

AseI  
 |  
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 ATCAATAATTATCATTAGTTAATGCCCCAGTAATCAAGTATCGGGTATATACCTCAAGGCGCAATGTATT  
 10 20 30 40 50 60 70

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

AatII  
 |  
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 150 160 170 180 190 200 210

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

Bgl I SnaBI  
 | |  
 GCCTGGCATTATGCCCAGTACATGACCTTATGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCA  
 CGGACCGTAATACGGGTCACTGACTGGAATACCCTGAAAGGATGAACCGTCATGTAGATGCATAATCAGT  
 290 300 310 320 330 340 350

NcoI  
 |  
 TCGCTATTACCATGGTGATGCGGTTTTGGCAGTACATCAATGGGCGTGGATAGCGGTTTTGACTCACGGGG  
 AGCGATAATGGTACCCTACGCCAAAACCGTCATGTAGTTACCCGCACCTATCGCCAAAACCTGAGTGCCCC  
 360 370 380 390 400 410 420

AatII  
 |  
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 430 440 450 460 470 480 490

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 500 510 520 530 540 550 560

AgeI  
 | | | |  
 NheI Eco47 III NcoI  
 | | | |  
 GCAGAGCTGGTTTTAGTGAACCGTCAGATCCGCTAGCGCTACCGGTCGCCACCATGGTGAGCAAGGGCGAG  
 CGTCTCGACCAAATCACTTGGCAGTCTAGGCGATCGCGATGGCCAGCGGTGGTACCCTCGTTCCCGCTC  
 570 580 590 600 610 620 630

BseRI  
|  
GAGCTGTTACACCGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCG  
CTCGACAAGTGGCCCCACCACGGGTAGGACCAGCTCGACCTGCCGCTGCATTTGCCGGTGTTC AAGTCGC  
640 650 660 670 680 690 700

BcgI BcgI BsgI Eco57 I  
| | | |  
TGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGAAGTTCATCTGCACCACCGGCAA  
ACAGGCCGCTCCCGCTCCCGCTACGGTGGATGCCGTTTGGACTGGGACTTCAAGTAGACGTGGTGGCCGTT  
710 720 730 740 750 760 770

BssSI Eco57 I BsgI  
| | |  
GCTGCCCCGTGCCCTGGCCCACCCTCGTGACCACCCTGACCTACGGCGTGCAGTGCTTCAGCCGCTACCCC  
CGACGGGCACGGGACCGGGTGGGAGCACTGGTGGGACTGGATGCCGCACGTACGAAGTCGGCGATGGGG  
780 790 800 810 820 830 840

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850 860 870 880 890 900 910

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920 930 940 950 960 970 980

Eco57 I  
|  
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GTAGCTCGACTTCCCGTAGCTGAAGTTCCTCCTGCCGTTGTAGGACCCCGTGTTCGACCTCATGTTGATG  
990 1000 1010 1020 1030 1040 1050

BpmI  
|  
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1060 1070 1080 1090 1100 1110 1120

BsgI  
|  
ACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCATCGGGCAGCGCC  
TGTTGTAGCTCCTGCCGTCGCACGTGCAGCGGCTGGTGATGGTCTTGTGGGGGTAGCCGCTGCCGGG  
1130 1140 1150 1160 1170 1180 1190

CGTGCTGCTGCCCGACAACCACTACCTGAGCACCCAGTCCGCCCTGAGCAAAGACCCCAACGAGAAGCGC  
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1200 1210 1220 1230 1240 1250 1260

GATCACATGGTCTGCTGGAGTTCGTGACCGCCGCCGGATCACTCTCGGCATGGACGAGCTGTACAAGT  
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1270 1280 1290 1300 1310 1320 1330

BpmI BsrGI  
| |  
XhoI  
|  
BspEI Bgl II EcoRV Sal I  
| | | |  
CCGGACTCAGATCTCGAGCTATGGATGATGATATCGCCGCGCTCGTCGTCGACAACGGCTCCGGCATGTG  
GGCCTGAGTCTAGAGCTCGATACTACTATAGCGGGCGGAGCAGCAGCTGTTGCCGAGGCCGTACAC  
1340 1350 1360 1370 1380 1390 1400

Bgl I BbeI  
| |  
SmaI EheI  
NaeI BbsI NarI  
| | | |  
XmaI KasI  
| | | |  
CAAGGCCGGCTTCGCGGGCGACGATGCCCCCGGGCCGTCTTCCCCTCCATCGTGGGGCGCCCCAGGCAC  
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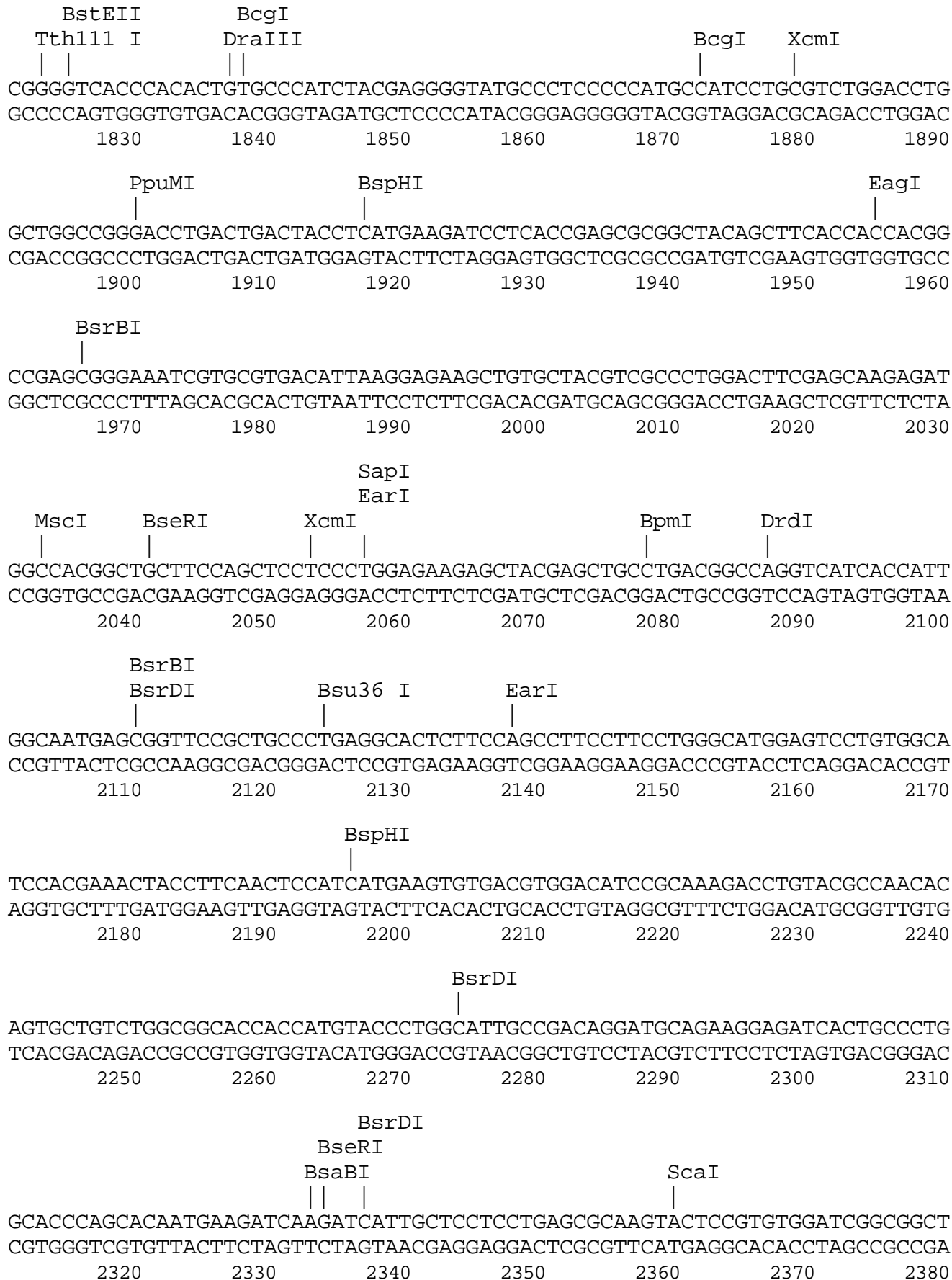
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1480 1490 1500 1510 1520 1530 1540

Eco57 I  
|  
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1550 1560 1570 1580 1590 1600 1610

