



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

101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGTAAGTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

HindIII (245)
Psp1406I (203) 201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCAGAGGGCTCGCATCTCTCTTACACGGCCCGCCCTACCTGAGGGCC **PvuII (239)** **Bsu36I (291)**

301 GCCATCCACGCGGTTGAGTGCAGTCTGCCGCTCCCGCCTGTGGTGCCTCTGAAGTGCCTCCGCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCTTGGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTGGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT **NgoMIV (441)**

501 TCTGTTCTGCGCGGTTACAGATCCAAGCTGTGACCGCGCGCTACCTGAGATCACCGGTACCATGGCCCTGGGAAGATGCATTGCGGAAGTTGGACCTT **NcoI (560)** **BstXI (560)** **BstEII (555)** **AgeI (552)** **NsiI (576)**
1▶ M A L G R C I A E G W T L

601 GGAGAGAGTGGCGGTGAAACAGGTCTCCTGGTTCTGATCTACAGCTGGGTCTGCTCTGGTGTCTGCCGGGAGTCTCGGTCCAGAGCAAGGAGGAGGA **PvuII (642)**
13▶ E R V A V K Q V S W F L I Y S W V C S G V C R G V S V P E Q G G G
701 GGCAGAAGGCTGGAGCATTACCTGTCTCAGCAACAGTATTACAGATGACTGCCACTGGTCCAGAGCTGGGCCAGGAATCCAGGCCTGGC
47▶ G Q K A G A F T C L S N S I Y R I D C H W S A P E L G Q E S R A W
801 TCCTCTTACCAGTAACAGGTGACTGAAATCAAGCACAAATGCACCTTCTGGACAGTATGTGTACCCTGGTGTGCCTAAAGAGGAGGATTTCTTACC
80▶ L L F T S N Q V T E I K H K C T F W D S M C T L V L P K E E V F L P
901 TTTTGACAACCTCACCATCACACTTACCGCTGCATCATGGGACAGGAACAGGTGAGCCTGGTGGACTCACAGTACCTGCCAGGAGACACATCAAGTTG
113▶ F D N F T I T L H R C I M G Q E Q V S L V D S Q Y L P R R H I K L

1001 GACCCACCTCTGATCTGCAGAGCAATGTCAGCTCTGGCGTGTGTCTGACCTGGGTATCAATCTTGCCTGGAGCCATTGATCACATCCCTCAGCT **PstI (1015)**
147▶ D P P S D L Q S N V S S G R C V L T W G I N L A L E P L I T S L S

1101 ACGAGCTGGCCTTCAAGAGGCAGGAAGAGGCTGGGAGCAAGGCCGACAAAGACCGTATCGTTGGAGTACCTGGCTCATCCTTGAAGCCGTGCAAC **StuI (1127)**
180▶ Y E L A F K R Q E E A W E Q A R H K D R I V G V T W L I L E A V E

1200 TGAATCCTGGTTCATCTACGAGGCCAGGCTGCGTGTCCAGATGACTTTGGAGAGTTATGAGACAAGACAGAGGGGAATATTATAAGGCCATTGGAG **SspI (1277)**
213▶ L N P G S I Y E A R L R V Q M T L E S Y E D K T E G E Y Y K S H W S

1300 TGAGTGGAGCCAGCCGTGCTCTTCTCTCCAGAGGAGACAGGGCTCCTGGTCCACGCTGGCAATGGTCAGCCAGCATCCTTGTAGTTGTGCC **XcmI (1357)**
246▶ E W S Q P V S F P S P Q R R Q G L L V P R W Q W S A S I L V V V P

1400 ATCTTTCTCTGCTGACTGGCTTGTCCACCTTCTGTTCAAGCTGTACCCAGGCTGAAGAGAATCTTTTACCAGAACATTCCATCTCCAGGCGTTCT **Bsu36I (1486)**
280▶ I F L L L T G F V H L L F K L S P R L K R I F Y Q N I P S P E A F

1500 TCCATCCTCTACAGTGTGACCATGGGACTTCCAGACTTGGACAGGGGCCCAAGAGCCGACCAAGCAAGACAGAATGGTGTGACTACTTCATC **NcoI (1521)** **ScaI (1588)**
313▶ F H P L Y S V Y H G D F Q T W T G A H R A G P Q A R Q N G V S T S S

1600 AGCAGGCTCAGAGTCCAGCATCTGGGAGGCCATCGCCACACTCACCTATAGCCCGCATGCCCTGTGCAGTTTGCCTGCCTGAAGTGGGAGGCCACAGCC **SphI (1654)**
346▶ A G S E S S I W E A I A T L T Y S P A C P V Q F A C L K W E A T A

1700 CCTGGCTTCCAGGGCCCGCCAGGCTCAGAGCATGTGCTGCCGGCAGGGTGTCTGGAGTTGGAAGGACAGCCATCTGCCTACCTGCCCCAGGAGGACTGGG **NgoMIV (1737)**
380▶ P G F P G P P G S E H V L P A G C L E L E G Q P S A Y L P Q E D W
1800 CCCACTGGGCTCTGCCAGGCCCTCCTCCAGACTCAGACAGCGGACGAGGACTATTGCATGTTGGACTGTGTGAGGAGTGCCACCTCTCAGCCTT
413▶ A P L G S A R P P P P D S D S G S S D Y C M L D C C E E C H L S A F

1900 CCCAGGACACACCAGAGTCTGAGCTCACACTAGCTCAGCCTGTGGCCCTTCTGTGTCCAGCAGGGCCTGACACCTACCAAGGGATGTGCCTAGGCT **AvrII (1990)**
446▶ P G H T Q S P E L T L A Q P V A L P V S S R A •

2000 AGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTG **MscI (2002)**

2100 CTTTATTTGTAACCATTATAAGCTGCAATAAACAGTTAAACAACAACATTGCATTATTTTATGTTTCAGGTTACAGGGGAGGTGTGGGAGGTTTTTTA **HpaI (2134)** **MfeI (2145)**

2200 AAGCAAGTAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACCTTAACTCCAAATCAAGCCTCTACTTGAATCCTTTTCTGAG **EcoRI (2230)**

2300 GGATGAATAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGTATTTTCCC

2400 AAGGTTTGAAGTACTCTTCATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTATGATAAAATATTCAGAAAATAATTTAAATACATCATT **SspI (2469)** **SwaI (2483)**

2500 GCAATGAAAAATAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACC

2600 TTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGATGAGTTCCTCAATGGTGGTTTTGACCAGCTTGCC
141 • N R T Y K L P I L E E I T T K V L K G
BstXI (2773)

2700 ATTCATCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTGACATGCCACAGGGGCTGACCACCTGATGGATCTGCCACCTCA
121 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 E

2800 TCAGAGTAGGGGTGCTGACAGCCACAATGGTGTCAAAGTCCTTCTGCCGTTGCTCACAGCAGACCCAATGGCAATGGCTTCAGCACAGACAGTGACCC
87 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 V R
StuI (2908)

2900 TGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTTGTGCTCATAGAGCATGGT
54 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
BspHI (3058)
BbsI (3054)
XmnI (3050)

3000 GATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGATGGCCCTCTATAGTGAGTCGTATTATACTATGCC
21 I K E T A V E V L E L D Q Q S I N F T K M

3100 GATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCACTAAACGAGCTCTGCTTATATAGACCTCCAC
AseI (3116)

3200 CGTACACGCCTACGCCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGAAAGTCCC GTTGATT TACTAGTCAAAAACAACTCCCATTGACGT
SpeI (3271)

3300 CAATGGGGTGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCAAAACCGCATCATCATGTAATAGCGATGACTAA
SnaBI (3399)

3400 TACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCACTGACTGGGCATAATGCCAGGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCGTA
NdeI (3504)

3500 CTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCGTAAATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGG
PacI (3690)
PstI (3683)
SdaI (3682)

3600 GAACATACGTCATTATTGACGTCAATGGGCGGGGTCTGTTGGGCGTACGCCAGGCGGGCCATTTACCGTAAGTTATGTAACGCCTGCAGGTTAATTAAG
BspLU11I (3700)

3700 AACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAA
ATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGTCCCTCGTGCCTCTCCTGTTCCGACCT

3800
3900 GCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCCG

4000 TCCAAGCTGGGCTGTGTGCACGAACCCCCGTTAGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTAT
ApaLI (4014)

4100 CGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG
4200 AAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGT
4300 GGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAA
EagI (4450)
PacI (4430) SwaI (4439) NotI (4449)

4400 ACTCACGTTAAGGGATTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTTGGTTTT
4500 TTGTGTAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCCAGTGCAAGTGCAAGTGCCAGAA
4600 CATTCTCTATCGAA