



PvuI (7)
SgfI (6)
1 GGATCTGCGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCCGAGAAGTTGGGGGAGGGGTCGGCAATTGAACGGGTGCCTA

101 GAGAAGGTGGCGCGGGTAAACTGGAAAAGTGTCTGTACTGGCTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) **HindIII (245)** **Bsu36I (291)**
201 GTGAACGTTCTTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCCTTCACGCGCCCGCCCTACCTGAGGCC

301 GCCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTCCCGCTGTGGTGCTCCTGAACTGCGTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

NgoMIV (441)
401 GGGCCTTTGTCCGGCGCTCCCTTGAGCCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTGTCAACTCTACGCTTTTGTTCGTTTT

AgeI (552) **SphI (560)**
501 TCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACCGCGCCTACCTGAGATCACCGGTCAGCATGCAGAGCAATAAAGCCTTTAACTTGAGAAAGCAGAA

601 TCATACTCCAAGGAAGCATCATCAGCATCACCACCAGCAGCACCATCAGCAGCAACAGCAGCAGCAACAGCCACCCCAATACTGCAAAAT
13▶ H T P R K H H Q H H H Q Q H H Q Q Q Q Q Q P P P P I P A N

BbsI (768)
701 GGCCAGCAGGCCAGCAGCCAGAATGAAGGCTTGACTATTGACCTGAAGAATTTTAGAAAACAGGAGAGAAGACCTTTACACAGCGTAGCCGCTCTCTTTG
47▶ G Q Q A S S Q N E G L T I D L K N F R K P G E K T F T Q R S R L F

EcoRV (817)
801 TGGCAATCTTCCCTGATATCACTGAGGAGAAATGAGAAACTATTTGAGAAATATGAAAAGCAGGCGAAGTTTTCATTATAAGGATAAAGGCTT
80▶ V G N L P P D I T E E E M R K L F E K Y G K A G E V F I H K D K G F

XcmI (941)
901 TGGCTTTATTCGCTTGAAAACACGAACCTAGCGGAAATTGCCAAAGTGGAGCTGGACAACATGCCCTCCGTGGGAAGCAGCTGCGAGTGGCCTTTGCC
113▶ G F I R L E T R T L A E I A K V E L D N M P L R G K Q L R V R F A

1001 TGTACAGTGCATCCCTTACAGTCCGCAACCTTCTCAGTACGTGTGCAACGAACTGTGGAAGAAGCCTTTTCTGTGTTCCGCCAGGTGGAGAGGGCTG
147▶ C H S A S L T V R N L P Q Y V S N E L L E E A F S V F G Q V E R A

Bsu36I (1127)
1101 TAGTCATTGTGGATGACCAGGAAGGCCCTCAGGGAAGGCTTGTGAGTTCTCAGGGAAGCCAGCTGCTCGGAAAGCTCTGGACAGATGCAGTGAAGG
180▶ V V I V D D R G R P S G K G I V E F S G K P A A R K A L D R C S E G

1201 CTCCTTCTTGCTGACTACATTTCTCGGCTGTGACTGTGGAGCCTATGGACCAGTTAGATGATGAAGAGGGACTTCCAGAGAACTGTTATAAAAAAC
213▶ S F L L T T F P R P V T V E P M D Q L D D E E G L P E K L V I K N

1301 CAGCAATCCACAAGGAGAGAGAACAGCCACCCAGATTTGCACAACCTGGCTCCTTTGAGTATGAGTATGCCATGCGCTGGAAGGCACTCATTGAGATGG
247▶ Q Q F H K E R E Q P P R F A Q P G S F E Y E Y A M R W K A L I E M

BspHI (1479)
1401 AGAAGCAACAGCAGGATCAAGTGGATCGGAACATCAAGGAGGCTCGTGAAGCTGGAGATGGAGATGGAGGCTGCACGTCATGAGCACCAGGTTATGCT
280▶ E K Q Q Q D Q V D R N I K E A R E K L E M E M E A A R H E H Q V M L

XmnI (1528)
SapI (1528)
1501 AATGAGGCAGGATTTGATGAGACGTCAAGAAGACTTCGGAGAATGGAGGAGCTGCATAACCAAGAGGTTTCAAGGCAAAGCAGTTAGAACTCAGGCAG
313▶ M R Q D L M R R Q E E L T R R M E E L H N Q E V Q K R K Q L E L R Q

1601 GAAGAGGAACGCAGGCGCGGTGAGGAAGAGATCGCGGACAGCAAGAGGAAATGATGCGCCGACAGCAGGAAGGATTCAAGGGAACCTTCCCTGATGCGA
347▶ E E E R R R R E E E M R R Q Q E E M M R R Q Q E G F K G T F P D A

1701 GAGAACAAGAGATACGGATGGGCAAATGGCTATGGGAGTGTATGGCATAAAACAATAGAGGCGGATGCCCTGCTCTGTGCCACCTGGTACTCC
380▶ R E Q E I R M G Q M A M G G A M G I N N R G A M P P A P V P P G T P

Psp1406I (1865)
1801 AGCTCCTCAGGACCTGCCACTATGATGCCAGATGGAACCTTGATTGACCCACCAACAACCTGAACGTTTTGGCCAAGCTGCAACAATGGAAGGAATT
413▶ A P P G P A T M M P D G T L G L T P P T T E R F G Q A A T M E G I

1901 GGAGCAATTGGTGAACCTCCTGCATTCAACCGTCCAGCTCCGGGAGCTGAATTTGCTCCAAATAAACGCCCGATATTAGATAAAGTTGCATTGTC
447▶ G A I G G T P P A F N R P A P G A E F A P N K R R R Y •

BstAPI (2009)
PstI (2007) **NheI (2018)**
2001 TAGTTTCTGCAGCCCTTCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTT

HpaI (2156)
2101 GTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTCATTCTTTATGTTTCAGGTTTCAGGG

EcoRI (2252)
2201 GGAGGTGTGGGAGGTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGAATCTAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCT

2301 CTACTTGAATCCTTTTCTGAGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTT

SapI (2434) **SspI (2491)**
2401 TAAGATATAGTGTATTTTCCCAAGTTTGAACCTAGCTCTTCTTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATGAAAAATTCAG

SwaI (2505)
 2501 AAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTG
 2601 GACTTAGGGAACAAAGAACCTTTAATAGAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTACTTTGAGGGGATGAGTTCCTCAAT
 141 • N R T Y K L P I L E E I
 SacI (2766) BstXI (2795)
 2701 GGTGGTTTTGACCAGTTGCCATTCATCTCAATGAGCACAAGCAGTCAGGAGCATAGTCAGAGATGAGCTCTCTGCACATGCCACAGGGGCTGACCAC
 128 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 S V V
 2801 CTGATGGATCTGTCCACCTCATCAGAGTAGGGGTGCCTGACAGCCACAATGGTGTCAAAGCTTCTGCCCGTTGCTCACAGCAGACCAATGGCAATGG
 94 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 I A I A
 StuI (2930)
 2901 CTTCAGCACAGACAGTGACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAGTCTTGGTCTGATGGCCGCCCGACATGGTGCTT
 61 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 V H H K
 BbsI (3076) XmnI (3072)
 3001 GTTGTCTCATAGAGCATGGTATCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGTCTTCATGGTGGCCCTCCTATAG
 28 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 (3138) SacI (3195)
 3101 TGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTTATCTGACGGTTCCTAAACGAGCT
 SpeI (3293)
 3201 CTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAAGTCCCGTTGATTTACTAGTC
 3301 AAAACAACTCCCATTGACGTCAATGGGGTGGAGACTTGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTAAGTCCAAAACCGCATCAT
 SnaBI (3421)
 3401 CATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGTTCATGTACTGGGCATAATGCCAGGCGGGCCATTTACCGTCA
 NdeI (3526)
 3501 TTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCAGTTTACCCTAAATACTCCACCCATTGACGTCAATGAAAG
 3601 TCCCTATTGGCGTTACTATGGGAACATACGTCAATTATTGACGTCAATGGGGCGGGGCTGTTGGGCGGTGAGCCAGGCGGGCCATTTACCGTAAAGTTATGT
 PacI (3712) PstI (3705) SdaI (3704) BspLU11I (3722)
 3701 AACGCCTGCAGGTTAAITTAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCC
 3801 CCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAAGTCCCTCGT
 3901 GCGCTCTCTGTTCCGACCTGCCGTTACCGGATACCTGTCCGCTTCTCCCTTCGGAAGCGTGGCGTTTCTCATAGCTCAGCTGTAGGTATCTC
 ApaLI (4036)
 4001 AGTTCGGTGTAGGTCGTTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCA
 4101 ACCCGTAAAGACAGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTG
 4201 GCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAA
 4301 CAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGT
 EagI (4472) PacI (4452) SwaI (4461) NotI (4471)
 4401 CTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATCAGCGGCCGCAATAAAAATATCTTTATTTTCA
 4501 TTACATCTGTGTGTTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAACAAAACGAAACAAAACAACTAGCAAATAGGCTGTCCCA
 4601 GTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA