



**PvuI (7)**  
**SgfI (6)**  
 1 GGATCTGCATCGCTCCGGTGCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA  
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAAGTGTGCTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

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**HindIII (245)**  
**Psp1406I (203)** **PvuII (239)** **Bsu36I (291)**  
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACCGCGCCGCCCTACCTGAGGCC  
 301 GCCATCCACGCCGGTTGAGTTCGGCTTCTGCCGCTCCCGCTGTGGTGCCTCCTGAAGTGCCTCGCCGTCTAGGTAAGTTAAAGCTCAGGTCGAGACC

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**NgoMIV (441)**  
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT

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**BstEII (555)**  
**AgeI (552)** **NcoI (560)** **BspLU11I (578)**  
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTACCATGGCCTCAGAGATCCACATGTCGGAAACCCATGTGCCT  
 1 M A S E I H M S E P M C L

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**SpeI (621)** **BamHI (647)**  
 601 CATTGAGAACTGAGGCTCAACTAGTATCAACCAGGAGGCTCTGAGGATCCTGTCTGCCATTACACAGCCTGTGGTGGTGGCAATCGTGGGCCTC  
 13 I E N T E A Q L V I N Q E A L R I L S A I T Q P V V V V A I V G L

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**NheI (732)**  
 701 TACCGCACAGGCAAATCTACCTGATGAACAAGCTAGCTGGGAAGAGGACAGGCTTTCCCTGGGCTCCACTGTGCAGTCTCACACCAAGGGCATCTGGA  
 47 Y R T G K S Y L M N K L A G K R T G F S L G S T V Q S H T K G I W

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**EcoO109I (857)**  
 801 TGTGGTGTGCTCACCCCAAGAAGGCAGGGCAAACCTGGTCTGCTTACACTGAGGGCCTTGAAGATGTTGAGAAGGGTGACAACAGAAATGACTG  
 80 M W C V P H P K K A G Q T L V L L D T E G L E D V E K G D N Q N D C

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**DraIII (988)**  
**NcoI (974)** **PvuII (982)**  
 901 CTGGATCTTTGCTTTGGCAGTCTCCTCAGCAGCACCTTCATCTACAACAGCATAGGAACCATCAACCAGCAGGCCATGGACCAGCTGCACTATGTGACG  
 113 W I F A L A V L L S S T F I Y N S I G T I N Q Q A M D Q L H Y V T

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**XcmI (1081)**  
 1001 GAGCTAACTGATCTTATCAAGTCAAAGTCACTACCTGACCAGAGTGGGGTAGACGATTCCGCTAACTTTGTGGGCTTCTTTCCAACCTTTGTGTGGACTC  
 147 E L T D L I K S K S S P D Q S G V D D S A N F V G F F P T F V W T

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**XhoI (1114)** **HpaI (1126)**  
 1101 TGAGAGATTTCTCCCTCGAGCTGGAGGTTAACGGAAAACCCGTCACCTCTGATGAGTACCTGGAACATTCCCTGACCTGAAAAAAGGAGCTGATAAGAA  
 180 L R D F S L E L E V N G K P V T S D E Y L E H S L T L K K G A D K K

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**HindIII (1206)** **StuI (1273)**  
 1201 AACTAAAAGCTTTAATGAGCCGCGACTGTGCATCAGGAAATCTTTCAAAGAGGAAGTGCTTCATCTTTGACAGGCTGCTCAGAGGAAGCAACTTAGC  
 213 T K S F N E P R L C I R K F F P K R K C F I F D R P A Q R K Q L S  
 1301 AAAGTGGAGACTTGCAGGAGGAGGAGCTGTGGTGAATTTGAGAACAAGTGCAGAATTCACCTCATACTTTGAGCTACTTCTGTCAAGACTC  
 247 K L E T L R E E E L C G E F V E Q V A E F T S Y I L S Y S V K T  
 1401 TGTGTGGTGGCATCATAGTCAATGGGCCAGCTCTAAAGAGCCTGGTGCAGACCTATGTTGGTCCATCAGCAATGGGTCTCTCCCCTGCATGGAGAGTGC  
 280 L C G G I I V N G P R L K S L V Q T Y V G A I S N G S L P C M E S A  
 1501 TGTGCTGACTTTGGCCAGATAGAGAACTCAGCAGCAGTGCAAAAGGCCATCACCCACTATGAAGAACAGATGAATCAGAAGATTGAGTCCACAGAA  
 313 V L T L A Q I E N S A A V Q K A I T H Y E E Q M N Q K I Q M P T E

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**BbsI (1654)**  
 1601 ACCCTCCAGGAGCTCCTGGATCTGCACAGGCCAATTGAGAGTGAAGCCATTGAGGCTTCTGAAAGAATTCTTCAAGGATGTAGACAAAAGTTCCAGA  
 347 T L Q E L L D L H R P I E S E A I E V F L K N S F K D V D Q K F Q  
 1701 CAGAATTAGGAACTGCTGGTAGCCAAGCGAGATGCCTTTATCAAGAAGAATGATGATGCTCATCAGCTCGTTGCTCAGACTTGTGGAGGATATTTT  
 380 T E L G N L L V A K R D A F I K K N M D V S S A R C S D L L E D I F

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**BstXI (1899)**  
 1801 TGGACCCCTGGAAGAAGAAGTAAAATTAGGGACATTTCTAAACCAGGAGGTTACTACCTTCTCCTTCAAATGAGACAAGAGCTAGAGAAAAAGTATAAC  
 413 G P L E E E V K L G T F S K P G G Y Y L F L Q M R Q E L E K K Y N  
 1901 CAGGCTCCTGGAAAGGGCTCCAGGCAGAAGCGATGCTGAAAACTACTTTGATTCGAAGGCAGATGTTGTTGAAACACTTACAGACGGATCAGTCAC  
 447 Q A P G K G L Q A E A M L K N Y F D S K A D V V E T L L Q T D Q S

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**BsiWI (2032)**  
 2001 TCACAGAGGCAGCAAAGGAGGTAGAAGAGGAACGTACGAAGGCTGAAGCTGCTGAAGTGCAAACAGAGAGTTAGAAAAGAAGCAGAAGGAGTTCCGAGCT  
 480 L T E A A K E V E E E R T K A E A A E A A N R E L E K K Q K E F E L  
 2101 GATGATGCAGCAGAAGGAAAAGAGTTACCAGGAGCATGTGAAGAAGCTGACTGAGAAGATGAAAGACGAACAGAAAACAGTTATTAGCAGAACAGGAAAAC  
 513 M M Q Q K E K S Y Q E H V K K L T E K M K D E Q K Q L L A E Q E N  
 2201 ATCATAGCTGCTAAACTTCGGGAACAGGAAAAATTTCTTAAGGAAGGATTCGAGAATGAGAGCAAAAACTTATTCGAGAGATTGATACCCTGAAGCAAA  
 547 I I A A K L R E Q E K F L K E G F E N E S K K L I R E I D T L K Q

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**ApaLI (2316)** **AvrII (2368)** **MscI (2380)**  
 2301 ACAAAATCGTCTGGGAAGTGCCTACTCTGAAGGCCAACGGCCAAACCTCTCTGCAAGCTCTCTCCCTAGGACTAGTGGCCAGACATGATAAGATA  
 580 N K S S G K C T I L •

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2401 CATTGATGAGTTTGACAAACCAACTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGC

HpaI (2512)  
 2501 TGCAATAAAACAAGTTAAACAACAACAAATTGCATTCAATTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAAT  
 2601 GTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAAATCAAGCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCA  
 SapI (2790)  
 2701 GGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTCTTTCATGGAGTTTAAAGATATAGTGATTTTTCCCAAGTTTGAAGCTAGCTCTTCATT  
 SspI (2847) SwaI (2861)  
 2801 TCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTA  
 EcoO109I (2922)  
 2901 TTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAG  
 3001 AAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCAATGAGCACAAAGC  
 141 • N R T Y K L P I L E E I T T K V L K G N M E I L V F C  
 BstXI (3151)  
 3101 AGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGC  
 113 D P A Y D S I L E R C M G C P S V V R I S R D V E D S Y P H R V A  
 StuI (3286)  
 3201 CACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGG  
 80 V I T D F D K Q G N S V A S G I A I A E A C V T V R G I Y A E I H  
 3301 ACAGCAGAGATGATCTCCCAGCTTGGTCTGATGCCGCCCCGACATGGTGCTTGTGCTCATAGAGCATGGTGATCTTCTCAGTGGCGACCTCCA  
 46 V A S I I E G T K T R I A A G V H H K N D E Y L M T I K E T A V E V  
 BbsI (3432) AseI (3494)  
 3401 CCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTGGCCCTCTATAGTGAGTCTATTATACTATGCCGATATACTATGCCGATGATTAAT  
 13 L E L D Q Q S I N F T K M  
 3501 TGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTGG  
 SpeI (3649)  
 3601 CGTCAATGGGGCGGAGTTGTTACGACATTTGGAAAGTCCCGTTGATTTACTAGTCAAACAACTCCATTGACGTCAATGGGGTGGAGACTTGAAAT  
 SnaBI (3777)  
 3701 CCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAG  
 NdeI (3882)  
 3801 GAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACTTGGCATATGATACACTTGATG  
 3901 TACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTC  
 PacI (4068)  
 PstI (4061) SdaI (4060) BspLU11I (4078)  
 4001 AATGGGCGGGGTCGTTGGGCGGTCAGCCAGGCGGGCCATTTACCCTAAGTTATGTAACCGCTGCAGGTTAAITAAAGAACATGTGAGCAAAAGGCCAGCA  
 4101 AAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGG  
 4201 CGAAACCCGACAGGACTATAAAGATACCAGCGCTTTCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTCCGACCCTGCCGCTTACCGGATACCTGTCCG  
 ApaLI (4392)  
 4301 CCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCAAGCTGGGCTGTGTGCACGA  
 4401 ACCCCCGTTTCAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGTAGTCAACCCGGTAAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGT  
 4501 AACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCG  
 4601 CTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTGTTTGAAGCAGCA  
 4701 GATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTC  
 EagI (4828)  
 PacI (4808) SwaI (4817) NotI (4827)  
 4801 ATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATA  
 4901 CGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA