

AseI
|
TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCGCGTTACATAA
ATCAATAATTATCATTAGTTAATGCCCCAGTAATCAAGTATCGGGTATATACCTCAAGGCGCAATGTATT
10 20 30 40 50 60 70

Bgl I AatII
| |
CTTACGGTAAATGGCCCGCCTGGCTGACCGCCCAACGACCCCGCCCATTTGACGTCAATAATGACGTATG
GAATGCCATTTACCGGGCGGACCGACTGGCGGGTTGCTGGGGGCGGGTAACTGCAGTTATTACTGCATAC
80 90 100 110 120 130 140

AatII
|
TTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAACTGCCCA
AAGGGTATCATTGCGGTTATCCCTGAAAGGTAAGTGCAGTTACCCACCTCATAAATGCCATTTGACGGGT
150 160 170 180 190 200 210

Bgl I NdeI AatII
| | |
CTTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCCCTATTGACGTCAATGACGGTAAATGGCCC
GAACCGTCATGTAGTTCACATAGTATACGGTTCATGCGGGGGATAACTGCAGTTACTGCCATTTACCGGG
220 230 240 250 260 270 280

Bgl I SnaBI
| |
GCCTGGCATTATGCCCAGTACATGACCTTATGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCA
CGGACCGTAATACGGGTCATGTACTGGAATACCCTGAAAGGATGAACCGTCATGTAGATGCATAATCAGT
290 300 310 320 330 340 350

NcoI
|
TCGCTATTACCATGGTGATGCGGTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTGACTCACGGGG
AGCGATAATGGTACCACTACGCCAAAACCGTCATGTAGTTACCCGCACCTATCGCCAAACTGAGTGCCCC
360 370 380 390 400 410 420

AatII
|
ATTTCCAAGTCTCCACCCCATTTGACGTCAATGGGAGTTTGTGTTTGGCACCAAAATCAACGGGACTTTCCA
TAAAGGTTTCAGAGGTGGGGTAACTGCAGTTACCCTCAAACAAAACCGTGGTTTTAGTTGCCCTGAAAGGT
430 440 450 460 470 480 490

AAATGTCGTAACAACCTCCGCCCCATTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAA
TTTACAGCATTGTTGAGGCGGGGTAAGTGCCTTTACCCGCCATCCGCACATGCCACCCTCCAGATATATT
500 510 520 530 540 550 560

AgeI
|
NheI Eco47 III NcoI
| | | |
GCAGAGCTGGTTTAGTGAACCGTCAGATCCGCTAGCGCTACCGGTCGCCACCATGGTGAGCAAGGGCGAG
CGTCTCGACCAAATCACTTGGCAGTCTAGGCGATCGCGATGGCCAGCGGTGGTACCACTCGTTCCCGCTC
570 580 590 600 610 620 630

BseRI
|
GAGCTGTTCCACCGGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCG
CTCGACAAGTGGCCCCACCACGGGTAGGACCAGCTCGACCTGCCGCTGCATTTGCCGGTGTTCAGTTCG
640 650 660 670 680 690 700

BcgI BsgI
| |
TGTCGGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAA
ACAGGCCGCTCCCGCTCCCGCTACGGTGGATGCCGTTTCTGACTGGGACTTCAAGTAGACGTGGTGGCCGTT
710 720 730 740 750 760 770

BssSI PstI
| |
GCTGCCCCGTGCCCTGGCCCCACCCTCGTGACCACCTTCGGCTACGGCCTGCAGTGCTTCGCCCCGCTACCCC
CGACGGGCACGGGACCGGGTGGGAGCACTGGTGGAAGCCGATGCCGGACGTCACGAAGCGGGCGATGGGG
780 790 800 810 820 830 840

GACCACATGAAGCAGCACGACTTCTTCAAGTCCGCCATGCCCGAAGGCTACGTCCAGGAGCGCACCATCT
CTGGTGTACTTCGTCGTGCTGAAGAAGTTCAGGCGGTACGGGCTTCCGATGCAGGTCCTCGCGTGGTAGA
850 860 870 880 890 900 910

TCTTCAAGGACGACGGCAACTACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCG
AGAAGTTCCTGCTGCCGTTGATGTTCTGGGCGCGGCTCCACTTCAAGCTCCCGCTGTGGGACCACTTGGC
920 930 940 950 960 970 980

Eco57 I
|
CATCGAGCTGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACTAC
GTAGCTCGACTTCCCGTAGCTGAAGTTCCTCCTGCCGTTGTAGGACCCCGTGTTCGACCTCATGTTGATG
990 1000 1010 1020 1030 1040 1050

BpmI
|
AACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAAGTTCAAGATCCGCC
TTGTGCGGTGTTGCAGATATAGTACCGGCTGTTCTGTTCTTCCGCTAGTTCCACTTGAAGTTCTAGGCGG
1060 1070 1080 1090 1100 1110 1120

BsgI
|
ACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCCATCGGCGACGGCCC
TGTTGTAGCTCCTGCCGTCGCACGTCGAGCGGCTGGTGATGGTCGTCTTGTGGGGGTAGCCGCTGCCGGG
1130 1140 1150 1160 1170 1180 1190

CGTGCTGCTGCCCCGACAACCACTACCTGAGCTACCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGC
GCACGACGACGGGCTGTTGGTGTATGGACTCGATGGTCAGGCGGGACTCGTTTCTGGGGTTGCTCTTCGCG
1200 1210 1220 1230 1240 1250 1260

GATCACATGGTCCTGCTGGAGTTCGTGACCGCCGCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGT
CTAGTGTACCAGGACGACCTCAAGCACTGGCGGCGGCCCTAGTGAGAGCCGTACCTGCTCGACATGTTCA
1270 1280 1290 1300 1310 1320 1330

BpmI BsrGI
| |
XhoI
|
BspEI Bgl II MscI
| | |
CCGGACTCAGATCTCGAGTGCCTGAGTGCATCTCCATCCACGTTGGCCAGGCTGGTGTCCAGATTGGCAA
GGCCTGAGTCTAGAGCTCACGCACTCACGTAGAGGTAGGTGCAACCGGTCCGACCACAGGTCTAACCGTT
1340 1350 1360 1370 1380 1390 1400

SacI MscI
| |
BsrDI Ecl136 II BstXI
| | |
TGCCTGCTGGGAGCTCTACTGCCTGGAACACGGCATCCAGCCCGATGGCCAGATGCCAAGTGACAAGACC
ACGGACGACCCTCGAGATGACGGACCTTGTGCCGTAGGTCGGGCTACCGGTCTACGGTTCACTGTTCTGG
1410 1420 1430 1440 1450 1460 1470

SmaI XmaI
| |
BseRI Eco57 I BsmBI Pml I
| | | |
ATTGGGGGAGGAGATGACTCCTTCAACACCTTCTTCAGTGAGACGGGCGCTGGCAAGCACGTGCCCCGGG
TAACCCCTCCTCTACTGAGGAAGTTGTGGAAGAAGTCACTCTGCCGCGACCGTTCTGTCACGGGGCCC
1480 1490 1500 1510 1520 1530 1540

EarI SapI
|
CTGTGTTTGTAGACTTGGAACCCACAGTCATTGATGAAGTTCGCACTGGCACCTACCGCCAGCTCTTCCA
GACACAAACATCTGAACCTTGGGTGTCAGTAAGTCACTTCAAGCGTGACCGTGGATGGCGGTGCGAGAAGGT
1550 1560 1570 1580 1590 1600 1610

CCCTGAGCAGCTCATCACAGGCAAGGAAGATGCTGCCAATAACTATGCCCAGGGGCACTACACCATTGGC
GGGACTCGTCGAGTAGTGTCCGTTCTTCTACGACGTTATTGATACGGGCTCCCGTGATGTGGTAACCG
1620 1630 1640 1650 1660 1670 1680

BbsI
|
ApaLI
|
EcoRI Eco57 I AgeI
| | |
AAGGAGATCATTGACCTTGTGTTGGACCGAATTCGCAAGCTGGCTGACCAGTGCACCGGTCTTCAGGGCT
TTCCTCTAGTAAGTGAACACAACCTGGCTTAAGCGTTTCGACCGACTGGTCACGTGGCCAGAAGTCCCGA
1690 1700 1710 1720 1730 1740 1750

BstXI XcmI XmnI BsmBI
| | | |
TCTTGTTTTTCCACAGCTTTGGTGGGGGAAGTGGTTCTGGGTTACCTCCCTGCTCATGGAACGTCTCTC
AGAACCAAAAGGTGTCGAAACCACCCCTTGACCAAGACCAAGTGGAGGGACGAGTACCTTGACAGAGAG
1760 1770 1780 1790 1800 1810 1820

AGTTGATTATGGCAAGAAGTCCAAGCTGGAGTTCTCCATTTACCCAGCACCCCAGGTTTCCACAGCTGTA
TCAACTAATACCGTTCTTCAGGTTTCGACCTCAAGAGGTAAATGGGTCGTGGGGTCCAAAGGTGTCGACAT
1830 1840 1850 1860 1870 1880 1890

BpmI PvuII

GTTGAGCCCTACAACCTCCATCCTCACCACCCACACCACCCTGGAGCACTCTGATTGTGCCTTCATGGTAG
CAACTCGGGATGTTGAGGTAGGAGTGGTGGGTGTGGTGGGACCTCGTGAGACTAACACGGAAGTACCATC
1900 1910 1920 1930 1940 1950 1960

BpmI

ACAATGAGGCCATCTATGACATCTGTCTGTAGAAACCTCGATATCGAGCGCCCAACCTACACTAACCTTAA
TGTTACTCCGGTAGATACTGTAGACAGCATCTTTGGAGCTATAGCTCGCGGGTTGGATGTGATTGGAATT
1970 1980 1990 2000 2010 2020 2030

PshAI EcoRV

CCGCCTTATTAGCCAGATTGTGTCCTCCATCACTGCTTCCCTGAGATTTGATGGAGCCCTGAATGTTGAC
GGCGGAATAATCGGTCTAACACAGGAGGTAGTGACGAAGGGACTCTAACTACCTCGGGACTTACAACCTG
2040 2050 2060 2070 2080 2090 2100

EcoRI SexAI MscI NdeI

CTGACAGAATTCCAGACCAACCTGGTGGCCTACCCCGCATCCACTTCCCTCTGGCCACATATGCCCTG
GACTGTCTTAAGGTCTGGTTGGACCACGGGATGGGGCGTAGGTGAAGGGAGACCGGTGTATACGGGGAC
2110 2120 2130 2140 2150 2160 2170

TCATCTCTGCTGAGAAAGCCTACCATGAACAGCTTTCTGTAGCAGAGATCACCAATGCTTGCTTTGAGCC
AGTAGAGACGACTCTTTCGGATGGTACTTGTGCGAAAGACATCGTCTCTAGTGGTTACGAACGAACTCGG
2180 2190 2200 2210 2220 2230 2240

BstXI NcoI

AGCCAACCAGATGGTGAAATGTGACCCTCGCCATGGTAAATACATGGCTTGCTGCCTGTTGTACCGTGGT
TCGGTTGGTCTACCACTTTACACTGGGAGCGGTACCATTTATGTACCGAACGACGGACAACATGGCACCA
2250 2260 2270 2280 2290 2300 2310

BsrDI PflMI

GACGTGGTTCCCAAAGATGTCAATGCTGCCATTGCCACCATCAAAACCAAGCGCAGCATCCAGTTTGTGG
CTGCACCAAGGGTTTCTACAGTTACGACGGTAACGGTGGTAGTTTTGGTTTCGCTCGTAGGTCAAACACC
2320 2330 2340 2350 2360 2370 2380

Bgl I BsaI

ATTGGTGCCCCACTGGCTTCAAGGTTGGCATCAACTACCAGCCTCCCACTGTGGTGCCTGGTGGAGACCT
TAACCACGGGGTGACCGAAGTTCCAACCGTAGTTGATGGTTCGGAGGGTGACACCACGGACCACCTCTGGA
2390 2400 2410 2420 2430 2440 2450

EcoNI
MscI
|
GGCCAAGGTACAGAGAGCTGTGTGCATGCTGAGCAACACCACAGCCATTGCTGAGGCCTGGGCTCGCCTG
CCGTTCCATGTCTCTCGACACACGTACGACTCGTTGTGGTGTCTCGTAACGACTCCGGACCCGAGCGGAC
2460 2470 2480 2490 2500 2510 2520

BlpI
SphI
||
GACCACAAGTTTGACCTGATGTATGCCAAGCGTGCCTTTGTTCACTGGTACGTGGGTGAGGGGATGGAGG
CTGGTGTTCAAACTGGACTACATACGGTTCGCACGGAACAAGTGACCATGCACCCACTCCCCTACCTCC
2530 2540 2550 2560 2570 2580 2590

EcoNI
BseRI
| |
AAGGCGAGTTTTTCAGAGGCCCGTGAAGATATGGCTGCCCTTGAGAAGGATTATGAGGAGGTTGGTGTGGA
TTCCGCTCAAAAGTCTCCGGGCACTTCTATACCGACGGGAACCTCTTCCTAATACTCCTCAACCACACCT
2600 2610 2620 2630 2640 2650 2660

BamHI
XbaI
Bcl I
| | |
TTCTGTTGAAGGAGAGGGTGAGGAAGAAGGAGAGGAATACTAAGGATCCACCGGATCTAGATAACTGATC
AAGACAACCTTCCTCTCCCACTCCTTCTTCCTCTCCTTATGATTCTAGGTGGCCTAGATCTATTGACTAG
2670 2680 2690 2700 2710 2720 2730

BsaBI
DraI
| |
ATAATCAGCCATACCACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCCACACCTCCCCCTGAACC
TATTAGTCGGTATGGTGTAAACATCTCCAAAATGAACGAAATTTTTTGGAGGGTGTGGAGGGGGACTTGG
2740 2750 2760 2770 2780 2790 2800

BsmI
MfeI
HpaI
|| |
TGAAACATAAAATGAATGCAATTGTTGTTGTTAACTTGTTTATTGCAGCTTATAATGGTTACAAATAAAG
ACTTTGTATTTTACTTACGTTAACAACAACAATTGAACAAATAACGTCAATATTACCAATGTTTATTTT
2810 2820 2830 2840 2850 2860 2870

BsmI
|
CAATAGCATCACAAATTTACAAATAAAGCATTTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTC
GTTATCGTAGTGTTTAAAGTGTTTATTTTCGTAAAAAAGTGACGTAAGATCAACACCAAACAGGTTTGAG
2880 2890 2900 2910 2920 2930 2940

Afl II
SspI
| |
ATCAATGTATCTTAAGGCGTAAATTGTAAGCGTTAATATTTTGTAAAATTCGCGTTAAATTTTTGTAA
TAGTTACATAGAATTCCGCATTTAACATTTCGCAATTATAAAACAATTTTAAGCGCAATTTAAAAACAATT
2950 2960 2970 2980 2990 3000 3010

ATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGA
TAGTCGAGTAAAAAATTGGTTATCCGGCTTTAGCCGTTTTAGGGAATATTTAGTTTTCTTATCTGGCTCT
3020 3030 3040 3050 3060 3070 3080

Dr dI
|
TAGGGTTGAGTGTTGTTCCAGTTTGAACAAGAGTCCACTATTAAGAAGCTGGACTCCAACGTCAAAGG
ATCCCAACTCACACAAGGTCAAACCTTGTCTCAGGTGATAATTTCTTGACCTGAGGTTGCAGTTTCC
3090 3100 3110 3120 3130 3140 3150

DraIII
|
GCGAAAAACCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCTAATCAAGTTTTTTGGGGTCG
CGCTTTTTTGGCAGATAGTCCCGCTACCGGGTGATGCACTTGGTAGTGGGATTAGTTCAAAAAACCCAGC
3160 3170 3180 3190 3200 3210 3220

NaeI
NcoI
|
AGGTGCCGTAAAGCACTAAATCGGAACCCTAAAGGGAGCCCCGATTTAGAGCTTGACGGGGAAAGCCGG
TCCACGGCATTTCGTGATTTAGCCTTGGGATTTCCCTCGGGGGCTAAATCTCGAACTGCCCTTTCGGCC
3230 3240 3250 3260 3270 3280 3290

BsrBI
|
CGAACGTGGCGAGAAAGGAAGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGCTGGCAAGTGTAGCGGT
GCTTGCAACGCTCTTTCCTTCCCTTCTTTCGCTTTCCTCGCCCGCGATCCCGCGACCGTTACATCGCCA
3300 3310 3320 3330 3340 3350 3360

CACGCTGCGCGTAACCACCACACCCGCCGCGCTTAATGCGCCGCTACAGGGCGCGTCAGGTGGCACTTTT
GTGCGACGCGCATTGGTGGTGTGGGCGGCGCAATTACGCGGCGATGTCCCGCGCAGTCCACCGTGAAAA
3370 3380 3390 3400 3410 3420 3430

BspHI
BsrBI
||
CGGGGAAATGTGCGCGGAACCCCTATTTGTTTATTTTTCTAAATACATTCAAATATGTATCCGCTCATGA
GCCCCTTTACACGCGCCTTGGGGATAAACAATAAAAAGATTTATGTAAGTTTATACATAGGCGAGTACT
3440 3450 3460 3470 3480 3490 3500

SspI EarI Bsu36 I PvuII
| | | |
GACAATAACCCTGATAAATGCTTCAATAATATTGAAAAAGGAAGAGTCCTGAGGCGGAAAGAACCAGCTG
CTGTTATTGGGACTATTTACGAAGTTATTATAACTTTTTCTTCTCAGGACTCCGCTTTCTTGGTTCGAC
3510 3520 3530 3540 3550 3560 3570

SphI
Ppu10 I
|
TGGAATGTGTGTCAGTTAGGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGC
ACCTTACACACAGTCAATCCCACACCTTTCAAGGGTCCGAGGGGTCGTCCGTCTTCATACGTTTCGTACG
3580 3590 3600 3610 3620 3630 3640

NsiI SexAI Ppu10 I
| | |
ATCTCAATTAGTCAGCAACCAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCAT
TAGAGTTAATCAGTCGTTGGTCCACACCTTTCAGGGGTCCGAGGGGTTCGTCGTCTTCATACGTTTCGTA
3650 3660 3670 3680 3690 3700 3710

NsiI SphI
| |
GCATCTCAATTAGTCAGCAACCATAGTCCCGCCCCTAACTCCGCCCATCCCGCCCCTAACTCCGCCCAGT
CGTAGAGTTAATCAGTCGTTGGTATCAGGGCGGGGATTGAGGCGGGTAGGGCGGGGATTGAGGCGGGTCA
3720 3730 3740 3750 3760 3770 3780

NcoI Bgl I SfiI
| |
TCCGCCCATTTCTCCGCCCATGGCTGACTAATTTTTTTTTATTTATGCAGAGGCCGAGGCCGCCTCGGCCT
AGGCGGGTAAGAGGCGGGGTACCGACTGATTAATAAAAAAATAAATACGTCTCCGGCTCCGGCGGAGCCGGA
3790 3800 3810 3820 3830 3840 3850

AvrII StuI BseRI ClaI
| || |
CTGAGCTATTCCAGAAGTAGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTTTGCAAAGATCGATCAAGAGA
GACTCGATAAGGTCTTCATCACTCCTCCGAAAAAACCTCCGGATCCGAAAACGTTTCTAGCTAGTTCTCT
3860 3870 3880 3890 3900 3910 3920

BsaBI BspMI EagI
| | |
CAGGATGAGGATCGTTTTCGCATGATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGA
GTCCTACTCCTAGCAAAGCGTACTA ACTTGTCTACCTAACGTGCGTCCAAGAGGCCGGCGAACCACCT
3930 3940 3950 3960 3970 3980 3990

GAGGCTATTCCGGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTCA
CTCCGATAAGCCGATACTGACCCGTGTTGTCTGTTAGCCGACGAGACTACGGCGGCACAAGGCCGACAGT
4000 4010 4020 4030 4040 4050 4060

BbeI EheI NarI KasI DrdI
||| |
GCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGACCTGTCCGGTGCCCTGAATGAACTGCAAGACGAGG
CGCGTCCCCGCGGGCCAAGAAAAACAGTTCTGGCTGGACAGGCCACGGGACTTACTTGACGTTCTGCTCC
4070 4080 4090 4100 4110 4120 4130

PvuII MscI FspI Tth111 I
| | |
CAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGC
GTCGCGCCGATAGCACCGACCGGTGCTGCCC GCAAGGAACGCGTCGACACGAGCTGCAACAGTGACTTCG
4140 4150 4160 4170 4180 4190 4200

Eco57 I
|
GGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCC
CCCTTCCTGACCGACGATAACCCGCTTCACGGCCCCGTCCTAGAGGACAGTAGAGTGGAACGAGGACGG
4210 4220 4230 4240 4250 4260 4270

BsrDI
|
GAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCG
CTCTTTCATAGGTAGTACCGACTACGTTACGCCGCCGACGTATGCGAACTAGGCCGATGGACGGGTAAGC
4280 4290 4300 4310 4320 4330 4340

BspMI
|
ACCACCAAGCGAAACATCGCATCGAGCGAGCACGTA CTGGATGGAAGCCGGTCTTGTCGATCAGGATGA
TGGTGGTTTCGCTTTGTAGCGTAGCTCGCTCGTGATGAGCCTACCTTCGGCCAGAACAGCTAGTCCTACT
4350 4360 4370 4380 4390 4400 4410

SapI
|
EarI
|
TCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACTGTTCCGCCAGGCTCAAGGCGAGCATGCCCGAC
AGACCTGCTTCTCGTAGTCCCCGAGCGCGGTCTGGCTTGACAAGCGGTCCGAGTTCCGCTCGTACGGGCTG
4420 4430 4440 4450 4460 4470 4480

SphI
|

NcoI
|
GGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTTT
CCGCTCCTAGAGCAGCACTGGGTACCGCTACGGACGAACGGCTTATAGTACCACCTTTTACCGGCGAAAA
4490 4500 4510 4520 4530 4540 4550

NaeI
|
NgoMI
|
RsrII
|
CTGGATTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGA
GACCTAAGTAGCTGACACCGGCCGACCCACACCGCCTGGCGATAGTCCTGTATCGCAACCGATGGGCACT
4560 4570 4580 4590 4600 4610 4620

EarI
|
SapI
|
Eco57 I
|
BssSI
|
BsrBI
|
TATTGCTGAAGAGCTTGCGGCGAATGGGCTGACCGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGAT
ATAACGACTTCTCGAACCGCCGCTTACCCGACTGGCGAAGGAGCACGAAATGCCATAGCGGCGAGGGCTA
4630 4640 4650 4660 4670 4680 4690

BsrBI
|
BstBI
|
TCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCGGGACTCTGGGGTTTCGAAATGAC
AGCGTCGCGTAGCGGAAGATAGCGGAAGAACTGCTCAAGAAGACTCGCCCTGAGACCCCAAGCTTTACTG
4700 4710 4720 4730 4740 4750 4760

BssSI
BspMI
|
CGACCAAGCGACGCCCAACCTGCCATCACGAGATTTGATTCCACCGCCGCCTTCTATGAAAGGTTGGGC
GCTGGTTCGCTGCGGGTTGGACGGTAGTGCTCTAAAGCTAAGGTGGCGGCGGAAGATACTTTCCAACCCG
4770 4780 4790 4800 4810 4820 4830

NaeI
NcoMI
BpmI
| |
TTCGGAATCGTTTTCCGGGACGCCGGCTGGATGATCCTCCAGCGCGGGGATCTCATGCTGGAGTTCTTCG
AAGCCTTAGCAAAGGCCCTGCGGCCGACCTACTAGGAGGTCGCGCCCCTAGAGTACGACCTCAAGAAGC
4840 4850 4860 4870 4880 4890 4900

BpmI
AvrII
| |
CCCACCCTAGGGGGAGGCTAACTGAAACACGGAAGGAGACAATACCGGAAGGAACCCGCGCTATGACGGC
GGGTGGGATCCCCCTCCGATTGACTTTGTGCCTTCCTCTGTTATGGCCTTCCTTGGGCGCGATACTGCCG
4910 4920 4930 4940 4950 4960 4970

AATAAAAAGACAGAATAAAACGCACGGTGTGGGTGCTTTGTTTCATAAACGCGGGGTTCCGTCCCAGGGC
TTATTTTTCTGTCTTATTTTGCCTGCCACAACCCAGCAAACAAGTATTTGCGCCCCAAGCCAGGGTCCCG
4980 4990 5000 5010 5020 5030 5040

BsaI
|
TGGCACTCTGTGATACCCACCGAGACCCCATTTGGGGCCAATACGCCCGCGTTTCTTCCTTTTCCCCAC
ACCGTGAGACAGCTATGGGGTGGCTCTGGGGTAACCCCGTTATGCGGGGCGCAAAGAAGGAAAAGGGGTG
5050 5060 5070 5080 5090 5100 5110

AlwNI
|
CCCACCCCCCAAGTTCGGGTGAAGGCCAGGGCTCGCAGCCAACGTCGGGGCGGCAGGCCCTGCCATAGC
GGGTGGGGGGTTCAAGCCCACTTCCGGGTCCCGAGCGTCGGTTGCAGCCCCGCCGTCCGGGACGGTATCG
5120 5130 5140 5150 5160 5170 5180

Bsu36 I
|
CTCAGGTTACTCATATATACTTTAGATTGATTTAAACTTTCATTTTAAATTTAAAGGATCTAGGTGAAG
GAGTCCAATGAGTATATATGAAATCTAACTAAATTTGAAGTAAAAATTAATTTTCTAGATCCACTTC
5190 5200 5210 5220 5230 5240 5250

DraI
|
DraI
|
ATCCTTTTTGATAATCTCATGACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCG
TAGGAAAACTATTAGTACTGGTTTTAGGGAATTGCACTCAAAAGCAAGGTGACTCGCAGTCTGGGGC
5260 5270 5280 5290 5300 5310 5320

BspHI
|

TAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAA
ATCTTTTCTAGTTTTCCTAGAGAAGTCTAGGAAAAAAGACGCGCATTAGACGACGAACGTTTGT

5330 5340 5350 5360 5370 5380 5390

Eco57 I

ACCACCGCTACCAGCGGTGGTTTGTGGCCGGATCAAGAGCTACCAACTCTTTTCCGAAGGTAAGTGGC
TGGTGGCGATGGTCGCCACCAAACAAACGGCCTAGTTCTCGATGGTTGAGAAAAAGGCTTCCATTGACCG

5400 5410 5420 5430 5440 5450 5460

TTCAGCAGAGCGCAGATACCAAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACT
AAGTCGTCTCGCGTCTATGGTTTATGACAGGAAGATCACATCGGCATCAATCCGGTGGTGAAGTTCTTGA

5470 5480 5490 5500 5510 5520 5530

AlwNI

CTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTC
GACATCGTGGCGGATGTATGGAGCGAGACGATTAGGACAATGGTCACCGACGACGGTCACCGCTATTCAG

5540 5550 5560 5570 5580 5590 5600

GTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAGCGGTCGGGCTGAACGGGGGGT
CACAGAATGGCCCAACCTGAGTTCTGCTATCAATGGCCTATTCCGCGTCGCCAGCCCGACTTGCCCCCA

5610 5620 5630 5640 5650 5660 5670

ApaLI

TCGTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGCGTGAGCTATGAG
AGCACGTGTGTCGGGTCGAACCTCGCTTGCTGGATGTGGCTTGACTCTATGGATGTCGCACTCGATACTC

5680 5690 5700 5710 5720 5730 5740

AAAGCGCCACGCTTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGA
TTTCGCGGTGCGAAGGGCTTCCCTCTTTCCGCCTGTCCATAGGCCATTGCGCGTCCCAGCCTTGTCCTCT

5750 5760 5770 5780 5790 5800 5810

BssSI

GCGCACGAGGGAGCTTCCAGGGGGAAACGCCTGGTATCTTTATAGTCCTGTCGGGTTTCGCCACCTCTGA
CGCGTGCTCCCTCGAAGGTCCCCCTTTGCGGACCATAGAAATATCAGGACAGCCCAAAGCGGTGGAGACT

5820 5830 5840 5850 5860 5870 5880

DrdI

CTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCT
GAACTCGCAGCTAAAAACACTACGAGCAGTCCCCCGCCTCGGATACCTTTTTCGGTTCGTTGCGCCGGA

5890 5900 5910 5920 5930 5940 5950

BspLU11 I
|

TTTTACGGTTCCTGGCCTTTTGCTGGCCTTTTGCTCACATGTTCTTTCCTGCGTTATCCCCTGATTCTGT
AAAATGCCAAGGACCGGAAAACGACCGGAAAACGAGTGTACAAGAAAGGACGCAATAGGGGACTAAGACA

5960 5970 5980 5990 6000 6010 6020

NsiI
Ppu10 I
| |

GGATAACCGTATTACCGCCATGCAT
CCTATTGGCATAATGGCGGTACGTA

6030 6040 6050