



**PvuI (7)**  
**SgfI (6)**
**MfeI (82)** **EcoNI (96)**

1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**Bsu36I (291)**  
**Psp1406I (203)** **HindIII (245)** **EcoNI (287)**

201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACACGCCGCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCTAACTCTACGCTTTTGTTCGTTT

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**SphI (560)**  
**KasI (535)** **AgeI (552)**

501 TCTGTTTCCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCAGCATGCTGCTGTGGGCGTCTTGTGGCCTTTGTCCAGT  
 1▶ M L L W A S L L A F A P V

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**NcoI (649)**

601 CTGTGGACAACTGCAGCTGCACACAAACCTGTGATTTCCGTCACCTCCATGGACCACTTTCAAAGGAGAGAGAGTACTCTGACTTGAATGGA  
 13▶ C G Q S A A A H K P V I S V H P W T T F F K G E R V T L T C N G

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**XhoI (784)**

701 TTTCAAGTCTATGCAACAGAGAAAACAACATGGTATCATCGGCACTACTGGGGAGAAAAGTTGACCCTGACCCAGGAAACCCCTCGAGGTTCCGGAAT  
 47▶ F Q F Y A T E K T T W Y H R H Y W G E K L T L T P G N T L E V R E

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**XmaI (821)** **SdaI (879)**

801 CTGGACTGTACAGATGCCAGGCCCGGGCTCCCCACGAAGTAACCTGTGCGCTTGTCTTTTCTTCAGACTCCTTAATCCTGCAGGCACCATATTCTGT  
 80▶ S G L Y R C Q A R G S P R S N P V R L L F S S D S L I L Q A P Y S V  
 901 GTTTGAAGGTGACACATTGGTTCTGAGATGCCACAGAAGAAAGAAAGAAATTGACTGCTGTGAAATATACTTGAATGAAACATTCTTCCATTTCT  
 113▶ F E G D T L V L R C H R R R K E K L T A V K Y T W N G N I L S I S

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**NsiI (1059)**  
**ClaI (1055)**

1001 AATAAAAGCTGGGATCTTCTTATCCCAAGCAAGTTCAAATAACAATGGCAATTATCGATGCATTGGATATGGAGACGAGAATGATGTATTTAGATCAA  
 147▶ N K S W D L L I P Q A S S N N N G N Y R C I G Y G D E N D V F R S

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**XmnI (1123)** **EcoRI (1176)**

1101 ATTTCAAATAAATTAATAATCAAGAAGTATTTCCACATCCAGAGCTGAAAGCTACAGACTCTCAGCCTACAGAGGGGAATTCTGTAAACCTGAGCTGTGA  
 180▶ N F K I I K I Q E L F P H P E L K A T D S Q P T E G N S V N L S C E

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**BsrBI (1216)**

1201 AACACAGCTTCTCCAGAGCGGTACAGACCCCACTTCACTTCACTTCTTCAGAGATGGCGAGTGCATCCTGTGAGACTGGAGCACGTACCCGGAACCT  
 213▶ T Q L P P E R S D T P L H F N F F R D G E V I L S D W S T Y P E L

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**BstXI (1306)** **BamHI (1330)**

1301 CAGCTCCCAACCGTCTGGAGAGAAAACCTCAGGATCCTATTGGTGTGGTGTGAAACAGTGAAGGGTAACATCCACAAGCACAGTCCCTCGCTACAGATCC  
 247▶ Q L P T V W R E N S G S Y W C G A E T V R G N I H K H S P S L Q I

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**BamHI (1409)** **Bsu36I (1445)**

1401 ATGTGCAGCGGATCCCTGTGCTGGGGTGTCTCTGGAGACCCAGCCCTCAGGGGGCCAGGCTGTTGAAGGGGAGATGCTGGTCTTGTCTGCTCCGTGGC  
 280▶ H V Q R I P V S G V L L E T Q P S G G Q A V E G E M L V L V A G C T S V A  
 1501 TGAAGGCACAGGGGATACCACTTCTCCTGGCACCAGAGGACATGCAGGAGAGTCTGGGGAGAAAACCTCAGCGTCCCTGAGAGCAGAGCTGGAGCTC  
 313▶ E G T G D T T F S W H R E A D M Q E S L G R K T Q R S L R A E L E L  
 1601 CCTGCCATCAGACAGGATGCAAGGGGATACTGTACAGCAGACCAACAGCTACGGCCCTGTCCAGAGCATGGTGTGAATGTCACTGTGAGAGAGA  
 347▶ P A I R Q S H A G G Y Y C T A D N S Y G P V Q S M V L N V T V R E

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**SacII (1727)** **SapI (1756)**

1701 CCCAGGCAACAGAGATGGCCTTGTGCGCGGGGAGCCACTGGAGGGCTGCTCAGTGTCTTCTCCTGGCTGTGGCCCTGCTGTTTCACTGCTGGCGTCG  
 380▶ T P G N R D G L V A A G A T G G L L S A L L L A V A L L F H C W R R

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**BsrBI (1847)**

1801 GAGGAAGTCAGGAGTTGGTTTCTTGGGAGACGAAACCAGGCTCCCTCCGCTCCAGGCCAGGAGTCTCCATTCCATCTGCCCTGCCAGGTGGAG  
 413▶ R K S G V G F L G D E T R L P P A P G P G E S S H S I C P A Q V E

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**Bst1107I (1945)**

1901 CTTCAAGTCTGTTATGTTGATGTACACCCAAAAGGGAGATTGGTATACTCTGAGATCCAGACTACTCAGCTGGGAGAAGAAGAGGAACTAATACCT  
 447▶ L Q S L Y V D V H P K K G D L V Y S E I Q T T Q L G E E E E A N T

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**XbaI (2010)**

2001 CCAGGACACTTCTAGAGGATAAGGATGTCTCAGTTGTCTACTCTGAGGTAAGACACAAACCCAGATAACTCAGCTGGAAAGATCAGCTCTAAGGATGA  
 480▶ S R T L L E D K D V S V V Y S E V K T Q H P D N S A G K I S S K D E

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**MscI (2142)** **NheI (2136)**

2101 AGAAAAGTTAAGAGAATGAAAAGTTACGAGAACGTCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAAACCAACTAGAATGCAGT  
 513▶ E S •

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**HpaI (2274)** **MfeI (2285)**

2201 GAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGTGAATAAACAAGTTAACAACAACAAATTGCATTCAATT

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**EcoRI (2370)**

2301 TATGTTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTT

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2401 AACCTCAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTC

SapI (2552)

2501 ACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGTTTGAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCT

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SspI (2609)      SwaI (2623)      EcoO109I (2684)

2601 TTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATAT

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2701 CCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAG

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2801 GGGGATGAGTTTCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCACATG  
134 P I L E E I T 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

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BstXI (2913)

2901 CCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAG  
100 G C P S V V R I 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

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StuI (3048)

3001 CAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGCC  
67 S G I A I A E 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

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BbsI (3194)

XmnI (3190)

3101 CGCCCCGACATGGTGCTTGTTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTC  
34 A G V H H K N 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

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AseI (3256)

3201 ATGGTGGCCCTCCTATAGTGAGTCGATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGA  
0 M

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3301 CGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGT

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SpeI (3411)

3401 CCCGTTGATTTACTAGTCAAACAAACTCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTA

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SnaBI (3539)

3501 CTGCCAAAACCGCATCATCATGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGACTGGGCATAATGCCAG

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NdeI (3644)

3601 GCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCC

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3701 ATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTGAGCCAGCGGGCC

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SdaI (3822)    PacI (3830)    BspLU11I (3840)

3801 ATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAAGAACATGTGAGCAAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGT

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3901 TTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAGATACCAGGCGTTTCC

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4001 CCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGC

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ApaLI (4154)

4101 TCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCCAGCCGACCGCTGCGCCTTATCCGGTA

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4201 ACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTAC

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4301 AGAGTCTTGAAGTGGTGGCCTAACTACGGTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGT

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4401 AGCTCTTGATCCGGCAAACAAACACCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTT

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EagI (4590)

PacI (4570)    SwaI (4579)    NotI (4589)

4501 TGATCTTTTCTACGGGTCTGACGCTCAGTGGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAAT

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4601 AAAATATCTTTATTTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAG

4701 CAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA