



Lexicon Genetics Incorporated – Genentech Project Materials

Genentech ID:	UNQ583	Date of Submission:	7/22/05
Lexicon Contract Name:	DNA325	Mutation Type:	X Standard Knock out
LexVision Name:	MAS260N1		☐ Conditional
Reference accessions:	NM_175259	Is this gene X-linked?	No

Required Materials: X pKOS clone DNA(s) __pKOS65_____
X Target Vector DNA __pKOS65.TV_____
X Targeted ES Cell DNA __3D6_____
X Genomic Map

Southern Blot Analysis: *External/Internal Probe Strategies*

	<u>5' External</u>	<u>3' Internal</u>
Name of Probe:	12 + 13	14 + 15
Restriction Enzyme for Genomic Digest:	BamHI	Acc65I
Predicted Wild-type Band (kb):	8.3 kb	8.0 kb
Predicted Mutant Band (kb):	7.5 kb	4.7 kb
Probe Size:	501 bp	401 bp

PCR Strategies:

For standard knockouts, give wildtype and mutant-specific strategies

For conditionals, give 5' loxP and cre-excision strategies

Wild type-specific (absent in targeted allele)		Mutation-specific product (absent in wt)	
5' Primer Name:	DNA325-21	5' Primer Name:	Neo3a
3' Primer Name:	DNA325-20	3' Primer Name:	DNA325-20
Predicted Wild-type Band (bp):	492 bp	Predicted Wild-type Band (bp):	none
Predicted mutant band (bp)	none	Predicted mutant band (bp)	342 bp

5' loxP strategy		Distinguish Cre-excised and wt	
5' Primer Name:		5' Primer Name:	
3' Primer Name:		3' Primer Name:	
Predicted Wild-type Band (bp):		Predicted Wild-type Band (bp):	
Predicted mutant band (bp)		Predicted mutant band (bp)	

Primer sequences:**Southern probes**

DNA325-12 5' – CGAGAGCAAACCATTACACC
DNA325-13 5' – TTCTGTGAGGATAACGCAGG
DNA325-14 5' – AGCAGAGAGGAGTTAAGACC
DNA325-15 5' – AGCCATTGGAATATGGGTGG

PCR Genotyping

DNA325-21 5' – TTCGCTGGTGGATTACCTTTCC
DNA325-20 5' – TCTCATCTTACTCCCAGTCTCC
Neo3a 5' – GCAGCGCATCGCCTTCTATC

Genomic Sequence Deleted:

CAGGCGCGTCTCTGGCCGCGCCAGCCCCCTCTCGCCATGCGCGCCCGCGGGGCCCGCGGGACCGCGCCGCTCGCAGCCGTCGTCCTGCTGGTGCTTGGG
GCTCCTCTGGGTAAGGGATGGAGAGCGACACGAGATGGGTGGGGTGGGGCGAGATAGGGAGAGGTGAAAGGGACCAGCCATGTCCTCAGAGGCTAT
CTTCGCGGTGTCATGCCCCCAGATGCTTGGGTGTTCCCGGAGCAGGAAGAAGGCGCGTACGAGGTCAGCGGGAACCTGACCCCCAGGC
CGCGGGTTCAGTTCAGGGAGAAAGGGCTTCTAGGACTTCTAGCTTAGGTTAGAAACAAAGTAGAGCTTTCAGCTTGTCAAGGCAGTGAGATTGAGG
GTGGCTAGAACTGAATTGGACTGGTGTCCACTGGGCACCTCCACCCCTGCCGCGAGCGCTGGCGAGTGAGGACTGCTTGTGGTATCTGGACCGGAATG
GCTCCTGGCATCCCGGATTGTACTGCGAGTTCTTACCTTCTGCTGCGGGAAGCTGCTACACGCGGTACTGCTGAGGGACACTGACCTTACTCATCACCG
AGAGACAGCAGAAACACTGCTGCGCTTACGTTGGGTGCGGACTCCCACTCCACCCCTCTCCGAGGGCCTCTGCTGGCTCCAGTGCCCACTCCAC
ATTCTTAAGTCAGGAGTCAACGAGACTCCAAATGGTGACAGAGCTGGGTGGTGTAGTTAGTTACCTAGGCTTGGCTGGGCTGTTTCCAGGGCTTT
CTGGATCCTGACAGGTCTGGGAGGGAGTGTGCTGAGTTAACACTAACATTCAAACAGCAGAGTGCCTTGGTAGACGCTCTGGTGAGAGGGCAGGAAG
ACTTGGGTTTTGTTCAGGCTGGTGCATGTGATCCAGCTAAGGCGCTTGCCTCTAGAGAGTACCGCTACCTTTTAAAATAATATGGAAGTTGCTAG
CCCGGCTTGGTGGCTCGCACCTGTAATCCGAGCATCAGAAGGCTGAGGCGGGAAGATCATCACTAAAGAGTTCCAGACCAGCCTGGGCTACAAAGTG
AGACTATCTCAAAGACGATAACACCCAAATAATAAAATAAAATAAAATAAAATAAAATAAAAGATAACACCCAAATAAAATAAAATAAAATA
ATAAATAAAATAAAGAAAAAGAAAGAAACAGTTGCCAAAATTAAGTGTTCGCTAATCCTTCCCCCATCCAGCCCAGGGCTGAGGGTAGGCCCTCA
AACAGGGCAACATGCTACTTTAAGCTACACTCCAGCCCCCAAAATTAGTGGTTCAAACCTTTTAAAGGGAGCTGCAAACACATAAAACTGATATAAG
GGGATTGCAAGCTCTTGTAAGATTTGATGATAATGGCCCTTCAATTTTCAAAGGCTCCATTGAGGCCAACATCTTTAAACCTAACCAATAAAAGC
AGTGGTAGGTGGGCACACTACAAATCCAGCAGCCTCATGCCAGTACCAGACAGCATGGCCTCTGGGAAGTAGAGGTTCTCTTAGACTACTTAA
CAAGGTGGGCAGAATTAATCCACAGGGAACCCCAAGACATAGCATGCTGTGGCTCCCTGCTGGCCAAGAGTTGGAGTCAGCTCCGTGAGGAGTTCTCT
CTTATGAATGTTGGAAGGTGAGAGGACTGTTTTTGTCTAAAGTCCCAAGACCATAGCAGGCTACGCCTCTGTGTAATCCTCTTTGTTGCTGTGGTTG
CCACACCATCTGCTGCTTCTGTCTGTGTTTACCTATACCGAAGGCGCCAGCGCTCCAGAGCAGCTTTGAAGGTACGCAGACAGTACGGCAAG
ATGAGTCTGAACGGGCTGGATTAGCTGCTGTGATGGGCACAAAGGACGAAGGACTGGTGAATTCGTAGTAGTGAGGTTTCTGTGTGCTGAGC
ATCGCCAGTGGGAAATGTGTGCAAGTGAACCCCTTGAGCGTTAGACTGCATCCAGGAATGTATGGGAGCGAGTCAGTGTGCCCTTGTATGTGCATGCAC
ATGAACCTTCAGTCGTGCGCAGGAATGCATCCGTGCGTGGTAAGTGTGCAGTAGGTATAAGCACGTCTGGGGCTGAAGTGGGGTCTGTAGTAGTGAAC
ACTAAGCTGGGCGGTGTTCAAGTACTTCGGATGTATGTTTGAAGTGTGTCATGTAAGTCCCGAGGCTGATAAACATGGGGATGATGACACCATACAGGA
GATCAGCATAGGGGAGGACCCCTTAGAGCGAGTATGTTGGATTACAAGATACCAGCATCTGGAGCTGCCATCTTCTACCCAAGTGGGACTCTCC
CAGGCTAGCCTGCCTCTGAAGGCTCTCTAACTGCTTGCAGGGGTGGGGTAGGGGTGGGGGAGAAACAACTTGCTCAACACAGACTGACCTGCTTA
GCTTCATACATAGCTCCCTGCTCAACTCTGGGCAAGCAGACTTTGGGAGGCAAGGCTACAAGTGGCCACCCAGCAGCCTGCCAGGCAGTTGCCAGAG
TGCTTACCTTGGTCTCTGATGAGGAGGAGTTTCTATGGGAGTTGGGTATTTAAATCGGGATCCTTGTCCCTCTTATGGCCAGGAGATTCCTATGACA
GGCATCCCAATGCAGCCGATACACGATACCCCCGATCCCAAGCTGGCCCTGCACCTCCACAGCTGCTGTTTCATGTACCCACCTAGCGCCCTGCT
CCTCAGTATCCCTCTACCCAGCTGGGCCCCCAATCTACAACCTCGAGGTAAATGCACGACCTGGAATCCTTGTCCCTTCTGTCCCCACTCCTTTTCGC
TGGTGGATTACCTTTCCAGGGTCCCTCCATGTCTCCTTGAAACTTCTAGGCATTTCTTCCCATGGAACCTGCGCATCATGAAGGGGGGGAGAGTACT
TCCTGTCTTCTGTGTCCCACTGACCTTATCCTGTCTCCTTGGTTTTTCAGCTCCTCGCCTTATATGCCACCACAGCCCTCTTATCCAGGAGCCTGAAGA
GACAGCTGTGGCTCTGCTGTCCCTTCCGTGATGTGCTTTTTTGGGGTTTTTTTTTTTTTTTTTGGGAGAGTCCCCGCTCTGTACCTGCATCTAGCCCTGAGG
GTGGGCAAGGG

Genomic Locus: (*The deleted sequence represents nt 19797-22962 in the sequence below. KOS65 used to generate the TV represents nt-16013-25640 in the sequence below.*)

[illegible]

GTGACTGCCACACAGGTTCCACCTGTGTCACAGGACATCTGTCTGGGCTTGGAGACTCAGGATGCTATGCTATAAATACTGAGCTACTCTGTCCATGAAGACA
GTGCTTGACTGCCTAAGGTTTTTTTTAAAGGGGTGGGGAGTTTTACCCCTTTAATCCCAAGCACTGGGAGGCAGAAAGCAGGTAGATCTCTAAGTTTGAG
TGTAGCTTGCTCTATAGAAATGAGTTTCCATGACAGCCAGGGCTCTGTATAGAAACCAAGTTTTGGAAAGAACAGGGAATTTGGGGCTGGGTAGTAAGAG
TGAATGTGTATGGGGTATGAGGTATGGTGTCTACTGTGTAGTACTGTATATAGCCGACCTTTACTACAGGAAATCTGCTCGCTCTGTCTCCCAATG
CTGGAATTATAGGCATGCACCACCATGCCTGGTGGCATTTTTCCCAACTGCTATGATACATGTTGGGAACAGGAGGACAACCTCTGGTGTCTATCCTCAA
GAACACAGTCTACCTCCTTTGAAGCAAGGCCTTTCTTTGACTTGTAGTCTTGCTGTACGGCATGCCAACCAGCCAGTAAGCCCCGAAACCTCCTTTCTTT
GCCTCCCCGGCACCAGGGTTATAAAACACACATGCCCTCCTGCCTGCCTGTCAATACCACCTCGCGCCACAGCTAATGGTTATAAGCGCTCTAGTGAGGC
TGAGAGCTGTGTACTGCACAGGCGGTCTTCTGTGGATATCTCCCTCCCAAGAAATCTGTGACTTCTGTATTTTTTTTTCAGACAGCCATTGAC
ATCTTGACTACAGTAGTTTGGAAATACCAAGCCCTCCCTTTCCCAAGCTCCTCATTTTGGCAGGCTTTCCCTGCTGTGGCGCAGTGCCACCTTCACACAGATG
ACAATGCCACCATGCAGGTATCTGAGACTTCGAGACTGGAAGGTCATAGCCGTATAGTAAGACAGGAAATCTGACCTGTGATTATGCTTTTTGAAATGT
AAGTCTGTGCACTCCAGATTTACCAGAGAGACCGGTGGGGTGTGCTTTAAAGTCTGTTAACGGTCTTAGAAAGTGTACACTACCAGACATCTGGCTATC
TGTATTTGATTATTGATGTCTATAGGAGGCCATAGATGACCTCTGTAGAGGCTGGATTGTAGACCTTCTGAAATATTTTGTGACAGAGTCGACAAA
GTGATAGACGTGGGAAGTGAAGATGTTGGGTACGCTCAGGTCAGTCTTTATTACTGGGACCGTTTGTAAAGGCTGTAGGAAGATGATAGGAGATCTGGT
AAGAGTAGAGATCCCTAGGCAGACAGTGATTTGTGTGAGGTCCATCTTCATCCCTGAAGACCTTTAATACTCCTAATTATGGCTATATCTAAGAGGGT
TTTTCAATACCAAAGGTAATCTTTACTGGTAAACCTCAGTTTTCTTGATCATTGGTCATTGTAATGAGAAGTAGGCAGGGTTTTTGTTTTGGTTTGGTTT
TGGTTTTTTGGGGGGTTTTTTTTTTTTGGTTTTTGGTTTTTCAAGACAGGGTTTTCTCTGTGTAAACCCTGGCTGTCTGGAACCTCACTTTGTAGACAGGC
TGGCTCGAAGTACGGAATCCCGCTGCTCTGCCTCCCAAGTCTGGGATTAAAGGTGTGCAAAAGAGAGATACTGGGTAAAAAGGAAGTCATGTTGG
TTGGTGCCTGTCTTTAGCTCTAAACAATAAAATCCCTGTGTCAAGTGTATGAGCCACAGAGCCCTAGAGGTTTTGTGTGCCATGAGGTATAGGCCCTCTCT
CAGTAACAGCTTAGGGTCTCCTTGCATCTGTTCTCCAACGGCTAATCTTGCTTGTCAATTTCTGTCCCATAGAAATGGTGGTGAGTGTTTGCGGGCCTAT
GTGTCACTGACACTGGAACAGGTAGCCAGTGGCATGACGAACAAGGCCACAATGGACTGTGGTACGTGATGCAAGTAGTGAGCCAGCAGCTCCTTGACCC
ACGAACCTCAGAGTTTACTGCAGCTTTTGTGGCCGCTGGTCTCCACCCTCATCTCCAAGGCAGGCGGGAGCTGGGGAGGAATCTGGACCAAGATTC
TCTGTGCCATCCTCAGTAAGATGCAGCAGGCAGAGACACTCAGTGTCTATGCAGGTAAGGACAGTGGGGTACAGTAGGCTTTGCTGCGTGGGAACCAAG
TGAGTGTGTGGGCCCTGAGTTGTTTTATCTCTACTATCCTTGTAGATCAGCTCAGTAGAGTGGATCTCTTCTGGTGGGAGAGACATGAACAAGGAAAA
CCCCATGTTCTGTCTATGAGTGGACTCTGTTGTATATAAAACAAATTTGTTTTACATGTATGAGTGTTTTGCTTGCATGCATGTATATGCACCACATACA
TTAGTTCAGCTCTTTGGAACACTACAGTTAGAAATGGTTGGGAGCCACCGATTGGGGTCTAGGAACACACCCAGCTCCTCAGCGAGACTAGCAGTGC
CCTGACCACGTACCCATCTCTCCAGCCAGCATGTTTGTGTTGACTCTGTTTTGTTTTATTGTAGATGGTCTCAGTAGTGTAGCTCTGGCTAGTCTGG
AACTCTCTGTATAGAGCCAGGCTAGCCTCAAACCTCAGTGATCTGCCTGCCTCTGCTTCTCTATGTATTGGGATTAAAGGTGTGCCACCACCATGTCCAGTCT
CAGAGTCTGCTTCTGACTGACCAGCCCATCCCTCTTTCTCTGTGTGATGCAATCTTTCTTGAAAACGATAACCTCTTGTTCTCTTCTAGTCTCTCATCT
ATGGTGTGTTGCTCATCTGGTGACACTCAGCTGGAACCTCTATTGGAGTTCCTATGTAGCTCCTCCAGGACCACTGGGAAGCTCGCCTGGAGTCTCGTG
ATGGCTGAGTGGACGAGTCGGCAGCAGCTGTTCTATGACAGTATGAAGGCAAGGTAGGTAGGTAAGGCCGGTGACATTTGCTGAGCTTTCTACTTCCAC
TCACATTTAAATCTTTTCGTCCCTGATTTACACCGTTGAACTTTGTTCAACATACCAAGCTGTCCCTTTAGTCTCTGTTGTGCTTTTCTTGATAACCATATA
ATTTAATATCTCCATGTTGAAATTCCCAATAAAACAGCAGAGGAGAAGGTATATTTCTGATTCTGCTAAGAACCTCCTCTTGAGCAGACTTTGCCTGG
TTAAGTACAGATAGTGGCTTATCTCTCTTTATAAACCCAAAGCCTAAAGCCTGGTGTGGTAGCGTTACCTTTAATCCCAACACTCAGAGGCGAGAAGCA
GGTCTTTGTGAGTTTCAGGGCCAGCCTGATCTACAGAGTACCTCCAAGACAGCAATAGATAGATAGATAGACAGACTGACCTTTGTCTGCAACTCCA
TAGCTAGACTCTATCTTTTATTTTCTGGTCTGGGAACCAACAGCCAGCCTGAGTTTGGTAGGCCAGCCTTCTACCGTTGGGCTAAATCCCCAAC
CTCTCTAGCCTACGCTTATTCCTACTAGGTCTCATACCCAAATACACTGACCAGTGTGGATAGTCACTGTGCAGCTTGCCACCCCTAACATTTTTCAAGA
TGAGCAGATCACTAGTGGAACACCTTGTGTACACCAAAATCCCATCTTTTTTTTTTTTTTTTTTTTGGTTTTTAGAGACAGGGTTTTCTGTGTAGCCCTGGC
TGTCTGGAGCTCACTCTGTAGACAGGCTGGCCTTGAACCTCAGAAATCCCGCTGTCTGGCTTCCAAGTGCTGGGATTAAAGGCTAGCGCCACCCTCTG
GCTGGACACCAAAATCCCTTTTCTAGCTGGGCTGTCTACTCTTCTAATTAGTAGTAAATAGTAAGATTACACCTCAAAAGAGAGGGTCTCTATTCTTGAG
GGTGAGTTAATCTACTTGGTGAAGGCTCTAGATGTGAGCTGACTGACATTTCCCGGCTCTTGCTAGCTCTGTGGCACTGTGTAAACTGCTTCAGCATGG
CATCAATGCAGACGACAAGCGGTACAAGATATTCGTGTGAAGGGAGAGGAGATCTACAGCATGGACGAGGGCATCCGCACCCGCTCTAAGTCAGCC
AAAAGTAGTCACTGCTCCAGTCTGGAGGGGCTCCAGAGACCTGGAATAGGGGAAGGACTACACTGTTCTGTGTTTTATTGGTCGGTTTCATAAAGA
AAGATCAGAAACTAAACAAACAGTGCATCAGAAGCTGTGGATCTTTGTTGAAATAGTACAAAAATAATCTGGGACAGTCTCCAGCTCCAGTCCAG
CTTCAGTCTGGGGCTCTGACACACGCTCAGTATGTCTGCGGCTCTGATGGACTGTGCGTAGAGTTGTTGCCTTTAGCTGTAAAGTCTCTGATTGTCTGCC
TGTCTCAGAAGTTAAAGTTTTTGGCCAGGGACTGGCATCCTGTGCTGGCTTCACAACTTGGTGTGCTAGTAGGAAGTATCTCTAATCCCGGAACCTTACT
TCTCCTATCTCTGAGCTGTTATGTATAAGACCCAGGAGAATTAATTTAAGTCATTTTGTCTGGATTTAGTGAGGGTGGCAGAAAAACACTGAGAAAC
AAGCTCTGCTGAGGAGAGCTAGCAGGAGGTAGAGAGCTGCCAGTCAACCTGAGGCTTTTTGCTTGTCTTTAGACCCGGAGCGCTGGACGAACATT
CCTCTGTTGGTCAAGATCTTAAGCTGATTATCAACGAGCTTTCCAATGTCATGGAGGCCAATGCTGCTCGCCAGGCCACTCCTGCTGAGTGGAACCAA
GGTGACCAGACCCTTACTCCAGGAGACTTTGAACTTCCATATTGTGCGTGTAGGTTATTTCAGGCACAGGTTTAAAGGGTGTGGTGGGAGTGTTATT
GGAAAGCTGTGCCGTGACTGACAGTCAAGGTCTCTTCAGATCTACCGTTAGAGATGAGGGCAGCTAGGAGGCAGGCTGCCTTATCCTTCTGAAAAGCT
GAAGTTTTTCCATTCACACCCAGGAGGGCTAGGCCATCTTGGTGTCTATCAGTTTGGGACCGTAGGCCATCACAGAAACCTCAGGCCCTTCTGT
TCTGACCTAGTAAGATTTTGGGAGGGAATAATGATGACTGTTTCACTGCTTTTTCATCTTCAAATAGATGATTTCCAATGATGTGGGAGGACACAGGA
GGAAGAGGAGGAGGAGGAGGATGGTTTAGCTGGCCAGCTTTTATCTGACATTTCTGTCTACAAGTAAATACGGTAAGCCACTTGAGAAAAGACAGACA
ACATGGTAAATACCTTTTCTCTGCACACTGGTGCCCAAAATGGAAGTACCTAAGAAAGAGGAGATGTGGGCTTATAGGGATGTTCTTGGGCTTTTGCC
CTTCCGCTGCCTCAGCCATGCAGTAAACCGCATCTTGGCCCTGATAGTGGCCCTCTGCTCTGACTCGCCTGTGTGGCTGTGTCTAACAGAGGAGGATT
ACTATGAAGACGATGAGGAAGATGACCCCGATGCCCTGAAGGATCCTCTTCTATCAGATTTGATCTGCAAGTGAGGTTGCCATGATGATGTTTACGAG
TAATATCGTTCAAGCCATGGAACAATATAAATGGGTTCAAATCCATTTCATGGTTTCGTCAATTAGAACTGCAAGAAAGTGGGGATGGGTGGCTGTCTGTTT
GGGTGCTCAGAGCCCTGGGGCAGAGGGGGTGTGGGATTTTATCCAGTCACTGTACCAGCAATAATCACTCAAAAGTGAGTCTACTTTGTGAAAGTT
CTCTGGGTGGAATAGGAGATGGAGCCTTGGAAAATATTTTGGGTTCCCTATAGGACATTTCTGTACCGTATGTATATCAGTTCCACGGGATGTGAAAACTACC
CCTTAGGAAGCAGGACCTATTGTCTGAAAGCCAGCATCTCTGACCGCTGTCTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGAT
GCCTCTCTCCTTCTCTGTCAGGCGTATCTCACAGACTTCTTTGCCAGTTTGTCTCAGCAGCCCTGTACATAATGTTTTTCATGCCACCTTAACGACAAC
GAGAGGCGGGTCTACAGACTATCGGCATCTAAAAGGAGAGTCTTCAGCCTGTGCTTCTCTCTGCCCCAGCCACAGAACATTCTACCGCCCTCTCT
GGCCTTGAGATGCACTTTTTCTCAGCCTGGAGTGCTTCTGCGCCTCGGCCGTGGACAGTGATACCTGACACTCAGCCCTTGCCTTACCAGGGCTGGCATTTT
AAAAGCTAAAGCAAAGAACATTTATCAAAGTCTGTAAGTATACCCCAATCTGGAAGTCTTCTTCCCAAGCTCTGCCCCCTTCACTCTCATCATCTCC
TCTGTTGGCAGACAGCAAAACATTTGATACCGGAGGTGTTGGTCTCGTGTATTGTTGCCCACTTCAGGAGCAGGAATTCATTTCCATTAATACTCAG
AAGCATATCTGTTTCTTTCATAGGACATCTGATGTGTTTCAAGTAGGAGCCCGTGAGAGATCATTCTGCCTATGCCTTCTGCCCTCGGCCAGTGATGCTC
TAGGTTTTAGCTAAGGAGAGAGCTGGAGCCGACGTAAGCCATTTCCAGTAACCTCAGCTTCACTGCTTTCTCTCATGCAACACTAAGGGTCTCTGT
CAAAGGCTCCATATTTCCCATCTTTGCTTGGTATGACACAGCCCTCCCGAGGCTTTCCCTATATATACATGATACACAAAGCAAGCCAGACAGA
CGCAACTGTCTTTTTTTTTTTTTTTTTTAAAGAAAAAATCAGGAAGAGATTTTTATTCTAAATCTGCTTGACCATCTATATTTAATATGCTCTTCT
GCACATAACCACAGAGTCTGATATTCAAAGGATATCCCTATCCCTCAGGAATCCTCTGAAGTGGTTGAGTTGTAGCCCTTGAATTTACAACATGTATTTTT
CTAGGACAGTAAAGCGATCTTTACAAATGAATTTAGTCTGCATACTCTAAGGTGTCTCAACACCTCCACCTTCTGTTTCTCTTCCAGAAAGCAAAGTAA
AAAAAGCAAGAAAGACATAGCATATTTTAGCATCTCTGTGATTTGGCAAGCAGCTCAAAAATCTTAGAGAAGCTGATATTTTTCATCCAAATATGTTTA
AAGAGTCAGTGTACAGCGTCGGGAGGATGGCCACGGTTCGGTCCCCAGTACTACAAAAATAAGGACATCTCGAGTGGGCTTCCCTCGTATTATGA
GTTGAGAATTGGGTGAAGATTAAGAGCAGAGTAGTTGGCCCATGTCTCCCTTTGTTTGGTAGTGCCCGGGTCTGCTGCTCCATTTTAAAGTCTGGAGCTTT

