pPhi-Yellow-PRL vector restriction map

The data has not been verified by restriction digestion with each enzyme listed and does not take into account possible methylation sites. Enzymes that recognize unambiguous sequences less than 6 basepairs long are not included – for the more complete enzyme list please refer to the Table of restriction sites.

Unique sites shown in bold blue. The location given specifies the 3' end of the cut DNA (the base to the left of the cut site).

MCS sequence shown in frame, amino acids coded by MCS shown in black.

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                                                                                        BamH1
                                                                                       Sma1 |
                                                                                      Apa1| |
                                                                                 PspOM   || |
                                                                                 Sac2|   || |
                                          Xho1    Hind3  EcoR1      Sal1      Kpn1  ||   || |
                         Afe1   BpuE1 Bgl2   |   Sac1 |BstB1 |     Pst1| Acc65   |  ||   || |  Age1
                            |       |    |   |      | |    | |        ||     |   |  ||   || |     |
               TAGTTATTACTAGCGCTACCGGACTCAGATCTCGAGCTCAAGCTTCGAATTCTGCAGTCGACGGTACCGCGGGCCCGGGATCCACCGGTCGCCACCATGA
            1  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 100
               ATCAATAATGATCGCGATGGCCTGAGTCTAGAGCTCGAGTTCGAAGCTTAAGACGTCAGCTGCCATGGCGCCCGGGCCCTAGGTGGCCAGCGGTGGTACT
PhiYFP      >     L  L  L  A  L  P  D  S  D  L  E  L  K  L  R  I  L  Q  S  T  V  P  R  A  R  D  P  P  V  A  T  M

                  Nar1                                                  BsrD1
                 Kas1|                                               Eco57  | Msc1               Sac2
                    ||                                                   |  |    |                  |
               GCAGCGGCGCCCTGCTGTTCCACGGCAAGATCCCCTACGTGGTGGAGATGGAGGGCAATGTGGATGGCCACACCTTCAGCATCCGCGGCAAGGGCTACGG
          101  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 200
               CGTCGCCGCGGGACGACAAGGTGCCGTTCTAGGGGATGCACCACCTCTACCTCCCGTTACACCTACCGGTGTGGAAGTCGTAGGCGCCGTTCCCGATGCC
PhiYFP      > S  S  G  A  L  L  F  H  G  K  I  P  Y  V  V  E  M  E  G  N  V  D  G  H  T  F  S  I  R  G  K  G  Y  G
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                                                                                                           Nar1
                                 Bsg1                                                 BstE2               Kas1|
                                 Bmr1                 SgrA1                          Ale1 |     Bpm1     Bmr1||
                                    |                     |                             | |        |        |||
               CGATGCCAGCGTGGGCAAGGTGGATGCCCAGTTCATCTGCACCACCGGCGATGTGCCCGTGCCCTGGAGCACCCTGGTGACCACCCTGACCTACGGCGCC
          201  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 300
               GCTACGGTCGCACCCGTTCCACCTACGGGTCAAGTAGACGTGGTGGCCGCTACACGGGCACGGGACCTCGTGGGACCACTGGTGGGACTGGATGCCGCGG
PhiYFP      >   D  A  S  V  G  K  V  D  A  Q  F  I  C  T  T  G  D  V  P  V  P  W  S  T  L  V  T  T  L  T  Y  G  A

                                             Xmn1          Eco57 Sph1                              Bsg1
                                                |              |    |                                 |
               CAGTGCTTCGCCAAGTACGGCCCCGAGCTGAAGGATTTCTACAAGAGCTGCATGCCCGATGGCTACGTGCAGGAGCGCACCATCACCTTCGAGGGCGATG
          301  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 400
               GTCACGAAGCGGTTCATGCCGGGGCTCGACTTCCTAAAGATGTTCTCGACGTACGGGCTACCGATGCACGTCCTCGCGTGGTAGTGGAAGCTCCCGCTAC
PhiYFP      >  Q  C  F  A  K  Y  G  P  E  L  K  D  F  Y  K  S  C  M  P  D  G  Y  V  Q  E  R  T  I  T  F  E  G  D

                                                                                                            PflM1
                                                                                                            BseY1
                                                                                                          Pml1  |
                                 BstE2                  BsrG1                    Msc1                 Msc1   |  |
                                     |                      |                       |                    |   |  |
               GCAATTTCAAGACCCGCGCCGAGGTGACCTTCGAGAATGGCAGCGTGTACAATCGCGTGAAGCTGAATGGCCAGGGCTTCAAGAAGGATGGCCACGTGCT
          401  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 500
               CGTTAAAGTTCTGGGCGCGGCTCCACTGGAAGCTCTTACCGTCGCACATGTTAGCGCACTTCGACTTACCGGTCCCGAAGTTCTTCCTACCGGTGCACGA
PhiYFP      > G  N  F  K  T  R  A  E  V  T  F  E  N  G  S  V  Y  N  R  V  K  L  N  G  Q  G  F  K  K  D  G  H  V  L

                                           Bpm1                            Sap1                      BssS1
                                          Bts1|  BsrG1                     Ear1           Bgl2Eco57  |
                                             ||      |                        |                  |    |  |
               GGGCAAGAATCTGGAGTTCAATTTCACCCCCCACTGCCTGTACATCTGGGGCGATCAGGCCAATCACGGCCTGAAGAGCGCCTTCAAGATCTGCCACGAG
          501  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 600
               CCCGTTCTTAGACCTCAAGTTAAAGTGGGGGGTGACGGACATGTAGACCCCGCTAGTCCGGTTAGTGCCGGACTTCTCGCGGAAGTTCTAGACGGTGCTC
PhiYFP      >   G  K  N  L  E  F  N  F  T  P  H  C  L  Y  I  W  G  D  Q  A  N  H  G  L  K  S  A  F  K  I  C  H  E

                                                                                   ApaL1 Pml1
                                                                                       |    |
               ATCACCGGCAGCAAGGGCGATTTCATCGTGGCCGATCACACCCAGATGAATACCCCCATCGGCGGCGGCCCCGTGCACGTGCCCGAGTACCACCACATGA
          601  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 700
               TAGTGGCCGTCGTTCCCGCTAAAGTAGCACCGGCTAGTGTGGGTCTACTTATGGGGGTAGCCGCCGCCGGGGCACGTGCACGGGCTCATGGTGGTGTACT
PhiYFP      >  I  T  G  S  K  G  D  F  I  V  A  D  H  T  Q  M  N  T  P  I  G  G  G  P  V  H  V  P  E  Y  H  H  M
```

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                   Pml1   Blp1                                   Bsa1         BssH2  Eco57
                      |      |                                      |             |      |
               GCTACCACGTGAAGCTGAGCAAGGATGTGACCGATCACCGCGATAATATGAGCCTGAAGGAGACCGTGCGCGCCGTGGATTGCCGCAAGACCTACCTGTG
          701  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 800
               CGATGGTGCACTTCGACTCGTTCCTACACTGGCTAGTGGCGCTATTATACTCGGACTTCCTCTGGCACGCGCGGCACCTAACGGCGTTCTGGATGGACAC
PhiYFP      > S  Y  H  V  K  L  S  K  D  V  T  D  H  R  D  N  M  S  L  K  E  T  V  R  A  V  D  C  R  K  T  Y  L  *

           Hind3        Blp1                                                         Xba1   BsaB1
               |           |                                                            |       |
               AAGCTTAATTAGCTGAGCTTGGACTCCTGTTGATAGATCCAGTAATGACCTCAGAACTCCATCTGGCCGCGACTCTAGATCATAATCAGCCATACCACAT
          801  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 900
               TTCGAATTAATCGACTCGAACCTGAGGACAACTATCTAGGTCATTACTGGAGTCTTGAGGTAGACCGGCGCTGAGATCTAGTATTAGTCGGTATGGTGTA

                                                                                  Bsm1
                                 Dra1                                            Mfe1|        Hpa1
                                    |                                               ||           |
               TTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCCACACCTCCCCCTGAACCTGAAACATAAAATGAATGCAATTGTTGTTGTTAACTTGTTTATTGCAGC
          901  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1000
               AACATCTCCAAAATGAACGAAATTTTTTGGAGGGTGTGGAGGGGGACTTGGACTTTGTATTTTACTTACGTTAACAACAACAATTGAACAAATAACGTCG

              Psi1                                                    Bts1 Bsm1
                 |                                                       |    |
               TTATAATGGTTACAAATAAAGCAATAGCATCACAAATTTCACAAATAAAGCATTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTCATCAATGTA
         1001  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1100
               AATATTACCAATGTTTATTTCGTTATCGTAGTGTTTAAAGTGTTTATTTCGTAAAAAAAGTGACGTAAGATCAACACCAAACAGGTTTGAGTAGTTACAT

             Afl2                      Ssp1
                |                         |
               TCTTAAGGCGTAAATTGTAAGCGTTAATATTTTGTTAAAATTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAAA
         1101  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1200
               AGAATTCCGCATTTAACATTCGCAATTATAAAACAATTTTAAGCGCAATTTAAAAACAATTTAGTCGAGTAAAAAATTGGTTATCCGGCTTTAGCCGTTT

                   Psi1                                                         BsaXb                 Drd1
                      |                                                             |                    |
               ATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTTCCAGTTTGGAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAG
         1201  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1300
               TAGGGAATATTTAGTTTTCTTATCTGGCTCTATCCCAACTCACAACAAGGTCAAACCTTGTTCTCAGGTGATAATTTCTTGCACCTGAGGTTGCAGTTTC
```

