

Vector pCAMBIA1300-Cas9-GFP. AtUbi: Arabidopsis thaliana ubiquitin promoter; Cas9:

Arabidopsis codon-optimized Cas9; GmUbi: Glycine max ubiquitin promoter.

Sequence (19,775 bp):

GCGGCCGCTTCCTAACACCTGGAGAACCTTTTATGTACTTCACAACCCTCAATGC TGCTTCCAGGTGTGACTGTTTGGGTTGCTGCATGAATTGACTCAGCACCTGCACT GCAAAGCTGATATCTGGCCTTGTGATTGTCAAGTAGAGAAGCTTCTAGTAACATA GATGACACCGCGCGATAATTTATCCTAGTTTGCGCGCTATATTTTGTTTTCTAT CGCGTATTAAATGTATAATTGCGGGACTCTAATCATAAAAACCCATCTCATAAAT AACGTCATGCATTACATGTTAATTATTACATGCTTAACGTAATTCAACAGAAATT ATATGATAATCATCGCAAGACCGGCAACAGGATTCAATCTTAAGAAACTTTATTG CCAAATGTTTGAACGATCGGGGAAATTCGAGCTCACTAGTCTAGATCCGGACTTG TACAGCTCGTCCATGCCGAGAGTGATCCCGGCGGCGGTCACGAACTCCAGCAGG ACCATGTGATCGCGCTTCTCGTTGGGGTCTTTGCTCAGGGCGGACTGGGTGCTCA GGTAGTGGTTGTCGGGCAGCAGCACGGGGCCGTCGCCGATGGGGGTGTTCTGCT GGTAGTGGCGAGCTGCACGCTGCCGTCCTCGATGTTGTGGCGGATCTTGAA GTTCACCTTGATGCCGTTCTTCTGCTTGTCGGCCATGATATAGACGTTGTGGCTGT TGTAGTTGTACTCCAGCTTGTGCCCCAGGATGTTGCCGTCCTCCTTGAAGTCGAT GCCCTTCAGCTCGATGCGGTTCACCAGGGTGTCGCCCTCGAACTTCACCTCGGCG CGGGTCTTGTAGTTGCCGTCGTCCTTGAAGAAGATGGTGCGCTCCTGGACGTAGCCTTCGGGCATGGCGGACTTGAAGAAGTCGTGCTTCATGTGGTCGGGGTAGCG GCTGAAGCACTGCACGCCGTAGGTCAGGGTGGTCACGAGGGTGGGCCAGGGCAC GGGCAGCTTGCCGGTGGTGCAGATGAACTTCAGGGTCAGCTTGCCGTAGGTGGC ATCGCCCTCGCCGGACACGCTGAACTTGTGGCCGTTTACGTCGCCGTCC AGCTCGACCAGGATGGGCACCACCCCGGTGAACAGCTCCTCGCCCTTGCTCACCA TGGTGGCGAGATCCAATCTGTCGAGTCAACAATCACAGATAAATCAGAATCAAA AATCCACGCAATAGAATCAACAACAAGGCAGTTGCTAACAGATCTGAGCAAT ATCTCTCGAAAAACGATATAGAATCAACGAATAAGGCTTTTTGTCAACGGATCTG AACAATTTCTTGAAAAACCACAGAAGTATAAAAAAATAAGGCTGTTGTTTAACGG ATCTGAAGTAATTCATGAAAAAGCCCTGATCTATGGTTACGTTTAACGGATCTGA AGTAATCAATGAAAAAAGCCCTAATCTACGATTAATGAATCAACAATTAAGGCT TGTTGTAAAGGGATCTGACATGAAAAAGCTCTAATTAGAGCAAATCTACGATTA AAGAATCATCAAATTAAGGACGTTGTTGTAAAGGATAATAAAAGCTGAATCTGAT TATGAAAATTGAAGATCGATGAAACCAAACAAAACACAATCAAATCAACATCGT ATTGATCAAAGAACATACACAATTCATGGAAAGAACGAAGAAGAAAAACAGAA GAAATCGACTAACCTTGAAGGGAGAGGTAGGGAAATACACAGAGAGAATGGAA TATATTGGAATTGAACTGCGAAGGAAGGAGGAGGGGTGTGGGGCGTTTTATAGC ATAAGGTGTGGAACCCTTCTCCAGTCATATTGTGACGCGTGTTCATGTATGGTGT CACTTGGTGCCTATGACACGGGTAATATTTGGTATTGGATGCATTTTCGGAGAGT CCTTCTAGGAAATTGAGAATTGCAATTTGCGTGGTAGTTGGCGGTTTCGTAATCT TGACGGAGTCACATGCACCTTCAAGCTTCGCTTTATCTGTTACGACGTCGTTGTTA TATTGGGCCCACCCGTTGCAAGTGGAGCGTCCGAAGTTGATACGGGCCCCACTA TCCATTGCCTGAAGTCGGCTGCTTTTACATTATTAAAAAATCTATGGAAAAGCTGT CACTAAATTCTTTCTTATTTAATTTCACTTTGTAAGATATATTTTCAGTAGATTTTT CAAGTATTTTGTTAACATACATTACTTGTATACTTTTAGTTACAGTTTATATAAAA TTATTCATTTAAAAAATATTTAGATATTTTTTAAAAAATAATCCAAAAGATTTTTT TAATGAACTTTTCTTATTTCCTAATTTTTCTTTATTAGATGTTTTTACT ATCGTTTAGGGAAGAATTTTTTTCTCTAATGAGGAGATGTGTTAAATGCTGCAAC TAAGCTTCACCACTTTGTACAAGAAAGCTGAACGAGAAACGTAAAATGATATAA ATATCAATATTAAATTAGATTTTGCATAAAAAAACAGACTACATAATGCTGTAA AACACAACATATCCAGTCACTATGGTCGACCTGCAGACTGGCTGTGTATAAGGG AGCCTGACATTTATATTCCCCAGAACATCAGGTTAATGGCGTTTTTGATGTCATTT TCGCGGTGGCTGAGATCAGCCACTTCTTCCCCGATAACGGAGACCGGCACACTG GCCATATCGGTGGTCATCATGCGCCAGCTTTCATCCCCGATATGCACCACCGGGT AAAGTTCACGGGAGACTTTATCTGACAGCAGACGTGCACTGGCCAGGGGGATCA CCATCCGTCGCCCGGGCGTGTCAATAATATCACTCTGTACATCCACAAACAGACG ATAACGGCTCTCTTTTATAGGTGTAAACCTTAAACTGCATTTCACCAGCCCCTG TTCTCGTCAGCAAAAGAGCCGTTCATTTCAATAAACCGGGCGACCTCAGCCATCC ${\sf CTTCCTGATTTTCCGCTTTCCAGCGTTCGGCACGCAGACGACGGGCTTCATTCTGC}$ ATGGTTGTGCTTACCAGACCGGAGATATTGACATCATATATGCCTTGAGCAACTG ATAGCTGTCGCTGTCAACTGTCACTGTAATACGCTGCTTCATAGCATACCTCTTTT TGACATACTTCGGGTATACATATCAGTATATATTCTTATACCGCAAAAATCAGCG AAATCCACACATTATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTA ATGCGGCCGCCAATATGACTGGATATGTTGTGTTTTACAGTATTATGTAGTCTGTT TTTTATGCAAAATCTAATTTAATATTGATATTTATATCATTTTACGTTTCTCGTT CAGCTTTTTTGTACAAACTTGTGATCCCCGTCTCTAGCTTGGCACTGGCCGTCGTT TTACAACGTCGTGACTGGGAAAACCCTGGCGTTACCCAACTTAATCGCCTTGCAG CACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCC TTCCCAACAGTTGCGCAGCCTGAATGGCGAATGCTAGAGCAGCTTGAGCTTGGAT CAGATTGTCGTTTCCCGCCTTCAGTTTAAACTATCAGTGTTTGACAGGATATATTG GCGGGTAAACCTAAGAGAAAAGAGCGTTTATTAGAATAACGGATATTTAAAAGG GCGTGAAAAGGTTTATCCGTTCGTCCATTTGTATGTGCATGCCAACCACAGGGTT CCCCTCGGGATCAAAGTACTTTGATCCAACCCCTCCGCTGCTATAGTGCAGTCGG ${\tt CTTCTGACGTTCAGTGCAGCCGTCTTCTGAAAACGACATGTCGCACAAGTCCTAA}$ GTTACGCGACAGGCTGCCCTGCCCTTTTCCTGGCGTTTTTCTTGTCGCGTGTTT TAGTCGCATAAAGTAGAATACTTGCGACTAGAACCGGAGACATTACGCCATGAA CAAGAGCGCCGCCGCTGGCCTGCTGGGCTATGCCCGCGTCAGCACCGACCA TTCCGAGAAGATCACCGGCACCAGGCGCGCCGGAGCTGGCCAGGATGCT TGACCACCTACGCCCTGGCGACGTTGTGACAGTGACCAGGCTAGACCGCCTGGC CCGCAGCACCCGCGACCTACTGGACATTGCCGAGCGCATCCAGGAGGCCGGCGC CATGGTGTTGACCGTGTTCGCCGGCATTGCCGAGTTCGAGCGTTCCCTAATCATC GACCGCACCCGGAGCGGCGCGAGGCCGCCAAGGCCCGAGGCGTGAAGTTTGGC CCCCGCCTACCCTCACCCGGCACAGATCGCGCACGCCGCGAGCTGATCGACC AGGAAGGCCGCACCGTGAAAGAGGCGGCTGCACTGCTTGGCGTGCATCGCTCGA ${\tt CCCTGTACCGCGCACTTGAGCGCAGCGAGGAAGTGACGCCCACCGAGGCCAGGC}$ GGCGCGTGCCTTCCGTGAGGACGCATTGACCGAGGCCGACGCCCTGGCGGCCG

CCGAGAATGAACGCCAAGAGGAACAAGCATGAAACCGCACCAGGACGGCCAGG ACGAACCGTTTTTCATTACCGAAGAGATCGAGGCGGAGATGATCGCGGCCGGGT ACGTGTTCGAGCCGCCCGCGCACGTCTCAACCGTGCGGCTGCATGAAATCCTGGC CGGTTTGTCTGATGCCAAGCTGGCGGCCTGGCCGGCCAGCTTGGCCGCTGAAGAAACCGAGCGCCGCCGTCTAAAAAGGTGATGTGTATTTGAGTAAAACAGCTTGCG GAACGCATGAAGGTTATCGCTGTACTTAACCAGAAAGGCGGGTCAGGCAAGACG ACCATCGCAACCCATCTAGCCCGCGCCCTGCAACTCGCCGGGGCCGATGTTCTGT TAGTCGATTCCGATCCCCAGGGCAGTGCCCGCGATTGGGCGGCCGTGCGGGAAG ATCAACCGCTAACCGTTGTCGGCATCGACCGCCCGACGATTGACCGCGACGTGA AGGCCATCGGCCGCGCGACTTCGTAGTGATCGACGGAGCGCCCCAGGCGGCGG ACTTGGCTGTGTCCGCGATCAAGGCAGCCGACTTCGTGCTGATTCCGGTGCAGCC AAGCCCTTACGACATATGGGCCACCGCCGACCTGGTGGAGCTGGTTAAGCAGCG CATTGAGGTCACGGATGGAAGGCTACAAGCGGCCTTTGTCGTGTCGCGGGCGAT CAAAGGCACGCGCATCGGCGGTGAGGTTGCCGAGGCGCTGGCCGGGTACGAGCT GCCCATTCTTGAGTCCCGTATCACGCAGCGCGTGAGCTACCCAGGCACTGCCGCC GCCGCACAACCGTTCTTGAATCAGAACCCGAGGGCGACGCTGCCCGCGAGGTC CAGGCGCTGGCCGCTGAAATTAAATCAAAACTCATTTGAGTTAATGAGGTAAAGGTCAACTTTCAGTTGCCGGCGGAGGATCACACCAAGCTGAAGATGTACGCGGTA CGCCAAGGCAAGACCATTACCGAGCTGCTATCTGAATACATCGCGCAGCTACCA GAGTAAATGAGCAAATGAATAAATGAGTAGATTTTAGCGGCTAAAGGAGG CGGCATGGAAAATCAAGAACAACCAGGCACCGACGCCGTGGAATGCCCCATGTG TGGAGGAACGGCGGTTGGCCAGGCGTAAGCGGCTGGGTTGTCTGCCGGCCCTG CAATGGCACTGGAACCCCAAGCCCGAGGAATCGGCGTGACGGTCGCAAACCAT CCGGCCCGGTACAAATCGGCGCGCGCGCGCTGGTGATGACCTGGTGGAGAAGTTGAAGGCCGCGCGGCCAGCGGCAACGCATCGAGGCAGAAGCACGCCCCGGT GAATCGTGGCAAGCGCCGCTGATCGAATCCGCAAAGAATCCCGGCAACCGCCG GCAGCCGGTGCGCCGATTAGGAAGCCGCCCAAGGGCGACGAGCAACCAGAT TTTTTCGTTCCGATGCTCTATGACGTGGGCACCCGCGATAGTCGCAGCATCATGG ACGTGGCCGTTTTCCGTCTGTCGAAGCGTGACCGACGAGCTGGCGAGGTGATCCG CAGTGTGTGGGATTACGACCTGGTACTGATGGCGGTTTCCCATCTAACCGAATCC ATGAACCGATACCGGGAAGGGAAGGGAGACAAGCCCGGCCGCGTGTTCCGTCCA CACGTTGCGGACGTACTCAAGTTCTGCCGGCGAGCCGATGGCGGAAAGCAGAAA CGTACGAAGAAGGCCAAGAACGCCGCCTGGTGACGGTATCCGAGGGTGAAGCC TTGATTAGCCGCTACAAGATCGTAAAGAGCGAAACCGGGCGGCCGGAGTACATC GAGATCGAGCTAGCTGATTGGATGTACCGCGAGATCACAGAAGGCAAGAACCCG TTCTCTACCGCCTGGCACGCCGCGCCGCAGGCAGGCAGAAGCCAGATGGTTGT TCAAGACGATCTACGAACGCAGTGGCAGCGCCGGAGAGTTCAAGAAGTTCTGTT TCACCGTGCGCAAGCTGATCGGGTCAAATGACCTGCCGGAGTACGATTTGAAGGAGGAGGCGGGCAGGCTGGCCCGATCCTAGTCATGCGCTACCGCAACCTGATCG AGGGCGAAGCATCCGCCGGTTCCTAATGTACGGAGCAGATGCTAGGGCAAATTG CCCTAGCAGGGGAAAAAGGTCGAAAAGGTCTCTTTCCTGTGGATAGCACGTACA TTGGGAACCCAAAGCCGTACATTGGGAACCGGAACCCGTACATTGGGAACCCAA AGCCGTACATTGGGAACCGGTCACACATGTAAGTGACTGATATAAAAGAGAAAA AAGGCGATTTTTCCGCCTAAAACTCTTTAAAACTTATTAAAACTCTTAAAACCCG

CCTGGCCTGTGCATAACTGTCTGGCCAGCGCACAGCCGAAGAGCTGCAAAAAGC GCCTACCCTTCGGTCGCTGCGCTCCCTACGCCCGCCGCTTCGCGTCGGCCTATC GCGGCCGCTGGCCTCAAAAATGGCTGGCCTACGGCCAGGCAATCTACCAGGG CGCGGACAAGCCGCCGTCGCCACTCGACCGCCGCCGCCCACATCAAGGCACC CTGCCTCGCGCGTTTCGGTGATGACGGTGAAAACCTCTGACACATGCAGCTCCCG GAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAG GGCGCGTCAGCGGGTGTTGGCGGGTGTCGGGGCGCAGCCATGACCCAGTCACGT AGCGATAGCGGAGTGTATACTGGCTTAACTATGCGGCATCAGAGCAGATTGTAC TGAGAGTGCACCATATGCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAT ACCGCATCAGGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTGCGCTCGGTCGTT CGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACA GAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGC CAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCT GACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGG ACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTT CCGACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGG CGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCTCCAAGCTGGGCTGTGCACGAACCCCCCGTTCAGCCCGACCGCTGCGCCTTATCCG GTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGC AGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTT ${\tt CTTGAAGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGC}$ GCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCA AACAAACCACCGCTGGTAGCGGTGGTTTTTTTTTTTTTCCAAGCAGCAGATTACGCG CAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCT CAGTGGAACGAAAACTCACGTTAAGGGATTTTGGTCATGCATTCTAGGTACTAAAACAATTCATCCAGTAAAATATAATATTTTATTTTCTCCCAATCAGGCTTGATCCCC AGTAAGTCAAAAAATAGCTCGACATACTGTTCTTCCCCGATATCCTCCCTGATCG ACCGGACGCAGAAGGCAATGTCATACCACTTGTCCGCCCTGCCGCTTCTCCCAAG ATCAATAAAGCCACTTACTTTGCCATCTTTCACAAAGATGTTGCTGTCTCCCAGG TCGCCGTGGGAAAAGACAAGTTCCTCTTCGGGCTTTTCCGTCTTTAAAAAATCAT ACAGCTCGCGCGGATCTTTAAATGGAGTGTCTTCTTCCCAGTTTTCGCAATCCAC ATCGGCCAGATCGTTATTCAGTAAGTAATCCAATTCGGCTAAGCGGCTGTCTAAG ${\tt CTATTCGTATAGGGACAATCCGATATGTCGATGGAGTGAAAGAGCCTGATGCAC}$ TCCGCATACAGCTCGATAATCTTTTCAGGGCTTTGTTCATCTTCATACTCTTCCGAGCAAAGGACGCCATCGGCCTCACTCATGAGCAGATTGCTCCAGCCATCATGCCGT TCAAAGTGCAGGACCTTTGGAACAGGCAGCTTTCCTTCCAGCCATAGCATCATGT CCTTTTCCCGTTCCACATCATAGGTGGTCCCTTTATACCGGCTGTCCGTCATTTTT AAATATAGGTTTTCATTTTCTCCCACCAGCTTATATACCTTAGCAGGAGACATTCC TTCCGTATCTTTACGCAGCGGTATTTTTCGATCAGTTTTTTCAATTCCGGTGATA TTCTCATTTTAGCCATTTATTATTTCCTTCCTCTTTTCTACAGTATTTAAAGATACC CCAAGAAGCTAATTATAACAAGACGAACTCCAATTCACTGTTCCTTGCATTCTAA AACCTTAAATACCAGAAAACAGCTTTTTCAAAGTTGTTTTCAAAGTTGGCGTATA ACATAGTATCGACGGAGCCGATTTTGAAACCGCGGTGATCACAGGCAGCAACGC TCTGTCATCGTTACAATCAACATGCTACCCTCCGCGAGATCATCCGTGTTTCAAA CCCGGCAGCTTAGTTGCCGTTCTTCCGAATAGCATCGGTAACATGAGCAAAGTCT GCCGCCTTACAACGGCTCTCCCGCTGACGCCGTCCCGGACTGATGGGCTGCCTGT GGCAGGATATATTGTGGTGTAAACAAATTGACGCTTAGACAACTTAATAACACA TTTTAGTACTGGATTTTGGTTTTAGGAAATTTATTGATAGAAGTATTTT

ACAAATACAAATACATACTAAGGGTTTCTTATATGCTCAACACATGAGCGAAAC CCTATAGGAACCCTAATTCCCTTATCTGGGAACTACTCACACATTATTATGGAGAAACTCGAGCTTGTCGATCGACAGATCCGGTCGGCATCTACTCTATTTCTTTGCCCT CGGACGAGTGCTGGGCGTCGGTTTCCACTATCGGCGAGTACTTCTACACAGCCATCGGTCCAGACGCCGCGCTTCTGCGGGCGATTTGTGTACGCCCGACAGTCCCGG CTCCGGATCGGACGATTGCGTCGCATCGACCCTGCGCCCAAGCTGCATCATCGAAATTGCCGTCAACCAAGCTCTGATAGAGTTGGTCAAGACCAATGCGGAGCATATA CGCCCGGAGTCGTGGCGATCCTGCAAGCTCCGGATGCCTCCGCTCGAAGTAGCG CGTCTGCTCCATACAAGCCAACCACGGCCTCCAGAAGAAGATGTTGGCGAC ${\tt CTCGTATTGGGAATCCCCGAACATCGCCTCGCTCCAGTCAATGACCGCTGTTATG}$ CGGCCATTGTCCGTCAGGACATTGTTGGAGCCGAAATCCGCGTGCACGAGGTGC CGGACTTCGGGGCAGTCCTCGGCCCAAAGCATCAGCTCATCGAGAGCCTGCGCG ACGGACGCACTGACGGTGTCCATCACAGTTTGCCAGTGATACACATGGGGA TCAGCAATCGCGCATATGAAATCACGCCATGTAGTGTATTGACCGATTCCTTGCG GTCCGAATGGCCGAACCCGCTCGTCTGGCTAAGATCGCCGCAGCGATCGCAT ${\tt CTTGCAACGTGACACCCTGTGCACGGCGGGAGATGCAATAGGTCAGGCTCTCGC}$ TAAACTCCCCAATGTCAAGCACTTCCGGAATCGGGAGCGCGGCCGATGCAAAGT GCCGATAAACATAACGATCTTTGTAGAAACCATCGGCGCAGCTATTTACCCGCAG GACATATCCACGCCCTCCTACATCGAAGCTGAAAGCACGAGATTCTTCGCCCTCC GAGAGCTGCATCAGGTCGGAGACGCTGTCGAACTTTTCGATCAGAAACTTCTCGA CAGACGTCGCGGTGAGTTCAGGCTTTTTCATATCTCATTGCCCCCCGGGATCTGC GAAAGCTCGAGAGAGATAGATTTGTAGAGAGAGACTGGTGATTTCAGCGTGTCC TCTCCAAATGAAATGAACTTCCTTATATAGAGGAAGGTCTTGCGAAGGATAGTG GGATTGTGCGTCATCCCTTACGTCAGTGGAGATATCACATCAATCCACTTGCTTT ${\tt CATCTTTGGGACCACTGTCGGCAGAGGCATCTTGAACGATAGCCTTTCCTTTATC}$ GCAATGATGGCATTTGTAGGTGCCACCTTCCTTTTCTACTGTCCTTTTGATGAAGT GACAGATAGCTGGGCAATGGAATCCGAGGAGGTTTCCCGATATTACCCTTTGTTG AAAAGTCTCAATAGCCCTTTGGTCTTCTGAGACTGTATCTTTGATATTCTTGGAGT AGACGAGAGTGTCGTCCACCATGTTATCACATCAATCCACTTGCTTTGAAGA TGGGACCACTGTCGGCAGAGGCATCTTGAACGATAGCCTTTCCTTTATCGCAATG ATGGCATTTGTAGGTGCCACCTTCCTTTTCTACTGTCCTTTTGATGAAGTGACAGA TAGCTGGGCAATGGAATCCGAGGAGGTTTCCCGATATTACCCTTTGTTGAAAAGT ${\tt CTCAATAGCCCTTTGGTCTTCTGAGACTGTATCTTTGATATTCTTGGAGTAGACGA}$ GAGTGTCGTGCTCCACCATGTTGGCAAGCTGCTCTAGCCAATACGCAAACCGCCT ${\sf CTCCCGCGCGTTGGCCGATTCATTAATGCAGCTGGCACGACAGGTTTCCCGACT}$ ${\tt CACCCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGGAATTGTGAGC}$ GGATAACAATTTCACACAGGAAACAGCTATGACCATGATTACGAATTCGAGCTC GGTACCCGGGGATCCTCTAGTAAGCTAGCTTGCATGCCGGTCCTGCTGAGCCTCG ACATGTTGTCGCAAAATTCGCCCTGGACCCGCCAACGATTTGTCGTCACTGTCA AGGTTTGACCTGCACTTCATTTGGGGCCCACATACACCAAAAAAATGCTGCATAA TTCTCGGGGCAGCAAGTCGGTTACCCGGCCGCCGTGCTGGACCGGGTTGAATGGTGCCCGTAACTTTCGGTAGAGCGGACGGCCAATACTCAACTTCAAGGAATCTCACC CATGCGCGCGGCGGGAACCGGAGTTCCCTTCAGTGAACGTTATTAGTTCGCCG ${\sf CTCGGTGTGTCGTAGATACTAGCCCCTGGGGCACTTTTGAAATTTGAATAAGATT}$ TATGTAATCAGTCTTTTAGGTTTGACCGGTTCTGCCGCTTTTTTTAAAATTGGATT TGTAATAAAAACGCAATTGTTTGTTATTGTGGCGCTCTATCATAGATGTCGCT

ATAAACCTATTCAGCACAATATATTGTTTTCATTTTAATATTGTACATATAAGTAG TAGGGTACAATCAGTAAATTGAACGGAGAATATTATTCATAAAAAATACGATAGT AACGGGTGATATATTCATTAGAATGAACCGAAACCGGCGGTAAGGATCTGAGCT ACACATGCTCAGGTTTTTTACAACGTGCACAACAGAATTGAAAGCAAATATCATG CGATCATAGGCGTCTCGCATATCTCATTAAAGCAGGACTCTAGTTATTCTTCTTCTTGGTCTGCTTCGGTGTCAATGTCTTGGAGATGTGAGAGTGCCACCTTTGGTTT ${\tt CTTAGGTTTTGAGCTAGCTTCCTCTTCCTCTCTCTTCGTTGCCATCCTCAGAGTCTTT}$ ${\tt CCTCTTAAGATCCTTAACGTCTCCCTCGTTTGAGCAGCTCTCAGGTTTAACGATTT}$ ${\tt CTGTTTCTCATTGTTCACTTTCGCCTTCCGGGCCTGTTCCTCGCGCTTGAACT}$ CAGCTGCCGCGGCAGCGTAATCGGGCACGTCATACGGGTAGTCTCCGCCGAGCT GTGACAAATCGATTCTCGTCTCATAGAGCCCTGTTATGCTTTGATGAATCAGGGT CGCATCAAGGACCTCCTTCGTGCTTGTGTAACGTTTCCGGTCAATCGTTGTATCAAAATACTTGAATGCCGCGGGGGCACCCAGGTTGGTAAGAGTGAAGAGATGAATG CACCTTGTCGAGGTTAGCATCGGCAAGAATGACTCTTTTTGAGAACTCGCTGATC TGTTCTATAATCTCATCCAGATAATGCTTGTGTTGCTCAACAAAAAGTTGTTTCTG TTCGTTGTCCTCTGGACTGCCTTTCAGCTTCTCGTAGTGCGACGCAAGATAGAGG AAGTTCACATACTTAGAAGGCAAGGCCAGCTCGTTCCCTTTCTGGAGCTCTCCAG CTGATGCCAACATGCGCTTCCTTCCGTTTTCCAACTCAAACAGGCTGTACTTTGG GAGCTTGATGATGAGATCCTTCTTCACTTCCTTATAGCCTTTAGCCTCAAGGAAA TCGATAGGATTCTTTTCGAAGGAAGACCTCTCCATGATAGTAATCCCAAGGAGTT CCTTGACGGATTTGAGTTTCTTAGATTTACCCTTCTCAACCTTCGCCACGACCAAG ACGGAGTAGGCAACGGTTGGAGAATCGAACCCACCATATTTCTTAGGGTCCCAA AGAGAATCCGCCCGTCTGGACCTCTGTTTTCTTAACAATATTCACTTGCGGCATG GAGAGGACCTTACGAACAGTAGCAAAGTCCCGCCCTTTATCCCAAACGATTTCCC CGGTTTCACCGTTAGTCTCGATGAGAGGTCTCTTACGTATTTCACCATTTGCCAACGTTATCTCTGTCTTGAAGAAGTTCATGATGTTAGAGTAAAAGAAATACTTCGCGG TGGCTTTACCAATTTCCTGCTCACTCTTAGCGATCATTTTCCTCACGTCGTAGACC TTATAATCCCCGTACACGAACTCAGACTCCAGCTTCGGGTATTTCTTAATCAACG CCGTACCAACCACGGCGTTGAGGTAAGCATCATGTGCATGGTGATAATTGTTGAT CTCCCGAACCTTATAAAATTGGAAGTCTTTGCGAAAATCGGACACGAGTTTAGAC TTCAATGTGATAACCTTCACTTCTCTGATCAATTTATCATTCTCGTCGTACTTGGT GTTCATCCTAGAATCCAGTATCTGCGCGACGTGCTTCGTAATCTGGCGTGTCTCA ACAAGTTGCCTCTTAATGAATCCAGCTTTATCAAGTTCACTGAGCCCACCGCGCT CTGCTTTTGTGAGGTTGTCAAACTTCCTCTGGGTGATCAATTTTGCATTCAACAGTTGGCGCCAGTAGTTCTTCATCTTCTTCACAACTTCCTCACTGGGAACATTGTCCGA CTTGCCACGGTTTTTATCCGACCGAGTCAGCACCTTATTATCTATACTATCGTCCT TAAGGAACGATTGCGGCACGATATGGTCGACATCGTAGTCTGAGAGCCTGTTAA TGTCCAACTCCTGATCCACATACATGTCTCTACCATTTTGGAGATAGTAAAGATA GAGCTTCTCATTTTGCAACTGTGTTTTTCAACTGGGTGCTCCTTCAGGATCTGGC TTCCAAGTTCCTTGATGCCTTCCTCTATCCTTTTCATCCGCTCGCGGGAGTTCTTCTGTCCTTTTTGGGTAGTCTGATTTTCACGGGCCATCTCGATCACTATGTTTTCGGGC TTATGCCGGCCCATAACTTTCACCAGCTCATCCACGACCTTGACGGTCTGAAGAA TCCCTTTCTTGATCGCCGGGCTACCCGCCAGGTTGGCGATATGCTCGTGAAGTGAATCTCCTTGGCCGCTAACTTGGGCCTTCTGGATGTCCTCTTTGAAAGTCAGGGAA TCGTCGTGTATAAGCTGCATAAAATTGCGGTTGGCGAAGCCGTCGGACTTGAGG AAATCCAGAATCGTCTTTCCAGATTGTTTATCCCTTATGCCATTAATCAGCTTTCT AGAAAGACGCCCCAACCTGTGTACCTTCTACGCTTGAGCTGCTTCATAACCTTA TCGTCGAAGAGATGAGCATAGGTCTTCAATCTTTCCTCGATCATTTCACGGTCCT

CAAACAACGTCAGTGTAAGGACTATATCTTCGAGAATGTCCTCATTTTCCTCGTT ATCCAAGAAATCTTTGTCCTTAATGATCTTAAGGAGGTCGTGGTAGGTTCCCAGT GAAGCGTTGAATCTATCTTCAACGCCACTGATCTCCACCGAGTCAAAACATTCTA TTTTCTTGAAGTAATCCTCCTTAAGCTGCTTGACGGTAACCTTCCTGTTAGTTTTA AACAACAGATCCACTATAGCTTTCTTTTGTTCCCCCGACAGGAATGCCGGCTTCC GCATACCCTCAGTAACGTATTTCACCTTCGTAAGTTCGTTATACACTGTGAAATA ${\tt CTCGTAAAGGAGTGAATGCTTGGGCAGGACTTTCTCGTTCGGAAGGTTCTTATCA}$ AAATTAGTCATTCTCAATGAAACTTTGAGCCGATGCGCCCTTGTCAACCACTT ${\tt CCTCGAAGTTCCAAGGGGTGATAGTTTCCTCACTCTTGCGTGTCATCCAAGCAAA}$ TCTAGAGTTGCCTCTAGCCAGTGGACCGACATAGTAAGGGATTCTGAAAGTAAG GATTTTTCGATCTTCTCACGGTTGTCCTTCAGAAAGGGGTAGAAATCTTCCTGCC GGCGAAGGATGGCGTGAAGCTCTCCGAGATGGATCTGGTGCGGTATGCTGCCGT TGTCGAAAGTCCGTTGCTTGCGCAAGAGATCCTCTCTATTCAGTTTAACAAGGAG TTCCTCCGTACCATCCATCTTCTCAAGAATAGGTTTGATAAACTTGTAGAACTCCT CCTGGGACGCTCCGCCATCAATATATCCGGCGTAGCCATTCTTAGATTGGTCAAA GAAGATTTCTTTGTACTTCTCTGGGAGTTGCTGTCTAACCAACGCCTTCAACAGA CTTTGGTAATCTCAGTGTTCACGCGGAGGATGTCTGAAAGGAGTATGGCATCGCT GAGGTTCTTGGCAGCGAGGAACAAATCAGCGTACTGGTCACCGATTTGTGCCAA CAGGTTGTCAAGATCGTCATCATAAGTATCCTTGGACAGCTGAAGTTTAGCATCC TCTGCGAGGTCGAAGTTAGACTTGAAGTTTGGCGTGAGTCCCAAGCTCAGCGCAATGAGATTCCCGAACAAACCGTTTTTCTTTTCGCCAGGAAGTTGGGCGATCAAGT TCTCCAGCCTTCTACTCTTCGACAGCCTCGCGGAAAGGATCGCTTTGGCATCAAC TCCAGAGGCGTTGATAGGGTTTTCCTCAAAGAGCTGATTGTATGTTTGCACGAGC TGGATGAACAACTTATCGACGTCAGAATTATCAGGGTTCAGGTCTCCCTCAATAA GAAAATGGCCACGGAACTTGATCATGTGAGCAAGTGCGAGGTATATCAACCGCA GATCAGCCTTGTCAGTTGAATCCACCAGTTTCTTGCGAAGATGGTAGATCGTGGG GTACTTTCGTGATATGCGACCTCATCAACAATGTTTCCAAAGATCGGATGCCGC TCGTGTTTCTTGTCTTCCTCGACGAGGAATGATTCCTCCAAGCGATGAAAGAAGC TGTCATCAACCTTGGCCATTTCGTTAGAGAATATCTCCTGGAGGTAGCAAATGCG ATTCTTACGCCGGGTATAGCGCCTTCTAGCAGTCCTTTTCAGTCTGGTCGCTTCGG CAGTCTCCCCACTATCGAAAAGGAGTGCACCAATGAGATTTTTCTTGATCGAGTG ${\tt CCTGTCAGTGTTGCCCAACACCTTGAACTTCTTGCTAGGAACCTTGTATTCGTCTG}$ TAATGACTGCCCAACCCACGCTATTTGTCCCAATGTCCAACCCAATGCTGTATTTT TTGTTGGTAATTGTTGTAAAAATACTTTAAAGAGCCTGCTTTTTTGTACAAACTTG TTGATGATCCCTGTTAATCAGAAAAACTCAGATTAATCGACAAATTCGATCGCAC AAACTAGAAACTAACACCAGATCTAGATAGAAATCACAAATCGAAGAGTAATTA TTCGACAAAACTCAAATTATTTGAACAAATCGGATGATATCTATGAAACCCTAAT CGAGAATTAAGATGATATCTAACGATCAAACCCAGAAAATCGTCTTCGATCTAA AAAATCGAAGATTTTGAGAGAATAAGGAACACAGAAATTTACCTTGATCACGGT AGAGAGAATTGAGAGAAAGTTTTTAAGATTTTGAGAAATTGAAATCTGAATTGT AGGACGACTAGGTCACGAGAAAGCTAAGGCGGTGAAGCAATAGCTAATAATAA AATGACACGTGTATTGAGCGTTGTTTACACGCAAAGTTGTTTTTGGCTAATTGCC TTATTTTAGGTTGAGGAAAAGTATTTGTGCTTTGAGTTGATAAACACGACTCGT GTGTGCCGGCTGCAACCACTTTGACGCCGTTTATTACTGACTCGTCGACAACCAC AATTTCTAACGGTCGTCATAAGATCCAGCCGTTGAGATTTAACGATCGTTACGAT TTATATTTTTTAGCATTATCGTTTTATTTTTAAATATACGGTGGAGCTGAAAAT

TGGCAATAATTGAACCGTGGGTCCCACTGCATTGAAGCGTATTTCGTATTTTCTA AAGTGGGCTTATAAAATCAGTGAATTTCTTGGAAAAGTAACTTCTTTATCGTATA ACATATTGTGAAATTATCCATTTCTTTTAATTTTTTAGTGTTATTGGATATTTTTGT ATGATTATTGATTTGCATAGGATAATGACTTTTGTATCAAGTTGGTGAACAAGTC TCGTTAAAAAAGGCAAGTGGTTTGGTGACTCGATTTATTCTTGTTATTTAATTCAT ATATCAATGGATCTTATTTGGGGCCTGGTCCATATTTAACACTCGTGTTCAGTCCA ATGACCAATAATATTTTTCATTAATAACAATGTAACAAGAATGATACACAAAAC ATTCTTTGAATAAGTTCGCTATGAAGAAGGGAACTTATCCGGTCCTAGATCATCA GTTCATACAAACCTCCATAGAGTTCAACATCTTAAACAAGAATATCCTGATCTGA AGAATGTGGAGGCTTTAGTCCCTTGGATACTTGGGAGGCTGTGGAAGAACAGAA ACGAGCTGGTGCTTAAAGGGAGGGAATTTGGAACCAATGAGGTATTAGTAAGGA CACAAGAAGATGCAGATGAGTGGATTAGAAGGAAAGAGGCTCAGAATGTAAGG AAAGCACCAACACCGTCGGGACAGACGAGAAACATGGGAAGCTCCAC CACAATCTTGGGTTAAGTGCAACTTTGATGGGGCATGGCCAACAGAAGGATTAA AATGTGGCTTAGGGTGGGTGCTTCGCGATCATACAGGGAAGGTGTTATGGTTAG GTGCAAGAGCTGTGGTAAAAGTAAGAAGCGTGCTGGAAGTAGAAGTGGAGGCTC TTAGATGGGCTGTCATTATCCCGATTCAATTATAGGAAGATCATTTTTGA GGTGGATTCTCAGCAACTTGTGTCTTTGGTTACATGAAAGTTATGCTTGTCAAGT CTCAATCCAATTATCCAAGACATAAAGTATCTACTTAGCAAGTTTGAGGATTTTA TGCTTGTGCATACAAGCCGAGAAGGAAATGGAGTGGCAGATAGAATAGCTAAGG AATCTCTTTCTTTTGAGAATTATGATCTAAAGTTGTATTCTATTGTACCAATTTGG GTTAAAAGCTCTGTTGAGCTAGACTCATATGCAT