



PvuI (7)
SgfI (6)
1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGCAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA
101 GAGAAGGTGGCGCGGGTAAACTGGAAAGTGATGTCGTGACTGGCTCCGCCTTTTTCCGAGGGTGGGGGAGAACCGTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCCTACCTGAGGCC
301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCCTCCCGCCTGTGGTGCCTCCTGAAGTGCCTCCGCCGTCTAGGTAAGTTAAAGCTCAGGTCGAGACC

NgoMIV (441) **NaeI (441)**
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTT

KasI (535) **AgeI (552)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCCATCATGACTAGCATCTTCCATTTTCCATTATCTTCATGT
601 TAATACTTCAGATCAGAATACAATTATCTGAAGAAAGTGAATTTTTAGTTGATAGGTCAAAAAACGGTCTCATCCAGTTCTCTAAAGACCTATCCAGAA
13▶ L I L Q I R I Q L S E E S E F L V D R S K N G L I H V P K D L S Q K
701 AACAAATCTTAAATATATCGCAAATATATATCTGAGCTTTGACTTCTGACATCTTACTGTCAAAACTGAGGATTTTGATAATTTCTCATAAT
46▶ T T I L N I S Q N Y I S E L W T S D I L S L S K L R I L I I S H N

EcoRV (815)
801 AGAATCCAGTATCTTGATATCAGTGTTTTCAAATTCACCAGGAATTGGAATACTTGGATTTGTCCACAACAAGTTGGTGAAGATTTCTGCCACCCTA
80▶ R I Q Y L D I S V F K F N Q E L E Y L D L S H N K L V K I S C H P

Ppu10I (933) **NsiI (933)**
901 CTGTGAACCTCAAGCACTTGACCTGTCAATTAATGCATTTGATGCCCTGCCTATATGCAAAGAGTTTGGCAATATGTCTCAACTAAAAATTTCTGGGGTT
113▶ T V N L K H L D L S F N A F D A L P I C K E F G N M S Q L K F L G L
1001 GAGCACCACACCTAGAAAAATCTAGTGTGCTGCCAATTGCTCATTGAAATATCAGCAAGTCTTGTGGTCTTAGGAGAGACTTATGGGAAAAAGAA
146▶ S T T H L E K S S V L P I A H L N I S K V L L V L G E T Y G E K E

EcoO109I (1107) **Bsu36I (1103)** **DraIII (1139)**
1101 GACCCTGAGGGCCTTCAAGACTTTAAGACTGAGAGTGCACATTGTGTTCCCAACAACAAGAATTCCATTTTATTTGGATGTGTCAGTCAAGACTG
180▶ D P E G L Q D F N T E S L H I V F P T N K E F H F I L D V S V K T
1201 TAGCAAATCTGGAATCTAATATCAAATGTGTGCTAGAAGATAACAATGTTCTTACTTCCAAAGTATTCTGGCGAAAATCAAAACAATCCAAAGTT
213▶ V A N L E L S N I K C V L E D N K C S Y F L S I L A K L Q T N P K L

BamHI (1350)
1301 ATCAAATCTTACCTTAAACAACATTGAAACAACCTGGAATCTTTCATTAGGATCCTCCAGCTGGTTGGCATACAACTGTATGGTATTTCTCAATTTCA
246▶ S N L T L N N I E T T W N S F I R I L Q L V W H T T V W Y F S I S

StuI (1461)
1401 AACGTGAAGTACAGGGTACAGCTGGACTTCAGAGATTTTGATTATTCTGGCACTTCTTGAAGCCTTGTCTATACACCAAGTTGTCAGCGATGTGTTCC
280▶ N V K L Q G Q L D F R D F D Y S G T S L K A L S I H Q V V S D V F

BstBI (1531)
1501 GTTTTCCGCAAAGTTATATCTATGAAATCTTTTGAATATGAACATCAAAAATTTACAGTGTCTGGTACACGCATGGTCCACATGCTTTGCCATCCAA
313▶ G F P Q S Y I Y E I F S N M N I K N F T V S G T R M V H M L C P S K
1601 AATTAGCCGTTCTGCAATTTGGATTTTCCAATAATCTTAAACAGACACGGTTTTTGAATAATGTTGGGCACCTTACTGAGTTGGAGACACTTATTTTA
346▶ I S P F L H L D F S N N L L T D T V F E N C G H L T E L E T L I L
1701 CAAATGAATCAATTAAGAAGACTTTCAAAAATAGCTGAAATGACTACAGATGAAGTCTGCAACAATTGGATATTAGCCAGAATCTGTAAGCTATG
380▶ Q M N Q L K E L S K I A E M T T Q M K S L Q Q L D I S Q N S V S Y
1801 ATGAAAAGAAAGGAGACTGTTCTGGACTAAAAGTTTATTAAGTTTAAATATGCTTCAAATATACTTACTGACACTATTTTTCAGATGTTTACCTCCAG
413▶ D E K K G D C S W T K S L L S L N M S S N I L T D T I F R C L P P R

HindIII (1965)
1901 GATCAAGGTACTTGATCTTCACAGCAATAAAATAAAGAGCATTCTAAACAAGTCGTAACAACTGGAAGCTTTGCAAGAAGTCAATGTTGCTTTCAATTCT
446▶ I K V L D L H S N K I K S I P K Q V V K L E A L Q E L N V A F N S
2001 TTAAGTACCTTCTGGATGTGGCAGCTTATAGCAGCCTTCTGTATTGATCATTGATCACAATTGAGTTCCACCCATCGGCTGATTTCTCCAGAGCT
480▶ L T D L P G C G S F S S L S V L I I D H N S V S H P S A D F F Q S
2101 GCCAGAAGATGAGGTCAATAAAGCAGGGGACAATCCATTCCAATGTACTGTGAGCTAGGAGAATTTGTCAAAAATATAGACCAAGTATCAAGTGAAGT
513▶ C Q K M R S I K A G D N P F Q C T C E L G E F V K N I D Q V S S E V

BspLU11I (2274)
2201 GTTAGAGGGCTGGCTGATTCTTATAAGTGTGACTACCCGAAAGTTATAGAGGAACCTACTAAAGGACTTTTCAATGTCTGAATTATCCTGCAACATA
546▶ L E G W P D S Y K C D Y P E S Y R G T L L K D F H M S E L S C N I

XcmI (2328) **BstXI (2325)** **PstI (2362)**
2301 ACTCTGCTGATCGTCACCATCGTTGCCACCATGCTGGTGTGGCTGTGACTGTGACCTCCCTCTGCAGTACTTGGATCTGCCCTGGTATCTCAGGATGG
580▶ T L L I V T I V A T M L V L A V T V T S L C S Y L D L P W Y L R M

Ppu10I (2475) **NsiI (2475)**
2401 TGTGCCAGTGGACCCAGACCCGGCGCAGGGCCAGGAACATACCCTTAGAAGAAGTCCAAAGAATCTCCAGTTTCATGCAATTTATTTTATATAGTGGCA
613▶ V C Q W T Q T R R R A R N I P L E E L Q R N L Q F H A F I S Y S G H
2501 CGATTCTTTCTGGTGAAGAATGAATTTTGCANACCTAGAGAAAGGATGAGATTTGCCTTTCATGAGAGAACTTTGTTCTGGCAAGAGCATT
646▶ D S F W V K N E L L P N L E K E G M Q I C L H E R N F V P G K S I
2601 GTGGAAAATATCATCACCTGCATTGAGAAGAGTTACAAGTCCATCTTTGTTTTGTCTCCAACTTTGTCCAGAGTGAATGGTCCATTATGAAGTCTACT
680▶ V E N I I T C I E K S Y K S I F V L S P N F V Q S E W C H Y E L Y

2701 TTGCCATCACAATCTCTTTCATGAAGGATCTAATAGCTTAATCCTGATCTTGCTGGAACCCATTCCGCAGTACTCCATTCTAGCAGTTATCACAAGCT
713▶ F A H H N L F H E G S N S L I L I L L E P I P Q Y S I P S S Y H K L

MscI (2811) SspI (2891) AseI (2888)
2801 CAAAAGTCTCATGGCCAGGAGGACTTATTTGGAATGGCCCAAGGAAAAGCAAAACGTGGCCTTTTTGGGCTAACTTAAGGGCAGCCATTAATATTAAG
746▶ K S L M A R R T Y L E W P K E K S K R G L F W A N L R A A I N I K

MscI (2935) NheI (2929)
2901 CTGACAGAGCAAGCAAAGAAATAGTCTAGGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAA
780▶ L T E Q A K K •

HpaI (3067)
3001 ATGCTTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACAAATTGCATTCTTTTATGTTT
3101 CAGGTTTCAGGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAAATACAGCATAGCAAACTTTAACCTCC
3201 AAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCT
3301 TTCATGGAGTTTAAAGATATAGTGTATTTTCCCAAGTTTGAAC TAGCTCTTCATTCTTTATGTTTTAAATGCACTGACCTCCACATTCCTTTTTAGT

SspI (3402) SmaI (3416) EcoO109I (3477)
3401 AAAATATTCAGAAATAATTTAAATACATCATTGCAATGAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCCAG
3501 TTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTAAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCTGGTGTACTTGGAGGGGATG
141▶ • N R T Y K L P I

SacI (3677)
3601 AGTTCCTCAATGGTGGTTTTGACCAGCTTGCCATTCTCAATGAGCACAAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTTCGCACATGCCACAGG
131▶ L 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 (3706)
3701 GGCTGACCACCCTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTTCTGCCGTTGCTCACAGCAGACCC
98▶ 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

StuI (3841)
3801 AATGGCAATGGCTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCG
65▶ I 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
3901 ACATGGTCTTGTGCTCATAGAGCATGGTGTCTCTCAGTGGCGACCTCCACAGCTCCAGATCCTGCTGAGAGATGTTGAAGGCTTTCATGATGG
31▶ V 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 (4049)
4001 CCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGATGGCGTCTCCAGCTATCTGACGGTTC

SacI (4106)
4100 ACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTT

SpeI (4204)
4200 GATTTACTAGTCAAACAAACTCCCATTGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCC

SnaBI (4332)
4299 AAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGACTGCCAAGTAGGAAAGTCCATAAGGTCTACTGGGCATAATGCCAGGCGGG

NdeI (4437)
4399 CCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGACTGCCAAGTGGGCGAGTTTACCGTAAATACTCCACCCATTGA
4499 CGTCAATGAAAAGTCCCTATTGGCGTACTATGGGAACATACGTCAATTATTGACGTCAATGGGCGGGGTCGTTGGGCGGTACGCCAGGCGGGCCATTTA

PstI (4616) SdaI (4615) PacI (4623) BspLU11I (4633)
4599 CCGTAAGTTATGTAACGCC T G C A G G T T A A T T A A G A A C A T G T G A G C A A A A G G C C A G C A A A A G G C C A G G A A C C G T A A A A A G G C C G T T G C T G G C G T T T T
4697 TCCATAGGCTCCGCCCCCTGACGAGCATCAAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCC
4797 TGGAACTCCCTCGTGGCTCTCCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGTTTCTCATAGCTCA

ApaLI (4947)
4897 CGCTGATAGTATCTCAGTTCGGTGTAGGTCGTTCCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTACGCCGACCGCTGCGCTTATCCGGTAACT
4997 ATCGTCTTGAGTCAAACCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGA
5097 GTTCTTGAAGTGGTGGCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGC
5197 TCTTGATCCGGCAAAACAAACCCGCTGGTAGCGGTGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGA

EagI (5383) PacI (5363) SmaI (5372) NotI (5382)
5297 TCTTTTCTACGGGCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTATGGCTAGTTAATTAACATTTAAATC AGCGGCCCAATAA

5396 AATATCTTTATTTTTCATTACATCTGTGTGTTGTTTTTGTGTGAATCGTAACATACGCTCTCCATCAAAAACAAAACGAAAACAAAACAACTAGCA
5496 AAATAGGCTGCCCCAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAA