



**PvuI (7)**  
**SgfI (6)** 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA MfeI (82) EcoNI (96)

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

**HindIII (245)**  
**Psp1406I (203)** 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGGCCGAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACAGCGCCCGCCCTACCTGAGGCC EcoNI (287) **Bsu36I (291)**

**PvuII (239)** 301 GCCATCCACGCGGTTGAGTGCAGTTCGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

**NgoMIV (441)**  
**NaeI (441)** 401 GGGCCTTTGTCCGGCGCTCCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGTCTTTGTTTCGTTT

**NcoI (560)**  
**BstEII (555)**  
**KasI (535)** 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCACCATGGGCTGTGTGCAATGTAAGGATAAAGAAGCAACAAA AgeI (552) 1 M G C V Q C K D K E A T K

**BstXI (630)** 601 ACTGACGGAGGAGAGGGACGGCAGCCTGAACACAGCTCTGGGTACCGCTATGGCACAGACCCACCCCTCAGCACTACCCAGCTTCGGTGTGACCTCC 13 L T E E R D G S L N Q S S G Y R Y G T D P T P Q H Y P S F G V T S

**BsiWI (790)** 701 ATCCCAACTACAACAACCTCCACGCAGCCGGGGCCAAGGACTCACCGTCTTTGGAGGTGTGAAGTCTTCGTCTCATACGGGACCTTGCCTACGAGAG 47 I P N Y N N F H A A G G Q G L T V F G G V N S S S H T G T L R T R

**SspI (891)** 801 GAGGAACAGGAGTGACACTCTTTGTGGCCCTTATGACTATGAAGCACGGACAGAAGATGACCTGAGTTTTCACAAAGGAGAAAAATTTCAAATTTGAA 80 G G T G V T L F V A L Y D Y E A R T E D D L S F H K G E K F Q I L N

**BsrBI (927)** 901 CAGCTCGGAAGGAGATTGGTGGGAAGCCGCTCCTTGACAAGTGGAGAGACAGTTACATTCAGCAATTATGTGGCTCCAGTTGACTCTATCCAGGCA 113 S S E G D W W E A R S L T T G E T G Y I P S N Y V A P V D S I Q A

**XcmI (962)** 1001 GAAGAGTGGTACTTTGAAAACTTGGCCGAAAAAGATGCTGAGCGACAGCTATTGCTTTGAAAAACCAAGAGGTACCTTTCTATCCGCGAGAGTGA 147 E E W Y F G K L G R K D A E R Q L L S F G N P R G T F L I R E S E

**Tth111I (1153)** 1101 CCACAAAGGTGCCTATTCACTTTCTATCCGTGATTGGGATGATATGAAAGGAGACCATGTCAAACATTATAAAATTCGAAACTTGACAATGGTGGATA 180 T T K G A Y S L S I R D W D D M K G D H V K H Y K I R K L D N G G Y

**Bsp120I (1214)** 1201 CTACATTACCACCCGGGCCAGTTTGAACACTTCAGCAGCTTGTACAACATTAAGTCTCAGAGAGAGCTGCAGGTCTCTGCTGCCGCTAGTAGTCCCTGT 213 Y I T T R A Q F E T L Q Q L V Q H Y S E R A A G L C C R L V V P C

**XmaI (1211)** 1301 CACAAAGGATGCAAGGCTTACCGATCTGTCTGTCAAACCAAAGATGTCTGGGAAATCCCTCGAGAATCCCTGCAGTTGATCAAGAGACTGGGAAATG 247 H K G M P R L T D L S V K T K D V W E I P R E S L Q L I K R L G N

**BsrGI (1242)** 1401 GGCAGTTTGGGAAAGTATGGATGGTACCTGGAATGGAACACAAAAGTAGCCATAAAGACTCTTAAACCAAGGACAATGTCCCCCGAATCATTCCCTTGA 280 G Q F G E V W M G T W N G N T K V A I K T L K P G T M S P E S F L E

**XhoI (1361)** 1501 GGAAGCGCAGATCATGAAGAAGCTGAAGCACGACAAGCTGGTCCAGCTCTATGCAGTGGTGTCTGAGGAGCCCATCTACATCGTCACCGAGTATATGAAC 313 E A Q I M K K L K H D K L V Q L Y A V V S E E P I Y I V T E Y M N

**BspHI [m] (1509)** 1601 AAAGGAAGTTTACTGGATTTCTAAAAGATGGAGAAGGAGCTCTGAAATACCAAATCTTGTGGACATGGCAGCAGAGTGGCTGCAGGAATGGCTT 347 K G S L L D F L K D G E G R A L K L P N L V D M A A Q V A A G M A

**BglII (1728)** 1701 ACATCGAGCGCATGAATTATATCCATAGAGATCTGCGATCAGCAAACATTCTAGTGGGAAATGGACTCATATGCAAGATTGCTGACTTCGGATTGGCCCG 380 Y I E R M N Y I H R D L R S A N I L V G N G L I C K I A D F G L A R

**NdeI (1767)** 1801 ATGATAGAAGACAATGAGTACACAGCAAGACAAGGTGCAAAAGTTCCCCATCAAGTGGACGGCCCGGAGGCAGCCCTGTACGGGAGGTTTACAATCAAG 413 L I E D N E Y T A R Q G A K F P I K W T A P E A A L Y G R F T I K

**BstEII (1938)** 1901 TCTGACGTGGTCTTTTGAATCTTACTCACAGAGCTGGTCAACAAAGGAGAGTGCATACCCAGGCATGAACAACCGGGAGGTGCTGGAGCAGGTGG 447 S D V W S F G I L L T E L V T K G R V P Y P G M N N R E V L E Q V

**BspHI [m] (2054)** 2001 AGCGAGGCTACAGGATGCCTGCCCGCAGGACTGCCCATCTCTGTCATGAGCTCATGATCCACTGCTGGAAAAAGACCCTGAAGAACGCCCACTTT 480 E R G Y R M P C P Q D C P I S L H E L M I H C W K K D P E E R P T F

**ScaI (2102)** 2101 TGAGTACTTGCAGAGCTTCTGGAAGACTACTTTACCGCGACAGAGCCCAAGTACCAACTGGTGAACCTGTAAAGGCCGGGTCTGCGGAGAGAGGCC 513 E Y L Q S F L E D Y F T A T E P Q Y Q P G E N L •

**XcmI (2148)** **XmaI (2178)** **StuI (2195)**

**MscI (2208)** 2201 TTGCTAGTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAAGTAAACAAACAATTGCATTCTTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGTT

**NheI (2202)**

**HpaI (2340)** **MfeI (2351)** 2301 TATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAATTGCATTCTTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGTT

2401 TTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCCAATCAAGCCTCTACTTGAATCCTTTT  
 EcoRI (2436)  
 2501 CTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTTCATGGAGTTAAGATATAGTGTATT

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2601 TTCCAAGGTTTGAAGTACTGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTGTAGTAAAATATTCAGAAATAATTTAAATACA  
 SspI (2675) SwaI (2689)  
 2701 TCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAG

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2801 GAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGC  
 141 • N R T Y K L P I L E E I T T K V L  
 BstXI (2979)  
 2901 TTGCCATTCACTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGCGACATGCCACAGGGGCTGACCACCTGATGGATCTGTCCA  
 122 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 S R D V  
 3001 CCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCAATGGCAATGGCTTCAGCACAGACAGT  
 89 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 A C V T

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3101 GACCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTTGGTCTGATGGCGCCCGACATGGTCTTGTGTCTCATAGAGC  
 56 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 E Y L  
 3201 ATGGTGATCTTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACT  
 22 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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3301 ATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACC  
 AseI (3322)

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3400 TCCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCCA  
 SpeI (3477)  
 3499 TTGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGA

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3599 TGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGG  
 SnaBI (3605)

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3699 GGGCGTACTTGGCATATGATACACTTGATGACTGCCAAGTGGGCGAGTTTACCCTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTT  
 NdeI (3710)

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3799 ACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGCTGTTGGGCGGTACGCCAGGCGGGCCATTTACCCTAAGTTATGTAACGCTG C A G G  
 SdaI (3888)

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3897 TT AA TTAAGAACATGTGAGCAAAAGGCCAGCAAAAGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAG  
 PacI (3896) BspLU11I (3906)  
 3996 CATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCCTCTCCTG  
 4096 TTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTGA

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4196 GGTGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTGACGCCGACCGCTGCGCCTTATCCGTAACATATCGTCTTGTAGTCCAACCCGGTAAGA  
 ApaLI (4220)  
 4296 CACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACG  
 4396 GCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGC  
 4496 TGGTAGCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAG

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4596 TGGAACGAAAACCTCACGTTAAGGGATTTTGGTCAATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAAATATCTTTATTTTATTACATCTGTG  
 PacI (4636) SwaI (4645) EagI (4656) NotI (4655)  
 4696 TGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAATAGGCTGTCCCGAGTGAAGTGCA  
 4796 GGTGCCAGAACATTTCTCTATCGAA