BseRI  
DraIII  
| |  
CCACACCTTCTACAATGAGCTGCGTGTGGCTCCCGAGGAGACCCCGTGCTGCTGACCGAGGCCCCCTG  
GGTGTGGAAGATGTTACTCGACGCACACCGAGGGCTCCTCGTGGGGCACGACGACTGGCTCCGGGGGGAC  
1620 1630 1640 1650 1660 1670 1680

BsaI  
|  
AACCCCAAGGCCAACCGCGAGAAGATGACCCAGATCATGTTTGAGACCTTCAACACCCCGCCATGTACG  
TTGGGGTTCGGTGTGGCGCTCTTCTACTGGGTCTAGTACAACTCTGGAAGTTGTGGGGTTCGGTACATGC  
1690 1700 1710 1720 1730 1740 1750

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1760 1770 1780 1790 1800 1810 1820



BsaBI  
|  
CCATCCTGGCCTCGCTGTCCACCTTCCAGCAGATGTGGATCAGCAAGCAGGAGTATGACGAGTCCGGCCC  
GGTAGGACCGGAGCGACAGGTGGAAGGTCGTCTACACCTAGTCGTTCGTTCCTCATACTGCTCAGGCCGGG  
2390 2400 2410 2420 2430 2440 2450

BamHI XbaI Bcl I BsaBI  
| | | |  
CTCCATCGTCCACCGCAAATGCTTCTAGGGATCCACCGGATCTAGATAACTGATCATAATCAGCCATAACC  
GAGGTAGCAGGTGGCGTTTACGAAGATCCCTAGGTGGCCTAGATCTATTGACTAGTATTAGTCGGTATGG  
2460 2470 2480 2490 2500 2510 2520

DraI  
|  
ACATTTGTAGAGGTTTTACTTGCTTTAAAAAACCTCCCACACCTCCCCCTGAACCTGAAACATAAAATGA  
TGTAACATCTCCAAAATGAACGAAATTTTTTGGAGGGTGTGGAGGGGGACTTGGACTTTGTATTTTACT  
2530 2540 2550 2560 2570 2580 2590

BsmI MfeI HpaI  
| | |  
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TACGTTAACAACAACAATTGAACAAATAACGTCGAATATTACCAATGTTTATTTTCGTTATCGTAGTGTTT  
2600 2610 2620 2630 2640 2650 2660

BsmI  
|  
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2670 2680 2690 2700 2710 2720 2730

MluI SspI  
| |  
CGCGTAAATTGTAAGCGTTAATATTTTGTAAAATTCGCGTTAAATTTTTGTAAATCAGCTCATTTTTTT  
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2740 2750 2760 2770 2780 2790 2800

AACCAATAGGCCGAAATCGGCAAATCCCTTATAAATCAAAGAATAGACCGAGATAGGGTTGAGTGTTG  
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2810 2820 2830 2840 2850 2860 2870

DrdI  
|  
TTCCAGTTTGGAAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCTA  
AAGGTCAAACCTTGTTCTCAGGTGATAATTTCTTGCACCTGAGGTTGCAGTTTCCCGCTTTTTGGCAGAT  
2880 2890 2900 2910 2920 2930 2940

DraIII  
|  
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AGTCCCCTACCGGGTGATGCACTTGGTAGTGGGATTAGTTCAAAAAACCCAGCTCCACGGCATTTCGT  
2950 2960 2970 2980 2990 3000 3010

NaeI  
 NgoMI  
 | |

CTAAATCGGAACCCCTAAAGGGAGCCCCGATTTAGAGCTTGACGGGGAAAGCCGGCGAACGTGGCGAGAA  
 GATTTAGCCTTGGGATTTCCCTCGGGGGCTAAATCTCGAACTGCCCTTTTCGGCCGCTTGACACCGCTCTT  
 3020            3030            3040            3050            3060            3070            3080

BsrBI  
 |

AGGAAGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGCTGGCAAAGTGTAGCGGTCACGCTGCGCGTAAC  
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 3090            3100            3110            3120            3130            3140            3150

CACCACACCCGCCGCGCTTAATGCGCCGCTACAGGGCGCGTCAGGTGGCACTTTTCGGGGAAATGTGCGC  
 GTGGTGTGGGCGGCGCGAATTACGCGCGATGTCCCAGCGAGTCCACCGTAAAAGCCCTTTACACGCG  
 3160            3170            3180            3190            3200            3210            3220

BspHI  
 BsrBI  
 | |

GGAACCCCTATTTGTTTATTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGAT  
 CCTTGGGGATAAACAAATAAAAAGATTTATGTAAGTTTATACATAGGCGAGTACTCTGTTATTGGGACTA  
 3230            3240            3250            3260            3270            3280            3290

SspI    EarI                    Bsu36 I                    PvuII  
 |        |                            |                            |

AAATGCTTCAATAATATTGAAAAAGGAAGAGTCCTGAGGCGGAAAGAACCAGCTGTGGAATGTGTGTCAG  
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 3300            3310            3320            3330            3340            3350            3360

NsiI  
 SphI  
 Ppu10 I  
 | | |

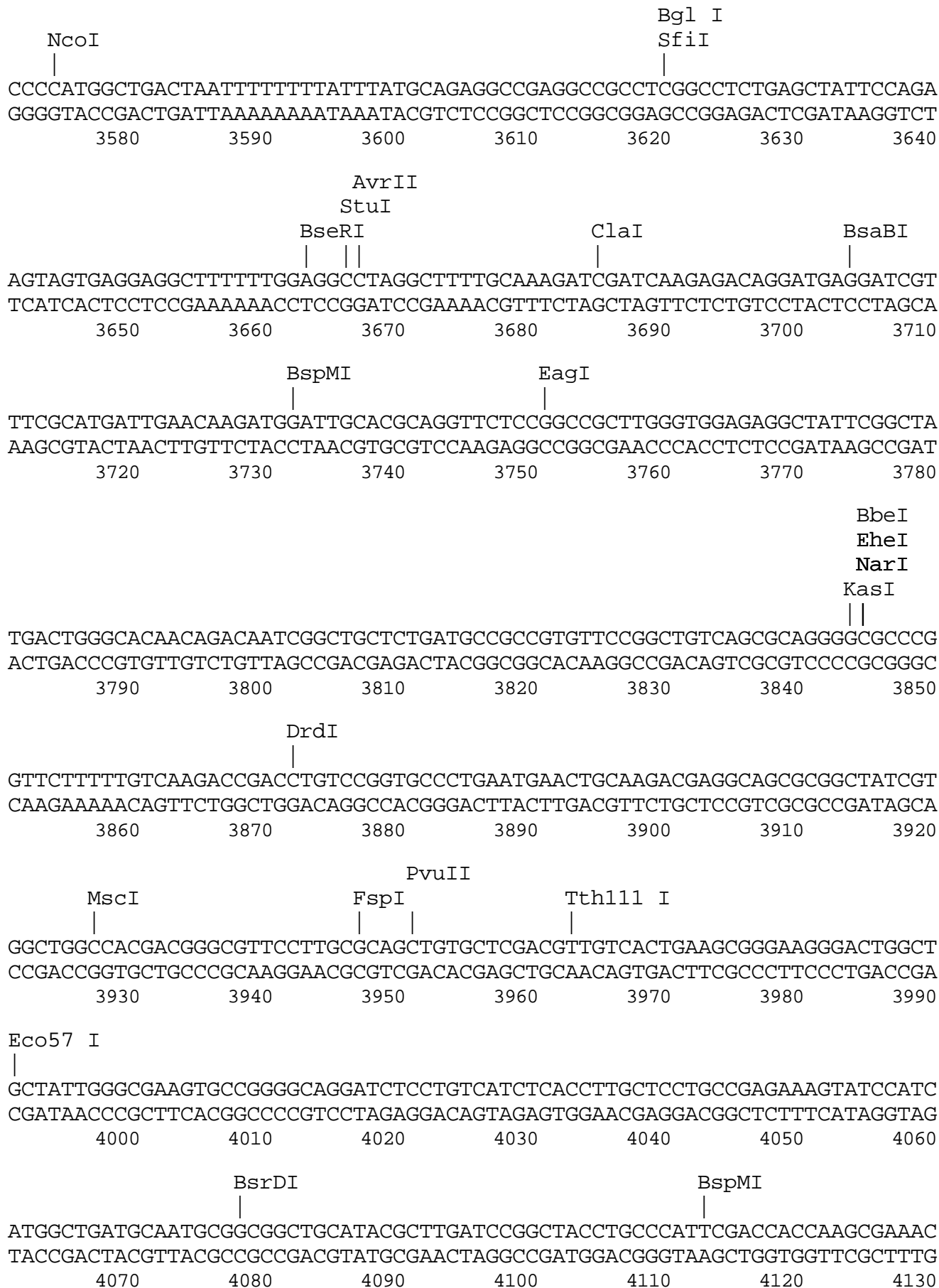
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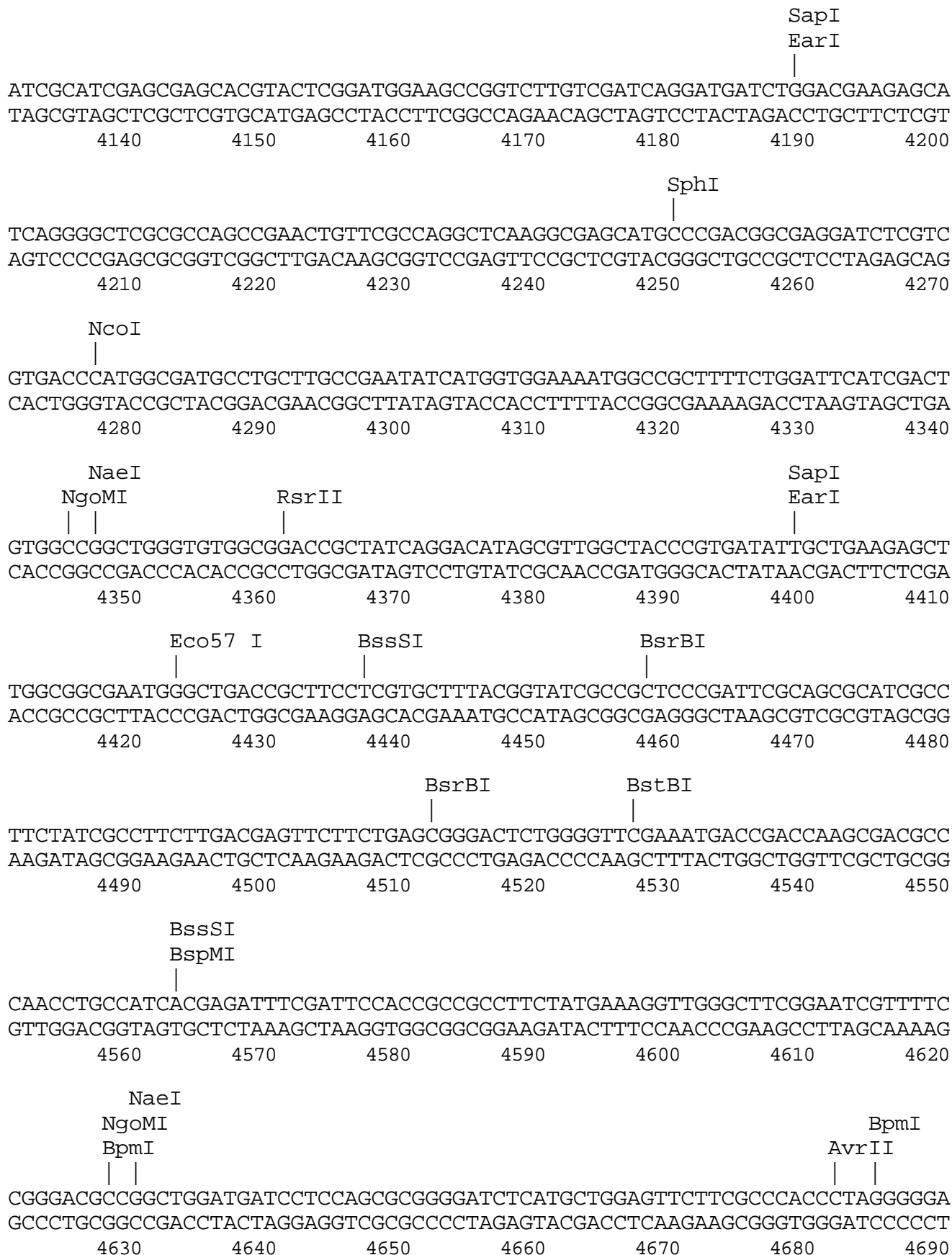
NsiI  
 SphI  
 Ppu10 I  
 | | |

SexAI  
 |

CAACCAGGTGTGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTC  
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 3440            3450            3460            3470            3480            3490            3500

AGCAACCATAGTCCCGCCCCTAACTCCGCCCATCCCGCCCTAACTCCGCCCAGTTCGCCCATTCTCCG  
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 3510            3520            3530            3540            3550            3560            3570







GGCTAACTGAAACACGGAAGGAGACAATACCGGAAGGAACCCGCGCTATGACGGCAATAAAAAGACAGAA  
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 4700 4710 4720 4730 4740 4750 4760

TAAAACGCACGGTGTGGGTCGTTTGTTCATAAACGCGGGGTTTCGGTCCCAGGGCTGGCACTCTGTTCGAT  
 ATTTTGCCTGCCACAACCCAGCAAACAAGTATTTGCGCCCCAAGCCAGGGTCCCAGCCGTGAGACAGCTA  
 4770 4780 4790 4800 4810 4820 4830

BsaI

ACCCACCGAGACCCCATTTGGGGCCAATACGCCGCGTTTCTTCTTTTCCCACCCACCCCAAGTT  
 TGGGGTGGCTCTGGGGTAACCCCGTTATGCGGGCGCAAAGAAGGAAAGGGGTGGGGTGGGGGGTTCAA  
 4840 4850 4860 4870 4880 4890 4900

AlwNI

Bsu36 I

CGGGTGAAGGCCAGGGCTCGCAGCCAACGTCGGGGCGGCAGGCCCTGCCATAGCCTCAGGTTACTCATA  
 GCCCACTTCGGGTCCCAGCGTCGGTTGCAGCCCCGCCGTCCGGGACGGTATCGGAGTCCAATGAGTAT  
 4910 4920 4930 4940 4950 4960 4970

DraI

DraI

TATACTTTAGATTGATTTAAAACCTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTTGATAAT  
 ATATGAAATCTAACTAAATTTTGAAGTAAAATTAATTTTCTAGATCCACTTCTAGGAAAACTATTA  
 4980 4990 5000 5010 5020 5030 5040

BspHI

CTCATGACCAAATCCCTTAACGTGAGTTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAG  
 GAGTACTGGTTTTAGGGAATTGCACTCAAAGCAAGGTGACTCGCAGTCTGGGGCATCTTTTCTAGTTTC  
 5050 5060 5070 5080 5090 5100 5110

GATCTTCTTGAGATCCTTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAACCACCGCTACCAGC  
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 5120 5130 5140 5150 5160 5170 5180

Eco57 I

GGTGGTTTGTGGCCGATCAAGAGCTACCAACTCTTTTCCGAAGGTAAGTGGCTTTCAGCAGAGCGCAG  
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 5190 5200 5210 5220 5230 5240 5250

ATACCAAATACTGTCCTTCTAGTGTAGCCGTAGTTAGGCCACCACTTCAAGAACTCTGTAGCACCGCCTA  
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 5260 5270 5280 5290 5300 5310 5320

AlwNI

|  
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 5330            5340            5350            5360            5370            5380            5390

ApaLI

|  
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 5400            5410            5420            5430            5440            5450            5460

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 5470            5480            5490            5500            5510            5520            5530

BssSI

|  
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 5540            5550            5560            5570            5580            5590            5600

DrdI

|  
 TCCAGGGGAAACGCCTGGTATCTTTATAGTCTGTTCGGGTTTTCGCCACCTCTGACTTGAGCGTTCGATTT  
 AGGTCCCCCTTTGCGGACCATAGAAATATCAGGACAGCCCAAAGCGGTGGAGACTGAACTCGCAGCTAAA  
 5610            5620            5630            5640            5650            5660            5670

TTGTGATGCTCGTCAGGGGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGG  
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 5680            5690            5700            5710            5720            5730            5740

BspLU11 I

|  
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 GGAAAACGACCGGAAAACGAGTGTACAAGAAAGGACGCAATAGGGGACTAAGACACCTATTGGCATAATG  
 5750            5760            5770            5780            5790            5800            5810

NsiI

Ppu10 I

|            |  
 CGCCATGCAT  
 GCGGTACGTA  
 5820