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 BsaXa                                Dra3
     |                                   |
      GGCGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCCTAATCAAGTTTTTTGGGGTCGAGGTGCCGTAAAGCACTAAATCGGAACCC
1301  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1400
      CCGCTTTTTGGCAGATAGTCCCGCTACCGGGTGATGCACTTGGTAGTGGGATTAGTTCAAAAAACCCCAGCTCCACGGCATTTCGTGATTTAGCCTTGGG

                                         Nae1
                                      NgoM4 |                                    BsrB1
                                          | |                                        |
      TAAAGGGAGCCCCCGATTTAGAGCTTGACGGGGAAAGCCGGCGAACGTGGCGAGAAAGGAAGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGCTGGCA
1401  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1500
      ATTTCCCTCGGGGGCTAAATCTCGAACTGCCCCTTTCGGCCGCTTGCACCGCTCTTTCCTTCCCTTCTTTCGCTTTCCTCGCCCGCGATCCCGCGACCGT

      AGTGTAGCGGTCACGCTGCGCGTAACCACCACACCCGCCGCGCTTAATGCGCCGCTACAGGGCGCGTCAGGTGGCACTTTTCGGGGAAATGTGCGCGGAA
1501  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1600
      TCACATCGCCAGTGCGACGCGCATTGGTGGTGTGGGCGGCGCGAATTACGCGGCGATGTCCCGCGCAGTCCACCGTGAAAAGCCCCTTTACACGCGCCTT

                                                  BciV1
                                               BspH1  |
                                             BsrB1 |  |                            Ssp1  Ear1
                                                 | |  |                               |     |
      CCCCTATTTGTTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTCC
1601  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1700
      GGGGATAAACAAATAAAAAGATTTATGTAAGTTTATACATAGGCGAGTACTCTGTTATTGGGACTATTTACGAAGTTATTATAACTTTTTCCTTCTCAGG

                                                                                              Nsi1
                                                                                            Sph1 |
                      Eci1                                                                 BfrB1 |
 Bsu36              Pvu2 |                                      BseY1                   BstAP  | |
     |                 | |                                          |                       |  | |
      TGAGGCGGAAAGAACCAGCTGTGGAATGTGTGTCAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATT
1701  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1800
      ACTCCGCCTTTCTTGGTCGACACCTTACACACAGTCAATCCCACACCTTTCAGGGGTCCGAGGGGTCGTCCGTCTTCATACGTTTCGTACGTAGAGTTAA
```

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                                                                  Nsi1
                                                                Sph1 |
                                                               BfrB1 |
          SexA1                     BseY1                   BstAP  | |                       Eci1
              |                         |                       |  | |                          |
      AGTCAGCAACCAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCCTAAC
1801  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 1900
      TCAGTCGTTGGTCCACACCTTTCAGGGGTCCGAGGGGTCGTCCGTCTTCATACGTTTCGTACGTAGAGTTAATCAGTCGTTGGTATCAGGGCGGGGATTG

                        Eci1                                                                     Sfi1
              Eci1     Bmr1|       Eci1            Nco1                                          Bgl1
                 |        ||          |               |                                             |
      TCCGCCCATCCCGCCCCTAACTCCGCCCAGTTCCGCCCATTCTCCGCCCCATGGCTGACTAATTTTTTTTATTTATGCAGAGGCCGAGGCCGCCTCGGCC
1901  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2000
      AGGCGGGTAGGGCGGGGATTGAGGCGGGTCAAGGCGGGTAAGAGGCGGGGTACCGACTGATTAAAAAAAATAAATACGTCTCCGGCTCCGGCGGAGCCGG

                                            Avr2
                                           Stu1|
                                       BseR1  ||              Cla1              BsaB1
                                           |  ||                 |                  |
      TCTGAGCTATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTTTGCAAAGATCGATCAAGAGACAGGATGAGGATCGTTTCGCATGATTGAA
2001  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2100
      AGACTCGATAAGGTCTTCATCACTCCTCCGAAAAAACCTCCGGATCCGAAAACGTTTCTAGCTAGTTCTCTGTCCTACTCCTAGCAAAGCGTACTAACTT

        BspM1
        BfuA1               Eag1                                       Bmr1
            |                  |                                          |
      CAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGT
2101  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2200
      GTTCTACCTAACGTGCGTCCAAGAGGCCGGCGAACCCACCTCTCCGATAAGCCGATACTGACCCGTGTTGTCTGTTAGCCGACGAGACTACGGCGGCACA

                      Nar1
                     Kas1|                       Drd1
                        ||                          |
      TCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGACCTGTCCGGTGCCCTGAATGAACTGCAAGACGAGGCAGCGCGGCTATCGTGGCT
2201  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2300
      AGGCCGACAGTCGCGTCCCCGCGGGCCAAGAAAAACAGTTCTGGCTGGACAGGCCACGGGACTTACTTGACGTTCTGCTCCGTCGCGCCGATAGCACCGA
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                            Pvu2
    Msc1                Fsp1   |       PflF1                       Eco57
       |                   |   |           |                           |
      GGCCACGACGGGCGTTCCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTG
2301  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2400
      CCGGTGCTGCCCGCAAGGAACGCGTCGACACGAGCTGCAACAGTGACTTCGCCCTTCCCTGACCGACGATAACCCGCTTCACGGCCCCGTCCTAGAGGAC

                                                                                         BspM1
                                        BciV1         BsrD1                              BfuA1
                                            |             |                                  |
      TCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGACCACCAAG
2401  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2500
      AGTAGAGTGGAACGAGGACGGCTCTTTCATAGGTAGTACCGACTACGTTACGCCGCCGACGTATGCGAACTAGGCCGATGGACGGGTAAGCTGGTGGTTC

                                                                  Sap1
                                                                  Ear1                           BpuE1
                                                                     |                               |
      CGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACT
2501  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2600
      GCTTTGTAGCGTAGCTCGCTCGTGCATGAGCCTACCTTCGGCCAGAACAGCTAGTCCTACTAGACCTGCTTCTCGTAGTCCCCGAGCGCGGTCGGCTTGA

                           Sph1                   Nco1
                              |                      |
      GTTCGCCAGGCTCAAGGCGAGCATGCCCGACGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTT
2601  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2700
      CAAGCGGTCCGAGTTCCGCTCGTACGGGCTGCCGCTCCTAGAGCAGCACTGGGTACCGCTACGGACGAACGGCTTATAGTACCACCTTTTACCGGCGAAA

                         BseY1
                        Nae1 |                                              Sap1
                     NgoM4 | |        Rsr2         Eci1                     Ear1                   Eco57
                         | | |           |            |                        |                       |
      TCTGGATTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGG
2701  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2800
      AGACCTAAGTAGCTGACACCGGCCGACCCACACCGCCTGGCGATAGTCCTGTATCGCAACCGATGGGCACTATAACGACTTCTCGAACCGCCGCTTACCC

             BssS1                BsrB1                                                 BsrB1
                 |                    |                                                     |
      CTGACCGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCGGGACTCTGGGG
2801  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 2900
      GACTGGCGAAGGAGCACGAAATGCCATAGCGGCGAGGGCTAAGCGTCGCGTAGCGGAAGATAGCGGAAGAACTGCTCAAGAAGACTCGCCCTGAGACCCC
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                                       BssS1
                                       BspM1
   BstB1                               BfuA1
       |                                   |
      TTCGAAATGACCGACCAAGCGACGCCCAACCTGCCATCACGAGATTTCGATTCCACCGCCGCCTTCTATGAAAGGTTGGGCTTCGGAATCGTTTTCCGGG
2901  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3000
      AAGCTTTACTGGCTGGTTCGCTGCGGGTTGGACGGTAGTGCTCTAAAGCTAAGGTGGCGGCGGAAGATACTTTCCAACCCGAAGCCTTAGCAAAAGGCCC

       Nae1
    NgoM4 |                                                   Bpm1
     Bpm1 |                                                Avr2  |
        | |                                                   |  |
      ACGCCGGCTGGATGATCCTCCAGCGCGGGGATCTCATGCTGGAGTTCTTCGCCCACCCTAGGGGGAGGCTAACTGAAACACGGAAGGAGACAATACCGGA
3001  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3100
      TGCGGCCGACCTACTAGGAGGTCGCGCCCCTAGAGTACGACCTCAAGAAGCGGGTGGGATCCCCCTCCGATTGACTTTGTGCCTTCCTCTGTTATGGCCT

      AGGAACCCGCGCTATGACGGCAATAAAAAGACAGAATAAAACGCACGGTGTTGGGTCGTTTGTTCATAAACGCGGGGTTCGGTCCCAGGGCTGGCACTCT
3101  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3200
      TCCTTGGGCGCGATACTGCCGTTATTTTTCTGTCTTATTTTGCGTGCCACAACCCAGCAAACAAGTATTTGCGCCCCAAGCCAGGGTCCCGACCGTGAGA

           Bsa1
              |
      GTCGATACCCCACCGAGACCCCATTGGGGCCAATACGCCCGCGTTTCTTCCTTTTCCCCACCCCACCCCCCAAGTTCGGGTGAAGGCCCAGGGCTCGCAG
3201  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3300
      CAGCTATGGGGTGGCTCTGGGGTAACCCCGGTTATGCGGGCGCAAAGAAGGAAAAGGGGTGGGGTGGGGGGTTCAAGCCCACTTCCGGGTCCCGAGCGTC

                      BstAP
                      AlwN1      Bsu36                            Dra1               Dra1
                          |          |                               |                  |
      CCAACGTCGGGGCGGCAGGCCCTGCCATAGCCTCAGGTTACTCATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCTAGGTGAA
3301  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3400
      GGTTGCAGCCCCGCCGTCCGGGACGGTATCGGAGTCCAATGAGTATATATGAAATCTAACTAAATTTTGAAGTAAAAATTAAATTTTCCTAGATCCACTT

                   BspH1
                       |
      GATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGAT
3401  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3500
      CTAGGAAAAACTATTAGAGTACTGGTTTTAGGGAATTGCACTCAAAAGCAAGGTGACTCGCAGTCTGGGGCATCTTTTCTAGTTTCCTAGAAGAACTCTA
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               BpuE1                                                                             Eco57
                   |                                                                                 |
      CCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTACCAGCGGTGGTTTGTTTGCCGGATCAAGAGCTACCAACTCTTTTTCCGA
3501  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3600
      GGAAAAAAAGACGCGCATTAGACGACGAACGTTTGTTTTTTTGGTGGCGATGGTCGCCACCAAACAAACGGCCTAGTTCTCGATGGTTGAGAAAAAGGCT

      AGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCTGTAGCACCGCCTACATA
3601  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3700
      TCCATTGACCGAAGTCGTCTCGCGTCTATGGTTTATGACAGGAAGATCACATCGGCATCAATCCGGTGGTGAAGTTCTTGAGACATCGTGGCGGATGTAT

                              AlwN1                     BpuE1
                                  |                         |
      CCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAG
3701  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3800
      GGAGCGAGACGATTAGGACAATGGTCACCGACGACGGTCACCGCTATTCAGCACAGAATGGCCCAACCTGAGTTCTGCTATCAATGGCCTATTCCGCGTC

                         ApaL1     BseY1
                             |         |
      CGGTCGGGCTGAACGGGGGGTTCGTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAGAAAGCGCCA
3801  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 3900
      GCCAGCCCGACTTGCCCCCCAAGCACGTGTGTCGGGTCGAACCTCGCTTGCTGGATGTGGCTTGACTCTATGGATGTCGCACTCGATACTCTTTCGCGGT

                                         BciV1
                                      Eci1   |                    BssS1
                                         |   |                        |
      CGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGGAAACGCCTGGTATCT
3901  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 4000
      GCGAAGGGCTTCCCTCTTTCCGCCTGTCCATAGGCCATTCGCCGTCCCAGCCTTGTCCTCTCGCGTGCTCCCTCGAAGGTCCCCCTTTGCGGACCATAGA

                                      Drd1            BpuE1                         Eci1
                                         |                |                            |
      TTATAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCC
4001  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||* 4100
      AATATCAGGACAGCCCAAAGCGGTGGAGACTGAACTCGCAGCTAAAAACACTACGAGCAGTCCCCCCGCCTCGGATACCTTTTTGCGGTCGTTGCGCCGG
```

```
                                                                                                 Nsi1
                                       BspLU                                                  BfrB1 |
                                           |                                                      | |
      TTTTTACGGTTCCTGGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCATGCAT
4101  |||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||||||*|||||| 4196
      AAAAATGCCAAGGACCGGAAAACGACCGGAAAACGAGTGTACAAGAAAGGACGCAATAGGGGACTAAGACACCTATTGGCATAATGGCGGTACGTA
```

