



PvuI (7) SgfI (6) MfeI (82) EcoNI (96)
 1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTGCGCAATTGAACGGGTGCCTA
 101 GAGAAAGTGGCGCGGGTAAACTGGAAAGTGTGTCTGTACTGGCTCCGCCTTTTTCCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC
 HindIII (245) Bsu36I (291)
 Psp1406I (203) PvuII (239) EcoNI (287)
 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGGCTCGCATCTCTCTTCACGCGCCCGCCCTACCTGAGGGC
 301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC
 NgoMIV (441)
 401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCTGCTTGTCTCAACTCTACGCTTTTGTTCGTTT
 AgeI (552) BspHI (560) BstEII (571)
 501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGCGCTACCTGAGATCACCGGTATCATGATTCTGGTAACCGAATGCTGATGGTCGTTTTATT
 1 M I P G N R M L M V V L L
 BsrBI (696)
 601 ATGCCAAGTCCTGCTAGGAGCGCGAGCCATGCTAGTTTGATACCTGAGACGGGGAAGAAAAAGTCGCCGAGATTCAGGGCCACGCGGGAGGACGCCGC
 13 C Q V L L G G A S H A S L I P E T G K K K V A E I Q G H A G G R R
 BspEI (798)
 701 TCAGGGCAGAGCCATGAGCTCCTGCGGACTTCGAGGGCAGACTTCTGCAGATGTTTGGGCTGCGCCGCCCGCAGCCTAGCAAGAGTGCCGTCACTT
 47 S G Q S H E L L R D F E A T L L Q M F G L R R R P Q P S K S A V I
 BstXI (858) SfiI (891)
 801 CGGACTACATGCGGGATCTTTACCGGCTTCAGTCTGGGGAGGAGGAGGAAGAGCAGATCCACAGCACTGGTCTTGAGTATCCTGAGCGCCCGGCCAGCCG
 80 P D Y M R D L Y R L Q S G E E E E E Q I H S T G L E Y P E R P A S R
 901 GGCCAACACCGTGAAGAGCTCCACCACGAAGAACATCTGAGAAACATCCAGGGACCAAGTAAAACCTGCTTTTCTTTTAACTCAGCAGC
 113 A N T V R S F H H E E H L E N I P G T S E N S A F R F L F N L S S
 Bsp120I (1062)
 1001 ATCCCTGAGAACGAGGTGATCTCCTCTGCAGAGCTTCGGCTCTCCGGGAGCAGGTGGACCAGGGCCCTGATTGGAAAGGGGCTCCACCGTATAAACA
 147 I P E N E V I S S A E L R L F R E Q V D Q G P D W E R G F H R I N
 DraIII (1180)
 1101 TTTATGAGTTATGAAGCCCCAGCAGAAGTGGTGCCTGGGCACCTCATCACAGCACTACTGGACACGAGACTGGTCCACCACAATGTGACACGGTGGGA
 180 I Y E V M K P P A E V V P G H L I T R L L D T R L V H H N V T R W E
 XmaI (1235) NheI (1260)
 1201 AACTTTTGATGTGAGCCCTGCGGTCTTCGCTGGACCCGGGAGAAGCAGCCAAACTATGGGCTAGCCATTGAGGTGACTCACCTCCATCAGACTCGGACC
 213 T F D V S P A V L R W T R E K Q P N Y G L A I E V T H L H Q T R T
 MscI (1386)
 PvuI (1327) Bsp120I (1355) BstEII (1377) SfiI (1387)
 1301 CACCAGGGCCAGCATGTGAGGATTAGCCGATGTTACCTCAAGGGAGTGGAAATTGGGCCAGCTCCGGCCCTCCTGGTCACTTTGGCCATGATGGCC
 247 H Q G Q H V R I S R S L P Q G S G N W A Q L R P L L V T F G H D G
 NgoMIV (1484)
 1401 GGGCCATGCCTTGACCCGACGCGGAGGGCCAAGCGTAGCCCTAAGCATCACTCACAGCGGGCCAGGAAGAATAAAGAACTGCCGGCCACTCGCT
 280 R G H A L T R R R R A K R S P K H H S Q R A R K K N K N C R R H S L
 StuI (1559) NcoI (1572)
 1501 CTATGTGGACTTCAGCGATGTGGGCTGGAATGACTGGATTGTGGCCCCACAGGCTACCAGGCTTCTACTGCCATGGGGACTGCCCTTTTCCACTGGCT
 313 Y V D F S D V G W N D W I V A P P G Y Q A F Y C H G D C P F P L A
 PshAI (1635)
 1601 GACCACCTCAACTCAACCAACCATGCCATTGTGACAGCCCTGGTCAATTCTGTCAATTCCAGTATCCCAAAGCCTGTTGTGTGCCCACTGAACTGAGTG
 347 D H L N S T N H A I V Q T L V N S V N S S I P K A C C V P T E L S
 XcmI (1706)
 1701 CCATCTCCATGCTGTACCTGGATGAGTATGATAAGGTGGTACTGAAAAATTATCAGGAGATGGTAGTAGAGGGATGTGGGTGCCGCTGAGATCAGGCAGT
 380 A I S M L Y L D E Y D K V V L K N Y Q E M V V E G C G C R •
 NheI (1870)
 EcoRI (1864)
 1801 CCTTGAGGATAGACAGATATACACACCACACACACACCACATACACCACACACACAGTCCGAATTCGCTAGCTCGACATGATAAGATACATTGATG
 1901 AGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTGAAATTTGTGATGCTATTGCT
 HpaI (2033) MfeI (2044)
 2001 TATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTGCATTATTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGTTTTTAA
 EcoRI (2129)
 2101 GCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACCTTAACTCCAATCAAGCCTCTACTTGAATCCTTTTCTGAGGG
 2201 ATGAATAAGGCATAGGCATCAGGGGCTGTTGCAATGTGCATTAGCTGTTGCAGCCTCACCTTCTTCATGGAGTTAAGATATAGTGTATTTCCCAA

2301 **SspI (2368)** SwaI (2382)
 GGTTTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTTAGTAAAATATTCAGAAATAATTTAAATACATCATTGC

2401 AATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGACCTT

2501 TAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCCAT
 141 • N R T Y K L P I L E E I T T K V L K G N

2601 **BstXI (2672)**
 TCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCATGCCACAGGGGCTGACCACCTGATGGATCTGTCCACCTCATC
 120 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 E D

2701 AGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTACGACAGACAGTACCCTG
 87 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 V R

2801 **StuI (2807)**
 CCAATGTAGGCCCTCAATGTGGACAGCAGAGATGATCTCCCGAGTCTGGTCTGATGGCCGCCGACATGGTGTGTTGTCTCATAGAGCATGGTGA
 53 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 M T I

2901 **BbsI (2953)** **XmnI (2949)**
 TCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCTATAGTGAGTCGTATTATACTATGCCGA
 20 K E T A V E V L E L D Q Q S I N F T K M

3001 **AseI (3015)**
 TATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTCACTAAACGAGCTCTGCTTATATAGACCTCCCACCG

3101 **SpeI (3170)**
 TACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCCGTTGATTTACTAGTCAAAAACAACTCCATTGACGTCA

3201 **SnaBI (3298)**
 ATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGTAGCTAATA

3301 CGTAGATGTACTGCCAAGTAGGAAAGTCCATAAAGTTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTACT

3401 **NdeI (3403)**
 TGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGA

3501 **PacI (3589)** **SdaI (3581)** **BspLU11I(3599)**
 ACATACGTCATTATTGACGTCAATGGCGGGGGTCTGTTGGCGGTCAGCCAGGCGGGCCATTTACCGTAAAGTTATGTAACCGCTGCAGGTTAATTAAGAA

3601 CATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAAAT

3701 CGACGCTCAAGTCAGAGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCCTGC

3801 CGCTTACCGGATACCTGTCCGCTTTCTCCCTCGGGAAGCGTGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGTTGCTC

3901 **ApaLI (3913)**
 CAAGCTGGGCTGTGTGCACGAACCCCGTTACGCCGACCGTGGCCTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGTAAGACACGACTTATCG

4001 CCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAA

4101 GAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGCAAAACAAACCACCGCTGGTAGCGGTGG

4201 TTTTTTGTGGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAAAAC

4301 **EagI (4349)** **PacI (4329)** **SwaI (4338)** **NotI (4348)**
 TCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGAATAAAATATCTTTATTTTATTACATCTGTGTGTTGTTTTT

4401 GTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAAACTAGCAAAATAGGCTGTCCCCAGTGCAAGTGCAGGTGCCAGAACA

4501 TTTCTCTATCGAA