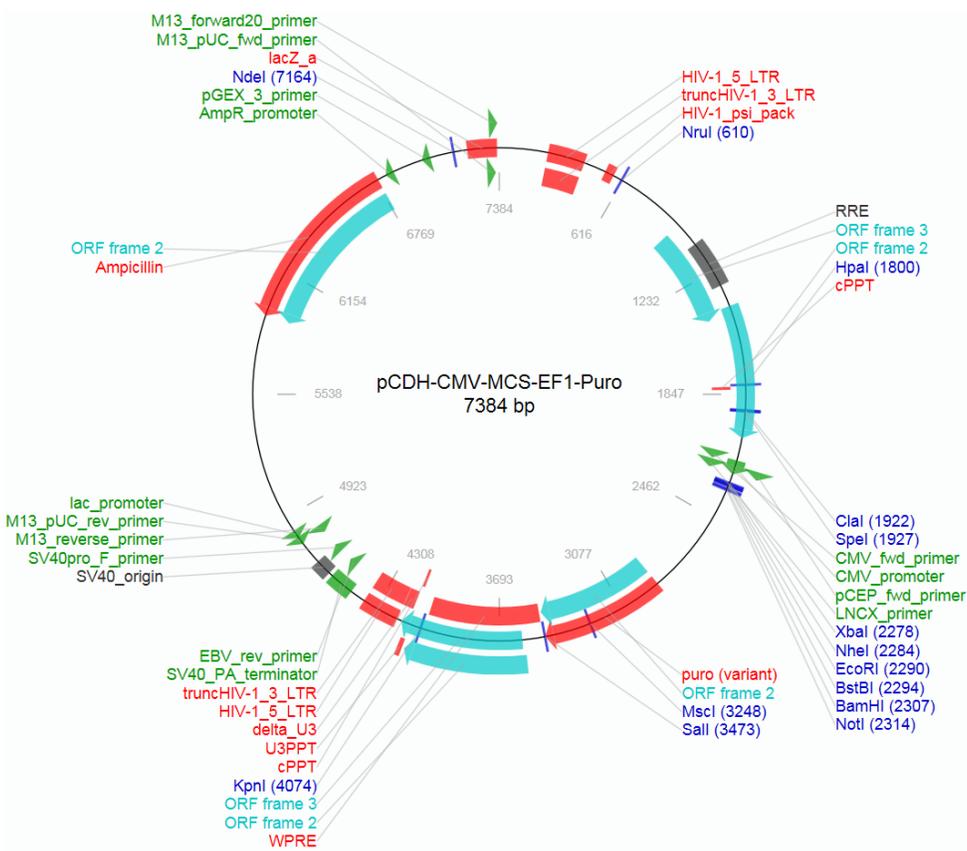
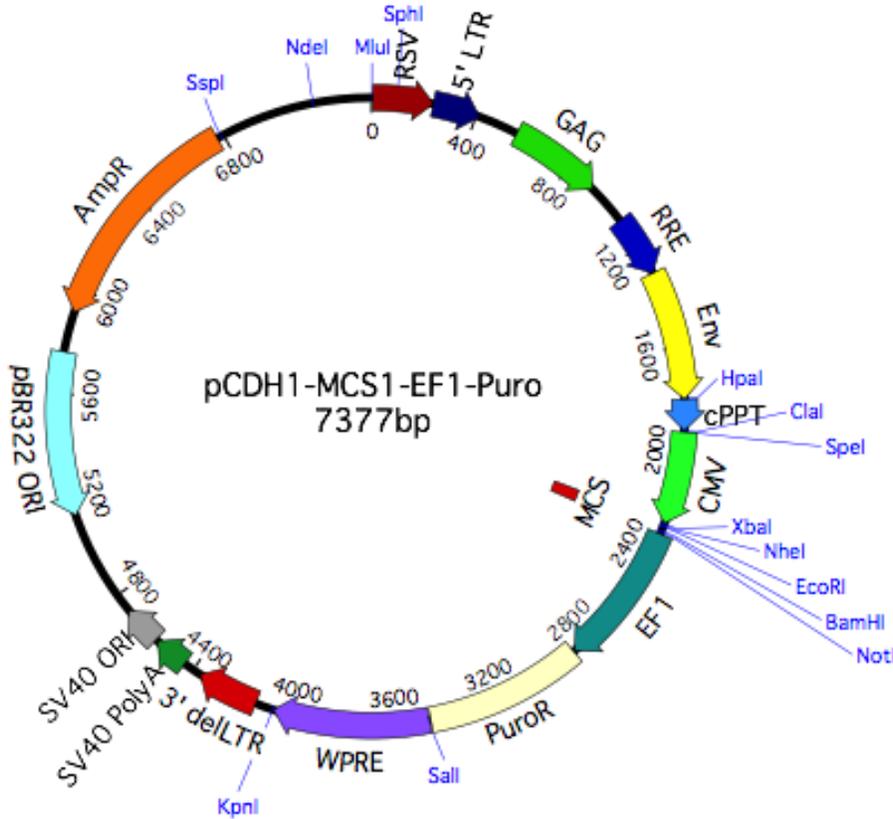


# pCDH-CMV-MCS-EF1-Puro



LOCUS **pCDH-CMV-MCS-EF1-Puro** 7384 bp DNA SYN

DEFINITION pCDH-CMV-MCS-EF1-Puro

ACCESSION

KEYWORDS

SOURCE

ORGANISM other sequences; artificial sequences; vectors.

FEATURES Location/Qualifiers

source 1..7384

/organism="pCDH-CMV-MCS-EF1-Puro"

/mol\_type="other DNA"

misc\_feature 234..414

/label="HIV-1\_5\_LTR"

misc\_feature 234..414

/label="truncHIV-1\_3\_LTR"

misc\_feature 522..566

/label="HIV-1\_psi\_pack"

CDS 954..1454

/label="ORF frame 3"

/translation="MRDNWRSELYKYKVVKIEPLGVAPTAKRRVQREKRAVGIGAL  
FLGFLGAAGSTMGAASMTLTVQARQLLSGIVQQQNNLLRAIEAQQHLLQLTVWGIKQL  
QARILAVERYLKDQQLLGIWGCSSGKLICTTAVPWNASWSNKSLEQIGITRPGWSGTEK  
LTITQA\*"

misc\_feature 1076..1309

/label="RRE"

/translation="MRDNWRSELYKYKVVKIEPLGVAPTAKRRVQREKRAVGIGAL  
FLGFLGAAGSTMGAASMTLTVQARQLLSGIVQQQNNLLRAIEAQQHLLQLTVWGIKQL  
QARILAVERYLKDQQLLGIWGCSSGKLICTTAVPWNASWSNKSLEQIGITRPGWSGTEK  
LTITQA\*"

CDS 1415..2056

/label="ORF frame 2"

/translation="MEWDREINNYTSLIHSLIEESQNQQEKNEQELLELDKASLWNW  
FNITNWLWYIKLFIMIVGGLVGLRIVFAVLSIVNRVRRQGYSPFSQTHLPTPRGPDRP  
EGIEEEGGERDRDRSIRLVNGSRRYRLTFKRKGGIGGYSAGERIVDIIATDIQTKELQ  
KQITKFKILSILVLCPVHDLMGLSYLAVHLRISHRYHGDVAVLAVHQAWIAV\*"

misc\_feature 1808..1823

/label="cPPT"

/translation="MEWDREINNYTSLIHSLIEESQNQQEKNEQELLELDKASLWNW  
FNITNWLWYIKLFIMIVGGLVGLRIVFAVLSIVNRVRRQGYSPFSQTHLPTPRGPDRP  
EGIEEEGGERDRDRSIRLVNGSRRYRLTFKRKGGIGGYSAGERIVDIIATDIQTKELQ  
KQITKFKILSILVLCPVHDLMGLSYLAVHLRISHRYHGDVAVLAVHQAWIAV\*"

misc\_feature 2164..2184

/label="CMV\_fwd\_primer"

/translation="MEWDREINNYTSLIHSLIEESQNQQEKNEQELLELDKASLWNW  
FNITNWLWYIKLFIMIVGGLVGLRIVFAVLSIVNRVRRQGYSPFSQTHLPTPRGPDRP  
EGIEEEGGERDRDRSIRLVNGSRRYRLTFKRKGGIGGYSAGERIVDIIATDIQTKELQ  
KQITKFKILSILVLCPVHDLMGLSYLAVHLRISHRYHGDVAVLAVHQAWIAV\*"

promoter 2165..2234

/label="CMV\_promoter"

/translation="MEWDREINNYTSLIHSLIEESQNQQEKNEQELLELDKASLWNW  
FNITNWLWYIKLFIMIVGGLVGLRIVFAVLSIVNRVRRQGYSPFSQTHLPTPRGPDRP  
EGIEEEGGERDRDRSIRLVNGSRRYRLTFKRKGGIGGYSAGERIVDIIATDIQTKELQ  
KQITKFKILSILVLCPVHDLMGLSYLAVHLRISHRYHGDVAVLAVHQAWIAV\*"

misc\_feature 2208..2227

/label="pCEP\_fwd\_primer"

/translation="MEWDREINNYTSLIHSLIEESQNQQEKNEQELLELDKASLWNW  
FNITNWLWYIKLFIMIVGGLVGLRIVFAVLSIVNRVRRQGYSPFSQTHLPTPRGPDRP  
EGIEEEGGERDRDRSIRLVNGSRRYRLTFKRKGGIGGYSAGERIVDIIATDIQTKELQ  
KQITKFKILSILVLCPVHDLMGLSYLAVHLRISHRYHGDVAVLAVHQAWIAV\*"

misc\_feature 2210..2234

/label="LNCX\_primer"

/translation="MEWDREINNYTSLIHSLIEESQNQQEKNEQELLELDKASLWNW  
FNITNWLWYIKLFIMIVGGLVGLRIVFAVLSIVNRVRRQGYSPFSQTHLPTPRGPDRP  
EGIEEEGGERDRDRSIRLVNGSRRYRLTFKRKGGIGGYSAGERIVDIIATDIQTKELQ  
KQITKFKILSILVLCPVHDLMGLSYLAVHLRISHRYHGDVAVLAVHQAWIAV\*"

gene 2873..3472

/label="puro (variant)"

/gene="puro (variant)"

/translation="MEWDREINNYTSLIHSLIEESQNQQEKNEQELLELDKASLWNW  
FNITNWLWYIKLFIMIVGGLVGLRIVFAVLSIVNRVRRQGYSPFSQTHLPTPRGPDRP

EGIEEEGGERDRDRSIRLVNGSRRYRLTFKRKGGIGGYSAGERIVDIIATDIQTKELQ  
KQITKFKILSILVLCVPVHDLMLGSLYLAVHLRISHRYYHGDAVLAVHQAWIAV\*"

CDS 2873..3472  
/label="ORF frame 2"  
/translation="MTEYKPTVRLATRDDVPRAVRTLAAAFADYPATRHTVDPDRHIE  
RVTEHQELFLTRVGLDIGKVVVADDGAAVAVWTTPESEAGAVFAEIGPRMAELSGSR  
LAAQQQMEGLLAPHRPKEPAWFLATVGVSPDHQKGLGSAVVLPGVEAAERAGVPAFL  
ETSAPRNLPFYERLGFVTADVEVPEGPRTWCMTRKPGA\*"

misc\_feature 3481..4056  
/label="WPRE"  
/translation="MTEYKPTVRLATRDDVPRAVRTLAAAFADYPATRHTVDPDRHIE  
RVTEHQELFLTRVGLDIGKVVVADDGAAVAVWTTPESEAGAVFAEIGPRMAELSGSR  
LAAQQQMEGLLAPHRPKEPAWFLATVGVSPDHQKGLGSAVVLPGVEAAERAGVPAFL  
ETSAPRNLPFYERLGFVTADVEVPEGPRTWCMTRKPGA\*"

CDS 3569..4114  
/label="ORF frame 2"  
/translation="MPLYHAIASRMFAFIFSSLYKSWLLSLEYEELWPVVVRQGVVCTVF  
ADATPTGWIATTCQLLSGTFAPLPIATAELIAACLRACWTGARLLGTDNSVVLGSK  
SSSFPWLLACVATWILRGTSFCYVPSALNPADLPSRGLLPALRPLPRLRLRPQTSRIS  
LWAASPPGTFTNDLQGSCRS\*"

CDS 3582..4172  
/label="ORF frame 3"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

misc\_feature 4124..4139  
/label="cPPT"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

misc\_feature 4124..4145  
/label="U3PPT"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

misc\_feature 4141..4193  
/label="delta\_U3"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

misc\_feature 4194..4374  
/label="HIV-1\_5\_LTR"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

misc\_feature 4194..4374  
/label="truncHIV-1\_3\_LTR"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

terminator 4449..4568  
/label="SV40\_PA\_terminator"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

misc\_feature 4537..4556  
/label="EBV\_rev\_primer"  
/translation="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP  
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF  
LGCSFVLPFGFCAGRPSATSLRPSIQRTFLPAACCRCLGLFRVFAFALRRVGSPPFGPP  
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK\*"

rep\_origin 4586..4663  
/label="SV40\_origin"

```

/translacion="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF
LGCSFVLPPGFCAGRPSATSLRPSIQRTFLPAACCRCLCGLFRVFAFALRRVGSFPGFP
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK*"
misc_feature 4648..4667
/label="SV40pro_F_primer"
/translacion="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF
LGCSFVLPPGFCAGRPSATSLRPSIQRTFLPAACCRCLCGLFRVFAFALRRVGSFPGFP
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK*"
promoter complement(4755..4773)
/label="M13_reverse_primer"
/translacion="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF
LGCSFVLPPGFCAGRPSATSLRPSIQRTFLPAACCRCLCGLFRVFAFALRRVGSFPGFP
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK*"
misc_feature complement(4772..4794)
/label="M13_pUC_rev_primer"
/translacion="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF
LGCSFVLPPGFCAGRPSATSLRPSIQRTFLPAACCRCLCGLFRVFAFALRRVGSFPGFP
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK*"
promoter complement(4808..4837)
/label="lac_promoter"
/translacion="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF
LGCSFVLPPGFCAGRPSATSLRPSIQRTFLPAACCRCLCGLFRVFAFALRRVGSFPGFP
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK*"
gene complement(5920..6780)
/label="Ampicillin"
/gene="Ampicillin"
/translacion="MLLLPVWLSFSPPCINPGCCLFMRSCGPLSGNVAWCALCLLTQP
PLVGALPPPVSFPGLSLSPSLLPRRNSSPPALPAAGQGLGCWALTIPWCCRGNHRPF
LGCSFVLPPGFCAGRPSATSLRPSIQRTFLPAACCRCLCGLFRVFAFALRRVGSFPGFP
PRLVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRK*"
CDS complement(5920..6780)
/label="ORF frame 2"
/translacion="MSIQHFRVALIPFFAAFCPLVFAHPETLVKVKDAEDQLGARVGY
IELDLNSGKILESFRPEERFPMMSDFKVLVLCGAVLSRIDAGQEQLGRRIHYSQNDLVE
YSPVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTITIGGPKELTAFLHNMGDHVTRL
DRWEPPELNEAIPNDERDITMPVAMATTLRKLLTGELLTLASRQQLIDWMEADKVGAPL
LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA
EIGASLIKHW*"
promoter complement(6822..6850)
/label="AmpR_promoter"
/translacion="MSIQHFRVALIPFFAAFCPLVFAHPETLVKVKDAEDQLGARVGY
IELDLNSGKILESFRPEERFPMMSDFKVLVLCGAVLSRIDAGQEQLGRRIHYSQNDLVE
YSPVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTITIGGPKELTAFLHNMGDHVTRL
DRWEPPELNEAIPNDERDITMPVAMATTLRKLLTGELLTLASRQQLIDWMEADKVGAPL
LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA
EIGASLIKHW*"
misc_feature complement(7009..7031)
/label="pGEX_3_primer"
/translacion="MSIQHFRVALIPFFAAFCPLVFAHPETLVKVKDAEDQLGARVGY
IELDLNSGKILESFRPEERFPMMSDFKVLVLCGAVLSRIDAGQEQLGRRIHYSQNDLVE
YSPVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTITIGGPKELTAFLHNMGDHVTRL
DRWEPPELNEAIPNDERDITMPVAMATTLRKLLTGELLTLASRQQLIDWMEADKVGAPL
LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA
EIGASLIKHW*"
misc_feature complement(7230..7373)
/label="lacZ_a"
/translacion="MSIQHFRVALIPFFAAFCPLVFAHPETLVKVKDAEDQLGARVGY
IELDLNSGKILESFRPEERFPMMSDFKVLVLCGAVLSRIDAGQEQLGRRIHYSQNDLVE
YSPVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTITIGGPKELTAFLHNMGDHVTRL
DRWEPPELNEAIPNDERDITMPVAMATTLRKLLTGELLTLASRQQLIDWMEADKVGAPL
LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA
EIGASLIKHW*"
misc_feature 7344..7366
/label="M13_pUC_fwd_primer"
/translacion="MSIQHFRVALIPFFAAFCPLVFAHPETLVKVKDAEDQLGARVGY

```

IELDLNSGKILESFRPEERFPMMSFVKVLLCGAVLSRIDAGQEQLGRRIHYSQNDLVE  
 YSPVTEKHLTDGMTVRELCSAAITMSDNTAANLLTTIGGPKELTAFLHNMGDHVTRL  
 DRWEPELNEAIPNDERDTTTPVAMATTLRKLTTGELLTLASRQQLIDWMEADKVGPL  
 LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA  
 EIGASLIKHW\*"

promoter

7359..7375  
 /label="M13\_forward20\_primer"  
 /translation="MSIQHFRVALIPFFAAFCPLVFAHPETLVKVKDAEDQLGARVGY  
 IELDLNSGKILESFRPEERFPMMSFVKVLLCGAVLSRIDAGQEQLGRRIHYSQNDLVE  
 YSPVTEKHLTDGMTVRELCSAAITMSDNTAANLLTTIGGPKELTAFLHNMGDHVTRL  
 DRWEPELNEAIPNDERDTTTPVAMATTLRKLTTGELLTLASRQQLIDWMEADKVGPL  
 LRSALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIA  
 EIGASLIKHW\*"

ORIGIN

1	ACGCGTGTAG	TCTTATGCAA	TACTCTTGTA	GTCTTGCAAC	ATGGTAACGA	TGAGTTAGCA
61	ACATGCCTTA	CAAGGAGAGA	AAAAGCACCG	TGCATGCCGA	TTGGTGGAAG	TAAGGTGGTA
121	CGATCGTGCC	TTATTAGGAA	GGCAACAGAC	GGGTCTGACA	TGGATTGGAG	GAACCACTGA
181	ATTGCCGCAT	TGCAGAGATA	TTGTATTAA	GTGCCTAGCT	CGATACAATA	AACGGGTCTC
241	TCTGGTTAGA	CCAGATCTGA	GCCTGGGAGC	TCTCTGGCTA	ACTAGGGAAC	CCACTGCTTA
301	AGCCTCAATA	AAGCTTGCC	TGAGTGCCTC	AAGTAGTGTG	TGCCCGTCTG	TTGTGTGACT
361	CTGGTAACTA	GAGATCCCTC	AGACCCTTTT	AGTCAGTGTG	GAAAATCTCT	AGCAGTGGCG
421	CCCGAACAGG	GACCTGAAAG	CGAAAGGAAA	ACCAGAGCTC	TCTCGACGCA	GGACTCGGCT
481	TGCTGAAGCG	CGCACGGCAA	GAGGCGAGGG	GCGGCGACTG	GTGAGTACGC	CAAAAATTTT
541	GACTAGCGGA	GGCTAGAAGG	AGAGAGATGG	GTGCGAGAGC	GTCAGTATTA	AGCGGGGGAG
601	AATTAGATCG	CGATGGGAAA	AAATTCGGTT	AAGGCCAGGG	GGAAAAGAAA	AATATAAATT
661	AAAACATATA	GTATGGGCAA	GCAGGGAGCT	AGAACGATTC	GCAGTTAATC	CTGGCCTGTT
721	AGAAACATCA	GAAGGCTGTA	GACAAATACT	GGGACAGCTA	CAACCATCCC	TTCAGACAGG
781	ATCAGAAGAA	CTTAGATCAT	TATATAATAC	AGTAGCAACC	CTCTATTGTG	TGCATCAAAG
841	GATAGAGATA	AAAGACACCA	AGGAAGCTTT	AGACAAGATA	GAGGAAGAGC	AAAACAAAAG
901	TAAGACCACC	GCACAGCAAG	CGGCCACTGA	TCTTCAGACC	TGGAGGAGGA	GATATGAGGG
961	ACAATTGGAG	AAGTGAATTA	TATAAATATA	AAGTAGTAAA	AATTGAACCA	TTAGGAGTAG
1021	CACCCACCAA	GGCAAAGAGA	AGAGTGTGC	AGAGAGAAAA	AAGAGCAGTG	GGAATAGGAG
1081	CTTTGTTCCT	TGGGTTCTTG	GGAGCAGCAG	GAAGCACTAT	GGGCGCAGCC	TCAATGACGC
1141	TGACGGTACA	GGCCAGACAA	TTATTGTCTG	GTATAGTGCA	GCAGCAGAAC	AATTTGCTGA
1201	GGGCTATTGA	GGCGCAACAG	CATCTGTTGC	AACTCACAGT	CTGGGGCATC	AAGCAGCTCC
1261	AGGCAAGAAT	CCTGGCTGTG	GAAAGATACC	TAAAGGATCA	ACAGCTCCTG	GGGATTTGGG
1321	GTTGCTCTGG	AAAACCTATT	TGCACCATCT	CTGTGCCTTG	GAATGCTAGT	TGGAGTAATA
1381	AATCTCTGGA	ACAGATTGGA	ATCACACGAC	CTGGATGGAG	TGGGACAGAG	AAATTAACAA
1441	TTACACAAGC	TTAATACACT	CCTTAATTGA	AGAATCGCAA	AACCAGCAAG	AAAAGAATGA
1501	ACAAGAATTA	TTGGAATTAG	ATAAATGGGC	AAGTTTGTGG	AATTGGTTTA	ACATAACAAA
1561	TTGGCTGTGG	TATATAAAAT	TATTCATAAT	GATAGTAGGA	GGCTTGGTAG	GTTTAAGAAT
1621	AGTTTTTGTCT	GTACTTCTTA	TAGTGAATAG	AGTTAGGCAG	GGATATTCAC	CATTATCGTT
1681	TCAGACCCAC	CTCCCAACCC	CGAGGGGACC	CGACAGGCC	GAAGGAATAG	AAGAAGAAGG
1741	TGGAGAGAGA	GACAGAGACA	GATCCATTCG	ATTAGTGAAC	GGATCTCGAC	GGTATCGGTT
1801	AACTTTTAAA	AGAAAAGGGG	GGATTGGGGG	GTACAGTGCA	GGGAAAAGAA	TAGTAGACAT
1861	AATAGCAACA	GACATACAAA	CTAAAGAATT	ACAAAAACAA	ATTACAAAAT	TCAAAAATTT
1921	ATCGATACTA	GTATTATGCC	CAGTACATGA	CCTTATGGGA	CTTCTCTACT	TGGCAGTACA
1981	TCTACGTATT	AGTCATCGCT	ATTACCATGG	TGATGCGGTT	TTGGCAGTAC	ATCAATGGGC
2041	GTGGATAGCG	GTTTACTTCA	CGGGGATTTT	CAAGTCTCCA	CCCCATTGAC	GTCATGAGGA
2101	GTTTGTTTTG	GCACCAAAAT	CAACGGGACT	TTCCAAAATG	TCGTAACAAC	TCCGCCCAT
2161	TGACGCAAA	GGGCGGTAGG	CGTGTACGGT	GGGAGGTTTA	TATAAGCAGA	GCTCGTTTAG
2221	TGAACCGTCA	GATCGCCTCG	AGACGCCATC	CACGCTGTTT	TGACCTCCAT	AGAAGATTCT
2281	AGAGCTAGCG	AATTTCGAAT	TAAATCGGAT	CCGCGGCCGC	GAAGGATCTG	CGATCGCTCC
2341	GGTGCCCGTC	AGTGGGCAGA	GCGCACATCG	CCCACAGTCC	CCGAGAAGTT	GGGGGAGGG
2401	GTCGGCAATT	GAACGGGTGC	CTAGAGAAGG	TGGCGCGGGG	TAAACTGGGA	AAGTATGATC
2461	GTGTACTGGC	TCCGCCTTTT	TCCCGAGGGT	GGGGGAGAAC	CGTATATAAG	TGCACTAGTC
2521	GCCGTGAACG	TTCTTTTTCG	CAACGGGTTT	GCCGCCAGAA	CACAGCTGAA	GCTTCGAGGG
2581	GCTCGCATCT	CTCCTTCACG	CGCCCGCCGC	CCTACCTGAG	GCCGCCATCC	ACGCCGGTTG
2641	AGTCGCGTTC	TGCCGCTTCC	CGCCTGTGGT	GCCTCTGAAA	CTGCGTCCGC	CGTCTAGGTA
2701	AGTTTAAAGC	TCAGGTCGAG	ACCGGGCCTT	TGTCCGGCGC	TCCCTTGGAG	CCTACCTAGA
2761	CTCAGCCGGC	TCTCCACGCT	TTGCCTGACC	CTGCTTGCTC	AACTCTACGT	CTTTGTTTCG
2821	TTTTCTGTTC	TGCGCCGTTA	CAGATCCAAG	CTGTGACCGG	CGCCTACGCT	AGATGACCGA
2881	GTACAAGCCC	ACGGTGCGCC	TCGCCACCCG	CGACGACGTC	CCCAGGGCCG	TACGCACCCT
2941	CGCCGCGCCG	TTCCCGGACT	ACCCCGCCAC	GCGCCACACC	GTCGATCCGG	ACCGCCACAT
3001	CGAGCGGGTC	ACCGAGCTGC	AAGAACTCTT	CCTCACGCGC	GTCGGGCTCG	ACATCGCAA
3061	GGTGTGGGTC	GCGGACGACG	GCGCCGCGGT	GGCGGTCTGG	ACCACGCCGG	AGAGCGTCGA
3121	AGCGGGGGCG	GTGTTCCGCC	AGATCGGCCC	GCGCATGGCC	GAGTTGAGCG	GTTCCCGGCT
3181	GGCCGCGCAG	CAACAGATGG	AAGGCCTCCT	GGCGCCGCAC	CGGCCAAGG	AGCCCGCGTG
3241	GTTCTCTGGC	ACCGTCGGCG	TCTCGCCCGA	CCACCAGGGC	AAGGGTCTGG	GCAGCGCCGT
3301	CGTGCTCCCC	GGAGTGGAGG	CGGCCGAGCG	CGCCGGGGTG	CCCCTTCC	TGGAGACCTC

