Lexicon Genetics Incorporated – Genentech Project Materials

Genentech ID:	UNQ539	**Date of Submission:**	11/4/05
Lexicon Contract Name:	DNA484	**Mutation Type:**	☒ Standard Knock out
LexVision Name:	MEM785N2		☐ Conditional
Reference accessions:	NM_020008	**Is this gene X-linked?**	No

Required Materials: ☒ pKOS clone DNA(s) pKOS-55
☒ Target Vector DNA DNA484-55-TV-PURO
☒ Targeted ES Cell DNA 1F4
☐ Genomic Map

Southern Blot Analysis:
External/Internal Probe Strategies

	5' External	**3' External**
Name of Probe:	15+16	13+14
Restriction Enzyme for Genomic Digest:	HindIII	HpaI
Predicted Wild-type Band (kb):	9.7 kb	9.6 kb
Predicted Mutant Band (kb):	5.2 kb	11.5 kb
Probe Size:	224 bp	208 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:	DNA484-3	5' Primer Name:	DNA484-3
3' Primer Name:	DNA484-4	3' Primer Name:	GT-IRES
Predicted Wild-type Band (bp):	191 bp	Predicted Wild-type Band (bp):	None
Predicted mutant band (bp)	none	Predicted mutant band (bp)	384 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
DNA484-13 5' – CAGAGTACACACTGTGTTTG
DNA484-14 5' – CTAGTTGAGGAAGTAGCTTG
DNA484-15 5' – CTTTCCATGTCCCATACTCC
DNA484-16 5' – CCTCTTTCAGTGTCTAGAG

PCR Genotyping
DNA484-3 5' – GCACTGGCTTGACTACTTAAGC
DNA484-4 5' – GAGTATATCCATCTTCATCCAG
GT-IRES 5' – CCCTAGGAATGCTCGTCAAGA

Genomic Sequence Deleted:

ATGAAATATCACTCTCATATAGAGAATCTGGATGAAGATGGATATACTCAATTAGACTTCAGCACTCAAGACATCCATAAAAGGCCCAGGGGATCAGA
GAAAGGTATCCATTTTCTTTCTGCTAACAGCACCTTTGTTCTCATTAACTGAAATAACAGAAGTAGAGACCTGGAGAGATTCTTGATTTGTAGAACTGC
CTACAAAAATATATTTTCATATATGCGTGTGTGTATGATATATATTTGGTATATGTGGTATGTATATGATATGTATATATATATATATACATGTATACAC
ACATATATATGTATGTATGTATATATATGTATATATATATATATATATATGTATATATATATATATATACATGTATACACACACGTGTGTGTGTGTGTGT
GTGTGTGTGTATAGTTTTAAAGACTGCTGGAAGTCATCAACGACTTCCACAAATTGCTTTTGGTTTATGGCAGAAAACAGGACTACTCTACTCTACAGT
CAGAGGTAGCACTGGTAACATGAGTAAAAGAGAAAGATGAAAGAATTTTAGTAGAGTTGCTTTTTCCTTGTTTTTTAGCAACTTGTGAGGGGGCCAGG
AAACAGATAAACGAACAACCTGTACAATCATACAACACAGTATGCTAAAGTCATGGTCCTCTATGCAACCATAGAGGAGTGTGTGGGAAATAAAAAT
GAATGCATCTTTGGTTAAACCCAAAGAGAAGCCAGGAGTCATGGGGTGTAAATCCCAAATCCGCTATGCTCTTTTGGTAAGAGATTAATTTGGATTTTA
TAAAACGAGATGTTAGTATGTCAGCTATGGAAAACACAAGCTACATTAAAATGTCTCATTATCAGGAGATAGATATTAAAACGGAAACAAGACAAGA
ATAAAGGACATTAAAGTCCTAACACGGAGTGAGTGTTTTAGTCTCTTTCAGGGTCACCTATTGGGCAGCTCTATGACTTGGCTTTCTGTTGTTGGTATCA
TCAGCTTAAAACAAAAATCAGTTCGCTGTTAACTTAAAGGAAGAGATGACTGACGGGTTCTAATGTCAGTTTGTTTTCTTCCGCTTTTTGATGTTCACAT
TATGCAATTATTTATAACCACTTACACAATCACTCTCTTGTGAAATTTGCTTGGAAAATAGTCTAAAAATTGATTGAGGGAAGGGGCATGGCTTATATG
CGTATGCTGCGTAAACTAAAGTGCTCAGTCCCAGCAACAGTATTTGAAGGTACTATTGATCTAATTTCAAAACTTGGAAATAAAAAAAATAAATAAAA
ACAAAGGCATAGAGAAAATAACTTGTTTAAATCATGCACCATATAAATGACAAGAAAAAGCTATCCTTAGTCATTGGTGCTGTTTCTCCTACAGAAAG
CTATTTGCTCTGTGACCAAGTAGGACTTCAGGGAATGGATAGTGTCCAGATCTATAGACTAGCCTGTGAGCCTACAATGGAGGAGTTACAGATGGTAT
GGCCATGATGCCATGGCTGAAGCAATGGAGGAAGAGGCATCCTGAAGTTGGAGGAAAATGGAGATTTACACTACAATGTTAGATTCTCAAGTCGCTAG
AGCCTAGTGTCTGCTGATCCCTTTAGAACCACCCAAATTTCAGGGAACTAAGCTGTTAAAGAGTTCCATCATCTTCCCTCATTTTCTTTCTCATCTCTCTT
ACTTTCCAGGAAGCCAGGCTCCATCTTCACCTTGGAGGCCCATTGCAGTGGGTTTAGGAATCCTGTGCTTTGTGGTAGTAGTGGTTGCTGCAGTGCTGG
GTGCCCTAGGTGAGTATGGGTGAGGGAGGTTGATGCAGTCGTAAACAGTGATTATGCAATTAATTGATGCCAAGAACTCTCTCAAGGGCTTGGCATGC
ATAACCTCATTTAATCTGTATATTAATTCCATTAAGTTTGTGCTATTAATTTCTGTTTTAGTTATAGGAGAATTGAGAGAGTGGAAGATTAACTCTTCCA
TAGTTATAACCTAGTTATTGGTGAGATTATAAGAAATGGTGGATTATAGAAAATCTGCTTAGTAAAACATATATTCATGAGTATATTACTCTACTATAG
ATAGGTGATTTTCTTTTTAAAGTAAAACTGAAAGTAAAAGTTAGTGGAGGGAAACTTGCAGAGTCAAAAGAAGCCTAATCTTTCCTAGGAGACAGATG
TATTAAATGAGTTTTGTGTAATTTTTGAACATCTCATGACATGATACATGGGAATTATCTTTTTTTTATTTAGGTATTTATTTCAGTTACATTTCCAATGC
TATCCCAAAAGTCCCCCACACGCTCCCCCACCCACTCCCCCACCCTCCCACTCCCACTTCTTGGCCCTGGCGTTCCCCTGTACTGAGGCATATAAAGTTT
GCACGACAAATGGGCCTCTCTTTCCACTGATGGCTGACTAAGCCATCTTCTGATTCATATGCAGCTAGAGACACGAGCTCTGGGGAGTACTGGTTAGTT
CATATTGTTGTTCCACCTATAGGGTTGCAGATCCCTTTAGCTCCTTGGTTACTTTCTCTAGCTCCTCCATTGGGGGCCCTGTGATCCATCGAATAGCTGAC
TGTGAGCATCCACTTCTGTGTTTGCTAGGCCCCAACATAGTCTCACAAGAGACAGCTATATCTGGGTTCTTTCAGCAAAATCTAGCTAGTGTATGCAAT
GGTGTCAGTGTTTGGAAGCTGGTTATGGGATGGATCCCCGGATATGGCAGTCTCTAGATGGTCCATCCTTTCATCTCAGCTCCAAACTGTGTCTCTGTAA
CTCCTTCCATGGGTGTTTTGTTCCCAAATCTAAGAAGGGGCAAAGTGCCCACACTTTGGTCTTCGTTCTTCTTGAGTTTCACGTGTTTTGCAAATTGTATC
TTATATCTTGGGTATTCTAAGTTTCTATGCTAATATCCACTTATCAGTGAGTACATATTGTGTGAGTTCTTTTGTGATTGGGTTACCTCACTCAAGATGAT
GCCCTCCAGGTCCATCCATTTGCCTAGGAATTTCATAAATTCATTCTTTTTAATAGCTGAGTAGTACTCCATTGTGTAAATGTACCACATTTTCTCTATCC
ATTCCTCTGTTGAGGGGCATCTGGGTTCTTACCAGCTTCTTCTTACACATGATCTTTAGTAAAAAATTATCTTGACTCTGCCAGGTACTGCCTGGGGCAT
TGAAAAATTGCTAAACAGATGCTTTGTGAAGACTGAATATTTCTCTTTAGGTTTCTGTATTTCATGAATTCTGTGTCAATAGAATTGTAAACTTCAAAGA
GTTTTCATCACTCAAAATTAGTCACATTTTTACTGATTACAGAAACATTTTATGTATTACATGCTGTGTAATTTTCAAAGAGCTAGCTGGCATTTTTAAA
TAATAGTGGAAAGCAAAAACTATTATTTCATAAATTATTAGTATTTAAAATGGTTTACAATTGCAGTTAGATCCATGCCATTTTCTATTTGCGACCTGCT
TCATAGTCCTTTCCATATGTTTAATATATCCTCTATCTGTGACCCATCTTACTCTGTCTTTTTATCAGCAACATACAGTTTATTTATCAATAACCATAGGC
ATCCCCTATATATGTCCATAAAATATGAGTGCTGGCATTTCCATTTTTAAACACAGCAGAATGACTTTCTTTTTCTGTCACTATTGCTGTTCGTGACGTAT
GAAGCATTTTGGTGACACAATTCAGGGAGAAATCCAGAGGAGAAAGACAACTTCCTATCAAGAAATAAAGAGAACCACAAGCCCACAGAATCATCTT
TAGATGAGAAGGTGGCTCCCTCCAAGGCATCCCAAACTACAGGCAATGGGCAGCACGAAAGGAGCAATGGGATCCCG

Genomic Locus: (*The deleted sequence represents nt (6381 – 10232) in the sequence below. KOS-55 used to generate the TV represents nt (4853 – 16430) in the sequence below.)*

TACAGAATCAGACTCTGTCTCAACAAAGATACATGAAAATAATGTATCTAATATTTATATTTTAATGTCAAAGCTACTCTAAATTATTTTAAATTTATAT
TTCTTTTGTGTATGTTTTTACTTATGTCTGGGCACATGTGTTGTGGCATGCATGGTGATCTGAGGACAAATTATTGGAATTAGTACTCTTCTTCCACCCTG
GGATCAAACTCAGGTCATCAGACTACAGCTGAGCCATGGAGCCACTCCTCAAAGTCACTATCTTTGTACCTGAACCTACTTTGTAAATCATCTCAAACC
CTATCCCTCCACATCAGCTTCTTTCATGAAGGGTAAAGCATTAATCTGTAGATGATGTCGTCAACCAGAAAGCTGACAGAGCCCCAGTTTCCTGCGAGA
AAATAGGAATGAGGGTTTGACTTGAAAGGAATGATGTGGTTGTGTTATCACTTGAGTTGTGTGTGGACTTAGAGCAATCTGGGCTTTTACGGTTATTAA
ACTGGCCTTTGGTTACAACATATTGAAACTTAATGGTCTGTGTTATGGTTCAGCCAACAGCCACATGCCTCAGCGATTCTTTAGTTGCCTAACTTCATTA
TGAGCACACCCGGCAGTTCATTTATAATTTAACTTTTACAGAATAAGCAAATCAATTGCACTATGAATAATTTAAGCCCAATAAAACATCTCATAGCAC
TGGCAAGAGAGATCCAGCTCAATATATTCATAAATGAATGTCAAATCATCTGGTTTTGCTAAGCTGTTTGTAAAAGCTAAGATCGCTTGTAAGGCACTA
TGTCACCTGGTATCAATTTCAAAGTTAAGTAATTTTTTATGAGTGTAATCCCACCTAATAAATAATCTTTTAGAAATGATACAGAATGCCTATCTTGTGA
TTTAAAACCCCATCTAGAGCAGAGGGACATACCTGCAATGTCTAAATTCAGGAGGATGAAGCACAGAATTGCTGTGTGTTCAAGGTCAGCCTGTTTTTA
GGCCAGTCTGAGTGTCCTGGATAGCTTTAACTGTCAACTTGACAGAACCCAAAACTATTTGGGAAGAAAATCTTTACTGAGGAATTGCTAGGTCAGATT
GCCCTCACAAAGAGCCTTGGTAATTGATGTAGGAGACCCCAGTCCGCAGTAGGCAGTACCAACCCTAGGCAGGGGTTCCTGACTGCACAAGAAAGCTT
GTAAGTAAACAAGCTGGCAGCAAGATGCATTTGTTTCTCTCTGCCTTTGACTATGGCTGTGATGTGACCAGCTGCCCATGTTCCCACCTTAGCTCCCACT
CAGTGATGGCCAGCAGCATGAAACTACGTCACCCTAACAGCAACAAAACTAAAACTACAATACCGGGCTACTGTGTAAGACCCCGTTTCGGCCACAAC
AATGGAAATAGCCTTTGGGATGCAGAGGCAGGAGTTTCAGTCTGTCCTTGTCTACACAGTGACTTCTAAGCCAGCTAAGGCAACATAGTGAGAACATG
TCTGCAGGAAACAAACTAAAACTAAAATGAACCAACAAACAACATACTTCAGTAACTTAGATAACAAAGTAATTGCATTAAGTATTTTTGCTCTTCCAT
TATTTTAACTAGCCTTGACGAAGTGATGTGGATTATATTCTTTCAAAAAAAATTTTTTTTGTTCATCTATACATCCATTCACTCACCGATTGCTTAATGGG
AGTTCATTCTAAAGAGAATTTTTCTGTAGCAGGGACAGCATGGACAGCAGAGAAAACACGCAGATACCGTTCCCATGATGCTCAGAGTCTGCATTTAG
AAGGAAAAAGAATTTAAAACAAGCACATCTACATAATTGTATTAATTTAACACAGGGAAGGCGTTACTTTAGATACTTGGAATTGATAATAAGACAAC
TATAGATATGTTTCTATCAATGTGGAAAGTTGTACATTGGTAGTTGACTTTAAGAATTAGAAACAAAATGGGCATATATGGCTATGACTAAGCCACACA
AGCCTGAAAGGAGTGGGGGTAACCAACTTCTAAAAACCACGGCTGTCAAAGACGTAACAGCAACCTTTAGCAGCGTTTCCACCCTCATTCAGGTCCTG
CCTGCTTAAATTCTGCAACTTGACTCCCACGCTGATAGACAGGATTTACTGTCTAATTTGCCTTGAAATACCTAAGTCAAGACTGTAGGTGGCGCTATC
ACTTTGATTATTTACTGTGTGGTTTTTCCTAAACATTTTGAGTTATTCCCACCAGCCTGGCTTAGATCACACACCATAGGAGAATTATTGACACTCATCA
GTTTACCCTCTCTTTTCGACGTACAAGAATCTCAATAGACATTTTCACAGGAAGAAGCCAACTCAGAAATCGAAACACGTTTAAAATCACTCAGTCGCT
CCTCAGCAGGCATGGGAGAAAGGACACAGCCACCTGCTGAGTCTCTGGATCCTGAATTTAGACGCTACACTGGTGATTTATTTACACTGTGATCTGATG
CCTGCTCCTCTCTGTAAAGAACACCGGGTGAACTGCTGCCCAGGTGTTAAGCTCAGTTACTTTGTTCTAAATAAAATCCCCACATGCAGAACAAAAGTC
AACTGAGGTGCTCCTGGTGTTGGCAATTAGGGCAATCTTGAGACCTTCCTCAGGGATATCGACACTACACCCTGTTTAAACTCTCTCTGTTAAGTATGAT
TCTGAAATTAAGAGCAGAAGAAGTAAAAGTCAATACATCTGACTGGTCAACGGGTGGCTAGCAATGTATTAAAAGTGTATGAAATGGAAAAAGGAGG
AGCCACCACGAGAGGAATGAAGGAGAAAGCATGGGTCACCCAAGGCACACAAATAAACAGCCAAGAAAAGCATTCCCCACACAGATATCCAAACAT

TGCATCATACTTGACAAATGTACCAGGTATGCCTTTCAGTTAAATGTAGGACACAATTTTAAAATTAAATGAATTACATATATATTCCCACTTTTAAAA
AAACAACAAAAACAAAAATGAATGAATAAAACGTTCCCTCCTTGAAAAGAGCATTCGGCATTCTTTCTTCAATTCCTCCTATCTTCCCAGGGCAATTTA
GAAACAATCCTACTGTAATATGGGACTAGAAGTTGGACTTGCTAATAGGTCCGCATGGTGACTTCCATGAAGAGTGTGGTTGTTTCCCTGTCTGGCTCC
AGGCACTGTGCTGGACATTGAACTCAGCTGGAAAGAGAATGCTCTTCTTCAGGGTTATAAACTGAATCACACAATGGCATTGACTGTAGCGTAGATTAT
ATATGTGATATTTGAAGCATTATCACTTATCTCTTTAAAAAAATTTTTAATTAGGTATTTTCTTCATTTACATTTCCAATGCAACCCCAAAAGTCCCCCAA
ACCACCCCCCACTCCCCTCCCTCCCACTCCCACTTCTTGGCCCTGGTGTTCCCCTGTACTGAGGCATATAAAGTTTGCAAGACCAATGGCCTCTCTTTC
CAATGATGGTCGACTAGGCCATCTTCTGATACAGCATCATCACTTAATCTTTATATCAGGAAGAGACAGATGATTTCTTTAAGACAGTGTCTCATGTAG
CTCAGGCTGGCCTTGAAATCATCTTACTTCAGCGTCTCTCCGGCTGAAGTTACACTAGGCCCAGGATCCTAACCAGAAATAAGTAGGAAGGAGAACAA
GTGAGAATAAAGTATAATGACATATGTGGATAGAAATGTCCCTGGAAATTCCATTGGTTTGTACGCTAGCCTAAAAACAAGGAAAAGGAGAATTATCA
ACTGAAGAATGATAATTGTTATTGATTTTTAAAATATCTTTTATTTGATACTTATAGACACAAATGTGCAAGTATGTTTATCAATATATATTCATTGGGC
GTGGGTGGGTAGGGGAACAGGGCGCAGGGAGGGTATAGGGAATTTTCGGGATAACATTTGAAATGTATATAAAGAAAATATCAAATAAATAAATAAA
TAAATAAATAAAAGAAAAAATTCATGTTGAGTAAGAAGATTAATTTCTTAGGAAGTGTAAGTATGACGACTATACATAAGATTCTTAACTCTTAGAAG
CAGTTTTTCATTTTTTATGACACTTTTATATGTTTATGTGATGAAATTTAATTCTTTCCATGTCCCATACTCCTCTGTCACCCACTACCTTCCCCCACAGGA
GGCTATCATATCAACAACCCCCTCAGACTTTTAAGTCTCTACCCCAAGGGTGACCCAGAATTTAGTTAATTAGCAATGACTGAGGGGAATTTGGCAGGG
ACTGTTGGCTTGCATTCTCTTGTCTGCGTCTTCTTATGAAATACGGATGTCCTTTTCCTCTAGACACTGAAAGAGGATTTCTCACTCCCTCTCCCTCTCAT
GTGAAGATCTCATGGCATGGGCCAGGGTCATCTTCCTCTTTGTGTCATTTTCTCAGATGTCAGCATACCTTATTTGGTGGGAGGATTCCTACATCTCACC
ATGCTGCGTTGCAAAGATTGCATTATTGGATTGAATGTGGATATTGAGATAGGCAGACACAACCCCTCTATGACATATCCAGGAATACTCAGTAAGACT
TGTGTGGCAGACTATGTAAGATGAAGGCTCTCACTCGCTGCTGAGTGCTCTATTGTCTCTATCCATATTAGACTTTGAGAGGTACATACTCATTTTCAGA
TAACAACTGCTCCCATCTTCACCAGTACACCTGGCAGGCCCATAATGGCTTCCAAGTAAATAAGGGCTTTGTTCCTAAGGACTGATGGGTCCAAAAGCC
TGAGGTACCTATACAAGTATGCTCGTAGTGCTACCAGTTTCTTAAGTCAGAGCTGAGTTTGTATCCCATGATCAGGGAGAATACTGAGTTTTTGAGATC
TTGTCTCAAAAAACAAAACAAAACAGAACAAAACAAAAACATCTTGACAGCAGGTGGTAGGTAAATCCACTCTTACAGCAGATATGTTTGGGATTTGC
AATATAGTATCTTTTCTCTGGCATGAGAAGTCCACCACCCTGAACAGTCTCCTCAAGGGCAAACATTCGAGGATGATTGTCCTTGCTCTTCCTCACAGTC
TCTGGGAATTGGAGGAGAGTGCATTGTTTCCAGGTGTGCCACTGCCTCAAGTCATAAAGATGAGGAGTTTCTTAGTTTAATAAGTGCCAATTGACAAGT
CCTGATGAAGACTCACTCTAGCTATCCCTTTAGTATTGCAGCTTTTTTTTTATTAGCACACTCTAGCCTTGAAAAAGTCTTCAAATTTTGTTTTGTGGACT
CTGACTTCCATTCATGGAAAACCTTCTTCTCCAATTCAATCATATCCTTAAACTAAGTCTATTCTCATTTCTTTGATGTTCTCCTTGTTGACTTACAGCAG
TAATCAAGTGATGGTTGTTTCAAAACTGTACTTATTTGATCATTTTTTGTTAATCTGAGAATTGCAAGAGAGGAGAGAGAGAGAGAGAGAGAGAGAGA
GAGAGAGAGAGAATGAGAATTTATTTTTATGTTTCAGGCTATTATATGTATCATAAGAGTCCAGAAGAATGAAGCCAGTGCAACAGTAAGTAATTCCA
AGTCTTAAAAACTTAGTAGACTTTGTTCTAGTCCCTTGTTCTAGTTTTGAAATTTCCATCTTCGAGTATCCATGTCTTCTTCTCCTTATTTGAAAATAGTA
ATGCTAATATGTGCTAAAGCGTAATTCTTAGAGAGGGCGACAGAATGAGAATGCGGGTGTGCTGTGAAGTAACTAAGGCAGAATCATTCCCAGTAAAT
GTTTGCGCCTATCTATTTCTACTCCATGATAAACCTCCAAGAGAATCATTCGCTTTGTGTCGCTGGAGTGATGTACTTTGGATGCTCAGCTGTGATTCCT
CCATCAGGCAATAAATTTCCTTGTGGAGAGCCTTCCGCCAATGCTGCCGACTCCAGGCAGTTATAGAGTATTTACTACAATGGATGGCATGAACACATG
AAAGGATGTGGGGATGCAATCAGAGTTCTAACAAGCCAGTGTCGAATTCAAGACACTCAAACTGCTTAAAAGTTTATGTAGGCCATACCAATTAATCG
TGTCAGTTTCAATGGGGAGTGTAACCAATGTCTTTTAAGACTGTAGTCAATGGATCAGTCATACAGTTGATCTAAAACGACAGTCATGCATCATACAGC
ATTTCAGTTTTCTTCAGAAGTTACAGCCTCAGAAACAGGATCTAGAGGAAAAAAGGGAAATTACTCCAACGCGTTTTCATTTCCTGCTTTGGGCACTGG
CTTGACTACTTAAGCTGTGCTCCATGAACCTCGCAAAGGGCTGTTTCAGGGTTTGGGTTAGTGAGCCTCATCCTGGCAGTTATTTTATAGTAAAGAACA
TTCAAGTGCTCTGCCTACCTAGGGCCCTGTGAAGCAATGAAATATCACTCTCATATAGAGAATCTGGATGAAGATGGATATACTCAATTAGACTTCAGC
ACTCAAGACATCCATAAAAGGCCCAGGGGATCAGAGAAAGGTATCCATTTTCTTTCTGCTAACAGCACCTTTGTTCTCATTAACTGAAATAACAGAAGT
AGAGACCTGGAGAGATTCTTGATTTGTAGAACTGCCTACAAAAATATATTTTCATATATGCGTGTGTGTATGATATATATTTGGTATATGTGGTATGTAT
ATGATATGTATATATATATATATACATGTATACACACATATATATGTATGTATGTATATATATGTATATATATATATATATATATGTATATATATATATA
TATACATGTATACACACACGTGTGTGTGTGTGTGTGTGTGTGTGTATAGTTTTAAAGACTGCTGGAAGTCATCAACGACTTCCACAAATTGCTTTTGGTT
TATGGCAGAAAACAGGACTACTCTACTCTACAGTCAGAGGTAGCACTGGTAACATGAGTAAAAGAGAAAGATGAAAGAATTTTAGTAGAGTTGCTTTT
TCCTTGTTTTTTAGCAACTTGTGAGGGGGCCAGGAAACAGATAAACGAACAACCTGTACAATCATACAACACAGTATGCTAAAGTCATGGTCCTCTATG
CAACCATAGAGGAGTGTGTGGGAAATAAAAATGAATGCATCTTTGGTTAAACCCAAAGAGAAGCCAGGAGTCATGGGGTGTAAATCCCAAATCCGCT
ATGCTCTTTTGGTAAGAGATTAATTTGGATTTTATAAAACGAGATGTTAGTATGTCAGCTATGGAAAACACAAGCTACATTAAAATGTCTCATTATCAG
GAGATAGATATTAAAACGGAAACAAGACAAGAATAAAGGACATTAAAGTCCTAACACGGAGTGAGTGTTTTAGTCTCTTTCAGGGTCACCTATTGGGC
AGCTCTATGACTTGGCTTTCTGTTGTTGGTATCATCAGCTTAAAACAAAAATCAGTTCGCTGTTAACTTAAAGGAAGAGATGACTGACGGGTTCTAATG
TCAGTTTGTTTTCTTCCGCTTTTTGATGTTCACATTATGCAATTATTTATAACCACTTACACAATCACTCTCTTGTGAAATTTGCTTGGAAAATAGTCTAA
AAATTGATTGAGGGAAGGGGCATGGCTTATATGCGTATGCTGCGTAAACTAAAGTGCTCAGTCCCAGCAACAGTATTTGAAGGTACTATTGATCTAATT
TCAAAACTTGGAAATAAAAAAAATAAATAAAAACAAAGGCATAGAGAAAATAACTTGTTTAAATCATGCACCATATAAATGACAAGAAAAAGCTATC
CTTAGTCATTGGTGCTGTTTCTCCTACAGAAAGCTATTTGCTCTGTGACCAAGTAGGACTTCAGGGAATGGATAGTGTCCAGATCTATAGACTAGCCTG
TGAGCCTACAATGGAGGAGTTACAGATGGTATGGCCATGATGCCATGGCTGAAGCAATGGAGGAAGAGGCATCCTGAAGTTGGAGGAAAATGGAGAT
TTACACTACAATGTTAGATTCTCAAGTCGCTAGAGCCTAGTGTCTGCTGATCCCTTTAGAACCACCCAAATTTCAGGGAACTAAGCTGTTAAAGAGTTC
CATCATCTTCCCTCATTTTCTTTCTCATCTCTCTTACTTTCCAGGAAGCCAGGCTCCATCTTCACCTTGGAGGCCCATTGCAGTGGGTTTAGGAATCCTGT
GCTTTGTGGTAGTAGTGGTTGCTGCAGTGCTGGGTGCCCTAGGTGAGTATGGGTGAGGGAGGTTGATGCAGTCGTAAACAGTGATTATGCAATTAATTG
ATGCCAAGAACTCTCTCAAGGGCTTGGCATGCATAACCTCATTTAATCTGTATATTAATTCCATTAAGTTTGTGCTATTAATTTCTGTTTTAGTTATAGG
AGAATTGAGAGAGTGGAAGATTAACTCTTCCATAGTTATAACCTAGTTATTGGTGAGATTATAAGAAATGGTGGATTATAGAAAATCTGCTTAGTAAA
ACATATATTCATGAGTATATTACTCTACTATAGATAGGTGATTTTCTTTTTAAAGTAAAACTGAAAGTAAAAGTTAGTGGAGGGAAACTTGCAGAGTCA
AAAGAAGCCTAATCTTTCCTAGGAGACAGATGTATTAAATGAGTTTTGTGTAATTTTTGAACATCTCATGACATGATACATGGGAATTATCTTTTTTTTA
TTTAGGTATTTATTTCAGTTACATTTCCAATGCTATCCCAAAAGTCCCCCACACGCTCCCCCACCCACTCCCCCACCCTCCCACTCCCACTTCTTGGCCCT
GGCGTTCCCCTGTACTGAGGCATATAAAGTTTGCACGACAAATGGGCCTCTCTTTCCACTGATGGCTGACTAAGCCATCTTCTGATTCATATGCAGCTA
GAGACACGAGCTCTGGGGAGTACTGGTTAGTTCATATTGTTGTTCCACCTATAGGGTTGCAGATCCCTTTAGCTCCTTGGTTACTTTCTCTAGCTCCTCC
ATTGGGGGCCCTGTGATCCATCGAATAGCTGACTGTGAGCATCCACTTCTGTGTTTGCTAGGCCCCAACATAGTCTCACAAGAGACAGCTATATCTGGG
TTCTTTCAGCAAAATCTAGCTAGTGTATGCAATGGTGTCAGTGTTTGGAAGCTGGTTATGGGATGGATCCCCGGATATGGCAGTCTCTAGATGGTCCAT
CCTTTCATCTCAGCTCCAAACTGTGTCTCTGTAACTCCTTCCATGGGTGTTTTGTTCCCAAATCTAAGAAGGGGCAAAGTGCCCACACTTTGGTCTTCGT
TCTTCTTGAGTTTCACGTGTTTTGCAAATTGTATCTTATATCTTGGGTATTCTAAGTTTCTATGCTAATATCCACTTATCAGTGAGTACATATTGTGTGAG
TTCTTTTGTGATTGGGTTACCTCACTCAAGATGATGCCCTCCAGGTCCATCCATTTGCCTAGGAATTTCATAAATTCATTCTTTTTAATAGCTGAGTAGTA
CTCCATTGTGTAAATGTACCACATTTTCTCTATCCATTCCTCTGTTGAGGGGCATCTGGGTTCTTACCAGCTTCTTCTTACACATGATCTTTAGTAAAAAA
TTATCTTGACTCTGCCAGGTACTGCCTGGGGCATTGAAAAATTGCTAAACAGATGCTTTGTGAAGACTGAATATTTCTCTTTAGGTTTCTGTATTTCATG
AATTCTGTGTCAATAGAATTGTAAACTTCAAAGAGTTTTCATCACTCAAAATTAGTCACATTTTTACTGATTACAGAAACATTTTATGTATTACATGCTG
TGTAATTTTCAAAGAGCTAGCTGGCATTTTTAAATAATAGTGGAAAGCAAAAACTATTATTTCATAAATTATTAGTATTTAAAATGGTTTACAATTGCA
GTTAGATCCATGCCATTTTCTATTTGCGACCTGCTTCATAGTCCTTTCCATATGTTTAATATATCCTCTATCTGTGACCCATCTTACTCTGTCTTTTTATCA
GCAACATACAGTTTATTTATCAATAACCATAGGCATCCCCTATATATGTCCATAAAATATGAGTGCTGGCATTTCCATTTTTAAACACAGCAGAATGAC
TTTCTTTTTCTGTCACTATTGCTGTTCGTGACGTATGAAGCATTTTGGTGACACAATTCAGGGAGAAATCCAGAGGAGAAAGACAACTTCCTATCAAGA
AATAAAGAGAACCACAAGCCCACAGAATCATCTTTAGATGAGAAGGTGGCTCCCTCCAAGGCATCCCAAACTACAGGCAATGGGCAGCACGAAAGGA

GCAATGGGATCCCGGATTCCAGAGGTTCATTTCCTGGTGCTGAGGCCTGGGGTGGGGAATATGTTTACATCTACTAACAGTGAATTCAAGGCAAGCAG
ACCTAACAGAATTCCCTTAGCATAACATACCCTGCCAGACAGCTGGTAAAGTGGCATCACAAATCCACAGCTCTTTCACTTACTAAAAGGAGCAGTAA
CAGCTCTTATCTCTGGCTGTGTGCTGAAATCTATGAGACATGATAGAATTTGATGCAAACGAAGGGGTAGTGTTCAGTGTCCTTATGGAACTGATATTT
TTACAGTGATGTTAGAATAAGATAGATGTGAGGGAAAGGAAATATAAGGGAGAAATGAGGAAGGGACACTGAAGACTGTAAATGCTAATAATATACA
GAAGAAATGGACCTAATAACTCACTGAAAACGCTGCTTAATCATAGCATTCAAATGATTTCATAACTTTTTTTCTATATCCAGCCTGTGTTTCTGATTGA
ATCATAGCTGACTGACAATGCTTTCCCTTCAGCAGTCCACCTCTGGACTTACCTCCCCACTGTCTTCAGCTAACAAAATGCAAAAGAGCCTTTGAAATA
TAAATAATTAGCTTTATGCCTCTTCATAGGATAAATTAAACCAAGTAGAACTTCTGTTTGTAGCCATTGATTTTGAGTGGTATTTGTTTTACAGAGAATC
AGAAAAGAAAGGGAATCTAGGCCTAAGCTTGAAGTAGTGGAAGAGATAAGTCTAGTTGTCTATTTAAAACACTACACAAACTCAACTGATTTTAAATT
TTATATGTGTTTTGCTTGCATGTTTGCCTGTGTGTACCACTTGCATACCTGGCACCCTCAGAGGCCAGAAGAGGGTACCAGTGCCCAGAAACTGCAGTT
ATAGATGTTTGTGAAGTGCCATATAGGTTCTGGGAAACAAACCTATGTACTCTGGAGGAGCAATCAGTGGTCTCAAACACTAAACCACGTCTTTAGTCC
CTTTACTTTAAATTTTTTAAACAAGCAAAGAGATTTTTAATATATTCTGTAAAGTTATCATCTAATTTGTGTCAAAAATTAAAGATGTGTTAAAGAAATA
TGTTAATGAAAATTTATTATTAGGTACTCATGAAAATGCACTAAGAGAATTATTGTTATACTATGAATTTCATGATATTAATTTTCTTTCCAGGAGGTTT
TTCTCAGCCTTGCCTTCCTAATTGGATCATGCATGGGAAGAGCTGTTACCTATTTAGCTTCTCAGGAAATTCCTGGTATGGAAGTAAGAGACACTGCTCC
CAGCTAGGTGCTCATCTACTGAAGATAGACAACTCAAAAGAATTTGTAAGCACATACTTCTATAATTACCTCTGGTTTACATTCATCTGGGCTAGAGAG
ATTCTTGCACTAACAATGTTCATATCATCATTTGGTATAACTGCAAAATTATTCAGTACATTACATAATGCATGGTTTTATTTTTTATTAATTGATTTGAA
AAGGATTCACATTTTACTTTAAAATAAGCAATTTTGGGGCTTGCCAAGTAGCACTTGGCACTAAGCTTGACCTGAATTTGTTTCTAGAACCCCACATAAT
AGAAGGGGAAAAACCGACTCTTACAAATTGCCCTCTGACCTCCACATGAGCACTGTGGCATGCCACACAACACACATGCACAAAAGAATGAAAATGA
AAATGAAAATGTTAAAGTAAATACGTTAAAACAAACTTTATGATGGTTCGGATGTTGTGGTAAGGGCGCTTCATGCTTGTATATGTGTACTTCAATTTT
CAAATTTGAAGTATAGGAGAAAAACTGCCCATTTGTTACTTTAATATCAAGAAAGATCAGCAATGACAATCAACATTTATGAATTGTTTGGTCTTGTTA
AAATACTGAGGAAGGCAAAGAGCTGGTTTTATTTGATTATTTTGTTTTGTGTTATTTTTGTTGTTTAGTTTTGATACGTACTTTCCATCTTAGCTCAGACA
GATCCAGACAAGAAATTCCTTCTAAGTGACAAAGAGGATTAAAAAGTAACCCTTCTATATATAGTTGAAAAGAAAAACAACAGTTCTGAAAAGTCAAA
CATCAGATAAAATAACAAATAAGCTGAAAGTTTAATAATTTAAACTTAGATAGTTTAAGTTTAATAAGCATCCTTATTAACAAGAAATTGTACAGAATC
AGGAGAACTTACAATACATGTTGAAGGAAAAGTGGGTGAGAACTACAGAAAGCATCCCTCAATACAGTTCCAATCTGCACACTCTATTCTGTCTTCACT
ACTCTGTTTTTATCTATCTGTGACTCCGTACCCAATAGCTGTAGTTCCTGTGAAAGTTAATGAAAGCAGGAATACAGACAAGGAAGAGGATCCCATTAG
AAATTCACCTGGCCTTTGATATCAACCTGTGATTGGCAAAGAATCATCCTATTTTTGTGACCAATTCAAGAGTCTTGGATTATTTTAACCATAAAACATG
CAGTGCAGGGCTGAGGATGTAGATCTGTAGAAGAGAGTTTACCTGACACCTGCCAGGCTCTGGGTCTCTTCTACAGCATTATTTTGCCTTGGTAAAGCT
ATTATGAGTTTATGTTTGCTACTTGTACAAAAAACAAATGGCCCATTTCCCACGAAGCTGCTTGGGAGCTGGGCACTGCTGGATTTTGTGTAGTTTGTTA
ATTGAGGTAGAATATTGATAATTTAAGCCTATTTTCCCCCTTTAGTTTGTGTGAGAGCTTCTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGAGAGAGAGA
GAGAGAGAGAGAGAGAGAGAGAGGGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGTATATGTATGTATGTATGCATGCATGTATGTTTGCAC
ACTGAACCTAGAGAGATAGGCTTACAACCACCCAACTCCAGGACTCTCCTGTCTTCAATCCCTACCATACAGGAGTTAAAGGCATGTATGGATGCACCT
GACATTTTAACATGGATATTGGGAACTCAAATCGAGGTCCTCATGTGTTTGCAGCAAGCATTCTTACCCACTGAGCCATCTCCCTAGCTCACATCTTTAT
TAATGAATCTATTCTTGATGGAAAAATTAAAAATAACTCTAAAACACCTCTCTAGACATTCAACGATATTCAGTGATTGACAGTCCTCTCTAGATTGTC
ACCTTATGTGAACGTCCTTCTGTAAAAGGATTCATTCCGCCCTGGATGCCTATAGCATTGTTTTAGGATCCCCCTGATGTATGTTTGTATTTTTGTTTTAC
TACAGGAGTTCATTGAAAGCCAAACATCGTCTCACCGTATTAATGCATTTTGGATAGGCCTTTCCCGCAATCAGAGTGAAGGGCCATGGTTCTGGGAGG
ATGGATCAGCATTCTTCCCCAACTCGTAAGTTCCGGTACAGACATGGAGAGGTGGAATCCTACCATGCAGTTACAAAATCTACTTCTCTGGTCACTTAT
GAGAAAACGGAGTCATGGTGGCGGAGGGAGAGGGAGAAAGAGACATAGAGATGAAGAGAACAGCTCTCAGGGAGGCTGTAAAGGATGCTCTCCTGG
TGCTGACTAAGGGATTCCCATGGCATCTGGTCCTTCTGGCCCAGTGAGGAGAGATGCTGTTCAGTGCAGCCTTGGACTTACCTAAGTCTGAGGTAACGA
TTAACCCAATCTATGTACGTGAGATATTGGACAAATCTCTGTACTTCTTTTATAGCTGCATTCTTTATCCAAAACTGAGAATAGAGTGGCTATTCTTTAC
AATAGTAAAGTAAAGGGCATAAAGGTAAAATCATTAGCATAATTTTTTTACAGAACCGATGAAAAATGACATCTTATGTCATTATTTCAACTTTATCTT
ACATTTGTGAACTTAGAATTTCTTCCTAATTGTGTGCTGAAGTCTTTGAAATGTCTATTCATCTGTTCACTAATATTTGTAAATATAAAATTTTATCCCCC
TTTCAATGTATATTCCTGCATCCCTGAATCTCCCATTAATGTTAATATATATATAGTCCAATTTAATTAAATTTTACTTTTTTTAAATTTTGCTAATGTTTCTC
TATCCTCTTTTATCACTTTGGCTAGTGTTGATTCTCATATATATTATTACCTTTCACCTAATTTCTCTGTGTTAAGCTGAATTCTTTCTCTAAATTCTTATG
TTGGATGTTTAACTCATCATCTCTAGTCTTTTTTTGGCTTTGGAGTCATTTGGTTCACATGCTTTCTGACTTCCATGGTGAGTTGCTCTTTGATCCAAGAC
ATAGAAATAAATTTCTCACTTTTCACACATACCCATGCTTCTCACATTCCTATTTATCTTTTAGATTTCAGGCTTAGCTCCTCTGTGATCAGAGAACATAC
TTCATCTGGTGGTAATTCCCTCTTAATTTGTATTGAAAATGTCTACACGGGTCCTCCTATATTTCTTTAAGAGTTTCACTTGATACTTTAAAGCCATATTA
AAATATTCATGTGGATTTAGAATTGTTGCATCGTCCTGTTTGATGTCACTTTCCTTCCTTCTTCCCCCCTCTCCTCCCTCCCTCCCAACATCCCTACATCCC
TCCCTCCCTCCCTCCCTCCCTTCCTTTGTAATTTACTGATTTCTGTTTTGATTTTTGTTTATTTCTCATAATTCCTCTGGTTTGCCTGTTTTGTTTTGTTTTGT
TTTTGTCACTTGCAGCTCACTTTGCTTACAGTATTCTCAATACTATCTATTAACTTCGGGTTTTCNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNTTTCAAGTCAGAAATACAGCTCCCCAGGAAAGCTTACTGCACAATTGTGTATGGATTCATGGATCAGAGGTCTACAACCAAATCTGCAATACT
TCTTCATACAGTATCTGTGAGAAGGAACTGTAAATGTATGTGAGAATATAAAGATGGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTACATGCACACACACC
ACCACCACCACCACTACCAACAACAGAACAGAACAGAACAGAACAGAACAGATTAATATTAAAAAACAGAAAAAATGCTGGGATGCTAAGAGACTTT
AACCTCATTTGAGAACTTGGATGAAGAAGCTGAGACTTTTGTACTTGTCATCTTCACAAAGATGGTGGCACTATCTTCCAGTTAGGAAGTCACTAGACA
TGGAGTGAGGGCAGCTCAACAATACAGAGAATATGTGAACCTGAGGTACCCTGACTCAAATTTCACAACCACAATGAAACCCCTACACTATCAGGAAA
CACTGTAGAGGAGTGAGACTGAAGACTTTAAAAGCCAGAGAATCAGCCTACTTACTGTGGTGTTTTCTAGACAGGACAGGGAAAGTATATCTAGGAAA
TAAAAACAATACAATTCAGCAAACAAAATCTGCATAATGACAACCTCAGTTGGTATGGTATGTTATGGTATGGTATGGGTGTAGAAGTTTCACAAGGC
CCTATGAAGAACTACAGACAGTTAAATAGGGGGAAAGCTTTTTCTAGGATCAAGCCTACTGAACCCCAAGAAGTCAGCACTGAACATATGTACAGATC
AGTATCATTAAATGAACTAGTAAGACATATACATATATGTTAATCAAATATTGGTACCAGAGTACACACTGTGTTTGCATGATTTTCTCAGTATCTACA
GTACACCAGACACAGGGAGAAGGCAAAATGAACTTCTAAATTGAGAAGTGAAAAAAAATGAGGGAAGAGAATCTTCACCACAAATAGGGATTCTATTT
TCACCCACATGATCATTATTAAGATGGCCATCACCCAAACGTCGTGACCCAAGCTACTTCCTCAACTAGATAACTCAAAGAGTCTGCCCACCTTTTCTG
ATAGCAAATCTGGTATCTAGATTTCACTGTTTCCTTATGCTGTCTGGCCAGCAGTATGACAAAGGTGCTGCCCTTTCAGGAAGCAGTCTCCTTAAATGCT
GTAGTTGGAAAGATAAATCATATCTGATAGTGAATATTTAAAAAGCGCCCAGTCAGGATAAGTGTTTTGGAACACAGAACATATTTCATCTTTTTATGA
TACACTATCTTGCAATTAACAACCAATTCTTAAGTCATTTCTTTACAAACATATGACTGGAATATGACTGTTTCCTAGTGTGATCTGTCTTGTTAACTTCT
AAGATTGTCCATTAATACCACCCTTATTTCCAGTGTGGACTTCCAAATTGCTGGGGATCTGTTTATAGCTTTCTCAGACTAATCAATATGTGGGCAGAAA
TTGTGCTGAGTCCACTGAATTGTTCTCTTGAAAATGATTGGGTTTATGTCACTTTCATCTCAATTGAAAAACTGCTTATTAAAGTATCTTTGGCCTCTGA
ATAACCTGCCTATATGTAACGATCTAATTTGCCTTCTCCTCCAAAAGGTTGATGACTTGGATACTGGTAGGGAATATGTATGCTAGACAGTTTTTCATTG
AAGCATAAACTTGGGTTCTTAAAGATTTCAAAACATCTCTGAGAAAAACATACATTTTGTGAGGTTTGGCTCTCATCTTTTAATATTCAACTCTGAATTG
GCAACATCTGAAAAAAAACTATAGAGACTATAGTGATCAATATGAAAGAAGTATGATTGATTGACTCAAGTAGTTAAAGCATACGATGGGATTTCAAA

AGACATGAATGTTGTGCATGTGCATGTGTGAGCTCATGTGCATATGTGTGTAGGAGTGTACTTACTTCCCTGGGCACATCTGGAGACTAAAGGTCCACA
TCCAGTGTCATCCATTACCACTTGCCATCTTCTTTGTTGAAACTGGGTCTTCCTCTGAACTAGATTTCACTGTTTCCTTATGCTGTCTGGCCAGCTGTCCC
ATATCCACCGGCCTCTCCCTTTCATCCAACCCTGGGAGATGAGGACACTGTAAATGGCTTCCAAGTGGATATGATAATCCTACATTGGATTATCCTCAT
GCTTCCACAGCAGCTACTGAGTCACCTCTCGAGCCCAAAGTGTGAACATTTTAATTGGGTTCCCAGAATTGAACAGATAAGTTCAAGAAACCATCATTA
TCATCAAAGAAAATAAATCTGGATGCTGAAACCAAGAGTTCTTTACAAGATCAGGAAGCTGAGAAATCATAGTGTGTGTGGGTTAAGAAGCAAGGAG
ACCCAGAGTGACTATAGTAAGGGTGGTCCAGGGTGTTCTATTTCATGGCATGCTGACAACTTACATGGAAATGTACATGTAATCAGAGACACATACATT
TGTCCTAGGGACTGAGATGGGATACCAGCTGCTGAACTCAAGATAAATTGCAGATGGTTACATTTGAGGAAACATGCTGAGGGACTTCTGTAATCCAT
TGATCTGGGCACAGCACTAATTTTGGGAGTTGTCCCTAATTTTTATCTCAGTCCCTCTACAATGTGATTCAGTCTCAGCTCTGTTAAATTCAAATACAGT
CATGTCAGGTCTCTACTAAAATCTCTCATTGACTTCTTAACATGTTTCAGAATAAAAGCAAAACAAAATAACAACAAAAAAAGCACTTATAATTGCCTT
TAAGACCTCATGTGCTTTAAGTTCCTTTGTTCTTTGAGGTACCACTGCCCTCTACTTCTCCAGCAAGGATGGATGCTAGCCTCACTATGGTATTTCAGCC
TCATCTATCTTTGACTTTTCAACTCAAAGTCTTTGTGGTTTCCCTCTTTAAATGATCCTGTCTGAGACGGCTGCTGAGCCTTCTGTCTTGCTCACCGAGTC
TGCACACATATCACCTCTTAAGTGAATGAAGAGTCCTCTGGGTACTCTATTTCAAATCACCAACCTACCTCCATTACCTTCCTTGGGCTTCTTGGTAGCT
TCAAAATTTATAGCAGTCAAATTTTCTCCATAGGATATAGGGTTTAAAAGACCAGGAGCATCTGTGTTCAAAGCATGTCCCCACAGCATAGCATGCTTA
AGAAAATGTTTCGCTGTTGTTGAAGTAAATGGTTAAGGAGCATAGTACAGATGTCAATATACGTGGTCAAAAAAATAGAGAGGATTTACTTGAATAGC
TGAAGCTGGGCAAATACTTCTGGTTACCATTTTACTGGGTTTTTGATAAACTTAGAATCCCCTCTATTTTCCTGCCTTATATGTAATTTCTCCCCTCCCCT
CACACACTCCTCACATTTTCCTCTCTTCCCACCTGTTTCTTCCTCTCTTTCTCTCTCTCTGTCTCTCTCTCTCTCTCCTCCTTTATTCCTTTCTTCATTCCTTC
TGATCTTTTTCTATCTTCCTTCCTTCCTTTTTTTTTCCAGAGTATATATCTACATAGTCCAGGCTGACTTTGAACTTGAGATCCGACTCCAGAACCAGGGT
GACTTGCCTGCGGAGTCTCTGGACACCCACAAGGGCCCACACAAGATCCCCCATGGGGATCTTAAGACCTCTGGTGAGTGGAACACAGTGTCTGCTTC
AATCCAATTGCACTGGATCTGAGACTGCATCAATTAGGGAAGCAGAAAACCCGGCCTGATCAGGGGCACAAGTCCCTTCCGGTCCACTCCAGCACTGG
GGTTCCTTGCCCTCAGAGTCTCCAGACACTCGCAAGGACCCACACAGGATCCCCCACGGGATCCTAAGACCTCAGGTGAGTGGAACACAACTTCTGCC
AGGAGGCAGGTTCAAACACCAGATATCTGGGTACCTTCCCTGCAAGAGGAGACTTGCCTGGAGAGGGTACTCTGACCACTGAAACTAAGGAGAGAAC
TAGTCTCCCAGGTCTGCTGATAGAGGCTAACTTAATCACCTGAGGAACAAGCTCTAACCAGAGACAACTATAACAGCTAGCTTCAGAGATTACCAGAT
GGCGAAAGGCAAACATAAGAATCCAACTAACAGAAATTAAGACCACTCACCATCATCAGAACTCAGCACTCCCACCCCACCTAGTCCTGGGCATCCCA
ACACACCCGAAAAAGCTAGACCTGGATTTAAAAGCATATCTCATGATGATGGTAGAGGACATCAAGAAGGACTTTAATACCTCACTTAAAGAAATACA
GGAGAACACAGCTAAATAGGTAGAAGACCTTAAAGAGGAAACACAAAAATTCCTTAAAGAATTGCAGGAAAACACGACCAAACAGGTGATGGAA

Selection Cassette:

GGCCATAGCGGCCATTTAAATGGCGCGCCGGATCCGAATTCCTCGAGGCTAGAACTAGCGATAAGCTTCGAGCGGGATCAATTCCGCCCCCCCCCTAA
CGTTACTGGCCGAAGCCGCTTGGAATAAGGCCGGTGTGCGTTTGTCTATATGTTATTTTCCACCATATTGCCGTCTTTTGGCAATGTGAGGGCCCGGAA
ACCTGGCCCTGTCTTCTTGACGAGCATTCCTAGGGGTCTTTCCCCTCTCGCCAAAGGAATGCAAGGTCTGTTGAATGTCGTGAAGGAAGCAGTTCCTCT
GGAAGCTTCTTGAAGACAAACAACGTCTGTAGCGACCCTTTGCAGGCAGCGGAACCCCCCACCTGGCGACAGGTGCCTCTGCGGCCAAAAGCCACGTG
TATAAGATACACCTGCAAAGGCGGCACAACCCCAGTGCCACGTTGTGAGTTGGATAGTTGTGGAAAGAGTCAAATGGCTCTCCTCAAGCGTATTCAAC
AAGGGGCTGAAGGATGCCCAGAAGGTACCCCATTGTATGGGATCTGATCTGGGGCCTCGGTGCACATGCTTTACATGTGTTTAGTCGAGGTTAAAAAA
ACGTCTAGGCCCCCCGAACCACGGGGACGTGGTTTTCCTTTGAAAAACACGATAATACCATGGGGGATCCCGTCGTTTTACAACGTCGTGACTGGGAA
AACCCTGGCGTTACCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAG
TTGCGCAGCCTGAATGGCGAATGGCGCTTTGCCTGGTTTCCGGCACCAGAAGCGGTGCCGGAAAGCTGGCTGGAGTGCGATCTTCCTGAGGCCGATAC
TGTCGTCGTCCCCTCAAACTGGCAGATGCACGGTTACGATGCGCCCATCTACACCAACGTGACCTATCCCATTACGGTCAATCCGCCGTTTGTTCCCAC
GGAGAATCCGACGGGTTGTTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTTGATGGCGTTAACTCGGC
GTTTCATCTGTGGTGCAACGGGCGCTGGGTCGGTTACGGCCAGGACAGTCGTTTGCCGTCTGAATTTGACCTGAGCGCATTTTTACGCGCCGGAGAAAA
CCGCCTCGCGGTGATGGTGCTGCGCTGGAGTGACGGCAGTTATCTGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGTCTCGTTGCT
GCATAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTTAATGATGATTTCAGCCGCGCTGTACTGGAGGCTGAAGTTCAGATGTGCGG
CGAGTTGCGTGACTACCTACGGGTAACAGTTTCTTTATGGCAGGGTGAAACGCAGGTCGCCAGCGGCACCGCGCCTTTCGGCGGTGAAATTATCGATG
AGCGTGGTGGTTATGCCGATCGCGTCACACTACGTCTGAACGTCGAAAACCCGAAACTGTGGAGCGCCGAAATCCCGAATCTCTATCGTGCGGTGGTT
GAACTGCACACCGCCGACGGCACGCTGATTGAAGCAGAAGCCTGCGATGTCGGTTTCCGCGAGGTGCGGATTGAAAATGGTCTGCTGCTGCTGAACGG
CAAGCCGTTGCTGATTCGAGGCGTTAACCGTCACGAGCATCATCCTCTGCATGGTCAGGTCATGGATGAGCAGACGATGGTGCAGGATATCCTGCTGAT
GAAGCAGAACAACTTTAACGCCGTGCGCTGTTCGCATTATCCGAACCATCCGCTGTGGTACACGCTGTGCGACCGCTACGGCCTGTATGTGGTGGATGA
AGCCAATATTGAAACCCACGGCATGGTGCCAATGAATCGTCTGACCGATGATCCGCGCTGGCTACCGGCGATGAGCGAACGCGTAACGCGAATGGTGC
AGCGCGATCGTAATCACCCGAGTGTGATCATCTGGTCGCTGGGGAATGAATCAGGCCACGGCGCTAATCACGACGCGCTGTATCGCTGGATCAAATCT
GTCGATCCTTCCCGCCCGGTGCAGTATGAAGGCGGCGGAGCCGACACCACGGCCACCGATATTATTTGCCCGATGTACGCGCGCGTGGATGAAGACCA
GCCCTTCCCGGCTGTGCCGAAATGGTCCATCAAAAAATGGCTTTCGCTACCTGGAGAGACGCGCCCGCTGATCCTTTGCGAATACGCCCACGCGATGG
GTAACAGTCTTGGCGGTTTCGCTAAATACTGGCAGGCGTTTCGTCAGTATCCCCGTTTACAGGGCGGCTTCGTCTGGGACTGGGTGGATCAGTCGCTGA
TTAAATATGATGAAAACGGCAACCCGTGGTCGGCTTACGGCGGTGATTTTGGCGATACGCCGAACGATCGCCAGTTCTGTATGAACGGTCTGGTCTTTG
CCGACCGCACGCCGCATCCAGCGCTGACGGAAGCAAAACACCAGCAGCAGTTTTTCCAGTTCCGTTTATCCGGGCAAACCATCGAAGTGACCAGCGAA
TACCTGTTCCGTCATAGCGATAACGAGCTCCTGCACTGGATGGTGGCGCTGGATGGTAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGTCGCTCCA
CAAGGTAAACAGTTGATTGAACTGCCTGAACTACCGCAGCCGGAGAGCGCCGGGCAACTCTGGCTCACAGTACGCGTAGTGCAACCGAACGCGACCG
CATGGTCAGAAGCCGGGCACATCAGCGCCTGGCAGCAGTGGCGTCTGGCGGAAAACCTCAGTGTGACGCTCCCCGCCGCGTCCCACGCCATCCCGCAT
CTGACCACCAGCGAAATGGATTTTTGCATCGAGCTGGGTAATAAGCGTTGGCAATTTAACCGCCAGTCAGGCTTTCTTTCACAGATGTGGATTGGCGAT
AAAAAACAACTGCTGACGCCGCTGCGCGATCAGTTCACCCGTGCACCGCTGGATAACGACATTGGCGTAAGTGAAGCGACCCGCATTGACCCTAACGC
CTGGGTCGAACGCTGGAAGGCGGCGGGCCATTACCAGGCCGAAGCAGCGTTGTTGCAGTGCACGGCAGATACACTTGCTGATGCGGTGCTGATTACGA
CCGCTCACGCGTGGCAGCATCAGGGGAAAACCTTATTTATCAGCCGGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTACCGTTGATGTT
GAAGTGGCGAGCGATACACCGCATCCGGCGCGGATTGGCCTGAACTGCCAGCTGGCGCAGGTAGCAGAGCGGGTAAACTGGCTCGGATTAGGGCCGC
AAGAAAACTATCCCGACCGCCTTACTGCCGCCTGTTTTGACCGCTGGGATCTGCCATTGTCAGACATGTATACCCCGTACGTCTTCCCGAGCGAAAACG
GTCTGCGCTGCGGGACGCGCGAATTGAATTATGGCCCACACCAGTGGCGCGGCGACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATG
GAAACCAGCCATCGCCATCTGCTGCACGCGGAAGAAGGCACATGGCTGAATATCGACGGTTTCCATATGGGGATTGGTGGCGACGACTCCTGGAGCCC
GTCAGTATCGGCGGAATTCCAGCTGAGCGCCGGTCGCTACCATTACCAGTTGGTCTGGTGTCAGGGGATCCCCCGGGCTGCAGCCAATATGGGATCGG
CCATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGAT
GCCGCCGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGACCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCG
GCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGG
GGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCC
CATTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAAGAGCATCAGGG
GCTCGCGCCAGCCGAACTGTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCA
TGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTG

AAGAGCTTGGCGGCGAATGGGCTGACCGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTT
CTTCTGAGGGGATCAATTCTCTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGCCCCTCCCCCGTACCTTCCTTG
ACCCTGGAAGGTGCCACTCCCACTGTCCTTTCCTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTATTCTGGGGGGTGGGGTG
GGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCTGGGGATGCGGTGGGCTCTATGGCTTCTGAGGCGGAAAGAACCAGCTGG
GGCTCGATCCTCTAGAGTCGAGTACCGGGTAGGGGAGGCGCTTTTCCCAAGGCAGTCTGGAGCATGCGCTTTAGCAGCCCCGCTGGGCACTTGGCGCT
ACACAAGTGGCCTCTGGCCTCGCACACATTCCACATCCACCGGTAGGCGCCAACCGGCTCCGTTCTTTGGTGGCCCCTTCGCGCCACCTTCTACTCCTCC
CCTAGTCAGGAAGTTCCCCCCCGCCCCGCAGCTCGCGTCGTGCAGGACGTGACAAATGGAAGTAGCACGTCTCACTAGTCTCGTGCAGATGGACAGCA
CCGCTGAGCAATGGAAGCGGGTAGGCCTTTGGGGCAGCGGCCAATAGCAGCTTTGCTCCTTCGCTTTCTGGGCTCAGAGGCTGGGAAGGGGTGGGTCC
GGGGGCGGGCTCAGGGGCGGGCTCAGGGGCGGGGCGGGCGCCCGAAGGTCCTCCGGAGGCCCGGCATTCTGCACGCTTCAAAAGCGCACGTCTGCCG
CGCTGTTCTCCTCTTCCTCATCTCCGGGCCTTTCGACCTGCACTGCGCGCCAGCTTACCATGACCGAGTACAAGCCCACGGTGCGCCTCGCCACCCGCG
ACGACGTCCCCAGGGCCGTACGCACCCTCGCCGCCGCGTTCGCCGACTACCCCGCCACGCGCCACACCGTCGATCCAGACCGCCACATCGAGCGGGTC
ACCGAGCTGCAAGAACTCTTCCTCACGCGCGTCGGGCTCGACATCGGCAAGGTGTGGGTCGCGGACGACGGCGCAGCAGTGGCGGTCTGGACCACGCC
GGAGAGCGTCGAAGCGGGGGCGGTGTTCGCCGAGATCGGCCCGCGCATGGCCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAGATGGAAGGC
CTCCTGGCGCCGCACCGGCCCAAGGAGCCCGCGTGGTTCCTGGCCACCGTCGGTGTCTCGCCCGACCACCAGGGCAAGGGTCTGGGCAGCGCCGTCGT
GCTCCCCGGAGTGGAGGCGGCCGAGCGCGCCGGGGTGCCCGCCTTCCTGGAGACCTCCGCGCCCCGCAACCTCCCCTTCTACGAGCGGCTCGGCTTCA
CCGTCACCGCCGACGTCGAGGTGCCCGAAGGACCGCGCACCTGGTGCATGACCCGCAAGCCCGGTGCCTGACGCCCGCCCCACGACCCGCAGCGCCCG
ACCGAAAGGAGCGCACGACCCCATGCATCGATGATCTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGCCCCTC
CCCCGTGCCTTCCTTGACCCTGGAAGGTGCCACTCCCACTGTCCTTTCCTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTATT
CTGGGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCTGGGGATGCGGTGGGCTCTATGGCTTCTGAGGCGG
AAAGAACCAGCTGATTACCCTGTTATCCCTACTCGACCTCGAGGGCGCGCCATTTAATGGCCAGCGAGGCC

Targeted Locus:

TACAGAATCAGACTCTGTCTCAACAAAGATACATGAAAATAATGTATCTAATATTTATATTTTAATGTCAAAGCTACTCTAAATTATTTTAAATTTATATTTCTTTTGTGTA
TGTTTTTACTTATGTCTGGGCACATGTGTTGTGGCATGCATGGTGATCTGAGGACAAATTATTGGAATTAGTACTCTTCTTCCACCCTGGGATCAAACTCAGGTCATCAGAC
TACAGCTGAGCCATGGAGCCACTCCTCAAAGTCACTATCTTTGTACCTGAACCTACTTTGTAAATCATCTCAAACCCTATCCCTCCACATCAGCTTCTTTCATGAAGGGTAA
AGCATTAATCTGTAGATGATGTCGTCAACCAGAAAGCTGACAGAGCCCCAGTTTCCTGCGAGAAAATAGGAATGAGGGTTTGACTTGAAAGGAATGATGTGGTTGTGTTATC
ACTTGAGTTGTGTGTGGACTTAGAGCAATCTGGGCTTTTACGGTTATTAAACTGGCCTTTGGTTACAACATATTGAAACTTAATGGTCTGTGTTATGGTTCAGCCAACAGCC
ACATGCCTCAGCGATTCTTTAGTTGCCTAACTTCATTATGAGCACACCCGGCAGTTCATTTATAATTTAACTTTTACAGAATAAGCAAATCAATTGCACTATGAATAATTTA
AGCCCAATAAAACATCTCATAGCACTGGCAAGAGAGATCCAGCTCAATATATTCATAAATGAATGTCAAATCATCTGGTTTTGCTAAGCTGTTTGTAAAAGCTAAGATCGCT
TGTAAGGCACTATGTCACCTGGTATCAATTTCAAAGTTAAGTAATTTTTTATGAGTGTAATCCCACCTAATAAATAATCTTTTAGAAATGATACAGAATGCCTATCTTGTGA
TTTAAAACCCCATCTAGAGCAGAGGGACATACCTGCAATGTCTAAATTCAGGAGGATGAAGCACAGAATTGCTGTGTGTTCAAGGTCAGCCTGTTTTTAGGCCAGTCTGAGT
GTCCTGGATAGCTTTAACTGTCAACTTGACAGAACCCAAAACTATTTGGGAAGAAAATCTTTACTGAGGAATTGCTAGGTCAGATTGCCCTCACAAAGAGCCTTGGTAATTG
ATGTAGGAGACCCCAGTCCGCAGTAGGCAGTACCAACCCTAGGCAGGGGTTCCTGACTGCACAAGAAAGCTTGTAAGTAAACAAGCTGGCAGCAAGATGCATTTGTTTCTCT
CTGCCTTTGACTATGGCTGTGATGTGACCAGCTGCCCATGTTCCCACCTTAGCTCCCACTCAGTGATGGCCAGCAGCATGAAACTACGTCACCCTAACAGCAACAAAACTAA
AACTACAATACCGGGCTACTGTGTAAGACCCCGTTTCGGCCACAACAATGGAAATAGCCTTTGGGATGCAGAGGCAGGAGTTTCAGTCTGTCCTTGTCTACACAGTGACTTC
TAAGCCAGCTAAGGCAACATAGTGAGAACATGTCTGCAGGAAACAAACTAAAACTAAAATGAACCAACAAACAACATACTTCAGTAACTTAGATAACAAAGTAATTGCATTA
AGTATTTTTGCTCTTCCATTATTTTAACTAGCCTTGACGAAGTGATGTGGATTATATTCTTTCAAAAAAAATTTTTTTGTTCATCTATACATCCATTCACTCACCGATTGC
TTAATGGGAGTTCATTCTAAAGAGAATTTTTCTGTAGCAGGGACAGCATGGACAGCAGAGAAAACACGCAGATACCGTTCCCATGATGCTCAGAGTCTGCATTTAGAAGGAA
AAAGAATTTAAAACAAGCACATCTACATAATTGTATTAATTTAACACAGGGAAGGCGTTACTTTAGATACTTGGAATTGATAATAAGACAACTATAGATATGTTTCTATCAA
TGTGGAAAGTTGTACATTGGTAGTTGACTTTAAGAATTAGAAACAAAATGGGCATATATGGCTATGACTAAGCCACACAAGCCTGAAAGGAGTGGGGGTAACCAACTTCTAA
AAACCACGGCTGTCAAAGACGTAACAGCAACCTTTAGCAGCGTTTCCACCCTCATTCAGGTCCTGCCTGCTTAAATTCTGCAACTTGACTCCCACGCTGATAGACAGGATTT
ACTGTCTAATTTGCCTTGAAATACCTAAGTCAAGACTGTAGGTGGCGCTATCACTTTGATTATTTACTGTGTGGTTTTTCCTAAACATTTTGAGTTATTCCCACCAGCCTGG
CTTAGATCACACACCATAGGAGAATTATTGACACTCATCAGTTTACCCTCTCTTTTCGACGTACAAGAATCTCAATAGACATTTTCACAGGAAGAAGCCAACTCAGAAATCG
AAACACGTTTAAAATCACTCAGTCGCTCCTCAGCAGGCATGGGAGAAAGGACACAGCCACCTGCTGAGTCTCTGGATCCTGAATTTAGACGCTACACTGGTGATTTATTTAC
ACTGTGATCTGATGCCTGCTCCTCTCTGTAAAGAACACCGGGTGAACTGCTGCCCAGGTGTTAAGCTCAGTTACTTTGTTCTAAATAAAATCCCCACATGCAGAACAAAAGT
CAACTGAGGTGCTCCTGGTGTTGGCAATTAGGGCAATCTTGAGACCTTCCTCAGGGATATCGACACTACACCCTGTTTAAACTCTCTCTGTTAAGTATGATTCTGAAATTAA
GAGCAGAAGAAGTAAAAGTCAATACATCTGACTGGTCAACGGGTGGCTAGCAATGTATTAAAAGTGTATGAAATGGAAAAAGGAGGAGCCACCACGAGAGGAATGAAGGAGA
AAGCATGGGTCACCCAAGGCACACAAATAAACAGCCAAGAAAAGCATTCCCCACACAGATATCCAAACATTGCATCATACTTGACAAATGTACCAGGTATGCCTTTCAGTTA
AATGTAGGACACAATTTTAAAATTAAATGAATTACATATATATTCCCACTTTTAAAAAAACAACAAAAACAAAAATGAATGAATAAAACGTTCCCTCCTTGAAAAGAGCATT
CGGCATTCTTTCTTCAATTCCTCCTATCTTCCCAGGGCAATTTAGAAACAATCCTACTGTAATATGGGACTAGAAGTTGGACTTGCTAATAGGTCCGCATGGTGACTTCCAT
GAAGAGTGTGGTTGTTTCCCTGTCTGGCTCCAGGCACTGTGCTGGACATTGAACTCAGCTGGAAAGAGAATGCTCTTCTTCAGGGTTATAAACTGAATCACACAATGGCATT
GACTGTAGCGTAGATTATATATGTGATATTTGAAGCATTATCACTTATCTCTTTAAAAAAATTTTTAATTAGGTATTTTCTTCATTTACATTTCCAATGCAACCCCAAAAGT
CCCCCAAACCACCCCCCACTCCCCTCCCTCCCACTCCCACTTCTTGGCCCTGGTGTTCCCCTGTACTGAGGCATATAAAGTTTGCAAGACCAATGGGCCTCTCTTTCCAATG
ATGGTCGACTAGGCCATCTTCTGATACAGCATCATCACTTAATCTTTATATCAGGAAGAGACAGATGATTTCTTTAAGACAGTGTCTCATGTAGCTCAGGCTGGCCTTGAAA
TCATCTTACTTCAGCGTCTCTCCGGCTGAAGTTACACTAGGCCCAGGATCCTAACCAGAAATAAGTAGGAAGGAGAACAAGTGAGAATAAAGTATAATGACATATGTGGATA
GAAATGTCCCTGGAAATTCCATTGGTTTGTACGCTAGCCTAAAAACAAGGAAAAGGAGAATTATCAACTGAAGAATGATAATTGTTATTGATTTTTAAAATATCTTTTATTT
GATACTTATAGACACAAATGTGCAAGTATGTTTATCAATATATATTCATTGGGCGTGGGTGGGTAGGGGAACAGGGCGCAGGGAGGGTATAGGGAATTTTCGGGATAACATT
TGAAATGTATATAAAGAAAATATCAAATAAATAAATAAATAAATAAATAAAAGAAAAAATTCATGTTGAGTAAGAAGATTAATTTCTTAGGAAGTGTAAGTATGACGACTAT
ACATAAGATTCTTAACTCTTAGAAGCAGTTTTTCATTTTTTATGACACTTTTATATGTTTATGTGATGAAATTTAATTCTTTCCATGTCCCATACTCCTCTGTCACCCACTA
CCTTCCCCCACAGGAGGCTATCATATCAACAACCCCCTCAGACTTTTAAGTCTCTACCCCAAGGGTGACCCAGAATTTAGTTAATTAGCAATGACTGAGGGGAATTTGGCAG
GGACTGTTGGCTTGCATTCTCTTGTCTGCGTCTTCTTATGAAATACGGATGTCCTTTTCCTCTAGACACTGAAAGAGGATTTCTCACTCCCTCTCCCTCTCATGTGAAGATC
TCATGGCATGGGCCAGGGTCATCTTCCTCTTTGTGTCATTTTCTCAGATGTCAGCATACCTTATTTGGTGGGAGGATTCCTACATCTCACCATGCTGCGTTGCAAAGATTGC
ATTATTGGATTGAATGTGGATATTGAGATAGGCAGACACAACCCCTCTATGACATATCCAGGAATACTCAGTAAGACTTGTGTGGCAGACTATGTAAGATGAAGGCTCTCAC
TCGCTGCTGAGTGCTCTATTGTCTCTATCCATATTAGACTTTGAGAGGTACATACTCATTTTCAGATAACAACTGCTCCCATCTTCACCAGTACACCTGGCAGGCCCATAAT
GGCTTCCAAGTAAATAAGGGCTTTGTTCCTAAGGACTGATGGGTCCAAAAGCCTGAGGTACCTATACAAGTATGCTCGTAGTGCTACCAGTTTCTTAAGTCAGAGCTGAGTT
TGTATCCCATGATCAGGGAGAATACTGAGTTTTTGAGATCTTGTCTCAAAAAACAAAACAAAACAGAACAAAACAAAAACATCTTGACAGCAGGTGGTAGGTAAATCCACTC
TTACAGCAGATATGTTTGGGATTTGCAATATAGTATCTTTTCTCTGGCATGAGAAGTCCACCACCCTGAACAGTCTCCTCAAGGGCAAACATTCGAGGATGATTGTCCTTGC
TCTTCCTCACAGTCTCTGGGAATTGGAGGAGAGTGCATTGTTTCCAGGTGTGCCACTGCCTCAAGTCATAAAGATGAGGAGTTTCTTAGTTTAATAAGTGCCAATTGACAAG
TCCTGATGAAGACTCACTCTAGCTATCCCTTTAGTATTGCAGCTTTTTTTTTATTAGCACACTCTAGCCTTGAAAAAGTCTTCAAATTTTGTTTTGTGGACTCTGACTTCCA
TTCATGGAAAACCTTCTTCTCCAATTCAATCATATCCTTAAACTAAGTCTATTCTCATTTCTTTGATGTTCTCCTTGTTGACTTACAGCAGTAATCAAGTGATGGTTGTTTC
AAAACTGTACTTATTTGATCATTTTTTGTTAATCTGAGAATTGCAAGAGAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAATGAGAATTTATTTTTATGTTTC
AGGCTATTATATGTATCATAAGAGTCCAGAAGAATGAAGCCAGTGCAACAGTAAGTAATTCCAAGTCTTAAAAACTTAGTAGACTTTGTTCTAGTCCCTTGTTCTAGTTTTG
AAATTTCCATCTTCGAGTATCCATGTCTTCTTCTCCTTATTTGAAAATAGTAATGCTAATATGTGCTAAAGCGTAATTCTTAGAGAGGGCGACAGAATGAGAATGCGGGTGT
GCTGTGAAGTAACTAAGGCAGAATCATTCCCAGTAAATGTTTGCGCCTATCTATTTCTACTCCATGATAAACCTCCAAGAGAATCATTCGCTTTGTGTCGCTGGAGTGATGT
ACTTTGGATGCTCAGCTGTGATTCCTCCATCAGGCAATAAATTTCCTTGTGGAGAGCCTTCCGCCAATGCTGCCGACTCCAGGCAGTTATAGAGTATTTACTACAATGGATG
GCATGAACACATGAAAGGATGTGGGGATGCAATCAGAGTTCTAACAAGCCAGTGTCGAATTCAAGACACTCAAACTGCTTAAAAGTTTATGTAGGCCATACCAATTAATCGT
GTCAGTTTCAATGGGGAGTGTAACCAATGTCTTTTAAGACTGTAGTCAATGGATCAGTCATACAGTTGATCTAAAACGACAGTCATGCATCATACAGCATTTCAGTTTTCTT
CAGAAGTTACAGCCTCAGAAACAGGATCTAGAGGAAAAAAGGGAAATTACTCCAACGCGTTTTCATTTCCTGCTTTGGGCACTGGCTTGACTACTTAAGCTGTGCTCCATGA
ACCTCGCAAAGGGCTGTTTCAGGGTTTGGGTTAGTGAGCCTCATCCTGGCAGTTATTTTATAGTAAAGAACATTCAAGTGCTCTGCCTACCTAGGGCCCTGTGAAGCACAGC
TCTAGAGGCCATAGCGGCCATTTAAATGGCGCGCCGGATCCGAATTCCTCGAGGCTAGAACTAGCGATAAGCTTCGAGCGGGATCAATTCCGCCCCCCCCCTAACGTTACTG

GCCGAAGCCGCTTGGAATAAGGCCGGTGTGCGTTTGTCTATATGTTATTTTCCACCATATTGCCGTCTTTTGGCAATGTGAGGGCCCGGAAACCTGGCCCTGTCTTCTTGAC
GAGCATTCCTAGGGGTCTTTCCCCTCTCGCCAAAGGAATGCAAGGTCTGTTGAATGTCGTGAAGGAAGCAGTTCCTCTGGAAGCTTCTTGAAGACAAACAACGTCTGTAGCG
ACCCTTTGCAGGCAGCGGAACCCCCCACCTGGCGACAGGTGCCTCTGCGGCCAAAAGCCACGTGTATAAGATACACCTGCAAAGGCGGCACAACCCCAGTGCCACGTTGTGA
GTTGGATAGTTGTGGAAAGAGTCAAATGGCTCTCCTCAAGCGTATTCAACAAGGGGCTGAAGGATGCCCAGAAGGTACCCCATTGTATGGGATCTGATCTGGGGCCTCGGTG
CACATGCTTTACATGTGTTTAGTCGAGGTTAAAAAAACGTCTAGGCCCCCCGAACCACGGGGACGTGGTTTTCCTTTGAAAAACACGATAATACCATGGGGGATCCCGTCGT
TTTACAACGTCGTGACTGGGAAAACCCTGGCGTTACCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCT
TCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCGCTTTGCCTGGTTTCCGGCACCAGAAGCGGTGCCGGAAAGCTGGCTGGAGTGCGATCTTCCTGAGGCCGATACTGTCG
TCGTCCCCTCAAACTGGCAGATGCACGGTTACGATGCGCCCATCTACACCAACGTGACCTATCCCATTACGGTCAATCCGCCGTTTGTTCCCACGGAGAATCCGACGGGTTG
TTACTCGCTCACATTTAATGTTGATGAAAGCTGGCTACAGGAAGGCCAGACGCGAATTATTTTTGATGGCGTTAACTCGGCGTTTCATCTGTGGTGCAACGGGCGCTGGGTC
GGTTACGGCCAGGACAGTCGTTTGCCGTCTGAATTTGACCTGAGCGCATTTTTACGCGCCGGAGAAAACCGCCTCGCGGTGATGGTGCTGCGCTGGAGTGACGGCAGTTATC
TGGAAGATCAGGATATGTGGCGGATGAGCGGCATTTTCCGTGACGTCTCGTTGCTGCATAAACCGACTACACAAATCAGCGATTTCCATGTTGCCACTCGCTTTAATGATGA
TTTCAGCCGCGCTGTACTGGAGGCTGAAGTTCAGATGTGCGGCGAGTTGCGTGACTACCTACGGGTAACAGTTTCTTTATGGCAGGGTGAAACGCAGGTCGCCAGCGGCACC
GCGCCTTTCGGCGGTGAAATTATCGATGAGCGTGGTGGTTATGCCGATCGCGTCACACTACGTCTGAACGTCGAAAACCCGAAACTGTGGAGCGCCGAAATCCCGAATCTCT
ATCGTGCGGTGGTTGAACTGCACACCGCCGACGGCACGCTGATTGAAGCAGAAGCCTGCGATGCGGTTTCCGCGAGGTGCGGATTGAAAATGGTCTGCTGCTGCTGAACGG
CAAGCCGTTGCTGATTCGAGGCGTTAACCGTCACGAGCATCATCCTCTGCATGGTCAGGTCATGGATGAGCAGACGATGGTGCAGGATATCCTGCTGATGAAGCAGAACAAC
TTTAACGCCGTGCGCTGTTCGCATTATCCGAACCATCCGCTGTGGTACACGCTGTGCGACCGCTACGGCCTGTATGTGGTGGATGAAGCCAATATTGAAACCCACGGCATGG
TGCCAATGAATCGTCTGACCGATGATCCGCGCTGGCTACCGGCGATGAGCGAACGCGTAACGCGAATGGTGCAGCGCGATCGTAATCACCCGAGTGTGATCATCTGGTCGCT
GGGGAATGAATCAGGCCACGGCGCTAATCACGACGCGCTGTATCGCTGGATCAAATCTGTCGATCCTTCCCGCCCGGTGCAGTATGAAGGCGGCGGAGCCGACACCACGGCC
ACCGATATTATTTGCCCGATGTACGCGCGCGTGGATGAAGACCAGCCCTTCCCGGCTGTGCCGAAATGGTCCATCAAAAAATGGCTTTCGCTACCTGGAGAGACGCGCCCGC
TGATCCTTTGCGAATACGCCCACGCGATGGGTAACAGTCTTGGCGGTTTCGCTAAATACTGGCAGGCGTTTCGTCAGTATCCCCGTTTACAGGGCGGCTTCGTCTGGGACTG
GGTGGATCAGTCGCTGATTAAATATGATGAAAACGGCAACCCGTGGTCGGCTTACGGCGGTGATTTTGGCGATACGCCGAACGATCGCCAGTTCTGTATGAACGGTCTGGTC
TTTGCCGACCGCACGCCGCATCCAGCGCTGACGGAAGCAAAACACCAGCAGCAGTTTTTCCAGTTCCGTTTATCCGGGCAAACCATCGAAGTGACCAGCGAATACCTGTTCC
GTCATAGCGATAACGAGCTCCTGCACTGGATGGTGGCGCTGGATGGTAAGCCGCTGGCAAGCGGTGAAGTGCCTCTGGATGTCGCTCCACAAGGTAAACAGTTGATTGAACT
GCCTGAACTACCGCAGCCGGAGAGCGCCGGGCAACTCTGGCTCACAGTACGCGTAGTGCAACCGAACGCGACCGCATGGTCAGAAGCCGGGCACATCAGCGCCTGGCAGCAG
TGGCGTCTGGCGGAAAACCTCAGTGTGACGCTCCCCGCCGCGTCCCACGCCATCCCGCATCTGACCACCAGCGAAATGGATTTTTGCATCGAGCTGGGTAATAAGCGTTGGC
AATTTAACCGCCAGTCAGGCTTTCTTTCACAGATGTGGATTGGCGATAAAAAACAACTGCTGACGCCGCTGCGCGATCAGTTCACCCGTGCACCGCTGGATAACGACATTGG
CGTAAGTGAAGCGACCCGCATTGACCCTAACGCCTGGGTCGAACGCTGGAAGGCGGCGGGCCATTACCAGGCCGAAGCAGCGTTGTTGCAGTGCACGGCAGATACACTTGCT
GATGCGGTGCTGATTACGACCGCTCACGCGTGGCAGCATCAGGGGAAAACCTTATTTATCAGCCGGAAAACCTACCGGATTGATGGTAGTGGTCAAATGGCGATTACCGTTG
ATGTTGAAGTGGCGAGCGATACACCGCATCCGGCGCGGATTGGCCTGAACTGCCAGCTGGCGCAGGTAGCAGAGCGGGTAAACTGGCTCGGATTAGGGCCGCAAGAAAACTA
TCCCGACCGCCTTACTGCCGCCTGTTTTGACCGCTGGGATCTGCCATTGTCAGACATGTATACCCCGTACGTCTTCCCGAGCGAAAACGGTCTGCGCTGCGGGACGCGCGAA
TTGAATTATGGCCCACACCAGTGGCGCGGCGACTTCCAGTTCAACATCAGCCGCTACAGTCAACAGCAACTGATGGAAACCAGCCATCGCCATCTGCTGCACGCGGAAGAAG
GCACATGGCTGAATATCGACGGTTTCCATATGGGGATTGGTGGCGACGACTCCTGGAGCCCGTCAGTATCGGCGGAATTCCAGCTGAGCGCCGGTCGCTACCATTACCAGTT
GGTCTGGTGTCAGGGGATCCCCCGGGCTGCAGCCAATATGGGATCGGCCATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTAT
GACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGCCGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGACCTGTCCGGTGCCCTGAATGAAC
TGCAGGACGAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTGCTCGACGTTGTCACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGT
GCCGGGGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGAC
CACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACTGTTCG
CCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTG
TGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTCCTCGTGCTTTACGGTATC
GCCGCTCCCGATTCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGGGGATCAATTCTCTAGAGCTCGCTGATCAGCCTCGACTGTGCCTTCTAGTTGCC
AGCCATCTGTTGTTTGCCCCTCCCCCGTACCTTCCTTGACCCTGGAAGGTGCCACTCCCACTGTCCTTTCCTAATAAAATGAGGAAATTGCATCGCATTGTCTGAGTAGGTG
TCATTCTATTCTGGGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCTGGGGATGCGGTGGGCTCTATGGCTTCTGAGGCGGAAAGA
ACCAGCTGGGGCTCGATCCTCTAGAGTCGAGTACCGGGTAGGGGAGGCGCTTTTCCCAAGGCAGTCTGGAGCATGCGCTTTAGCAGCCCCGCTGGGCACTTGGCGCTACACA
AGTGGCCTCTGGCCTCGCACACATTCCACATCCACCGGTAGGCGCCAACCGGCTCCGTTCTTTGGTGGCCCCTTCGCGCCACCTTCTACTCCTCCCCTAGTCAGGAAGTTCC
CCCCCGCCCCGCAGCTCGCGTCGTGCAGGACGTGACAAATGGAAGTAGCACGTCTCACTAGTCTCGTGCAGATGGACAGCACCGCTGAGCAATGGAAGCGGGTAGGCCTTTG
GGGCAGCGGCCAATAGCAGCTTTGCTCCTTCGCTTTCTGGGCTCAGAGGCTGGGAAGGGGTGGGTCCGGGGGCGGGCTCAGGGGCGGGCTCAGGGGCGGGGCGGGCGCCCGA
AGGTCCTCCGGAGGCCCGGCATTCTGCACGCTTCAAAAGCGCACGTCTGCCGCGCTGTTCTCCTCTTCCTCATCTCCGGGCCTTTCGACCTGCACTGCGCGCCAGCTTACCA
TGACCGAGTACAAGCCCACGGTGCGCCTCGCCACCCGCGACGACGTCCCCAGGGCCGTACGCACCCTCGCCGCCGCGTTCGCCGACTACCCCGCCACGCGCCACACCGTCGA
TCCAGACCGCCACATCGAGCGGGTCACCGAGCTGCAAGAACTCTTCCTCACGCGCGTCGGGCTCGACATCGGCAAGGTGTGGGTCGCGGACGACGGCGCAGCAGTGGCGGTC
TGGACCACGCCGGAGAGCGTCGAAGCGGGGGCGGTGTTCGCCGAGATCGGCCCGCGCATGGCCGAGTTGAGCGGTTCCCGGCTGGCCGCGCAGCAACAGATGGAAGGCCTCC
TGGCGCCGCACCGGCCCAAGGAGCCCGCGTGGTTCCTGGCCACCGTCGGTGTCTCGCCCGACCACCAGGGCAAGGGTCTGGGCAGCGCCGTCGTGCTCCCCGGAGTGGAGGC
GGCCGAGCGCGCCGGGGTGCCCGCCTTCCTGGAGACCTCCGCGCCCCGCAACCTCCCCTTCTACGAGCGGCTCGGCTTCACCGTCACCGCCGACGTCGAGGTGCCCGAAGGA
CCGCGCACCTGGTGCATGACCCGCAAGCCCGGTGCCTGACGCCCGCCCCACGACCCGCAGCGCCCGACCGAAAGGAGCGCACGACCCCATGCATCGATGATCTAGAGCTCGC
TGATCAGCCTCGACTGTGCCTTCTAGTTGCCAGCCATCTGTTGTTTGCCCCTCCCCCGTGCCTTCCTTGACCCTGGAAGGTGCCACTCCCACTGTCCTTTCCTAATAAAATG
AGGAAATTGCATCGCATTGTCTGAGTAGGTGTCATTCTATTCTGGGGGGTGGGGTGGGGCAGGACAGCAAGGGGGAGGATTGGGAAGACAATAGCAGGCATGCTGGGGATGC
GGTGGGCTCTATGGCTTCTGAGGCGGAAAGAACCAGCTGATTACCCTGTTATCCCTACTCGACCTCGAGGGCGCGCCATTTAATGGCCAGCGAGGCCGGTACCCAATTCGCC
CATAGGATTCCAGAGGTTCATTTCTCTGGTGCTGAGGCCTGGGGTGGGGAATATGTTTACATCTACTAACAGTGAATTCAAGGCAAGCAGACCTAACAGAATTCCCTTAGCAT
AACATACCCTGCCAGACAGCTGGTAAAGTGGCATCACAAATCCACAGCTCTTTCACTTACTAAAAGGAGCAGTAACAGCTCTTATCTCTGGCTGTGTGCTGAAATCTATGAG
ACATGATAGAATTTGATGCAAACGAAGGGGTAGTGTTCAGTGTCCTTATGGAACTGATATTTTTACAGTGATGTTAGAATAAGATAGATGTGAGGGAAAGGAAATATAAGGG
AGAAATGAGGAAGGGACACTGAAGACTGTAAATGCTAATAATATACAGAAGAAATGGACCTAATAACTCACTGAAAACGCTGCTTAATCATAGCATTCAAATGATTTCATAA
CTTTTTTTCTATATCCAGCCTGTGTTTCTGATTGAATCATAGCTGACTGACAATGCTTTCCCTTCAGCAGTCCACCTCTGGACTTACCTCCCCACTGTCTTCAGCTAACAAA
ATGCAAAAGAGCCTTTGAAATATAAATAATTAGCTTTATGCCTCTTCATAGGATAAATTAAACCAAGTAGAACTTCTGTTTGTAGCCATTGATTTTGAGTGGTATTTGTTTT
ACAGAGAATCAGAAAAGAAAGGGAATCTAGGCCTAAGCTTGAAGTAGTGGAAGAGATAAGTCTAGTTGTCTATTTAAAACACTACACAAACTCAACTGATTTTAAATTTTAT
ATGTGTTTTGCTTGCATGTTTGCCTGTGTGTACCACTTGCATACCTGGCACCCTCAGAGGCCAGAAGAGGGTACCAGTGCCCAGAAACTGCAGTTATAGATGTTTGTGAAGT
GCCATATAGGTTCTGGGAAACAAACCTATGTACTCTGGAGGAGCAATCAGTGGTCTCAAACACTAAACCACGTCTTTAGTCCCTTTACTTTAAATTTTTTAAACAAGCAAAG
AGATTTTTAATATATTCTGTAAAGTTATCATCTAATTTGTGTCAAAAATTAAAGATGTGTTAAAGAAATATGTTAATGAAAATTTATTATTAGGTACTCATGAAAATGCACT
AAGAGAATTATTGTTATACTATGAATTTCATGATATTAATTTTCTTTCCAGGAGGTTTTTCTCAGCCTTGCCTTCCTAATTGGATCATGCATGGGAAGAGCTGTTACCTATT
TAGCTTCTCAGGAAATTCCTGGTATGGAAGTAAGAGACACTGCTCCCAGCTAGGTGCTCATCTACTGAAGATAGACAACTCAAAAGAATTTGTAAGCACATACTTCTATAAT
TACCTCTGGTTTACATTCATCTGGGCTAGAGAGATTCTTGCACTAACAATGTTCATATCATCATTTGGTATAACTGCAAAATTATTCAGTACATTACATAATGCATGGTTTT
ATTTTTTATTAATTGATTTGAAAAGGATTCACATTTTACTTTAAAATAAGCAATTTTGGGGCTTGCCAAGTAGCACTTGGCACTAAGCTTGACCTGAATTTGTTTCTAGAAC
CCACATAATAGAAGGGGAAAAACCGACTCTTACAAATTGCCCTCTGACCTCCACATGAGCACTGTGGCATGCCACACAACACACATGCACAAAAGAATGAAAATGAAAATGA
AAATGTTAAAGTAAATACGTTAAAACAAACTTTATGATGGTTCGGATGTTGTGGTAAGGGCGCTTCATGCTTGTATATGTGTACTTCAATTTTCAAATTTGAAGTATAGGAG
AAAAACTGCCCATTTGTTACTTTAATATCAAGAAAGATCAGCAATGACAATCAACATTTATGAATTGTTTGGTCTTGTTAAAATACTGAGGAAGGCAAAGAGCTGGTTTTAT
TTGATTATTTTGTTTTGTGTTATTTTTGTTGTTTAGTTTTGATACGTACTTTCCATCTTAGCTCAGACAGATCCAGACAAGAAATTCCTTCTAAGTGACAAAGAGGATTAAA
AAGTAACCCTTCTATATATAGTTGAAAAGAAAAACAACAGTTCTGAAAAGTCAAACATCAGATAAAATAACAAATAAGCTGAAAGTTTAATAATTTAAACTTAGATAGTTTA
AGTTTAATAAGCATCCTTATTAACAAGAAATTGTACAGAATCAGGAGAACTTACAATACATGTTGAAGGAAAAGTGGGTGAGAACTACAGAAAGCATCCCTCAATACAGTTC
CAATCTGCACACTCTATTCTGTCTTCACTACTCTGTTTTTATCTATCTGTGACTCCGTACCCAATAGCTGTAGTTCCTGTGAAAGTTAATGAAAGCAGGAATACAGACAAGG
AAGAGGATCCCATTAGAAATTCACCTGGCCTTTGATATCAACCTGTGATTGGCAAAGAATCATCCTATTTTTGTGACCAATTCAAGAGTCTTGGATTATTTTAACCATAAAA
CATGCAGTGCAGGGCTGAGGATGTAGATCTGTAGAAGAGAGTTTACCTGACACCTGCCAGGCTCTGGGTCTCTTCTACAGCATTATTTTGCCTTGGTAAAGCTATTATGAGT
TTATGTTTGCTACTTGTACAAAAAACAAATGGCCCATTTCCCACGAAGCTGCTTGGGAGCTGGGCACTGCTGGATTTTGTGTAGTTGTTAATTGAGGTAGAATATTGATAA
TTTAAGCCTATTTTCCCCCTTTAGTTTGTGTGAGAGCTTCTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGGGAGAGAGAGAG
AGAGAGAGAGAGAGAGAGAGAGAGAGTATATGTATGTATGTATGCATGCATGTATGTTTGCACACTGAACCTAGAGAGATAGGCTTACAACCACCCAACTCCAGGACTCTCC
TGTCTTCAATCCCTACCATACAGGAGTTAAAGGCATGTATGGATGCACCTGACATTTTAACATGGATATTGGGAACTCAAATCGAGGTCCTCATGTGTTTGCAGCAAGCATT
CTTACCCACTGAGCCATCTCCCTAGCTCACATCTTTATTAATGAATCTATTCTTGATGGAAAAATTAAAAATAACTCTAAAACACCTCTCTAGACATTCAACGATATTCAGT
GATTGACAGTCCTCTCTAGATTGTCACCTTATGTGAACGTCCTTCTGTAAAAGGATTCATTCCGCCCTGGATGCCTATAGCATTGTTTTAGGATCCCCCTGATGTATGTTTG

TATTTTTGTTTTACTACAGGAGTTCATTGAAAGCCAAACATCGTCTCACCGTATTAATGCATTTTGGATAGGCCTTTCCCGCAATCAGAGTGAAGGGCCATGGTTCTGGGAG
GATGGATCAGCATTCTTCCCCAACTCGTAAGTTCCGGTACAGACATGGAGAGGTGGAATCCTACCATGCAGTTACAAAATCTACTTCTCTGGTCACTTATGAGAAAACGGAG
TCATGGTGGCGGAGGGAGAGGGAGAAAGAGACATAGAGATGAAGAGAACAGCTCTCAGGGAGGCTGTAAAGGATGCTCTCCTGGTGCTGACTAAGGGATTCCCATGGCATCT
GGTCCTTCTGGCCCAGTGAGGAGAGATGCTGTTCAGTGCAGCCTTGGACTTACCTAAGTCTGAGGTAACGATTAACCCAATCTATGTACGTGAGATATTGGACAAATCTCTG
TACTTCTTTTATAGCTGCATTCTTTATCCAAAACTGAGAATAGAGTGGCTATTCTTTACAATAGTAAAGTAAAGGGCATAAAGGTAAAATCATTAGCATAATTTTTTTACAG
AACCGATGAAAAATGACATCTTATGTCATTATTTCAACTTTATCTTACATTTGTGAACTTAGAATTTCTTCCTAATTGTGTGCTGAAGTCTTTGAAATGTCTATTCATCTGT
TCACTAATATTTGTAAATATAAAATTTTATCCCCCTTTCAATGTATATTCCTGCATCCCTGAATCTCCCATTAATGTTAATATATATATAGTCCAATTTAATTAAATTTTACTT
TTTTTAAATTTTGCTAATGTTTCTCTATCCTCTTTTATCACTTTGGCTAGTGTTGATTCTCATATATATTATTACCTTTCACCTAATTTCTCTGTGTTAAGCTGAATTCTTT
CTCTAAATTCTTATGTTGGATGTTTAACTCATCATCTCTAGTCTTTTTTTGGCTTTGGAGTCATTTGGTTCACATGCTTTCTGACTTCCATGGTGAGTTGCTCTTTGATCCA
AGACATAGAAATAAATTTCTCACTTTTCACACATACCCATGCTTCTCACATTCCTATTTATCTTTTAGATTTCAGGCTTAGCTCCTCTGTGATCAGAGAACATACTTCATCT
GGTGGTAATTCCCTCTTAATTTGTATTGAAAATGTCTACACGGGTCCTCCTATATTTCTTTAAGAGTTTCACTTGATACTTTAAAGCCATATTAAAATATTCATGTGGATTT
AGAATTGTTGCATCGTCCTGTTTGATGTCACTTTCCTTCCTTCTTCCCCCCTCTCCTCCCTCCCTCCCAACATCCCTACATCCCTCCCTCCCTCCCTCCCTCCCTTCCTTTG
TAATTTACTGATTTCTGTTTTGATTTTTGTTTATTTCTCATAATTCCTCTGGTTTGCCTGTTTTGTTTTGTTTTGTTTTTGTCACTTGCAGCTCACTTTGCTTACAGTATTC
TCAATACTATCTATTAACTTCGGGTTTTCNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN
NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNTTTCAAGTCAGAAATACAGCTCCCCAGGAAAGCTTACTGCACAATTGTGTATGGATTCATGGATC
AGAGGTCTACAACCAAATCTGCAATACTTCTTCATACAGTATCTGTGAGAAGGAACTGTAAATGTATGTGAGAATATAAAGATGGTGTGTGTGTGTGTGTGTGTGTGTGTGT
ACATGCACACACACCACCACCACCACCACTACCAACAACAGAACAGAACAGAACAGAACAGAACAGATTAATATTAAAAAACAGAAAAAATGCTGGGATGCTAAGAGACTTT
AACCTCATTTGAGAACTTGGATGAAGAAGCTGAGACTTTTGTACTTGTCATCTTCACAAAGATGGTGGCACTATCTTCCAGTTAGGAAGTCACTAGACATGGAGTGAGGGCA
GCTCAACAATACAGAGAATATGTGAACCTGAGGTACCCTGACTCAAATTTCACAACCACAATGAAACCCCTACACTATCAGGAAACACTGTAGAGGAGTGAGACTGAAGACT
TTAAAAGCCAGAGAATCAGCCTACTTACTGTGGTGTTTTCTAGACAGGACAGGGAAAGTATATCTAGGAAATAAAAACAATACAATTCAGCAAACAAAATCTGCATAATGAC
AACCTCAGTTGGTATGGTATGTTATGGTATGGTATGGGTGTAGAAGTTTCACAAGGCCCTATGAAGAACTACAGACAGTTAAATAGGGGGAAAGCTTTTTCTAGGATCAAGC
CTACTGAACCCCAAGAAGTCAGCACTGAACATATGTACAGATCAGTATCATTAAATGAACTAGTAAGACATATACATATATGTTAATCAAATATTGGTACCAGAGTACACAC
TGTGTTTGCATGATTTTCTCAGTATCTACAGTACACCAGACACAGGGAGAAGGCAAAATGAACTTCTAAATTGAGAAGTGAAAAAAATGAGGGAAGAGAATCTTCACCACAA
ATAGGGATTCTATTTTCACCCACATGATCATTATTAAGATGGCCATCACCCAAACGTCGTGACCCAAGCTACTTCCTCAACTAGATAACTCAAAGAGTCTGCCCACCTTTTC
TGATAGCAAATCTGGTATCTAGATTTCACTGTTTCCTTATGCTGTCTGGCCAGCAGTATGACAAAGGTGCTGCCCTTTCAGGAAGCAGTCTCCTTAAATGCTGTAGTTGGAA
AGATAAATCATATCTGATAGTGAATATTTAAAAAGCGCCCAGTCAGGATAAGTGTTTTGGAACACAGAACATATTTCATCTTTTTATGATACACTATCTTGCAATTAACAAC
CAATTCTTAAGTCATTTCTTTACAAACATATGACTGGAATATGACTGTTTCCTAGTGTGATCTGTCTTGTTAACTTCTAAGATTGTCCATTAATACCACCCTTATTTCCAGT
GTGGACTTCCAAATTGCTGGGGATCTGTTTATAGCTTTCTCAGACTAATCAATATGTGGGCAGAAATTGTGCTGAGTCCACTGAATTGTTCTCTTGAAAATGATTGGGTTTA
TGTCACTTTCATCTCAATTGAAAAACTGCTTATTAAAGTATCTTTGGCCTCTGAATAACCTGCCTATATGTAACGATCTAATTTGCCTTCTCCTCCAAAAGGTTGATGACTT
GGATACTGGTAGGGAATATGTATGCTAGACAGTTTTTCATTGAAGCATAAACTTGGGTTCTTAAAGATTTCAAAACATCTCTGAGAAAAACATACATTTTGTGAGGTTTGGC
TCTCATCTTTTAATATTCAACTCTGAATTGGCAACATCTGAAAAAAAACTATAGAGACTATAGTGATCAATATGAAAGAAGTATGATTGATTGACTCAAGTAGTTAAAGCAT
ACGATGGGATTTCAAAAGACATGAATGTTGTGCATGTGCATGTGTGAGCTCATGTGCATATGTGTGTAGGAGTGTACTTACTTCCCTGGGCACATCTGGAGACTAAAGGTCC
ACATCCAGTGTCATCCATTACCACTTGCCATCTTCTTTGTTGAAACTGGGTCTTCCTCTGAACTAGATTTCACTGTTTCCTTATGCTGTCTGGCCAGCTGTCCCATATCCAC
CGGCCTCTCCCTTTCATCCAACCCTGGGAGATGAGGACACTGTAAATGGCTTCCAAGTGGATATGATAATCCTACATTGGATTATCCTCATGCTTCCACAGCAGCTACTGAG
TCACCTCTCGAGCCCAAAGTGTGAACATTTTAATTGGGTTCCCAGAATTGAACAGATAAGTTCAAGAAACCATCATTATCATCAAAGAAAATAAATCTGGATGCTGAAACCA
AGAGTTCTTTACAAGATCAGGAAGCTGAGAAATCATAGTGTGTGTGGGTTAAGAAGCAAGGAGACCCAGAGTGACTATAGTAAGGGTGGTCCAGGGTGTTCTATTTCATGGC
ATGCTGACAACTTACATGGAAATGTACATGTAATCAGAGACACATACATTTGTCCTAGGGACTGAGATGGGATACCAGCTGCTGAACTCAAGATAAATTGCAGATGGTTACA
TTTGAGGAAACATGCTGAGGGACTTCTGTAATCCATTGATCTGGGCACAGCACTAATTTTGGGAGTTGTCCCTAATTTTTATCTCAGTCCCTCTACAATGTGATTCAGTCTC
AGCTCTGTTAAATTCAAATACAGTCATGTCAGGTCTCTACTAAAATCTCTCATTGACTTCTTAACATGTTTCAGAATAAAAGCAAAACAAAATAACAACAAAAAAAGCACTT
ATAATTGCCTTTAAGACCTCATGTGCTTTAAGTTCCTTTGTTCTTTGAGGTACCACTGCCCTCTACTTCTCCAGCAAGGATGGATGCTAGCCTCACTATGGTATTTCAGCCT
CATCTATCTTTGACTTTTCAACTCAAAGTCTTTGTGGTTTCCCTCTTTAAATGATCCTGTCTGAGACGGCTGCTGAGCCTTCTGTCTTGCTCACCGAGTCTGCACACATATC
ACCTCTTAAGTGAATGAAGAGTCCTCTGGGTACTCTATTTCAAATCACCAACCTACCTCCATTACCTTCCTTGGGCTTCTTGGTAGCTTCAAAATTTATAGCAGTCAAATTT
TCTCCATAGGATATAGGGTTTAAAAGACCAGGAGCATCTGTGTTCAAAGCATGTCCCCACAGCATAGCATGCTTAAGAAAATGTTTCGCTGTTGTTGAAGTAAATGGTTAAG
GAGCATAGTACAGATGTCAATATACGTGGTCAAAAAAATAGAGAGGATTTACTTGAATAGCTGAAGCTGGGCAAATACTTCTGGTTACCATTTTACTGGGTTTTTGATAAAC
TTAGAATCCCCTCTATTTTCCTGCCTTATATGTAATTTCTCCCCTCCCCTCACACACTCCTCACATTTTCCTCTCTTCCCACCTGTTTCTTCCTCTCTTTCTCTCTCTCTGT
CTCTCTCTCTCTCTCCTCCTTTATTCCTTTCTTCATTCCTTCTGATCTTTTTCTATCTTCCTTCCTTCCTTTTTTTTTCCAGAGTATATATCTACATAGTCCAGGCTGACTT
TGAACTTGAGATCCGACTCCAGAACCAGGGTGACTTGCCTGCGGAGTCTCTGGACACCCACAAGGGCCCACACAAGATCCCCCATGGGGATCTTAAGACCTCTGGTGAGTGG
AACACAGTGTCTGCTTCAATCCAATTGCACTGGATCTGAGACTGCATCAATTAGGGAAGCAGAAAACCCGGCCTGATCAGGGGCACAAGTCCCTTCCGGTCCACTCCAGCAC
TGGGGTTCCTTGCCCTCAGAGTCTCCAGACACTCGCAAGGACCCACACAGGATCCCCCACGGGATCCTAAGACCTCAGGTGAGTGGAACACAACTTCTGCCAGGAGGCAGGT
TCAAACACCAGATATCTGGGTACCTTCCCTGCAAGAGGAGACTTGCCTGGAGAGGGTACTCTGACCACTGAAACTAAGGAGAGAACTAGTCTCCCAGGTCTGCTGATAGAGG
CTAACTTAATCACCTGAGGAACAAGCTCTAACCAGAGACAACTATAACAGCTAGCTTCAGAGATTACCAGATGGCGAAAGGCAAACATAAGAATCCAACTAACAGAAATTAA
GACCACTCACCATCATCAGAACTCAGCACTCCCACCCCACCTAGTCCTGGGCATCCCAACACACCCGAAAAAGCTAGACCTGGATTTAAAAGCATATCTCATGATGATGGTA
GAGGACATCAAGAAGGACTTTAATACCTCACTTAAAGAAATACAGGAGAACACAGCTAAATAGGTAGAAGACCTTAAAGAGGAAACACAAAAATTCCTTAAAGAATTGCAGG
AAAACACGACCAAACAGGTGATGGAA