TCTTTGGGGGTGATGCTTTAACAAAAAGGAAAGGGGATGTAGTGGTCTTTGAGCTCCACTTAAGCAGAAGCGGTATAAGGCCTTTCTCTGGGACCAAAAGC
ACTTGGCAGCTTGTACTGACGTGCGCCACCAGATGTCTTTAGTGTCAACTTTGAGTTGACGAAGCACTAACTAAAGTTTCCACTTTTATTTTTAAGAGCC
TAAGAAAGTGTGTATAGTTGTCTTCTGGCTGGCGGTGTGGAGACCAGTATGGCTTCTGCCCTTGCTGCTTTTCTCTGCAAGTTGAAGTTCTCTGATAAAGC
AGAAATGATAACATACCTGTCCAGTGGTAGCCAAAAAACCCACAGTAAGAGCTTTGGAACCTCGTTCTATAGTTGACCTCAAAGTCAACTGGATTGGT
GCTAAAAACAGTAGACCATTCCACATGATTAAGTTGTCTAATGGTTTTGTACATTAGAGTGGTACCAGGTTAGCAGCACTGGCCTGCTGAGTTTGAGG
AAGCTTGGAGACCCAGTTTCATATGCCGACAGTGATGGGGTTCAATTCTAAGCCTGCACATTAGAACAGTTCCCAGTGTGTAGTGCCAAAAATTAGTCCA
AAGGGTCTGCTCTCTCATGGTTCACTTTTTGGTAGGAGGGCTAAGCTCTGGCTTAAGAAAACTGAAAGAGGTTTGTAGGAAGCCATCCTGGCC
AACATACATAACTGATTGGAAGTGGAGGGGCTTCTGCAACCTGGTGGACAGATGCTTGTGTTTTTCAGAGCAATTAACCTCTGCAACAGTGAATCTCCC
ATCCTGCCGAGAGACTGTTCTGTAGAGCAAGGAGAAAAGTTCTGTTGGTGTGACGAAGTTGAACTCTGGCTCATATTTTATCTCCTATGAAAGCCAACTT
CATTTGGGAAAAGGGGTGAGGACAGCCGTGGAAGACTAAGAAAAAGCAGTGAACCTAGAGAGGTGTTGGGCTCCCTATGATCAAAGGTTCCAGTTG
TGGGTGAAACACTGGAGAGCTAGAAAAGCAGATGAGATTCCAAGAAAGAGTGTGTCCGCTAACCCTGACTAAGACGCTGAACCTACAACAGATGGT
TCGAAAGCAGATGACTGTGACGCGGGAAAGCAGTGGCTGGGCTGAGAGAGTGGTCTATTGTGAGCTAGGAGCTAAAGTGGTAGCTAATGAAAGCA
AGCCTCAGCTCTTGTTAGCTGTCTAAGTACCCAGAGAAGTAAAGTGAGCACTGACCAGCCGAGCGACAAGTCAGCCTTCGTGGGAGAACGGGGTG
GGTCTTTACTGTGGAGATGAGTGGGTTGATTTATGCCAGGACATTTGAAGCCATTTGCAAAAGAAACTGACCTACACAAGGAAAGAATGCTCATCAA
TCTTAGATTGACAGGAAACCCCTGGGAAGGGTGACATTTAGGATCCAAGTAGATCAAGTATAAGAAAAGGAGTTTGGCGACAGTATTTACGGGAAGAT
TAAAGATTGGAGTCTGTACTCTCATTAAAACTAGTAGTGTAGGAGTCCAAAAACTCCAGTGTGGGCCAGGTTATGGTCTAGGATAGCTGAC
ATTTTCTCCACCTCTGTCCCTCTCAGGGATCCTGACCAATGACAATACTCTGTAAAAGGACATCCAAGACCTAGACTGTTTAGAGGAAGTGGTGACAT
GGCTGAGAAGGCTGGGCTCAGGACAGCCTCAGCACTCATGGTGTGTTTCAGACAAGCGCTGCACTGCACCAGGCCAGCTGTGCCCTGAGGACGGAATA
AAAAAGTCATTTCTGGCTCTTCTGTCTCCTGTGAGTTTCAGTGACTATTAAGCTTCTGTGATACAGTAGAGCCAGTGCCTTAGGTTTTTTCAAGAAGCT
GGCCAGGGCTCCATGGTGTGCCCTTAAATTCGAGCACTAAAGAGCAGGCAAACTCTGAGTCCAAGTCAACTTGGCTACAAAGCAAGTTC
CTGGCCATAAGACCTTGTCTTGGAGTGGGGCAAGGGAAGCTGATTATGAGATCAGAAATCAATGACAAATGAGGCAAGTATTATCAGAAAAATTGGG
TACTGTGACTGTCACTCCACCCCAAAGAAAGACTGGGCTAGCAGTAATGGCATTGAAGCCGAGTTACTGGCATGAAGAAGGTGACCCTTCAGTGA
AGCATCTTGCTAAAAATGTGAGCGCTGAGATGCCAAGCTGGTGGACGTGTCTATGTGGATGACCTCACACCTGCCAACCCCTGCAGAAAGTCCTTTTCTTT
TTTAAAGATGTATTTATTTACATACATGACACTGTAGTGTCTTCAGATGCCAGGAAGGGCGTCAGATCTCATTACTGATGGTGTGCGCCAC
ATGTGGTGTCTGGGATTTGAACTCAAGGCCTTTGAAGAGCAGTCAAGTGTCTTACCCTAGGCCATCTCGCCAGTCTGCAGGTGCTTTTCTTAAAC
CTTTTATGAATAAAGGAGAGCAGATACTGAATGTTACCTGCTAGTGTGAGATTACTGTCCAAGAAGCCTGTACTTAACGATAGTTGCTCTTACCTCTCC
AGTCAGACAAAGGGAGGGTAGGATATTTCTATAGGGGTGGGAGGTGACTAAGATAAGATTGTTCATGAAACAAATGTCATGAAGGGATCTTTTATAAGC
ACAGTAGAAATGTAGAAATGAACCTGGGCTTGGTAAAAACAAGTTCGGGACAGTGGTGGCGCACGCTTAAATCCGACACTCAGGAGGCTGAGGCAGGT
GATTTTCTGAGTTCGAGGCCAGCTGGTCTACAAAGTACTTCCAGGACAGCCAGGGCTACACAGAGAAACCCCTGTCTGAAAGACCAAAACAAACA
AACAGAAACCCACACAACCTGTAATGTCAGTGGTGTGGAGGGAGAAGTGGGCAGAACTTAGTTTTCTGGTCAAGCAGGGCTACATAGTGAACCCCTGTC
TTAAAAAAGGAGAGGAGTGGAGCCTGATGTATAGTGTACTGGTAGAGCACTAGTTAGCATTCATGAGACCCAGGGTTCTACACCACTAGAAAGAA
AAACATTATTTGTGATTTCTGGAGTCTAGGCCAAAAAATAAAGCTGTAAAGATAAGCTGAGCCAAATGGCGAGGAGGCTCCAACAGGCGCTGCTTCTCT
CAGAGAAGGCTCTCCACATAAGAGAACTAAAGAGGGGTTTGGAGCCTGAGTGCAGTTGGAGGCGATGGAAGGTAGGAACACCATCTGGCAGCAGA
GCTGAGTGAAGAGCGGCAGCATGTGCTGAGACCGGAACCAGGCTAGAAGAGATGAGTCAGTGAAGCCTTGCGAAGGCTTGATGACCCCGGGGGAG
AGGTTCCCCAAAGGAACCTCAGTGTACCAGGTCTCTGTCATCAGGGGCTCAAGTGTTCCTGTTGGTAGTTCATATGGCCAAAGCCCCACTCCACAGACTGA
CACTAGATCTCAGTGGCTTTATGAAGATCCCAGCAGCAGCAGGAAACGTCATGATGTTAAATAAAATACGAACCTCAGTGACCCATTTGCTTTCTGTGAG
GATAACGAGGTTGGCACCAGCCAGCTAATGATCTCATTTTTTGTGTTTTGTTTTAGATGATAACAAAAGTCTCTCATGCTGTGTGGCAAGCATGCAT
TGAGAAGGAGAACAGTGAGCCCCAGGCCTGACTAGAAGGCCAGGGAGCCCTTCAAGTCTTGGCAGAACAAATAGCTGGAAAGGGGGTTGGGACAG
GAACCTTGCTTTCCCTGCTGTAATAATGGGGAGCTGATGCCAGCTCCCCGGAACGTGAGAAGAGCCCCATCTAGCCCCCGCCACAGAGCGGGAGCT
AGCTGTATGACTTGGCTGGTGGATTGACTGTGACTCAATTCAGCCCCACAGATGCCAGTCCGCTGTAAATCAAGTCTGGTGAGCCTTTGGGAGG
ACAGCTCTGTAGAGCTGCCACAGCTCCCACCTGTACCACCTAGTGAATTTCCCATGGTTATCTGTGACAATAATTAGGTGTAATGGTTGTCTCTCGCT
TCCCCACCACCACCACCACCTCTCATTTCTCAGAACGTAATTAAGTCTTTGTAATTCATCACTTAGTGGGGTTTGAAGGTTGAAAACCACTCTT
GAGGTAGCTACATCTTAGATCCAACTCGGGAAGCTCAGCTGAAATCAAAACCCAGAGCCTCTGGAGGGAGGGGGAGGGTAAAAAGAGGAGGCTAG
ACTCCCACAGTAGGAAGTCCCCCTGAGCTGAGTCAGGACCTGGGAACGGACTTTGGAAGAAGGCCACAGGGGATCTGTAAGAGCACTATATCTAGG
ATGTATACATGGGCCAGAACTTACTGCATATTGTGAGTATGTGTTAAACACAGAGGAAACAGGCCTGGAGTGCTTACCACAGAGTTTGGCACTAAAT
CCCCACTAGGTGGTAGGGTAGACTCAGGCTGTATCCATTTCAATTTAAAAAATAATTTTTTTTCAACCAGGTGTGCATACCTTTAATCTCAGCACTTAG
GAGACAGAAGCAGGTGGGCAGGCTAACCCTGACTTCAAGGCCAGCCTGGTCTATATATAGTAGTGTCCGGGACAGCTAAGAGATACACAGAAAACTCT
GTCCCAAGAGAAAGAAATCATTTTACATCTGACTTTGTAGTTGAGCAGATTCTTAACCTCTCATTTCCCTCGACAGCTTCTCTCTCATCCCTGACCAGA
AGTTAGTACTAGCAATGGCAGAGAAGCCAGGCCAGTGACACCTTAGCTTCACTTAAAGCCCTTCCAGCCAGAAAGACAGGTTGGAGTTTCTACAAGAG
AGCAGCAAGACCAGAGGGGTGAGGTTGGCTTTGAGCTAGCAGTCAGGAAGTGGCAGAGCAGGACACGTAGTTTGTGGTTTCAACATGAGGCTCTGGAG
CCAGGTGGAGATTTTGAGTCTGTGAGGACCACATGCCAGCTTTGATAAATTTGGGCAAGATGTATTTAAATTTCTATCTTTCCAAATCCACAGAACAG
GTATGTTGGTATCTGTACCAAGGAGGACTGTAAGAAATTAATAAGCCAGTACAATAACAGCACTTTGAAGTGAGGCTTAGGTTAGTTTGTGCTAGTAT
GACCTTGAATCTAATGGAATTCATCACTTAATATGTGTTAAGAAAGTTCCTGTGCGTCCGAATTAACAGACTTCCATCTGTGCTAGGATGGCTGCACA
CAAAACCCAGCTGGAGTGCTGAGTTTTGAGACAGGAGTCTGGCCCTAAGCTCTTCCAGGAGAGGGGACAGACAGGAGAGCTGTAAACAGCCTTCGC
ACTACTCTCAGATCTCAAAATAACTTGTCTGCCCCACCTTGGCCAGCTGGCAGAGCTGCAGGCTGAGTAAAGTGCCATTTAAAGATAAAGCTGGCACT
CTCTACACCTCACTGCTGGGCGCTCTAGGGCCAGACAGACTGCCTAAGACGGTGGCCGCTCTTCCACTGCACACAGTCTCATCTACCCGCTTCA
TCCCTCATGCTGGAGTCCACACTGCACTGAGTCTTCACTAGCTTGACAGAACTGCGACAGCAGGAGGCTGGCATTCTGAGAGGTCCTTGAAGAC
ATTATAAACCTCTGGAGGAAGAGTACCCCTTCTATCAGTAGCTGGGTGGCAGGGTGACACCCCACTGGCCAGTACCTTTGACCTCCCTCAAAGG
TGCCCACTACTACAAGAACAAATATAAAGAACACTATCTTTGCAAGTCTTCACTCCCGTTCCTCAGTCTTTGCTCCATGCTCCTCAGGACTTGGGTC
CACTATGGAATACAGGCATGCTCACTATTCATTTCTGTGCTTCAGCATCCCTGTCAAGAAGGGCCAGTCGGGAAGTAGTGGGTCACGTGCTTCTGC
CAGCACTGAGAGTTTTGAGGCAAGGCCACCTTTGTCCATGACTGTGTCATGTTCGTACATGAGAATCCCAACCTGCGTGGGACCCCTCGCTCTGAAT
CCTAATCCCTATCTTAGAATTTTCCAAACAAAAACCACTGACGTAAGTGGGTATGGTAGTTCAAGCCTTCAATCCAGCACTTGGGAGGCAGAGGCA
GCTGGATCTCTATGAGTTAGAGGCCAGCCTTCAAGCTCCAGGCCAGCCAGGGCTATACATGAGAATCTGTTTTGTTTCTGTTTTGTTTTAAAGGGGGGA
GGGGCCAGGGGATGGGCCAGTGAGATGGGTCAGTCAAAAAATGCAATCTTGGCAAGCCTAAAGACCTGAGTTAAGGTCCTGAGAACCTACATGTTG
GGAGAGAAAATGAATTTTACAATTTTACCTTTACCTAATGTCAACAAATAAAGATTAATAAGTGTTTGTTTTTATAACAGAAATACCACTGCTGCT
GGAGAGATGGCTCAGAGGTTAAGAGCACTGACTGCTGTTCCAGAGGTCCTGAGTTCAATTCAGCAACCCATGTTGGCTCACAACCATCTGTAATG
ACATCTGATGCACTCTTCTGTTGTGTCTGAAGACAGCTACAGTGTACTCATATGCATAAAATACATAAATAAATCTTTAAAAAGAAACAAACAAGATAC
CGAATAAATACAGAGACAGGCAAGGTGGATCTAAAGCACTACGTTAGAAGAGAGCAGAGTCAACTTGGGACAGGAGGACAGTCTTTGTCTGCTGACCC
TACTTCCGAGCTTGGTACAGTAGCTAGCTTGTCTCATGTGAGCTCATGATAGAGAGGAAGGACAGCAATGGTGGGCAGACATAGGTGCTAGTGACT
AAGACATGTCTTGGCAGTGGTATTTATGACTGTCCAACACACTCTGCCAGTCTCTTCTGGAGGCCGAGCATGCTTCTTGTCTCTCTCTCTGGAA
GGATGTGCCACCACCTACAAGAATAAATTTAGGGCTATCCTTCCGTGATTTCTTTCCCTAACTCACTGGCATTCTGCTTTGCTGCCATGACCTCTGGTT
CCCTCACCTTGAACACAGGAAGCATTTTCGGTCCGTGTACCTTTAGCTGAAAGTCAAGATCCGCTGTGTAGAGATAATGGGCCCTAGCTTTTGCTT
CACCATTTGCTACTGTACCTTAAACCTTTAACATTTGAGTTATAGTCTGTGATGGTAATGATAGAAATATTTACCAGTGGCTTAGCTAGGGGAGTTGT
GTAAAGAGTCCGATGAGGTAGATGCCAAATATTAGAGGGCCTTATGGCTGGGCTTCAAAGACGACTCGGCAGTTACAGACACTTGGTGCTCTTGTCT