3361 CGCGCCCCGC AACCTCCCCT TCTACGAGCG GCTCGGCTTC ACCGTCACCG CCGACGTGCA  
3421 GGTGCCCGAA GGACCCGCGA CCTGGTGCAT GACCCGCAAG CCCGGTGCCT GAGTCGACAA  
3481 TCAACCTCTG GATTACAAAA TTTGTGAAAG ATTGACTGGT ATTCTTAACT ATGTTGCTCC  
3541 TTTTACGCTA TGTGGATACG CTGCTTTAAT GCCTTTGTAT CATGCTATTG CTTCCCCTAT  
3601 GGCTTTTCAT TTTCTCCTCT TGTATAAATC CTGGTTGCTG TCTCTTTATG AGGAGTTGTG  
3661 GCCCGTTGTC AGGCAACGTG GCGTGGTGTG CACTGTGTTT GCTGACGCAA CCCCCACTGG  
3721 TTGGGGCATT GCCACCACCT GTCAGCTCCT TTCCGGGACT TTCGCTTTCC CCCTCCCTAT  
3781 TGCCACGGCG GAACTCATCG CCGCCTGCCT TGCCCGCTGC TGGACAGGGG CTCGGCTGTT  
3841 GGGCACTGAC AATTCCGTGG TGTTGTGCGG GAAATCATCG TCCTTTCCCT GGCTGCTCGC  
3901 CTGTGTTGCC ACCTGGATTG TGCGCGGGAC GTCCTTCTG TACGTCCCTT CGGCCCTCAA  
3961 TCCACGGGAC CTTCCCTCCC GCGCCCTGCT GCCGGCTCTG CGCCCTCTTC CGCTCTTCG  
4021 CCTTCGCCCT CAGACGAGTC GGATCTCCTT TTGGGCGGCC TCCCCGCCCT GTACCTTTAA  
4081 GACCAATGAC TTACAAGGCA GCTGTAGATC TTAGCCACTT TTTAAAAGAA AAGGGGGGAC  
4141 TGGAAGGGCT AATTCACCTC CAACGAAAAT AAGATCTGCT TTTTGCTTGT ACTGGGTCTC  
4201 TCTGGTTAGA CCAGATCTGA GCCTGGGAGC TCTCTGGCTA ACTAGGGAAC CCACTGCTTA  
4261 AGCCTCAATA AAGCTTGCCCT TGAGTGCTTC AAGTAGTGTG TGCCCGTCTG TTGTGTGACT  
4321 CTGGTAACTA GAGATCCCTC AGACCCTTTT AGTCAGTGTG GAAAATCTCT AGCAGTAGTA  
4381 GTTCATGTCA TCTTATTATF CAGTATTAT AACTTGCAA GAAATGAATA TCAGAGAGTG  
4441 AGAGGAACTT GTTTATTGCA GCTTATAATG GTTACAAATA AAGCAATAGC ATCACAAATT  
4501 TCACAAATAA AGCATTTTTT TCACTGCATT CTAGTTGTGG TTTGTCCAAA CTCATCAATG  
4561 TATCTTATCA TGTCTGGCTC TAGCTATCCC GCCCCTAACT CCGCCAGTT CCGCCATTC  
4621 TCCGCCCCAT GGCTGACTAA TTTTTTTTAT TTATGCAGAG GCCGAGGCCG CCTCGGCCCTC  
4681 TGAGCTATTC CAGAAGTAGT GAGGAGGCTT TTTTGGAGGC CTAGACTTTT GCAGAGACGG  
4741 CCCAAATTCG TAATCATGGT CATAGCTGTT TCCTGTGTGA AATTGTATC CGCTCAAT  
4801 TCCACACAAC ATACGAGCGG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG  
4861 CTAACTCACA TTAATTGCGT TGCGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG  
4921 CCAGCTGCAT TAATGAATCG GCCAACGCGC GGGGAGAGGC GGTTCGCGTA TTGGGCGCTC  
4981 TTCCGCTTCC TCGCTCACTG ACTCGCTCGG CTCGGTCTGT CCGCTCGGC GAGCGGTATC  
5041 AGCTCACTCA AAGGCGGTAA TACGGTTATC CACAGAATCA GGGGATAACG CAGGAAAGAA  
5101 CATGTGAGCA AAAGGCCAGC AAAAGGCCAG GAACCGTAAA AAGGCCGCGT TGCTGGCGTT  
5161 TTTCCATAGG CTCCGCCCCC CTGACGAGCA TCACAAAAAT CGACGCTCAA GTCAGAGGTG  
5221 GCGAAACCCG ACAGGACTAT AAAGATACCA GGCGTTTCCC CCTGGAAGCT CCCTCGTCCG  
5281 CTCTCCTGTT CCGACCCTGC CGCTTACCGG ATACCTGTCC GCCTTTCTCC CTTCGGGAAG  
5341 CGTGGCGCTT TCTCATAGCT CACGCTGTAG GTATCTCAGT TCGGTGTAGG TCGTTGCTC  
5401 CAAGCTGGGC TGTGTGCACG AACCCCCCGT TCAGCCGAC CGCTGCGCCT TATCCGGTAA  
5461 CTATCGTCTT GAGTCCAACC CGGTAAGACA CGACTTATCG CCACTGGCAG CAGCCACTGG  
5521 TAACAGGATT AGCAGAGCGA GGTATGTAGG CGGTGTACA GAGTTCTTGA AGTGGTGGC  
5581 TAACACTCGC TACACTAGAA GGACAGTATT TGGTATCTGC GCTCTGCTGA AGCCAGTTAC  
5641 CTTGGAAGAA AGAGTTGGTA GCTCTTATC CGGCAAAACA ACCACCGCTG GTAGCGGTGG  
5701 TTTTTTTGTT TGCAAGCAGC AGATTACGCG CAGAAAAAAA GGATCTCAAG AAGATCCTTT  
5761 GATCTTTTCT ACGGGGTCTG ACGCTCAGTG GAACGAAAAC TCACGTTAAG GGATTTTGGT  
5821 CATGAGATTA TCAAAAAGGA TCTTACCCTA GATCCTTTTA AATTAATAAT GAAGTTTAA  
5881 ATCAATCTAA AGTATATATG AGTAAACTTG GTCTGACAGT TACCAATGCT TAATCAGTGA  
5941 GGCACCTATC TCACGATCTG GTCTATTTCC TTCATCCATA GTTGCTGAC TCCCCTGCT  
6001 GTAGATAAAT ACAGTACGGG AGGGCTTACC ATCTGGCCCC AGTGTGCAA TGATACCGCG  
6061 AGACCCACGC TCACCGGCTC CAGATTTATC AGCAATAAAC CAGCCAGCCG GAAGGGCCGA  
6121 GCGCAGAAGT GGTCTGCAA CTTTATCCGC CTCCATCCAG TCTATTAATT GTTGCCGGGA  
6181 AGCTAGAGTA AGTAGTTCGC CAGTTAATAG TTTGCGCAAC GTTGTGCCA TTGTACAGG  
6241 CATCGTGGTG TCACGCTCGT CGTTTGGTAT GGCTTCATTC AGCTCCGGTT CCCAACGATC  
6301 AAGGCGAGTT ACATGATCCC CCATGTTGTG CAAAAAGCG GTTAGCTCCT TCGGTCCTCC  
6361 GATCGTTGTC AGAAGTAACT TGGCCGAGT GTTATCACTC ATGGTTATGG CAGCACTGCA  
6421 TAATTCTCTT ACTGTCATGC CATCCGTAAG ATGCTTTTCT GTGACTGGTG AGTACTCAAC  
6481 CAAGTCATTC TGAGAATAGT GTATGCGGCG ACCGAGTTGC TCTTGCCCGG CGTCAATACG  
6541 GGATAATACC GCGCCACATA GCAGAACTTT AAAAGTGCTC ATCATTGAA AACGTTCTTC  
6601 GGGGCGAAAA CTCTCAAGGA TCTTACCCTG GTTGAGATCC AGTTCGATGT AACCCACTCG  
6661 TGCACCCAAC TGATCTTTCAG CATCTTTTAC TTTCCACGAG GTTTCTGGGT GAGCAAAAAC  
6721 AGGAAGGCAA AATGCCGCAA AAAAGGGAAT AAGGGCGACA CGGAAATGTT GAATACTCAT  
6781 ACTCTTCTTT TTTCAATATF ATTGAAGAT TTATCAGGGT TATTGTCTCA TGAGCGGATA  
6841 CATATTTGAA TGTATTTAGA AAAATAAACA AATAGGGGTT CCGCGACAT TTCCCCGAAA  
6901 AGTGCCACCT GACGTCTAAG AAACCATTAT TATCATGACA TTAACCTATA AAAATAGGCG  
6961 TATCACGAGG CCCTTTCGTC TCGCGCGTTT CGGTGTATGAC GGTGAAAACC TCTGACACAT  
7021 GCAGCTCCCG GAGACGGTCA CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCG  
7081 TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA  
7141 GCAGATTGTA CTGAGAGTGC ACCATATGCG GTGTGAAATA CCGCACAGAT CGGTAAGGAG  
7201 AAAATACCCG ATCAGGCGCC ATTCGCCATT ATTCGCCATT CAGGCTGCGC AACTGTTGGG AAGGGCGATC  
7261 GGTGCGGGCC TCTTCGCTAT TACGCCAGCT GGCGAAAGGG GGATGTGCTG CAAGGCGATT  
7321 AAGTTGGGTA ACGCCAGGGT TTTCCAGTC ACGACGTTGT AAAACGACGG CCAGTGCCAA  
7381 GCTG