCGACGAATGTTCTAATT

13▶ V V L M L S A K V G S G A L T S T E D P E P P S V P V P T N V L I

**BsrGI (768)**

701 AAGTCTTATAACTTGAACCTGTCTGATGCTGGAATACCAGAACATGTCACAGACTCCTATTTTTACTGTACAGGTAAGGTGATTTCGGGTTCTGGAA

47▶ K S Y N L N P V V C W E Y Q N M S Q T P I F T V Q V K V Y S G S W

801 CTGATTCCTGCACCAACATTTCTGATCATTGTTGTAATATCTATGGACAAATTATGTATCCTGATGTATCTGCCTGGCCAGAGTTAAAGCTAAGGTTGG

80▶ T D S C T N I S D H C C N I Y G Q I M Y P D V S A W A R V K A K V G

**Bsp120I (961)**

901 AAAAAAGAATCTGACTATGCACGGTCAAAGAGTTCCTTATGTGCCTAAAGGAAAGGTCGGGCCCCCTGGCCTGGAGATCAGGAGGAAGAAGGAAGAA

113▶ Q K E S D Y A R S K E F L M C L K G K V G P P G L E I R R K K E E

1001 CAGTCTCCGTCCTCGTATTTCCACCTGAAGTCGTTGTAATGGAGAGAGCCAGGAAACCTGTTTGGTGACGGGAGCACCTGTTACACATTCGACTATA

147▶ Q L S V L V F H P E V V V N G E S Q G T M F G D G S T C Y T F D Y

1101 CTGTGTATGTGGAGCATAACCGGAGTGGGGAGATCCTACATACGAAACATACGGTCGAAAAAGAAGAGTGAATGAGACTCTGTGTGAGTTAAACATCTC

180▶ T V Y V E H N R S G E I L H T K H T V E K E E C N E T L C E L N I S

1201 AGTATCCACACTGGATTCAGATATTGATTTTCAGTAGACGGAATCTCATCTTTCTGGCAAGTTAGAACAGAAAAATGAAAGACGCTGTATCCCTCCT

213▶ V S T L D S R Y C I S V D G I S S F W Q V R T E K S K D V C I P P

**Bst1107I (1389)**

1301 TTCCATGATGACAGAAAGGATTCAATTTGGATTCTGGTGGTGTCTCTTACCGTCTTTACAGTAGTTATCCTGGTATTTGCGTATTGGTATACTAAGA

247▶ F H D D R K D S I W I L V V A P L T V F T V V I L V F A Y W Y T K

**EcoRI (1401)**

1401 AGAATTCATTCAAGAGAAAAAGCATAATGTTACCTAAGTCCTTGTCTCTGTGGTAAAAAGTGCCACGTTAGAGACAAAACCTGAATCGAAGTATTCACT

280▶ K N S F K R K S I M L P K S L L S V V K S A T L E T K P E S K Y S L

**SapI (1549)**

1501 TGTACACCCGCCACCGCAGCTGTCCTAGAGAGTGAGACGGTGTCTGTGAAGAGCCCTGTCCACAGTGACAGCTCCAGACAGCCCCGAGCAGCAGAA

313▶ V T P H Q P A V L E S E T V I C E E P L S T V T A P D S P E A A E

1601 CAGGAAGAACTTTCAAAAAGAAACAAAGGCTCTGGAGGCTGGAGGAAGCACGTCTGCCATGACCCAGACAGCCCTCCAACCTCCGACACAAAGACGAGCT

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

**XcmI (1796)**

1701 TTTCCCTGTTAAGTAGTAACAGTCAGGCCCTGTAGCCTCACCGCCTATCACTCCCAGAACGGCTCTGACAGTGGCCTCGTGGGATCGGGCAGCTCCAT

380▶ F S L L S S N Q S G P C S L T A Y H S R N G S D S G L V G S G S S I

**NcoI (1880)**

**SfiI (1875)**

1801 ATCGGACTTGAATCTCTCCAAACAACAACCTCAGAAACAAGATGGCAGAGCACGACCCCTCCACCCGTGAGAAAAGGCCCCCATGGCCTCCGGTTATGAC

413▶ S D L E S L P N N N S E T K M A E H D P P P V R K A P M A S G Y D

**Bsu36I (1991)**

1901 AAACCGCACATGTTGGTGGACGTGCTTGTGGATGTTGGGGGAAGGAGTCTCTCATGGGGTATAGACTCACAGGAGAGGCCAGGAGCTGTCTAAGGTC

447▶ K P H M L V D V L V D V G G K E S L M G Y R L T G E A Q E L S •

**MscI (2020)**

**StuI (2005)** **NheI (2014)**

2001 TCCCGAGGCTGCTGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTGGACAACCACAACCTAGAATGCAGTAAAAAATGCTTTATTTGTGA

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**HpaI (2152)** **MfeI (2163)**

2101 AATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCTTTATGTTTCAGGTTTCAGGGGGAG

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**EcoRI (2248)**

2201 GTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTAC

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2301 TTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTGCAGCCTCACCTCTTTTCATGGAGTTTAAAG

2401 ATATAGTGTATTTTCCCAAGTTTGAAGCTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAATATTCAGAAAT

SapI (2430) SspI (2487)

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2501 AATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACT

SwaI (2501)

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2601 TAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTTGAGGGGGATGAGTTCCTCAATGGTG

141 • N R T Y K L P I L E E I T

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2701 GTTTTGACCAGCTTGCCATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGA

SacI (2762) BstXI (2791)

126 T 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

2801 TGGATCTGTCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTTGCCCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTC

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 AGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTG

StuI (2926)

60 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

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3001 TCCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAG

BbsI (3072)

26 D 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 TCGTATTACTATGCGGATATACTATGCGGATGATTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGC

AseI (3134) SacI (3191)

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3201 TTATATAGACCTCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAA

SpeI (3289)

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3301 CAAACTCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATG

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3401 GTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTGATGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGA

SnaBI (3417)

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3501 CGTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGCTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAA

NdeI (3522)

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3601 TATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGGGCGGGTCTGTTGGCGGTGAGCCAGGCGGGCCATTTACCGTAAGTTATGTAACG

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PacI (3708)

3701 CCTGCAGGTTAAITTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCC

PstI (3701) SdaI (3700)

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3801 TGACGAGCATCAGAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCTTTCCCTGGAAGCTCCCTCGTGCCG

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3901 TCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCAGCTGTAGGTATCTCAGTT

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ApaLI (4032)

4001 CGGTGTAGGTCGTTGCTCCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCC

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4101 GGTAAGACACGACTTATGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCT

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4201 AACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAA

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4301 CCACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGA

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EagI (4468)

PacI (4448) SwaI (4457) NotI (4467)

4401 CGCTCAGTGGAACTGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCTTTATTTTCATTAC

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4501 ATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACATACTGCTCTCCATCAAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAGTGC

4601 AAGTGCAGGTGCCAGAACATTTCTCTATCGAA