GAAGGAAGACCCAGTTTGGTTCCCACTGCCCCATGGGATGGTTACAACCTACCCATAAGTTTAGCTCCAGAGCATCAGACACCCCTCAAGGGCACCAGGC
ATGCGTGTAGTACACATGCACACATGCAGGCAAACTACTCAGACACATAAAAAATATTTTCTTAAGTGTCCATGGCAGGAGACTAAGGTAGCCATTACT
CTGCCCTCAGCTGATCGGTAGTCCTGGTCAAGGAACTGCATGCAGGTGGAGCATGACTACTCCACATTCTGTAACCTACCTGTCTGTCTGGCAGCAGTGAA
CGAATGCTTAGGGACTTTTGCTTCTCTTTAGCTGTCAGAGTATTGAAAGAATGGACTCCAAGAAATGGACCCAGGAACTTTCAGCTGGGTGAGGAAT
TGGTGAAGGCCCAGGGGCATACAGAAAAGGCACATATCTCCTGGTGAAAGACTTTACAGTTTGTAGTAACCTTGCAGGAGCAACTAGGAGCCCAAGGC
ACTAATGGGCAGGGGAATCACATCTTGCTGGACCCTTAGTCAAATATCTTACTCTCTATTTAAGCTTTGCCCTTACTTGAGATGGACTAGGATCTGTG
TGCCGAGACCCCTCTTGGGGTTAGAAGCACCCCTTTACACAAAGGGTTGCCCAAGACCATCAGAAAACAGATATTTACATTACATTCATAACAGTAGCA
AAATTACAATTATGAAGTAGCAATGAAAATAATATTATGGTTGGGAGTACCACAGTTTGAGGAACTGTGTCAAAGGGTTGCCACAGTAGGAAGGCTG
AGACCCACAGGACTAGGGCATGGAAGGAATCACTAGATCTCCATGACCCTCTTTCCAGTGTGCCCATATTGAATACATTTCACTATTAATTTGGTTAT
TTTAATTGTCTATTGAGGGTAATTGTCTAAACCTGGCTCGTTGGAGCCCCAGGCTCTGACGCTGAGTCTGCATCAACTCCACACGAGTTGGTAAAGGT
ACATTGACTTTCTCTTGAGACTTTCCACCTGTAACCTAAGTGTGACCCTGATAGCTTATGTAGTATTTTTTTCAGGCTTGCTCCATGAAGAAAAAGAG
TTTCCACTGTAAAGTGTTAACTGGCTGTGTCTCAAGTGGCGGCGGCCACCCCTACCGGTGAGGAGTGAGGCTATAGTTGGAGCTGTCCATTCAAGAGG
AGAAGGGGCCATCTCAGGAGCCAGTGCAGCTGCCAGGGGCCAGGCCCTGTGGGCACCGATGGGGACAAAGCTTCTCTGAACCTCTCTCAATGGATGC
CTGTTTCTAGGAATGGGGGCAGGGTGACGCTGCCCATCTCCCTCTGCAGGACGTCCAAGACTGGACACCAGAGCAGGAGGTTCCACACAAAGG
AAGGTGCGGCCCTGCCCTCCAGAGTTGGCCATGAGCTGTTCATTAGGAGTGGCACCAGGATCAGTGTCTGGGTCTGGGATGATGATTGTTGCTC
AGGAGAGAGCGGGGCACAGGTACTGCCAGGCCTGACTGACCGCAGTGACCAGCTGTGGCTGTGCCCTTAAGGGCTCAGACTAAAGGAGTCAACCAC
ACTGTTGTGGACAGAGAGCAGGCTGTGTCTTGGGGTGAGGGGTACCAGGCCGCTGTGAGGCTGGGTGGGCGTCTGCTGGTGGGCAGACCCCTGG
GCGGGGCCCTGGCAGGGTTACTGCAGGCGGGCGGTAGTCCCGCCCCAAGAAGGCGGGAGAGGAGCCAGAGCCTGGCCGCGGGCTGGGCGGTGCTGC
AGCTCCCGCGCGGCTCTGCTCAGCTTTGCTGCTGCGGCCCTTTTCCAGGCCGCTCTGGCGCGCCAGCCCCCTCTCGCCATGCCCGCCGCGGGG
CCCGCGGCTCCGCGCGCTGCGACGCGTCTGCTGTGGTCTTGGGCTCCTCTGGCATGGAGATGGAGAGCAGACAGATGGGTGGGTGGGGC
GAGATCAGGGAGAGGTGAAAGGGACCAGCCATGTCTCAGAGGCTATCTTCCGGGTGTCATGCCCCCAGATGCTTGGCGTTGTTCGGGAGCAGGA
AAGAAAGGGCGCTGAGAGGTCAAGCAGCGGGAACCTGACCCCCAGGCGCGGGTTTCAGCTTCAGGGAGAAAGGGGCTTCTAGGACTTCTAGCTTAGG
GTAGAAAACAAAAGTGAAGTTTTCAGCTTGTCAAGGCAGTGAGATTGAGGTGGCTAGAACTGAATTGGACTGGTGTCCACTGGGACCTCCACCCCTGC
CCGACAGCTCGCGAGTGCAGACTCTTGTGTTATCTGGAACCGGAATGGCTGACATCCGGGATTTGACTGCGAGTTCTTCACTTCTGCTGCGGGA
CCTGCTACCAGCGTACTGCTGCAGGGACCTGACCTTACTCATCACCAGAGACAGCAGAAACACTGCCTGGCCTTCAGGTGGGCTGCGGACTCCAC
TCCACCCCTCTCCGGAGGCTCCTGCTGGCTCCAGTGGCCACCTCCACATTTCTAAGTGCAGGAGTCAACCAGGACTCCAAATGGTGACAGAGCTGGGT
GGTTGGTGTAGTTACCATTGGGCTTGCTGGGCTGTGTTCCAGGGGCTTTCTGGATCCTGACAGGTCCTGGGAGGAGTGCTGTGATTAACATAACAT
TCAAACAGCAGAGTCCCTTGGTAGACGCTGTGGTAGAGGGCAGGAAGACTTGGGTTTGTGTTCCAGGCTGGTGCATGTGATCAGTCAAGGCCCT
GCCCTCTAGAGAGTACCGCTACCTTTTAAATAATATGGAAGTTGCTAGCCCGCCTGGTGGCTCGCACCTGTAATCCCAGCACTCAGAAGGCTGAGG
CGGGAAGATCATCACTAAAGAGTTCCAGACCAGCCTGGGCTACAAAGTGAGACTATCTCAAAAACGATAACACCACCAAATAAATAAATAAATAA
AAATAAATAAATAAATAAACGATAACACCACCAAATAAATAAATAAATAAATAAATAAATAAAGAAAAGAAAAGAAACAGTTGCCAAAATTTAA
AGTTTTGCTAATCTTCCCCCTCAGGCCAGGGCTGAGGGTAGGCCCTCAAAACAGGCCAAGCTCTACTTTAAGTACACTCCGACCCCAATTAG
TGGTTTCAAACCTTTTAAAGGGAGTGCACAAACATAAAAGTATGATAGGGGATTTGAAGCTCTTGAAGATTGTATGATAATTGGCCCTCTATTATTT
CAAAGGCTCCATTGAGGCCAACATACTTTAAACCTAACCAATATAAAAGCAGTGGTAGGTGGGCACACTACAAATCCCAGCACGCCTCATGCCAGCTA
CCCAGACAGCATGGCCTCCTGGGAAGTAGAGGTCTCTTAGAGCTACTTAACAAGGTGGGCAGAAATTAATCCCACAGGGAACCCCAAGACATAGCATGC
TGTGGCTCCCTGCTGGCCAAGAGTTGGAGTCACTCCGTGAGGAGTTCTCTTATGAATGTTGAAGGTGAGAGGACCTGTTTTTGTCTAAAGTCCCA
AGACCATAGCAGGCTCGCCTGTCTGTAATCCTCTTTGTTGCTGTGGTTGCCAACCATCTGCTGCTCTGTTCTGTTTACCTATACCGAAG
GCGCCAGCAGCTCCAGAGCACGTTTGAAGGTACGCACAGAGTCAAGCAAGATGAGTCTGAAACGGGCTGGATTGACTGCTGTGATGGGCACCAAAGG
GACGAAGGACTGGTGAATCTGTAGTAGTAGGGTTTCTGTGTGCCTGAGCATCGCCAGTGGGAAATGTGTGCAAGTGAACCTTGAGCGTTAGACTG
CATCCAGGAATGATGGGAGCGAGTCACTGTGCCCTTGTATGTGCATGCACATGAACCTTCAGTCTGTGCGCAGGAATGCATCCGTGGTGGTAAAGTGTG
CAGTAGGATAAGTACGCTCGGGCTGAAGTGGGCTGTGATGTAGTGAACACTAAGTGGGCCGTGTTCAAGTACTTCGGATGTATGTTTGTGATGTGCA
TGTAAGTGGCCAGGCTGATAAACATGGGGATGATGACACCATACAGGAGATCAGCATGAGGGGAGGACCCCTTAGAGGCAGCTATGTTGGATTACA
AGATACCAGCATCTGGAGCTGCCATCTTCTACCCAAGTGGGACTCTCCAGGCTAGCCTGCCTCCTGAAGGCTCTCTAACCTGCTTGCAGGGGTGGGG
TAGGGGTGGGGGAGAAACAACTTGCTCAACACAGACTGACCTGCTTAGCTTCATACATAGTCCCTGCTCAACTCTGGGCAAGCAGACTTTGGGAGG
CAAAGGCTACAAGTGGCCACCCAGCAGCTGCCAGCTGCCAGTGTCCAGAGTGTACCTTGGTCTCCTGGATGGGAGGAGGTTTCTATGGAGATCGGAAT
TTTAAATGCGGATCTTGTCTCTTCTAGGCCAGGAGATCTTATGACAGGCATCCCAATGCAGCCAGTATACCAAGTACCCCGGATCCCAAAGCTG
GCCCTGCACCTCCACAGCCTGGTTTCATGTACCCACCTAGCGGCCCTGCTCCTCAGTATCCCTCTACCCAGCTGGGCCCCCAATCTACAACCTGCAG
GTAATATGCACGACCTGGAATCCTTGTCCCTTCTGTGCCACTCCTTTGCTGGTGGATTACCTTTCCAGGGTCCCTCCATGTCTCCTTGGAACTTCTA
GGCATTTCTTCCCATGGAACCTGCGCATCAAGAAGGGGGAGAGTACTTCTGTCTTCTGTGTGCCACTGACCTTATCTGTCTCTCTGTTGTTTTCAG
CTCCTCGCCTTATATGCCACACAGCCCTTATCTCAGGAGGCTGAAGAGCAGTGTGGCTGTGCTGTGCTTCCGTGCTGCTTCCGTATGTGTTTTTGGGTTTT
TTTTTTTTTTTTTGGGAGAGTCCCCGCTCTGTACCTGCATCTAGCCCTGAGGGTGGGCAAGGGTCTCCTAGTCATCAGGCCAGCCCCCAGTCAAACCAAG
CCTTGGGCCCCTGCTGAGGACAGAGCCCCAGAGAAGTGAACGTGAGCTGAGCTGGAACAGGCCATGGATGAGGGGTGGGTAGGGAGGACTTGGGAT
TCATGAGCTATTTTTACTGGGAGACTGGGAGTAAAGTAGAGAGCTAGGCCACAGTCTGTGTTTCAAGTCGTCCCTGTGTGCCAGGACCCCAATCAGA
AAGGTGGGACCCCTCTATATGCCAGTTTGGGCTGAGGTGGAGACAGTGAAGGGGCTCTATCAACAGCTGGCCACAGCCCTTCCCTCTGGCTGCC
AATTGGCTGGAGCTCAGGCCTCCTGGATTAAAGCTGTAGTGTGTAACCTCTTCAAGTGAATCACTGGCCCCCTCTCTTAACCTTGCTCTGTTGAACCC
GGACTGTGCTGCTCCACATTTCCACAGCAGGGGAGGGCAGACCCGGTGGGAGGAGAGTGCCACCATCAGCCCCATCTGGGCAGAACCCCTGAGCA
TCTCTGGAAGTGTTCCTCAATGCTGTTGAGCAGATTTGTGGCAGCTAGAGAGAGGGTGCTCATGTGCTTTTCAGGACCAGGCCTCTGAGACGTCCAAGGC
ATTACCAGTATATAAAGACCTGCTCCTCAAGAACACTTACCTTCCAATCTGGGCTCTTCACTGCTGACTGTGAAGCTTGGCTGACTGTGCTTCT
ATGTATAGAATGGGATAATAGCTGTCAAGAGGATGATATATAATGGAATCGAACTATGAGTCTTCTCTCTGATCAGAGGCCAGGACCTGGAGC
CAACATACAGAGGTGTGGTGAAGGTACTTGCCGGCTGTATCCTCACAGGATGCTAAGGTGTCAGATTCTACAGGGCAGTGTCCCGGTCCACGAAAGC
TAGGTATAAAGACTGTGAAGGCTACCTAGAAGAGGTGACCTGGGAGTAACAAAGAGCTGTCTGCCATCTTCCCTGTGTGATCCTTGAAGTCATAGT
CTTTGTGCTCTCAAGACATCTGGTGAACATTGCAGGAAGTTTGGAGTTTGGGGATGCTGGGATAGATGCTGTGGGAGCCCCAGGCATGATAGCTAA
GTGCCCTGTACTAAGAGCTCACCTGAGACCTTTAATAGTATTTAATCAAGTAGGGAATGCCAACTTATCCAATGCCCCCTACCCCAAGCTTCTAA
GGTCAGCCTTTTTTTTTTTTTTTTTCATCCATCCTCAGGAAATCTAGCCCAGTGCAGCCTCAAGTTTCTGGCTTCCAGCAGCCTCCTAGGTTCTAGGCAGA
GCCATTATCCTCACAAGGTCCCCAGGGCCCTCTGTAGCCATACATCCAGGGGGCATTACTTCAGATTACATAGCCCAGAAAGTCAGAACCTGGGGTA
CGAGTCATAGACTCCCTAGAGCAGGGGTCTGCCCTGAGTGAATTCACAGGTTCCCTCTCCTCAGTGAATCAAGGGGTACATGAATTTACCCCTGAA
CCTTGTACAGAAAGAGCATGATGTCAGATGTATGTACGGAATGACCTTGGATCAGCAATCTGGGACCTCTGGGACCTGTGTAAGTCTTTGTAGTATAGG
ATGGGAGGTTTGGCCAGCCAGAACTGCAGGGGGAGAAGGGCTATTTCCATTTAACACATGCAAAGCACCGGAAATAAGAATTCTAAGAAGAAAGAG
GAAGCATTCCAGTGTGGGGGGCGGGGGAGGAGTGCAGAGTCCCATCGAGGATAACACTCCATCTCCCTCAGATACTCTTAATTTCCAGCCCCGTG
TGTGTGTCTGTGTCTATTGAAGAGTAAACAGAGCCAGCAAGGCCCTGGGGAAGCCCTAAGTGTATGTTTGGCCCTTCCCATCACTTAGCAATCCT
GAAAACACACAGACCCAGCAAGAGAGAGTGGATGACAGGAGGAGCCTTAAAGACTAGGGGACCCAGTATGACAGTGGCTTTGTAGTCTAGG
ATAGGAGGAGACCCCGAACAGCCTCGGGGTGGTATAGGAATCTAGTTGAAGAGGAGGGGTGGCTTTATGTAATCAACCAATCAATCAATCAATCAAT
CAATCAATCAATCAATAGGCCTATACACTGTATGAGACCTGGGCTTGTCTCAGCTGAAGCATGCACACCCTAGACAAACATGGACCTGTTCAAGGT
GTGAGTGTGTTGTCAGGGGTAGGGTTGGCAGAGCTCAAAGGGGTTTTGTTCTGGGAGGGGAGAGGGCTAGAGCAAAAGACAATGTGGGAATACAGCG

GGGCCAAGGGAAAGCTAAGGAAGAGGAGGACGCGAGGCTGTTTGACTAGAAGGGAGGCCACCTGGACAAAAAAGTCTTTCTGGCTACGAGGGAAAGGA
GGGGAAGGAAAGGAAGAGGGGAGGAGGAGGAGTTCAGAAGGGGAGAAGGGTTTTTGGGCACTGACAGGCCCTCCCAATGAGTGCAGCACCCTTGG
CGCCTGACTCGCAGGTTGATTTACGCTGGATAGCATCTGCTCTCAGGGGTGAAGGTTGTGCTCGGTCTCCAGATGGCGACAAGAGAACCTTGGTTTCCC
AGAAAAGCTTGGTCTCTGAGTGGCCCCGTGCCAGATCCTCGAGCAGTGTGGTTTTCAAGAGGAAGCAAAAAGCCTCTCCACCCAGAGACCGGAGCCCT
TTGATTGTCATAGGTCATACGTTGAGCTCCAGGGACAAAGTGAGATATAAAAGCCTAGCTAACTGCCCGTGTCCACGTGCCAGACAGACACTGGTCTCT
AGGCCCGCTCTAGGTCCCCCTCTGCGCCAGGGAAGTGGAGCGAAACGAGAGCAGGAGGAGGAACTTCTCGGTTTGGGGGCAGTAGACCTGCAATGG
AACCTTGGAAAGAACAGAGGAGGTAGATGCTGAAGAGGATGCTGGGAAAGGCTGAGGTCAGGTGTGCTTCTCCTGGATCTAGATGACCTGACTCTCCC
TGGGGATGGGGGGGGGGGGGGGACGACGACGACGACTTGGCGTTGAGTCTAGATTCACTTAACCTGAATGAATCANNNNNNNNNNNNNNNNNNNN
NN
NNNNNNNNNNNNNAATATTGCTTTCTTTGAACCTCTCCGCTCCGCCCCCTCCCCCGCCCCCTATTAAACGCTAGGTGGTAGATGGGCATAGATCTTTCT
ATTGCTAGTTCTGACCTTCCCTTGTTTTAGGAAGGAAAAATCCACTAGACGCGTACTCCGGGCTCAGGAGCCAGAGGCGGACAGCAAACTCGCGGA
GCGGACAGAAACACTTCTGTGAATCCCGCGGCTCTGAGCTCAAGCATCCGCTCCGCACCTCGGGTGGGTCTTGCAAGACAAGGACAGTGCAGTAGGG
TGGGGCTGGAGTCCCTTCCCCCTCTCTGCTCTCTTTGACCTCCCGCCGCCAGAGCCAGGCTGCTCTGAGGAGTAGAAGAGCCTGGGTGTCAGTTTCTCT
CGAGGTGGCGCTGCGCTCCCACATCAAGTTTAAACGCACTTAGAAATGATTACGTCATCCCAGGCCTAATTGGCTCTGGGAAGCAGAGAGTTGGGAAG
TGTGTGCTCCCGACCCCGCCAGCTCTAAATCGTGTTCAGATTAAAGTAAACAAACAAACAGACAAACAAACAAACAAACAAAGTGAAGGT
TCTAAAGAGACTTAAAGCTCTGGAGACTGGCCCGGTGTGGTAGCACACACCTTTAATCCCGCAGAGGCAACAGATCTTCAAGAGTTGCAAGTTAGC
CTGCTCTACATTAGGAGTTCTATGTTAGCCAGGACTACATAGAAAAGAGGAAATTATATATTTATATATGTAAGAACTAGTTCCATTTGGCTTCCAATGT
CATTTGTGAAAAACTATCACTGGTCCGTTTTTTCAGCAGCAGAGAGGAGTTAAGACCTCAGCCCTACCTCTTATTCGTCATGTACCCACGTGCAGCTGAT
TAACCTCTATCTGCAAAACATCGAGGCGATTGGCTTCCACATCAGACAGTTGGAAGATAAGCAGAAGCACCCTTAAGCATCTAGCTAGTGCCCTGCACC
ATCAGATGAAAGCTCATGGCTGAGCTCAAAAGCATACTCTTGGCATCTGGGAACGAGCGTGTATCTCTCCTCGCCCTGGGCGAGCCCTAGCTTGA
GCAGTAGATAGACGGGTTGGGAAGGAATGGGATCAGAGTGTACCCTGGGATATGAGTTAGCCCTCTCTGATTTGAGCCAGACCCCTATAACAGCTACCC
TACTTCTTAGGGAGGTGGGACCCACCCATATTCCAATGGCTTTGCTCTCTGCTAACTGAAGAAAAAGAAAAAAGAAAAACAAAAAGAGAAAAACAAAA
AGGCAGAGCACCTGCTGTGACCCAGAACCAAGGTGGCAGTTTACATGTTGTCACAGTACCCGTCAGGGCAGTAATCAGAAAGAAATCGTGGCGGGG
ATGAAAAACAGGGCTGCTGTGCTGGCGGTGGAACCTGACTCTGATTTGCTACCTCCTAGTTGGACAGTATTCAGATACCCCGGTGATGGCTTGTGGT
CTCTGCTCCAGCAGGGGATGCTGGGGGTGGAGAGGTACCTCTGGCCCTAAGTCACACTGGGTGCAGGAGCTGTCTTCCCTGAGTCACTCTGACTCAC
TCTGCTTCTCTGCGCTGTAAGTGTGTAAGAGCTGGCCCTGAGCCTACAGTAGGAAGAGTACGGAATGATCATTCTGAACGTGCCTAATATAGCC
ATCCCGGGGCTGTGTGACTCTCAGCCCTGAGAACAGCTTGTGGGCACAGATCAGGAGCAGAGAGACTGGGTGAGGAACAGACCTTGAACACCCAG
TCACAAGGTGTCTCAAGAAATCAAGCTTCCCCAGCTGACCTGCTTCTGTAGTTGTCACGGAATCTAGGGATGATCTACTGTCTCACTTGAATGGCT
TGCCAGGGACCCCTGAGCTTTGGGAGGCCTTTTAGGGAACCTGGGACCATTGGGAACATTAGGACCATTAAACATGAAAAAAGGTGAGGTATAGCCACTT
GAAGCTAAAGTTTGTATATATTATCAAAATCTTATGGAACAAACAGATATATAGCTATTTATACAGCAGCAGGTGATGTGAAGAAATGTCTGCTTTGG
CATCAACCCCTTCAGGTCCAGCTGCTGTCTGTCTGTCTTTCTACTCCCATCTGGAGCCTACCTCTCTCAGGCACTGTCCAACCATGCTGCTGCCAGGC
ATATCAGGTGGAGGGTTGTAGTATCTCTGCCCTCTACTTTGGCTTTGGACTTTTCACTCCCTCAGCCTTACCACCTGTCCCATAGAGTGCCTAGCTGC
CCAGCAACTTTGGCCCAAGGCTCCTCAGAGACCTGAATCTGGCCCTGGGACAGTATGAGGCTGCCAAATGTGGTCTCCTGGGAGACATCTTTCT
GCATCATAAGCCTTTGGCAGCATGCCTGCTACATGGGCTCTGGGCAGTGCCATCTTCTCTGTGACGTGCTTAAAGGACTCCTCTGTGCCGACACTTCAG
CTCCAGGTTTCAAAGCAATTTTTGAAGGGCCTCAGAGACAAGAAAAGGAAAGGGAGAAGAGATGAGGTGTCTCCCTCGAGCGTGGTCCAGGTCTCAT
GCTCTCCCATGGTGGACAGGACAGCTGCAACAGCTCAGCCAGGTTGGGTGGTGGGGTCTGTGTAGCCCTGGGACAAGAGTCTGGGCAGTCATGGC
ATTGGTACCAATGCCCGGCTGCTGCTATTGAAGTAGCTTGGGCACCTCTACCTGTAAAGGAAAGCAAGATGATTAGCCGAGGAAGTCCCAACAC
GGTTTCTCTGGAGTCTAACTTACTTTCTTCCCTGCAAAAGGACACCACGCAACACTTCAGTATATATCTGTGGGGGAGTGTATGTGTCTGTGGGGG
GCAGTGTATGTGTCTGGGGGGGGCAGTGTATGTGTCTGTGGGGGAATGTATGTGTCTGTGGGGGAGTGTATGTGTCTGTGAGGCGAGTGTATGTG
ACATTGGCACAAGAGTGCATTTTTCTTCTGTGAAAAACAGATGCCAGAACGACCTCTGGATGCCAGCAGGCTCTCTTTATGTTTGGTCTTTTA
GTCAACAAGTCTGGTGGGACGCGCAGTGTCCAGTCAGGAAGGCAATGATTTACGCTTTGTCTACTCAGGTGGAATGTCAGAAGTCCAGGTGTGA
AAATCAAGAGATACTGAGACAGCCCTGTGTAATTTAAAGTACACACTCCCAAGGGGTGACCTTTAGGAGAGACTGGCCCATGGACTTGGGCTGATCCT
AAGAGTGGACAGAGTAGAACAAGATGATTTTTGTTTGAAGAGCTGGAGAAAAGAAAGGCCGTATGCCAGGACCTCTGGCATCCTTGTGTATATAGAG
GCCACTTCTCCATTCTCGGGGAGGCGAGGTGTCACTACAGCTGGAGAAGGTGGACGACTGGAGTCCAGAGGAAGAGCTTTAAAGAAAGCAAAAGGC
CTTTGTTCTTTCTTAAGAGAGAGGATGTGGCTTGGTGGAGGTTGAATGAGCTACAGCTACAAGCCCTGGGAGTCTGAGGCCCTGTGGCCTGAGCTGCTCT
GTGTGCAATCCCTCTGATATCCCTTCTCTCTACAAGCCTAGGACTGTCCAGCCCCCTAGCCCTGCTGCCACCTTTACCTTCTTCAGTCTGCTTAAAGT
TGCTAGAACGGATGGCAGCCAGGAGCTGGTCACGCGAGTTCTTCTCTGGGCAGGGAGCACTTTGTCTCCCATCTTCTCTGGGTAGCTGGTGAGAGTG
AGTTCTTTAGGTTCTCCATGATAAGGGGCGGGGCCAGGGGAGGGGGAGGGCGGGGTGCTGGAACACCTGCTTTCTTGGGTGAGTTCTTTGGGA
GCAGGCTTTGGAGATGGCTGGGTGAAGGTTTGGGGAGCCCTTGGCCAGAGCCCGACCTTGGGTACCTCCAGCCGCTCTTCTCTCCACCTGGCT
TCTTGGGCTGCTTTTGTCTGACGCCGTTCTGTGCTGCTTGTCCATGTTTTCGCTGAGCAGTATGGTGACAGTATCGGGGCTGCTGCCAGCTCAA
AATGGTAGCCAGCTTGAGCAAGGTGGTGTCTCTCTGAGCAGCTTGGCGATCTCCATCTCAGTCTTGCCCCACAGATGTGCCTCTGGTTGTGAAAGC
GCAGCTCTGTGAGAGTGTGTTCTGGAGGAGGGCCCGAAGATGGCCAGGATGCCCTTGGCAGTGATGTGATTGGAGTCCAGGTTGAGGCTGGTGATG
GTCTTATTGGCCTTTAAACATGATGAACATTTGCAAGGCCACATGGTCGTGAGCCGAGTATTGGCCAAGGCAACACCTTACCACAGCTTGAACCTC
AGGGCTCTGTGAAGCGGACAGGATCTCGTTGGTGTAGCTGTGAGTTGTGTGACGTTTACCTCTGCTATCTTGGGTCTGTTGTTCTTCACTTCTTCCA
GAGGTTTCATCAAAATATGCTGGGAGCTGCTTCTCTTCTGCTCTGGCTTGGCCATCAGAGGGCTGTGTTGGGGCAACTGGGCGCTGTTTCTCCGGGCTTT
GGTCTGTCTCTTCTCCCTGACTTCTTTGTGACGTTGGTTTTCTTCTCTTCTTAACCTTTTTCATCTCTTTTCTCCAGTCTCTGCCCCAGAACCTATGCCCTC
ATCCTCTGGTTTCTGTTCTCTTGTGCTTGTGACTTTTACGCTCCCGCTCTCCCGTCTCCCGACTGTGTTTCTGTCTCTGTGCTGATGCTTCACTCTCTTTT
TTGCTGGGCTCTTCTGCTTCTTCTTCTTGTGTTGTCTGCTCAGACTCGCTTCTTGACACTCCCTGTCTTTTCTCCTCTCTCTTCTGCGCGGTG
CCCTCTCTTCTCTGCCATCCTTCCAGACTCCTTCTGTCTCCACCGCAGCCCTGACCTGCTTTATCAATACCTCTGATGACCTTCTCCTCTTGGGCTTC
TCACCCCTCTGCCATCGGCCTCTCTCGATCCCTGGAGAAGCTTTTCTTTAAACGCCCTTCTTCGGCTCTTGGCCAGGTCTGAGTCTGTCTGGGGC
CTGGGGCTTTTCTGCTGGCATCGCTGTCTTCTCTCTTCCATTCTTGGCATCTGTCTTCTCCCACTTGCTTCTCTAAGAATTCAAGAAAGAAAAA
TAAACATGTAGAGCTAGCCACAGAGGGAAGCGCATGCGCAGACCACTCAGGAGAGGGCTGTCTAAGTGCCCTTCTGAAGGACATTTAACTAGG
GGAAGGTTGACAGCCTTCTCGTTGAGTTCTGTAGAGGTAGGACTGGTTCTGGAATCAGGAGAGTGGATTGACATCAGCTCATGGCCTCAGTTTGG
GGCCACATGCACCTGAAAACCTGCAGACATCAGCTCTTCCACAGAGCATCTTAGACCTTTTTCAGTATGGGTAAAAATTTAGTTTCTGTATACACAT
AGTAGACTGAGGGAACCATTTCTTGCAGAAAACCACTGTCTGTTTATAGTGTGAGTGTTCATCACCATAGATTGTTTGGACTATCTTTTTTTTTT
TTAAAGACTTACTTGTGGACTGGAAAGATGGCTCAGGGGTTAAGAAGGCCAGATTCAATCCCCAAACCCATGGGGGCTGGCAGATGACTCAGCG
GGTAAAGACTGCTCTTTGAAAGCTCTGAGTTCAAAATCCTAGCAACACATGCTGGGCCACAACCATCCGTAATGAGATCTGTGCTGTGTGTGTTG
CATCTGAAGTCAGCTACAGTGTACTTATAATAATAATAAATCTTTGGACCAGAGCAAGCTGGGTGACGGGAGCGAGCAGGTTGACTGGAGTGAGC
AGAGGTCTTAAATTCATTTCTCAAAAATCAGATGAAGGCTTGAACCATTTGTACAGCTACAGTGTACTCACATACATAAAATAAATAAATCTTAAA
AAGAAAAAATCCAGCACCCACATGGAGTCTAACAACCACTGTTACTTCAGATGCCCTTCTTGGCTCTTGGATACCAGGACCTCAAGTGGTACCT
AGCACATAAATGCAGGGGAATGCCTATACACATAAGATACCATTTG
CTGTTCTGCAATTTACTCTGTAGATTTCAAACCTCAGAAATCCACCTGCCTCTGCCTCCCAAGTGTGGGATTAAAGGCAACGCCATCATTGCCCGCT
AAAAATATTTTTTAAAGACTTATTATGCTGGGCAATGGTGGCTTACACCTTTAATCCCAGCACTTGAAGGTAGAGGCAGGTGGATATAGGCCAAC
AAAACCAATGAAAAGAAAACAATTAATAAACCCAGAAAAACAAAAATGAAAAGAAAAGAAAACAACAACTTATTTTTATTTTTTATGTGTGTTT

GCCTGCATGCTTGTATGTACACCACATGCCTGCAGTTCACACAGAGGGCAGAAAGAGGGCACTGAATCCCCTGGAATTGGAGTCACACAAGGTTTTGAG
TACCCATGTGTGTACTGGAACCCCAACCTGGGTACTTTGCAAGAGAGGCCAGTACCCTTTGTTTTTTTGTGCTTTTGTGTTTGTGTTTGTGTTT
GGAAAGGGGTAGGGTTGGATGTTTAGACAGCTCACTATGTAGCCCTGGCTGTCTGGAACCTTGCTATGTAGGACAGACTGGCCTTAAACTCACAGAG
ATCCATCTGCCTCTACCTCCTAAGTGTTAGGATTAAGGGCGTGCACCACCATGCTTGCTAGCCAAAGCACAAGAGCTCTTACCTACTAAGCCATTTT
TCCTGTTGTAATATGCCTTAAAGAGGGTGGTAAGTTGGCTCAGAGGCCAAAGGCACTCATCACGCAAGCCTGGTGATCTTTTGATCCCTAGGTCTACGG
TGAAGAAAACCAGTTCCTAAAGGTTGCTCTGAGCATCTGTGTGCATACTTGTGTGTGCACTCACAAAGCACACACACTCATTATAACACATGAGAT
ACATTAATAAGTCCAGTTGGCTGACTCCTCGAGTGTCTGGCTCCCCTTGCACTTCTGCACTTCTTAATTAATGTTTCCCTACCTTCTGTCTACCCAGCC
TGCTCCCCTGGGAGTCAAGGGCTTCGGATAATGAATTTTGTAAAGT
GCTAAGGATCAAAACATGCTAGGCAAATGTATCTACCACCGAGCTAAAGTCAATACATTTGCAAAAGGGAAAAATGTTGGAATGATCAAGATAGTGTT
GCTAATATTTTTATTTTACCACTAAGGATATTTCTAAATTTCTATTTTCTGTACCATTAAATGAATATATGTGCATATACATACATATGTACACCCCTTGAA
GTAAAAAGGAACTAATTAATTAGGTAGACATAATAGAGCTGAATAGTTCATCAAATGTGTGTCTTCTTAACAGTCCACAGTTTTGTGCATCTTTATTG
TTTAGTAAGGACTTTGATAGGGCCAAGCATGGTGGCACATGCCTCTAGTTTTAGTACTTAGGGAGACGTCTAGATGAGTTTGAGACCAGCTATGGTCTA
GGTCAGTGAGTTCCAGGCTCAGCTCAGCGGCTATGTAGTAAGAATCTTATCCAACAGTATAGGATGAGTGAAGGAGAGAGGAGAAAGAGGAGGCGAGG
AGGAGAAGGTGTAGAAGGAGGAGGAGAAAGAGGAAGAGGAAGAGGAGGAGTATTAGGAGGAAGAGGAGGAGGAGGAAGGGGAGGAGGAGGAGGAG
GAGGAGGAGGAGGAAGATGGACAACCTTTGCCAGGCAAGTCCCTCTCTCAGAGCCCGAAACCACTGAGGGCAGCCTGAAGTTAGGATTTAGGATTT
AGGACTCTATGACTCTTTATTTCTGATTACAGATGCTGT
AGGCAACACGGGCCACCAGCATCTCCACAGGTCAACCAGCACCTCCATGGGTCAACCAGCACCTCCATGGGTCAACCAGCACCTCTATGGGTCAACCAG
AACCTCCATGGGTCAACCAGCACCTCCATGGGTCAACCAGCACCTCCACAAAGCCCTCTCTCTCTGTCAGAGTTGCAAGCCCTTGCCCATTTTCA
GTGCTTGCTTCCCTTCCATACAGAAGATGCAGAGGGAGCAGTAGATGACACAGGCCCTTTGACTAGCCATAAGATGGAGAGTCAGGAGCAAGGGATGT
GTCACATAAGGATGCCCTGAGATCTTTTCTGTACTGTTTTCTTTTTTACAGTCAAGAGACCAAGGAGGCCCTTCTCTTCCAGGTATACCCGACA
GAGTGTAGGACAAGGGAGAGGCGAGGTTTGAAGAGCAACAGTCCATGGTACCCTCTGGCCATACAGCCCTTCTTACCCCTCCCTTCCAGAGGGG
AGAGAGAAGAGGTGCTGCTGATTGCAACACCCCTAGTAGGGACAGTCTGGGTTTTTTTTTTTTTTTTTTTTTTTTTGGTTGGTTGGTTGGTTGGTT
GACTTCTTTCCCAATCACACCAGGCAAGGGCTGGAGGCTGGGAGTCAAGGCTTGGACTGTGCCCTTCAACCTTAAGCCATAGAGAGATAT
ACAGCTGTACTGCATGCTCACTGGAGTTGTGTGGTGAACAGAGCCCTTACAGTCTCAGTCTGAGTCCCTGGGAGCTTCCAGTCCCTAGATTATCTG
GAGCAGCTTTCCATTTAGGGCTCCTTTATAAGACCTCCTTAGGTTAGCCTGGGAATCACTTCTCCCATCCCACCTCACTGGGCCCTTAACACCCCTCCTCT
TGTTCGACGAACGTGATGGAGAGCGCTAGCTCTTGAGCAAAGTTTTGGAGGACAGAGCCTGCTACCTTCTTCTCTCTGCTCCCCAGACATGCCCA
TCTACTTACTGTTTACCGCTCAAAACACCTCCCCAGAACGCCGAACTGCTCAGTTGCAAGGCTTGCCCTTCAAGGGAGGCTAAGATCCACAGAGATGAC
AACCACCTGGACTGGCAGGCTTAGGCAATCTGGAACCTCGGCCAACTGTCTCAATAGCAGCCATCAAGTCAATACAAGATCTCAGATCTTTCCCA
TTCCGAGGTTAAGGCTCCGTGCCCCACCTGCTCCACACTCCTCTTGCTGAGTGCCACACACCACCCACAGAGCCTCACAGATCACTCCCCCCCCACACCC
ACCCCTAACTCAGAACCCTCAAGTAAGACTGATCTTTACAGTTTTAACCTTTTCTTCTCCAGACCTCTCACATCCTGACCTTTGACCTTATCAGACACC
AGCTGCCACTCCTCCAGTCATACTCTGGACCTGGGGTCTAGGTTGACTGAGCTCTACCAAGAGGTTGTCGAACGCTTTAAAAAGAACCAAATGTAAAC
GGGGCTGGTGGGGTGGGGAAGGTTGATTAACTAGCTCTTCTCCAAATAGCAAGGAATGAATGGGGCTGGGGCTATGTGGAGCAAGCTCAGCTCT
GGGAGCTCAGACCTTGCCTTAAAGGAGAAGGACAGACAGACTGCTCCAGGCCCTGGGATTTTGAAGTCCAGCTCTTGCACATAGCCAAAGCCTCT
CCTTATACTTATCTGAGAGGGAGTCTGGGCTGGTGGCTTGGCTTTGTTTGTGGGATTAATACTGTGCATCCTGATGGCTTCCACGGGTTATTTTTTTTTG
CGGTGCTGGCTATCTCTAGACCTTACCTGACCTTTCATCATCTATAGAAAAAAGGAGTTTAGGTTAAATGTAACAAAGAACTCAAGAGGACGAAGGTC
TATCAGCCTTCAGATGAGGGATCTAGGCAATGATTGTTCTTCTTGGGAACAGATTAAGGTTACAGGAAGCCCCGAGGGGTAGGTTCTGGAGTCTAG
CTAGAGCTATGCACAGACTAGACTATGGAAGGATGACCATAGACAGAACCTCCGCTGGCCTGTGACACATGAAGGAGGAGTCTGCTGGGGTGCAGAG
GTGAGAAACAACCTCCTCACCTGTTTCTCCAGGCCCTGTGGCCATGTGATGGTGTCTTGTGTTGCTAAAAGCAGCCCCGAGGACTTCAGTGAACAAAACA
GCATTGTCCCCATCACCAGATACTCTGAAGCCACTTCTGTAAAGTCATATCTGATTACAGAGAAGCCACCATGCCAACATTTCCAGTGGCAACAGAG
GGGAGAGAACAGGAGGAAGAGGTTTGTCTATTTGAAAGTGAGAGCTCATTTGAAGGCAAGAACAAGGGCTCTGTAGTGTGGAGCCCTGTTAGTCT
AGGCTACTCTATCTTAGTCTTCTTCTTCTTCTGCTGATGGTGAGTGTCTCTTGGGCCACAGAGCTGTGTAAGAGCAAGTGTGTAGATGTTCTCTGGA
GAGCTGCCCATAGAAAGGCTGGAAGGGAATTGCCAGTTTGTAGATGGTCCCTGGAGAGCTGCTCATAGGAAGGTTGGAAGGGAATTGTCTTTGCTTAT
GAGCCCCCTCTCCAGACCTTGCCTAGGAGGCAGGGATGCTGCACTGCCCCCCCCCCCCAGCTGGGATACCACTGCCTCCAATTACAGAAACATTTGTT
TCTTCCCCCAGCAAGTCTGAGGTGACCCCTGCTTACAGAGGTTCAAAGCCACTTCTCTGCAATTTCCAGGATCTGGGCGGCCCTTGAAGACTCTCCA
GAGAGCAACCGGATCGCGCCGAGCTGAGCTGAGTGGAGTGTGCTCTGAGTCTCCCATCTGTCTTTGTGGACATTTTCTCAGGTCTTAGCA
ATGTTGCTGTTGACCTTGGTGTCTGTGGAATGTACACAGCGGGCAGCCCTCAATGTGGAGAGCTAGGGCTTGCCAGGCCCTTGGCCCTGGTCAGCTGT
TTCTCCAGGATCGAGGCTGTTCTTACCAGCAGAGCAAGAGAAACATGTGGTAGTGTCTCTAGTCTGCTTGCAGAAATGCAACCCCTCGCCACCT
CTCCATTCTGGTTCTATACATTCTCTCAGAACCCCAATCTTGGTCCCTGTCTCCTCCGACCCAGCTGCCCGTGACTTCTAGTCCAAGTCCCCAAAG
CTACCAGTGCTATCTGTTGCAAGAGAGGGCAGAGGAGTGGCCCAAAATCCCCTGAGAAACAGCTCCCTTCAAGCTGGTGTGAAGGGCAAAA
ACAGACCCCCAGGCTAGTGGGACAGAGGAGGAGGAGTCCCACTTCCAGGCTCTGCTTCTTACCTGGAGTGACAATGAAGATTCCAGATTCT
TCCTGGAGGGTCCCCTGCCATTTGGGGACTGTAGCATTTCAGGCACACAGTCTGTCCTTGCATGTGCTTACCTGAGTGTGCTTACATAGTTGTGTGGCCCTCCAATCTCTGTGCCA
TCATTACACAGCTTTGAGAAGTACAACCTACTGTCTAGAAAGCCTCTGCTTCCCTCAGAAGTGTGAGGAAAATTCCAGATTGTTCTAGAAATATTAG
TCTTCTGGTATGGAAGCCTGTGGTTCTGCTATACAGTGGCTGTGTGAACCTCCCTGTGTCTTTACATAGTTGTGTGGCCCTCCAATCTCTGTGCCA
TGCACACAGATGCTGGTCCCTGGGATCTTCCCTACCTAGTTTCTCAACTGCTGTGTGCTGTGGGCCAGAACTCAGATCAGTCCCTTGCCGAAGAAGGA
CTGGAAGAGGAGACGTGATGTGACTGTTCTGAGAGCCTTAGGAAAACTGCTCACAGGAGCCAGGTGTGGTGGAGCTGGCCTTTAATCCAGCACTCCG
AGGCAGAGGTAGGCAGATCTCTGAGTTTAAGGCCAGCCTAGTCTACAGAGTGAGTTCCAGGATAGCCAGGGCTACACAGAGAAACCCCTGTCTCAAAT
TAAGAAAGAGAGGAGAGAGGGAG
GACAGCAGAAGAGAGAGAG
AGAAAGAGAGAGAGGCTCACTGAAGCCATGATGATATCATTAGAGTCCAATCCCCCTGTCTTGTCTTACTTGAGACCTTTTGTTCAAAAAGTGTTTT
TAGAATTTTATAGTGGGTAATAATTGAACGCTTACTACTGGCCAAGGGAACATAATTTGAACCTTTTCCATAGAAAAAGAAATGACTATGTCTCAGATG
CCAGGAGCCTACCTGGAGGATAGGAAGCTGGGATGAACACAGGTTGCTTTGGGAAGGGTCTCTCCCCCCCCCCCCCTCACACACACACACACACACACA
CACACACACCATGACACACACCATCACACCCCACTGCACAGCAAACTGTGAATATTAGAGCTAAAGCAGAAGTCTCTCGTTGACCTGTAAGCT
TTGGGTTGTGACGGCTGCCCTCTACTGGCTTTTCTCATGGAGTCTAGTAGGTTCCAGTTGATCTCAACTCAGAGATGAGTGTGAAGCAACCCCTGAA
CTTCTGATCCCCCTGCCTCCACCTCCTGAGTGCTTAGCCACGGCAGGCTCAGGGTGTGCTGTAGATCAAAGGGCCTTGTGCACACGAGGCAAAACACTCT
ACCAACTGAGTACCTTGACAGCCCTTCCAGGACTTCTTAGCATGCAGAGGACTTTTGCCTACGGAGCTTACAGCCCTAGGGTGAAGAACGGG
AGAGGAAGGGGTATGAGATACTTGCAAGGTCCTTCCATGGCCTAAGAGCTCCCTAGGTACTTACTGCTGATAAGAGTCTAGGGCACCATCTCAAAG
AGTCTCAGTAGAGTGTATAAATGGAGGTGTCGGGCTCAGGCACACCTCAGCAAGACCTTCCACAACAGAGATTAGCTTCCAGCTTAGCCAGCT
TGTTCCACCCCTGAGCACCTAGTTGGAAGACACATATAACTTGTGGGGGACAGGATTGTGGCTTCTTATCTCAAAGGCTTACAGGCCATTGAACACA
GCTTCCCAAAAGCTCGGGTTTCAGAAGGGTCTACTGGGCACTCAGGTAAGCCTGTCTACCTGGGAAATGTTGAGCTAAGAGGCAGGCATGGATTGG
GTATATGAGGAATAAGTGGTAAGAAGACCATCTTCTTCAAGGTTCTGGAGACGGAACCCAGGTACTTACAAATACTAGAGAAAGCTCTATCATCTGAG
CTACCTCAGGATGAGTGTCAATAACCACTGGCCCAAGGTTGAGAAAGACAGTGTACCTTCTGCCATCTAGTGTCTGCTGTGGCCAGCCAACT
GAGCAACAGTGGTCTCCATTCTGTGGGTGGAGTTTGTAGAGGACAGATCTCTGTAGAGACTTGGGGTGTGTCATGAATGTACAGCTCAGGTGCTCTAG
CAGGGACACCCATCTTCTTTGATTTCATATCTAGGTGAGAGGAGAGGCTTCCAGGAGGAAGGGGAGGAAGCAGGCATCATCAGAGATGGAAA
CCTGGATTTGATGTCCATGAGTTCCTAATTCCCCAACATCAGGAATGGAACACAGCCCAAGGTCTCACTGTAGGCTGCCTTAATCTGTCAAGTCTCT

GTGTTTGTTCCTCCCACTGTTTCTCTATGAGACACTGAGCTTTGAGGCTAAAAATTCAATGAGTAGTAATGAGAAAAACCAGACTTGCAAGAGGAGACCCA
AAGGAAATGCGGATGGTTCCCAAGTGAGCTGAGAAGCAGGCTGGCAGGACAGCACGGCTCCTGGTGAAATGAGCAGGATAAAGTCCTTCGAGGTG
GTGGCATGTCATGGAGGAGAGTGAGAGAGGAGAAACAGGATGAGGAGGCTCTGGGACTGACTCCTGGAGGAGAAAGAGGCCTGGTAGATGGATCCCA
CTGTGGAACGGGGTCCCTCTTGGGCCTCACCTTTTTGTTTTTCTCAGCACCCCTCCAACCTTTGCTTCTTGGCACAGGCATTTCCAGTGAACCTTCACT
GGGTCTGAGCCTGCCATCACCCAGAGTCAGTGAGCCTAAACCAAGGCCTGTTTTGGAGATGTCACCCCTGACAGGCTCTTTCCCTTGTACCTCTGCC
CTACGGATGCCTTCTCTCCCTTGCATTAGCCCTTTCTCAGCCTCTCTGTCTCTTCCAGTGGATTGGGGCCACCAGGCACACATTACTAGTTACTGA
CTGCCATGACACAGCATGGGCACACAGCATCTACTTGGCATTGAGAGAATATGTCCACTAACTGAAACCAGATATTAGTGTAGGGGATGAAGGCC
AGACAGTCTGTAGGCCAGACACAGTGGCTCACACCGAAAACCCAGCACTTGGGAAGTGAGACAGGAGGACCAGGCATCCAAGGCCAGCCTCAGCT
CCATATCAAATTCTAAGTTAGCTACCTGGGCTATTTGAAACGGTTTTAAGGGGATGGGAAGAGAGAGGGCAGAGAAAAGAAAGATTGTACAATAAAA
AACTAAAGCCAGTGTGGCTGGGCCATGGGGGTGCCTTTACTCCCAGCACTAGGGAGGCAGAGGCAGGAGCATCTCTGTGAGTTTGAGGCCAGCCTGG
TCTACAGAGTGAAGTTCCAGGACAGCCAGGGCTATACAGAGAAAACCTGTCTCTAAAAACAAAATAAAAAGAAAATAAAAAACCCCGAAGCCAG
TTAGATGATGGCCAAGTAGATTAAGGTGCTCGCCCCAACCTGTGTGACCTGAGTTAAAAATTTTCAGGATGTAGAAGAAGGTGAGAGCCAAAACCTCTG
AAAGTTGTCTGTATGACTTCCTATGTGATCTCCATATGTGTGCCATACATAGCACACTTGTTCACACAGAAAACACAAATACATAAAATGTAATGTGCT
CGCTTCAGCAACGCACACCCTAAACTTGGACCGATACAGAGAAGATTAGTGCCCTCCCAACCCCGTGCAAGGATGACATACAAACTTGTTCATGTT
TAAAAATAACAATACAATAAAATGTAATAAAGAGATTTCTTTTGGGCTGTGTGAGATGGCTCAGCAGGTAAGAGCACCCGAGCTCTTCCGAAGG
TCCGAGGTTCAAATCCAGCAACACCATGGTGGCTCACAAACCATCCGTAACAGATCTGACTCTTCTTCTGGAGTGTCTGAAGACAGCTACAGTGTAC
TTACATATAATAAATAATAAATAAATCTTTGGGCTGGTGAGATGGCTCAGCGGGTAAGAACACTGACTGCTCTTCCGAAGGTCTGAGTTCAAATCCCA
GCAACCACATGGTGGCTCACAACCATCCGTAATGAGATCTGATGCCCTCTTCTGGTGGCTTTGAAGACAGCTACAGTGTACTTACATATAATAAATAAA
TAAATCTTTAAAAAAAAGTTAAATAAAATAAATCTTTAAAAAAAAGAGAGATTTCCTTTTAAGGTTTTAGGATAGAGAGATGGCTCAGTAGTTCAGTG
GTTAGATCTGTGCTTTTGGAAAGGCCACCGAGTTCAGTTCCAGCGCCCACGTGGAGGCTCTCAACCATCTGTAACCCAGCTCCGAGGCCACCCACACT
CTCTTCTGACTTCTTGTAGACACAGTGCACCCACGCAGTGCAGCAACTCACACATACACCTAAAATAAAGTCAGCTAAACCTTCAGCACAAATCAGAC
CTGAAGGGTGGAGAAAGTCAAAAGAGGGCAGGAAGCTGGATAGGAAGAAGGGATGGACAGAAGTCGTGGGAGGCATGAATATGGTCAAAACTCACT
GAATGAAATTTCTTAAAGAAGTACACAGATAAAATAAATAAATTTGAAATTTCAGAACCCAGAAATACAAGTCAATGACTACCAGAAGCTACGGAATGC
TAATGACTCTGTGCTGGGAGGACAGATCGGAAACATTTGATTTGACTCTCTCTCAGGCTGGCCAGGGTCTTGAATGCAATGAGGCCACCCACACT
TCAAATTCAAAATCTCTCTTCCAAATGCTGGGAACACAGTCTGGCTCAGAGCTACAACCCCCAAGCCTTACTCTGGTGCTGGTTAGGCCCCGTAGAGG
TGACCTGCTTGTATGGTAGATGTGGCCAGGGCAAGCCAAGCCAGGGGTAAGATAGGAGGACATCCTGCAGAGGGGCCAGGGGAGAACGAAACTCCTC
TCCATCTGTAGAGACACTCAGGGCTCTGCCAGCCACTAGCTCTCCCAATGAACTTAGGTCCATAGGACAGACATTGAAGGCCAGGGTATAAGGACCC
TGATCAGTCTGTACTCTGATGTAATGGTTGCTATAGGTTTGGATAGGTAAGTCCAGGTGGGAGGTAGAAAGGTTTCTGTGTGTTAAGACT
TTCTAGAGTCCACAAAGAGAAGCCTTCTGTCTTCTGTGGCTTCTTTTCTTCCCTCTCCTGTAACTTGAAGACGGCTGAAGCAGAGGAAGGATGTAGAA
GCCAAGAGGCAGCTAAGCCAGCCAGGCTAGTCCCAGAGACTGCCAGCACTGATGTTCTTAAAGGAATGCAATAAACAAGGAAGCCTGTCCCACT
GGGCCAGAAGTGGGAGACGGGGGAGGAGCTGACGGCCATTTTATTCTCCA

Selection Cassette:

GCTCTAGAGGCCATAGCGGCCATTTAAATGGCGCGCCGGATCCCGGGCCGCTCTAGCTAGACTAGTCTAGCTAGAGGAATTCGCCCTCTCCCTCCCC
CCCCCTTAACGTTACTGGCCGAAGCCGCTTGAATAAGGCCGGTGTGCGTTTGTCTATATGTTATTTCCACCATATTGCCGTCTTTTGGCAATGTGAGG
GCCCGGAAACCTGGCCCTGTCTTCTTGACGAGCATTCCTAGGGGCTTTTCCCTCTCGCCAAAGGAATGCAAGGTCTGTTGAATGTCGTGAAGGAAGCA
GTTCTCTGGAAGCTTCTTGAAGACAAACAGTCTGTAGCGACCTTTGACGGCAGCGAAACCCCTGCGGACAGGTGCTCTGCGGCCAAA
GCCACGTGTATAAGATACACCTGCAAAGCGGCACAACCCCACTGCCACGTTGTGAGTTGGATAGTTGTGGAAGAGTCAAATGGCTCTCCTCAAGCG
TATTCAACAAGGGGCTGAAGGATGCCCAGAAGGTACCCCATTTGTATGGGATCTGATCTGGGGCTCGGTGCACATGCTTTACATGTGTTTGTGCGAGGT
TAAAAAACCGTCTAGGCCCCCGCAACCCAGCGGACGCTGTTTCTCTTGA AAAAACACGATGATAAGCTTGGCACAACCATGGAAGATCCCGTCTGTTT
ACAACGCTGTGACTGGGAAACCTGGCTTACCCAACTAATCGCTTTGACGCACATCCCTTTTCCGAGCTGGCGTAATAGCGAAGAGCCCGCA
CCGATCGCCCTTCCCAACAGTTCGCGAGCCTGAATGGCGAATGGCGCTTTCGCTGGTTTCCGGCACAGAGCGGTGCCGGAAGAGCTGGCTGGAGTGC
GATCTTCTGTAGGCCGATACTGTCTGCTGCCCTCAAACCTGGCAGATGCACGGTTACGATGCGCCCATCTACACCAACGTAACCTATCCCATACGGTC
AATCCGCCGTTTGTTCACCGGAGAAATCCGACGGGTTGTTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATT
TTTGATGGCGTTAACTCGGCGTTTTCATCTGTGGTGCAACGGGCGCTGGGTGGTTACGGCCAGGACAGTCGTTTCCCGTCTGAATTTGACCTGAGCGCA
TTTTTACGCGCGGAGAAAACCGCCTCGCGGTGATGGTGCCTGCGTGGAGTGCAGGCAAGTTATCTGGAAGATCAGGATATGTGGCGGATGACGCGCAT
TTTTCCGTGACGTCTCGTTGCTGCATAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTTAATGATGATTTTACGCCGCGTGTACTGGAG
GCTGAAGTTCAGATGTGCGGCGAGTTGCGTGACTACCTACGGGTAACAGTTTCTTTATGGCAGGGTGAAACCGCAGGTTCGCCAGCGGCACCGCGCCTTT
CGGCGGTGAAATTATCGATGAGCGTGTGGTTATGCCATCGCGTCACTACAGTCTGAACGCTGCAAAACCCGAAACTGTGGAGCGCGGAAATCCCGA
ATCTCTATCGTGGCGTGGTTGAGCTGCACACCGCGCAGCGCACGCTGATTGAAGCAGAAGCCCTGCGATGTCGGTTTCCGCGAGGTGCGGATGAAAT
GGTCTGCTGCTGCTGAACGGCAAGCCGTTGCTGATTTCGAGGCGTTAACCGTTCAGAGCATCATCCTCTGCATGGTCAGGTCATGGATGAGCAGACGAT
GGTGCAGGATATCCTGCTGATGAAGCAGAACTTTAACCGCGTGCCTGTTTCGCATTATCCGAACCATCCGCTGTGGTACACGCTGTGCGACCGCTA
CGGCCGTGATGTGGTGGATGAAGCCAATATTGAAACCCAGCGCATGGTGCCAATGAATCGTCTGACCGATGATCCGCGCTGGCTACCGGCGATGAGCG
AACCGGTAACCGCAATGGTGACCGCATCGTAATCACCCGAGTGTGATCTGTGCTGGGGAATGAATCAGGACAGCCAGGCTAATCAGCAGCGG
CTGTATCGCTGGATCAAATCTGTGATCCTTCCCGCCCGGTGCAGTATGAAGGCGGCGGAGCCGACACCAGGCCACCGATATTATTGGCCGATGTAC
GCGCGCTGGATGAAGACCAGCCCTTCCCGCTGTGCCGAAATGGTCCATCAAAAATGGCTTTCGCTACCTGGAGAGACGCGCCCGTGTATCCTTTG
CGAATACGCCCACGCGATGGGTAACAGTCTTGGCGGTTTCGCTAAATACTGGCAGGCGTTTCGTCAGTATCCCCGTTTACAGGGCGGCTTCGTGGGA
CTGGGTGGATCAGTCTGCTGATTAAATGATGAAAACCGCAACCCGCTGGTGGCTTACGGCGGTGATTTTGGCGATAACGCCAAGCATGCCAGTTCT
GTATGAACGGTCTGGTCTTTTGGCAACCGCACCGCATCCAGCCTGACGGAAGCAAAACACAGCAGCAGTTTTCAGTTCCGTTTATCCGGGCAA
ACCATCGAAGTGACCAGCGAATACCTGTTCCGTCATAGCGATAACGAGCTCCTGCACTGGATGGTGGCGCTGGATGGTAAGCCGCTGGCAAGCGGTGA
AGTGCCTCTGGATGTGCTCCACAAGTAAACAGTTGATTGAACCTGCCGTAACCTACCGAGCCGAGAGCGCGCGGCAACTCTGGCTACAGTACGCG
TAGTGCAACCGAACCGCACCGCATGGTCAGAAGCCGGGCACATCAGCGCTGGCAGCAGTGGCGCTTGGCGGAAACCTCAGTGTGACGCTCCCCG
CGCGCTAACCGCATCCCGCATCTGACCACCGCAATGGAATTTTTCGATCAGCTGGGTGGTAATAAGCGTTGGCAATTTAACCGCTAGCAGCTTTCT
TTCACAGATGTGGATTGGCGATAAAAAACAAGTGTGACGCCGCTGCGGATCAGTTACCCCGTGCACCGCTGGATAACGACATTGGCGTAAGTGAAG
CGACCCGCAATTGACCTAACGCCTGGGTGCAACGCTGGAAGCGCGCGGCCATTACCAGGCCGAAGCAGCGTTGTTGACAGTGCACGGCAGATACACTT
GCTGATGCGGTGCTGATTACGACCGCTCAGCGTGGCAGCATCAGGGGAAAACCTTATTTTACGCGGAAACCTACCGGATGATGGTAGTGTGTC
AATGGCTTATACCGTTAGCTTTGAAGTGGCGAGCATACCCGATCCGCGCGGATTTGGCTGAACTGCCAGTGGCGCAGGTAGCAGGCGGGTAA
ACTGGCTCGGATTAGGGCCGCAAGAAAACCTATCCGACCGCCTTACTGCCGCTGTTTGGACCGCTGGGATCTGCCATTGTACAGACATGTATACCCCGT
ACGCTTTCCTGAGCGAAAACGGTCTGCGCTGCGGGACGCGCAATTGAATTTATGGCCACACCAAGTGGCGCGGCGACTTCCAGTTCAACATCAGCCG
TACAGTCAACAGCAACTGATGGAAACAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATCGACGGTTTCCATATGGGGATGG
TGGCAGCACTCTGAGCCGCTAGTATCGCGGAATTCAGCTGACGCGGCTGCTACCATACCAAGTTGGTCTGGTGTGTTTCAAAATAAATAAAC
CGGGCAGGCCATGTCTGCCGATTTCGCGTAAGGAAATCCATTGTACTATTTAAAAAACACAAACTTTTGGATGTTCGGTTTATCTTTTCTTTTA
CTTTTTTATCATGGGAGCCTACTTCCGTTTTTCCCGATTGGCTACATGACATCAACCATATCAGCAAAAGTGATACGGGTATTATTTTGGCGCTATT

CTCTGTTCTCGCTATTATTCCAACCGCTGTTTGGTCTGCTTTCTGACAAACTCGGAACTTGTATTATGACGCTTATAATGGTTACAAAATAAGCAATAGC
ATCACAAATTTACAAATTTAATTAAGGCCGCGGGATCGATCCCGTCGAGCAGTGTGGTTTTCAAGAGGAAGCAAAAAGCCTCTCCACCCAGGCCTGG
AATGTTTCCACCCAATGTCAGCAGTGTGGTTTTGCAAGAGGAAGCAAAAAGCCTCTCCACCCAGGCCTGGAATGTTTCCACCCAATGTCAGCAAAAC
CCCCCCCAGCGTCTTGTCAATTGGCGAATTGCAACACGCAGATGCAGTCGGGGCGGGCGGGTCCCAGGTCCACTTCGCATATTAAGGTGACGCGTGTGG
CCTCGAACACCGAGCGACCTGTCAGCCAATATGGGATCGGCCATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATT
CGGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGTCCGGCTGTCAGCGCAGGGGGCGCCCGTCTTTTTGTCAAGACCGACCT
GTCCGGTGCCCTGAATGAACTGCAAGAGCGAGGCAGCGCGGCTATCGTGGCTGGCCACGAGCGGGCTTCCTTGCGCAGCTGTGCTCGAGCTGTCACTG
AAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGAT
GCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCATTTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACGTA CTCCGATGGAAGCCGG
TCTTGTGCATCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACTGTTGCCAGGCTCAAGGCGCGCATGCCGACGGCGAGGATC
TCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGTGGCGGACC
GCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTCTCTGTGCTTTACGGTATCGCCGCTCCCG
ATTGCGAGCGCATCGCTTCTATCGCCTTCTTGACGAGTCTTCTGAGGGGATCGGCAATAAAAAGACAGAATAAAACGCACGGGTGTTGGGTGCTTTG
TTCGATCCGAATTCCTCGAGGGCGCGCCATTTAAATGGCCAGCGAGGCCGTACCCAATTCGCCCTATAG

Targeted Locus:

GATCTCAAAATAAATTGTCTGCCCCACCTGCCAGCTGGCAGAGCTGCAGGCTGAGTAAAGTGCCATTTAAAGATAACCTGGCACTCTCCATACACC
TCACTGCCTGGGCGGCTCCTAGGGCCAGACAGACTGCCTAAGACGGTGGCCGCTCCTTCCACTCGCACCAGTTCATCTACCCGCTTCATCTCCATGCT
GGAGTCCACACTGCAGTAGCTTCTACTCAGCTTGCAGAGAACACTGCAGACCAGCAGGAGCCTGGCATTCTGAGAGGTCCTTGAAGACATTATAAACCC
TCTGGAGGAAGAGTACCCTTTCTATCAGTAGCTGGGTGGCAGGTGACACCCACACTGGCCAGTACCTTTGACCTCCCTCAAAGGTGCCACTACT
ACAAGAACAATAATAAAGAACACTATCTTTTGCAAGTCTTCACTCCCGTTCTCAGTCTTTGCTCCATGGTCTCTCAGGACTTGGGTCCACTATGGAAA
TACAGCGCATGCTCACTATTCTTCTGTGCTTCAGCATCCCTGTCAAGAAGGGCCAGTCGGGAAGTAGTGGGTACAGTGTCTTCTGCCAGCACTGAGA
GTTTTGAGGCAAGGCCACCCCTTTGTCCATGACTGTGTGCATGTTCGTAGATGAGAATCCCAACCTGCGTGGGCACCTCGCTCTGAATCCTAATCCCT
ATCCTAGAATTTTCAAAACACAAAACACTGACGTAACCTGGGTAGTGTAGTTCACGCCTTCAATCCAGCACTTGGGAGGCAGGACGACTGATCTCT
ATGAGTTAGAGGCCAGCCTTCAAGCTCCAGGCCAGCCAGGGCTATACATGAGAATCTGTTTTTGTTCGTTTTGTTTTAAAGGGGGAGGGGCCAGGGG
ATTGGGCCAGTGAGATGGGTGAGCTGAAAAATGCAATCATTGCCAAGCCTAAAGACCTGAGTTAAGGTCCCTGGAACCTACATGTTGGGAGGAGAAA
ATGAATTCCTTACAATTTATCCTCTTACCTAATGTACACAAATAAAAGTAATAAAGTGTTTTGTTTTTATAAACAAGATACCAGTGCTGGAGAGATGG
CTCAGAGGTTAAGAGCACTGACTGCTGTTCCAGAGGTCTGAGTTCAATTCCCAGCAACCACATGGTGGCTCACAACCATCTGTAATGACATCTGATGC
ACTCTTCTGTTGTCTGAAGACAGCTACAGTGTACTCATATGCGATAAAATACATAAAATAAATCTTTAAAAAGAAACAAACAAAGATACCGAATAATAC
AGAGACAGGCAAGGTGGATCTAAAGCACTCACGTAGAAGAGAGCAGAGTCAACTTGGGACAGGAGGGACAGTCCTTTGCTGGGCACCTACTTCCGCA
GCTTGGTGACAGTAGCCTTGCTTTCATGGAGCTCATGATAGAGGAAGAAGGACAGCAATGGGTGGGCAGACATAGGTGGTACTGAGTCAAGACATGTG
CTTGGCAGTGGTATTTATGACTGTCCAACACTCTGCCAGTCTCTTCTGGAGGCCGGAGCATGCTTCTCTGTTCTCTCTCTGGAAGGATGTGCCA
CCACCTACAAGAATAATTTTAGGGCTATCCTTCCGTGATTTCTTCCCTAACCTACCTGCGATTCTGCTTTGCTGCCCATGACCTCTGTTCCCTCACCT
GAACACCAGGAAGCATTTTCGGTCCGTGTACCCTTTAGCTGAAAGTCAAGATCCGCCTGTGTAGAGATAATGGGCCCTACTGTTTGCTTACCATTTC
TACTGTACCTTAAACCTTTAACATTTGAGTTATAGTCTGTGATGGTAATGATAGAAATATTTACCAGTGTGGCTTAGCTAGGGGAGTTGTGTAAAGAGT
CCGATGAGGTAGATGCCCAAATATTAGAGGGCCTTATGGCGTGGGCTTCAAAGACGCACTCGGCAGTTCCAGAGCACTTGGTGCTCTTGTGAAGGAAGA
CCCAGTTTGGTTCCAGTGCCCATGGGATGGTTCACAACCTACCCATAAGTTTAGCTCCAGAGCATCAGACACCCTCAAGGGCAGGACCGCATCGGTGA
GTACACATGCACACATGCAGGCAAATACTCAGACACATAAAAAATATTTTCTTAAGTGTCCATGGCAGGAGACTAAGGTAGCCATTACTCTGCCTCAG
CTGATCGGTAGTCCTGGTCAGGGAACCTGCATGCAGGTGGAGCATGACTACTCCACATTCTGTAACCTACCTGTCTGTCTGGCAGCAGTGAACGAATGCTT
AGGGACTTTTGCTTCTCTTTAGCTGTCTAGAGTATTGAAAGAATGGACTCCAAGAAATGGAGCCCCAGGAACCTTTCAGCTGGGTGAGGAATTTGTGAAG
GCCCAGGGCATACAGAAAGACATATCTCTGGTGAAGACTTTTACAGTTTGTCTGACCTTGCAGGAGCACTGAGGACCAAGGCACTAATGG
GCAGGGGAATCACATCTTGGCTGGACCACTTAGTCAAATATCTTACTCTCTATTTAAGCTTTGACCCTTACTTGAGATGGACTAGGATCTGTGTGCCGAGA
CCCCTCTTGGGGTTAGAAGCACCCCTTTCACACAAGGGTTGCCAAGACCATCAGAAAACAGATATTTACATTACATTTCATAACAGTAGCAAAATTACA
ATTATGAAGTAGCAATGAAAATAATATATGTTTGGGAGTCAACCACAGTTTGAGGAACTGTGTCAAAGGGTTGCCACAGTAGGAAGGCTGAGACCCAC
AGGACTAGGGCATGGAAGGAATCACTAGATCTCCATGACCCCTTTTCCAGTGTGGCCATTTGAATACATTTTCACTATTAATTTGGTTATTTTAATTGT
CTATTGAGGGTAATTGTCTAAACCTGGCTCGTTGAGGCCAGGCTCTGACGCTGAGTCTGCATCACTCAACAGAGTTGGTAAAGGTACATTGACT
TTCTTCTTGAGACTTTCCACCTGTAACATAACTGTTGACCCTGATAGCTTATGTAGTATTTTTTGCAGGCTTGCTCCATGAAGAAAAAGAGTTTCCACTG
TAAAGTGTTAACTGGCTGTGTCTCAAGTGGCGGGCGCCACCCCTACCGGTGAGGAGTGAGGCTATAGTTGGAGCTGTCCATTTCAGAGGGAGAAAGGGG
CCATCTCAGGAGCCAGTGCAGTGCACAGGGCCAGGCCCTGTGGGCACCGATGGGGACAAAGCTTCTGAACTTCTCTCAATGGATGCCTGTTTCTA
GGAATGGGGGCGAGGTGACGCTGCCCCATCTCCCGCTGACGAGCTCCAAGACTGGACACGAGCAGAGGTTCCCAACAGGGAAGGTAAGTGTGCG
CCCTGCCCTCCAGAGTTGGCCCATGAGCTGTTTATTAGGAGGTGGCACCAGGATCAGTGTCTTGGGGTCTGGGATAATGATTGGTCTCAGGAGAGAG
GCGGGCACAGGGTACTGCCAGGCCTCCCTGACCGCAGTGACCAGCTGTTGGCTGTGCCCTTAAGGGCTCAGACTAAAGGAGTCACCACACTGTTGTG
ACAGAGAGAGCAGGGCTGTGTCTTGGGGTAGGGGTACCAGGCCGTGCTGAGGCTGGGTGGGCGTGGTGGTGGGCGAGACCCCTGGGCGGGGCCCT
GGCAGGGTTACTGAGGCGGGGCTTAGTCCCGCCCCAAGAAGGCGGGGAGGAGGCCAGAGCCTGGCCGCGGGCTGGCGGGTGTGACGCTCCGCC
GGCCGGCTTCGTCCAGCTTTGTCTGCGGCCCTTTTTCGTCTAGAGGCCATAGCGGCCATTTAAATGGCGCGCCGGATCCCGGGCCGCTCTAGCTAGA
CTAGTCTAGCTAGAGGAATTCGCCCTCTCCTTCCCCCCCCCTAACGTTACTGGCCGAAGCCGCTTGAATAAGGCCGGTGTGCGTTTGTCTATATGT
TATTTTCCACCATATTTGCCGTCTTTTGGCAATGTGAGGGCCCGGAAACCTTGGCCCTGTCTTCTTGACGAGCATTCCTAGGGGTCTTTCCCTCTCGCCAA
AGGAATGCAAGGTCTGTGAATGCTGTAAGGAAGCAGTCTCTTGAAGCTTCTTGAAGACAAACACGCTGTGAGCAGCCTTTGACGAGCGGGA
ACCCCCCACTGGCGACAGGTGCCTCTGCGGCCAAAAGGCCAGCTGTATAAGATACACCTGCAAAAGGCGGCACAACCCAGTGCACAGTTGTGAGTTGG
ATAGTTGTGGAAGAGTCAAATGGCTCTCCTCAAGCGTATTCAACAAGGGGCTGAAGGATGCCCAGAAGGTACCCCATTTGATGGGATCTGATCTGGG
GCCTCGGTGCACATGCTTTACATGTGTTTAGTCGAGGTTAAAAAAACGCTTAGGCCCCCCGAACCACGGGGACGTGGTTTTCTTTGAAAAAACACGATG
ATAAGCTTGCCACAACCATGGAAGATCCCGTCGTTTACAACGCTGCTGACTGGGAAACCCCTGGCGTTACCCAACTTAATCGCCTTGCAGCACATCCCC
CTTTCGCCAGCTGCGCTAATAGCGAAGAGCCCGCACCGATCGCCCTTCCAAGTTCGCGAGCCTGAATGGCGAATGGCGCTTGTCTGCTGTTTCCGG
CACCAGAAGCGGTGCCGGAAGCTGGCTGGAGTGCGATCTTCTGAGGCCGATACTGTGCTGCTGCCCTCAAAGTGGCAGATGCACGGTTACGATGCG
CCCATCTACACCAACGTAACCTATCCCATACGTTCAATCCGCGCTTGTTCACCGGAGAATCCGACGGGTGTTACTCGCTACATTTAATGTTGATG
AAAGCTGGCTACAGGAAGCCGACGCGCAATTTTGTAGGCGTTAACTCGGCGTTTCATCTGTGTTGCAACGGGCGCTGGGTGCTGACGCGGCTAT
GACAGCTGCTTGGCTGTGAATTTGACCTGAGCGATTTTTCGCGCGGGAAGAAACCGCCTCGCGGTGATGGTGTGCTGGAGTACGCGATTAT
CTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGCTCTGTTGCTGCATAAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACT
CGCTTAAATGATGATTTACGCGCGCTGTACTGAGGCTGAAGTTACAGATGTGCGCGAGTTGCGTGACTACCTACGGGTAAACAGTTTCTTTATGGCAG
GGTGAACCGCAGGTCGCCAGCGGCACCGCGCCTTTTCGGCGTGAAATTAATGATGAGCGTGGTGGTTATGCCGATCGCGTCACTACGCTGACGCTG
CGAAAACCCGAACTGTGGAGCGCGCAATCTCATCTGCTGGGTGTTGAACCTGCACACCGCGCAGCGCAGCTGATTGAAGCAGAACGCT
GCGATGTGCGTTTCCGCGAGGTGCGGATTTGAAAATGGTCTGCTGCTGTGAACGGCAAGCGCTTGTGATTGAGGCGCTAACCGCTCACGAGCATCATC
CTCTGCATGGTCAGGTCATGGATGAGCAGACGATGGTGCAGGATATCTGCTGATGAAGCAGAACAACTTTAACGCCGTGCGCTGTTCCGATTATCCG

[illegible]