Found:

Acc65 **Afe1** **Afl2** **Age1** **Ale1** AlwN1 **Apa1** ApaL1 Avr2 **BamH1** BciV1 BfrB1 BfuA1 **Bgl1**

Bgl2 Blp1 Bmr1 Bpm1 BpuE1 Bsa1 BsaB1 **BsaXa** **BsaXb** **BseR1** BseY1 Bsg1 Bsm1 BspH1

BspLU BspM1 BsrB1 BsrD1 BsrG1 **BssH2** BssS1 BstAP BstB1 BstE2 Bsu36 Bts1 **Cla1** Dra1

Dra3 Drd1 **Eag1** Ear1 Eci1 Eco57 **EcoR1** **Fsp1** Hind3 **Hpa1** Kas1 **Kpn1** **Mfe1** Msc1

Nae1 Nar1 Nco1 NgoM4 Nsi1 **PflF1** **PflM1** Pml1 Psi1 **PspOM** **Pst1** Pvu2 **Rsr2** **Sac1**

Sac2 **Sal1** Sap1 **SexA1** **Sfi1** **SgrA1** **Sma1** Sph1 Ssp1 **Stu1** **Xba1** **Xho1** **Xmn1**

Unique:

Acc65 **Afe1** **Afl2** **Age1** **Ale1** **Apa1** **BamH1** **Bgl1** **BsaXa** **BsaXb** **BseR1** **BspLU** **BssH2** **Cla1**

Dra3 **Eag1** **EcoR1** **Fsp1** **Hpa1** **Kpn1** **Mfe1** **PflF1** **PflM1** **PspOM** **Pst1** **Rsr2** **Sac1** **Sal1**

SexA1 **Sfi1** **SgrA1** **Sma1** **Stu1** **Xba1** **Xho1** **Xmn1**

```
Not found:

    Aar1    Aat2    Acl1    Ahd1    Asc1    Ase1   AsiS1   Bae1a   Bae1b    Bbs1   BbvC1   Bcg1a   Bcg1b    Bcl1
   BmgB1   Bpu10   BsiW1   BsmB1   BspE1   BstX1   BstZ1    _Chi    EcoK   EcoN1   EcoRV   ScFRT    Fse1   FspA1
   I_Ceu    loxP    Mlu1    Nde1    Nhe1    Not1    Nru1    Pac1    Pme1   PshA1    Pvu1   SanD1    Sbf1    Sca1
    Sgf1   SnaB1    Spe1    Srf1    Swa1   PISce    Xcm1



Excluded by site complexity:

    Acc1    Aci1    Afl3    Alu1    Alw1    Apo1    Ava1    Ava2    Ban1    Ban2    Bbv1   BceA1    Bfa1   Bme15
   BsaA1   BsaH1   BsaJ1   BsaW1   BseM2   BsiE1   BsiH1    Bsl1   BsmA1   BsmF1   Bsp12   BspCa   BspCb    Bsr1
   BsrF1   BssK1   BstF5   BstN1   BstU1   BstY1    Btg1    Cac8   CviJ1    Dde1    Eae1   EcoO1    Fau1  Fnu4H
    Fok1    Hae2    Hae3    Hga1    Hha1   Hinc2   Hinf1  HinP1    Hpa2    Hph1   Hpy99    Hpy1    Hpy3  HpyC3
   HpyC4   HpyC5    Mae3    Mbo2    Mnl1    Mse1    Msl1   MspA1    Mwo1    Nci1    Nla3    Nla4    Nsp1    Ple1
   PpuM1    Rsa1   Sau3A   Sau96   SfaN1    Sfc1    Sml1    Sty1    Taq1    Tat1    Tfi1    Tse1   Tsp45   Tsp50
   TspR1
```