



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

1 GGATCTGCATCGCTCCGGTGCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA

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101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTATGTCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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

201 GTGAACGTTCTTTTTTCGAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCCTACCTGAGGCC

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301 GCCATCCACGCCGGTTGAGTCGGTTCGCGCCTCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

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401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

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

501 TCTGTTTGTGCGCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGTACCCTGGTCCCAGTGGCAGAAAGCAGGCATA

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**SapI (601)**
**HindIII (696)**

601 CGAAGAGCCAGGACGACCACGAACTGAAATCCTGGCGATGCTGGTGTCTATCTCTGCTTCTTCGGCTTCATGGCCAGTTGCGTCTGGGAAAGC

13▶ E E P R Q D H E L K S W R C L V F Y L C F F G F M A Q L R P G E S

701 TTCATCACACCCTTCTCCTGGAACGTAATTCACCAAGGAGCAGGTGACTAACGAGATCATTCCGATGCTGCCCTACTCCCACCTGGCTGTGCTGGTCC

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

801 CGGTCTTCTGCTCACCGACTACCTGCGATAAAGCCAGTCTTGGTGCAGTGCCTGAGCTTCGTGTGCGTGTGGCTGTTGCTGCTGCTGGGCACATC

80▶ P V F L L T D Y L R Y K P V L V L Q C L S F V C V W L L L L L G T S

**PstI (847)**

901 TGTCGTGCACATGCAACTCATGGAAGTCTTCTACAGCGTACCCTGGCGCCGCATCGCCTACTCCTCTACATATTCTCCCTGGTGCACCCTCCCGC

113▶ V V H M Q L M E V F Y S V T M A A R I A Y S S Y I F S L V H P S R

**ScaI (1032)**
**BstEII (1077)**

1001 TACCAGCGCATGGCCAGTACTCACGGGCGGACGACTGCTGGGAGTCTTCATCAGCTCTGTGTTGGGCCAGGCGCTGGTCACCGTAGGACATATAAGCA

147▶ Y Q R M A S Y S R A A V L L G V F I S S V L G Q A L V T V G H I S

1101 CCTATACTCAACTGTGTCTCCCTGGGCTTCATCCTCTTCAGCCTGGTCTCTCCCTCTTTCTAAAGCGCCCTAAGCGGAGCCTTTTTCAACCGCAG

180▶ T Y T L N C V S L G F I L F S L V L S L F L K R P K R S L F F N R S

**SfiI (1250)**

**XmaI (1245)**

1201 TACGCTTGCAGCTGGAGCCTTGCCTGTGAGCTGGATCAGATGCACCCGGGCGCTGACCGCCAGAAACCAGGAAACTAGATCGCATGCTGGGCACTTGC

213▶ T L A R G A L P C E L D Q M H P G P D R P E T R K L D R M L G T C

**FspI (1316)**

1301 AGGGACTCCTTCTGGTGCATGCTAAGTGAAGTGGTGGAAAATGCTCGGCAACCACAGCTGCGTCTCTGGTGCCTCTGGTGGGCTTCAACTCTTCAG

247▶ R D S F L V R M L S E L V E N A R Q P Q L R L W C L W W V F N S S

1401 GCTACTACCTGATCACCTACTATGTGCATGTCTGTGGAGAAGCACTGACAGCAGCCTCAGTACAATGGCGCGTAGATGCCGCTCCACACTGCTGAG

280▶ G Y Y L I T Y Y V H V L W R S T D S S L S Y N G A V D A A S T L L S

**NgoMIV (1519)**
**BsaBI (1575)**

1501 CGCCATCACGTCCTTCTCCGGGCTTCTGAGCATCCGCTGGACTCTGTGGTCCAAGCTGGTTCATCGCAGGTGTGATCGCCATCCAGGCCAGCCTGGTT

313▶ A I T S F S A G F L S I R W T L W S K L V I A G V I A I Q A S L V

1601 TTCTGTATGTTCCAGATCCGGGACATCTGGGTGTGCTACGTGACCTTTGTGCTTTCCGTGGGGCCTACCAGTTCCTGTGCCATTGCCACTTTTCAGA

347▶ F C M F Q I R D I W V C Y V T F V L F R G A Y Q F L V P I A T F Q

1701 TTGCGTCTCCCTGTCTAAAGAGCTCTGTGCATTGGTCTTTGGGATCAACACTTTCTAGCTACTGCGCTTAAGACCTGTATCACACTTGTGGTCTCTGA

380▶ I A S S L S K E L C A L V F G I N T F L A T A L K T C I T L V V S D

1801 CAAGCGGGTCTGGGCTCCTCAAGTCCGTGATCAGTTCCTGATCTACTATCATATACTTCTGATGCTGTCTATCACCTGCTTTGCTGGCGGGGCTGGAT

413▶ K R G L G L Q V R D Q F R I Y F I Y F L M L S I T C F A W A G L D

1901 GGCTTAAGGTAAGTCCAGCGTGGTCCACCAGCCCTGGCCAGGCCAGGAGTGAAGGAGTCCCTGGAGACTTCTGTGCAAGCGATAAGCCTACAGG

447▶ G L R Y C Q R G R H Q P L A Q A Q E L R S P L E T S V Q A I S L Q

**Bsu36I (2007)**

2001 ATGGAGACCTAAGGGGACCGCAGCCCTCAGCGCCACAGCTGCTCTCAGAGGATGGCATGGAGGACGACAGGGGAGACTTAAGAGTGAAGCCAAGGCTTG

480▶ D G D L R G P Q P S A P Q L L S E D G M E D D R G D L R V E A K A •

**NheI (2127)**

**Eco47III (2124)**

2101 ACCTTCCTAGCTTCATCCAGTTCAGCGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTAAAAAAT

513▶

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**HpaI (2265)**
**MfeI (2276)**

2201 GCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAAACAAGTTAACAACAACAATTGCATTCTTTATGTTTCA

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**EcoRI (2361)**

2301 GGTTCCAGGGGAGGTGTGGGAGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTTAAAATACAGCATAGCAAACCTTTAACCTCCAA

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2401 ATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTT

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SapI (2543)

2501 CATGGAGTTTAAGATATAGTGTATTTTCCCAAGTTTGAAGTACTCTTCATTCTTTATGTTTTAAATGCACTGACCTCCCACATTCCTTTTATAGTAA

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**SspI (2600)**      SwaI (2614)

2601 AATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTT

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2701 TAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTCTGGTGTACTTGAGGGGGATGAG

141 • N R T Y K L P I L

2801 TTCCTCAATGGTGGTTTTGACCAGCTTGCCATTTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGG

131 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 G C P

**BstXI (2904)**

2901 CTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCCGTTGCTCACAGCAGACCCAA

97 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 S G I

**StuI (3039)**

3001 TGGCAATGGCTTCAGCACAGACAGTACCTGCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGAC

64 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 A G V

**XmnI (3181)**

3101 ATGGTGCTTGTGCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCACCAGTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCC

31 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 M

**AseI (3247)**

3201 CTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACACGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCT

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3301 AAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGAT

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**SpeI (3402)**

3401 TTACTAGTCAAAACAACCTCCATTGACGTCAATGGGGTGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAA

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**SnaBI (3530)**

3501 CCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCCAATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCAT

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**NdeI (3635)**

3601 TTACCGTCATTGACGTCAATAGGGGGCTACTTGCCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTC

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3701 AATGGAAAGTCCCTATTGGCGTACTATGGAAACATACGTCAATATTGACGTCAATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCGT

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PacI (3821)

PstI (3814)

**SdaI (3813)**      **BspLU11I (3831)**

3801 AAGTTATGTAACGCTGCAGGTTAATTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATA

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3901 GGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAG

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4001 CTCCCTCGTGGCTCTCTGTTCCGACCTGCCGTTACCGGATACTGTCCGCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGT

---

4101 AGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCCTGCGCCTTATCCGGTAACATATCGTC

---

4201 TTGAGTCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTT

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4301 GAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGA

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4401 TCCGGCAAACAACCCAGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTT

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**EagI (4581)**

PacI (4561)      SwaI (4570)      **NotI (4580)**

4501 CTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAATATCT

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4601 TTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGG

4701 CTGTCACCGTCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA