

Supplementary File 2 - Nucleotide sequences of the CRN's effectors PpCRN7 and PpCRN20 used for transformation.

Sequence genome PpCRN7:

>L914_21747T0:7000000214352887:152-624::hypothetical protein

MVKLFCVLVGAAGSAFPVDIDASQSVGDLKEAIKEKNEDITCAARRLNLYLATKGDDAWMTNDEADSVSDVG
LPHLGVPQAKLRRVGLSEEKMEVEDEDEAAGNGLVNVLVVVPTEKVVVPVL*

35s : PpCRN7-3xHA

5'CC

ATGGTCGATATCGATGCGAGCCAGTCAGTGGGGGACTTAAAGGAGGCGATTAAAGGAAAAGAATGA
GGACATCACGTGTGCTGCGCGACGTCTGAATCTGTATTTGGCCACGAAGGGCGACGACGCATGGA
TGACAAACGACGAAGCCGATAGTGTGAGCGACGTTGGGCTACCACATCTAGGTGTTCCACAAGCG
AAGCTCCGACGCGTTGGTTTGTCTGAAGAGAAAATGGTCGAAGTGGATGAAGATGACGAGGCAGC
AGGAAATGGCCTTGTCAATGTGCTCGTGGTGGTTCCGACCAAAGAGGTGGTTGTGCCGGTGTTAG
GAGGTGGAGGTGGAGCTTACCCATACGATGTTCTGACTATGCGGGCTATCCCTATGACGTCCCG
GACTATGCAGGATCCTATCCATATGACGTTCCAGATTACGCTTGA

CODON OPTIMIZATION

Host expression organism: *Arabidopsis thaliana*

Secondary host expression organism: *Nicotiana tabacum*

Optimization start position: 7 bp

Optimization end position: 437 bp

STOP CODON NEEDED

Yes

RESTRICTION SITES TO INTRODUCE:

5' - NcoI

3' - BstEII

Sequence genome PpCRN20:

>L914_17494T0:7000000214351380:1183-1566::hypothetical protein

MVKLFCVAVGAAGSAFVSVGDESdTVDLKKAIRAEPEFGYPNSKMNLFLAKRGDAWLTANEVKGVSdTSG
LTHLDVARAEISVVLSEKDVRRHQVDKHQVAAGNPGVNVVVVPTTEVVVPALSQ*

35s : PpCRN20-3xHA

5'CC

ATGGTGGGGGTGGATGAGAGCGACACGGTTGATGACTTGAAGAAGGCAATCAGAGCAGAGCCAGAGTTCGGC
TACCCTAACAGCAAGATGAACCTGTTCTCGCCAAGCGGGGCGACGCGTGGCTGACTGCAAACGAGGTCAAA
GGCGTGAGTGACACCAAGTGGTCTGACACATCTGGATGTTGCGCGGGCGGAAATTAGTGTGTGCGCCTCTCA
GAGAAAGATGTGCGACACCAAGTCGATAAACACCAAGTAGCAGCAGGAAATGGCCCTGTGAATGTGATGGTG
GTGGTGGTTCCGACCGAAGAGGTGGTTGTGCCGGCGTTATCGCAGGGAGGTGGAGGTGGAGCTTACCCATAC
GATGTTCTGACTATGCGGGCTATCCCTATGACGTTCCCGGACTATGCAGGATCCTATCCATATGACGTTCCA
GATTACGCTTGA

CODON OPTIMIZATION

Host expression organism: *Arabidopsis thaliana*

Secondary host expression organism: *Nicotiana tabacum*

Optimization start position: 7 bp

Optimization end position: 446 bp

STOP CODON NEEDED

Yes

RESTRICTION SITES TO INTRODUCE:

5' – NcoI

3' – BstEII

VECTOR SEQUENCE

>gi|7638073|gb|AF234298.1| Binary vector pCambia-1302, complete sequence

CATGGTAGATCTGACTAGTAAAGGAGAAGAACTTTTCACTGGAGTTGTCCCAATTCTTGTGAATTAGAT
GGTGATGTTAATGGGCACAAATTTTCTGTCTAGTGGAGAGGGTGAAGGTGATGCAACATACGGAAAACTTA
CCCTTAAATTTATTTGCACTACTGGAAAACTACCTGTTCCGTGGCCAACTTGTCACTACTTTCTCTTA
TGGTGTTCATGCTTTTCAAGATACCCAGATCATATGAAGCGGCACGACTTCTTCAAGAGCGCCATGCCT
GAGGGATACGTGCAGGAGAGGACCATCTTCTTCAAGGACGACGGGAACACTACAAGACACGTGCTGAAGTCA
AGTTTGAGGGGAGACACCCCTCGTCAACAGGATCGAGCTTAAGGGAATCGATTTCAAGGAGGACGGAAACAT
CCTCGGCCACAAGTTGGAATACAACACTACAACCTCCACAACGTATACATCATGGCCGACAAGCAAAAGAAC
GGCATCAAAGCCAACCTTCAAGACCCGCCACAACATCGAAGACGGCGGGCGTGCAACTCGCTGATCATTATC
AACAAAATACTCCAATTGGCGATGGCCCTGTCTTTTACCAGACAACCATTACCTGTCCACACAATCTGC
CCTTTTCGAAAGATCCCAACGAAAAGAGAGACCACATGGTCTTCTTGAGTTTGTAACAGCTGCTGGGATT
ACACATGGCATGGATGAACTATACAAAGCTAGCCACCACCACCACCACCGTGTGAATTGGTGACCAGC
TCGAATTTCCCGATCGTTCAAACATTTGGCAATAAAGTTTCTTAAGATTGAATCCTGTTGCCGGTCTTG
CGATGATTATCATATAATTTCTGTTGAATTACGTTAAGCATGTAATAATTAACATGTAATGCATGACGTT
ATTTATGAGATGGGTTTTTATGATTAGAGTCCCGAATTATACATTTAATACGCGATAGAAAACAAAATA
TAGCGCGCAAACTAGGATAAATTATCGCGCGCGGTGTCATCTATGTTACTAGATCGGGAATTAACATATC
AGTGTGTTGACAGGATATATTGGCGGGTAAACCTAAGAGAAAAGAGCGTTTATTAGAATAACGGATATTTA
AAAGGGCGTGAAAAGGTTTATCCGTTTCGTCCATTTGTATGTGCATGCCAACCACAGGGTTCCCTCGGGA
TCAAAGTACTTTGATCCAACCCCTCCGCTGCTATAGTGCAGTCGGCTTCTGACGTTTCAGTGCAGCCGTCT
TCTGAAAACGACATGTGCGACAAGTCTTAAGTTACGCGACAGGCTGCCGCCCTGCCCTTTTCTGGCGTT
TTCTTGTGCGGTGTTTTAGTTCGCATAAAGTAGAATACTTGCAGTCTAGAACCGGAGACATTACGCCATGAA
CAAGAGCGCCGCCGCTGGCCTGCTGGGCTATGCCCCGCTGACGACCGACGACCAGGACTTGACCAACCAA
CGGGCCGAACCTGCACGCGCGCCGGCTGCACCAAGCTGTTTTCCGAGAAGATCACCGGCACCGAGCGCGACC
GCCCCGAGCTGGCCAGGATGCTTGACCACCTACGCCCTGGCGACGTTGTGACAGTGACCAGGCTAGACCG
CCTGGCCCCGACGACCCCGCAGCTACTGGACATTGCCGAGCGCATCCAGGAGGCCGGCGCGGGCCTGCGT
AGCCTGGCAGAGCCGTGGGCGGACACCACCACGCCGCGCGCCGCGCATGGTGTGACCGTGTTCGCCGGCA
TTGCCGAGTTTCGAGCGTTCCCTAATCATCGACCGCACCCGAGCGGGCGGAGGCCGCCAAGGCCCGAGG
CGTGAAGTTTGGCCCCCGCCCTACCCCTACCCCGGCACAGATCGCGCACGCCCGCGAGCTGATCGACCAG
GAAGGCCGCACCGTGAAAGAGGCGGCTGCACTGCTTGGCGTGCATCGCTCGACCCGTGTACCGCGCACTTG
AGCGCAGCGAGGAAGTGACGCCCACCGAGGCCAGGCGGCGCGGTGCCCTTCCGTGAGGACGCATTGACCGA
GGCCGACGCCCTGGCGGCCGCCGAGAATGAACGCCAAGAGGAACAAGCATGAAACCGCACCGAGGACGGCC
AGGACGAACCGTTTTTCATTACCGAAGAGATCGAGGCGGAGATGATCGCGGCCGGGTACGTGTTTCGAGCC
GCCCCGCGACGTCTCAACCGTGCGGCTGCATGAAATCCTGGCCGGTTTGTCTGATGCCAAGCTGGCGGCC
TGGCCGGCCAGCTTGGCCGCTGAAGAAACCGAGCGCCGCCGTCTAAAAAGGTGATGTGTATTTGAGTAAA
ACAGCTTGCGTCATGCGGTGCTGCGTATATGATGCGATGAGTAAATAAAACAAATACGCAAGGGGAACGC
ATGAAGGTTATCGCTGTACTTAACCAGAAAGGCGGGTCAGGCAAGACGACCATCGCAACCCATCTAGCCC
GCGCCCTGCAACTCGCCGGGGCCGATGTTCTGTTAGTCGATTCCGATCCCCAGGGCAGTGCCCCGCGATTG
GGCGGCCGTGCGGGAAGATCAACCGCTAACCGTTGTGCGGCATCGACCGCCCCGACGATTGACCGCGACGTG
AAGGCCATCGGCCGGCGCGACTTCGTAGTGATCGACGGAGCGCCCCAGGCGGCGGACTTGGCTGTGTCCG
CGATCAAGGCAGCCGACTTCGTGCTGATTCCGGTGCAGCCAAGCCCTTACGACATATGGGCCACCGCCGA
CCTGGTGGAGCTGGTTAAGCAGCGCATTGAGGTACCGGATGGAAGGCTACAAGCGGCCTTTGTCTGTGTCG

CGGGCGATCAAAGGCACGCGCATCGGCGGTGAGGTTGCCGAGGCGCTGGCCGGGTACGAGCTGCCCATTCTT
TTGAGTCCCGTATCACGCAGCGCTGAGCTACCCAGGCACTGCCGCCGCCGGCACAACCGTTCTTGAATC
AGAACCCGAGGGCGACGCTGCCCGGAGGTCCAGGCGCTGGCCGCTGAAATTAAATCAAACTCATTTTGA
GTTAATGAGGTAAAGAGAAAAATGAGCAAAAGCACAAACACGCTAAGTGCCGGCCGTCCGAGCGCACGCAG
CAGCAAGGCTGCAACGTTGGCCAGCCTGGCAGACACGCCAGCCATGAAGCGGGTCAACTTTCAGTTGCCG
GCGGAGGATCACACCAAGCTGAAGATGTACGCGGTACGCCAAGGCAAGACCATTACCGAGCTGCTATCTG
AATACATCGCGCAGCTACCAGAGTAAATGAGCAAAATGAATAAATGAGTAGATGAATTTTAGCGGCTAAAG
GAGGCGGCATGGAAAAATCAAGAACAACCAGGCACCGACGCCGTGGAATGCCCCATGTGTGGAGGAACGGG
CGGTTGGCCAGGCGTAAGCGGCTGGGTTGTCTGCCGGCCCTGCAATGGCACTGGAACCCCCAAGCCCGAG
GAATCGGCGTGACGGTCGCAAAACCATCCGGCCCCGGTACAAATCGGCGCGGCGCTGGGTGATGACCTGGTG
GAGAAGTTGAAGGCCGCGCAGGCCGCCAGCGGCAACGCATCGAGGCAGAAGCACGCCCCGGTGAATCGT
GGCAAGCGGCCGCTGATCGAATCCGCAAGAATCCCGGCAACCGCCGGCAGCCGGTGCGCCGTCGATTAG
GAAGCCGCCCCAAGGGCGACGAGCAACCAGATTTTTTCGTTCCGATGCTCTATGACGTGGGCACCCGCGAT
AGTCGCAGCATCATGGACGTGGCCGTTTTCCGTCGTGCGAAGCGTGACCGACGAGCTGGCGAGGTGATCC
GCTACGAGCTTCCAGACGGGCACGTAGAGGTTTCCGAGGGCCGGCCGGCATGGCCAGTGTGTGGGATTA
CGACCTGGTACTGATGGCGGTTTTCCCATCTAACCGAATCCATGAACCGATAACCGGAAGGGAAGGGAGAC
AAGCCCGGCCGCGTGTTCGTCACACGTTGCGGACGTACTCAAGTTCTGCCGGCGAGCCGATGGCGGAA
AGCAGAAAGACGACCTGGTAGAAACCTGCATTTCGGTTAAACACCACGCACGTTGCCATGCAGCGTACGAA
GAAGGCCAAGAACGGCCGCTGGTGACGGTATCCGAGGGTGAAGCCTTGATTAGCCGCTACAAGATCGTA
AAGAGCGAAACCGGGCGGCCGGAGTACATCGAGATCGAGCTAGCTGATTGGATGTACCGCGAGATCACAG
AAGGCAAGAACCCGGACGTGCTGACGGTTACCCCGATTACTTTTTTGATCGATCCCGGCATCGGCCGTTTT
TCTCTACCGCCTGGCACGCCGCGCCGAGGCAAGGCAGAAGCCAGATGGTTGTTCAAGACGATCTACGAA
CGCAGTGGCAGCGCCGGAGAGTTCAAGAAAGTTCTGTTTTACCGTGCGCAAGCTGATCGGGTCAAATGACC
TGCCGGAGTACGATTTGAAGGAGGAGGCGGGGCGAGGCTGGCCCGATCCTAGTCATGCGCTACCGCAACCT
GATCGAGGGCGAAGCATCCGCCGGTTCCTAATGTACGGAGCAGATGCTAGGGCAAATTGCCCTAGCAGGG
GAAAAAGGTGCAAAAGGTCTCTTTCTGTGGATAGCACGTACATTGGGAACCCAAAGCCGTACATTGGGA
ACCGGAACCCGTACATTGGGAACCCAAAGCCGTACATTGGGAACCGGTCACACATGTAAGTGACTGATAT
AAAAGAGAAAAAAGGCGATTTTTCCGCCCTAAAACTCTTTTAAACTTATTTAAACTCTTAAACCCGCTG
GCCTGTGCATAACTGTCTGGCCAGCGCACAGCCGAAGAGCTGCAAAAAGCGCCTACCCCTCGGTCGCTGC
GCTCCCTACGCCCCGCCGCTTCGCGTCGGCCTATCGCGGCCGCTGGCCGCTCAAAAATGGCTGGCCTACG
GCCAGGCAATCTACCAGGGCGCGGACAAGCCGCGCCGTCGCCACTCGACCGCCGGCGCCACATCAAGGC
ACCCCTGCCTCGCGCGTTTTCGGTGATGACGGTGAACCTCTGACACATGCAGCTCCCGGAGACGGTCACA
GCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAGGGCGCGTCAGCGGGTGTGGCGGGTGTC
GGGGCGCAGCCATGACCCAGTCACGTAGCGATAGCGGAGTGTATACTGGCTTAACTATGCGGCATCAGAG
CAGATTGTACTGAGAGTGCACCATATGCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCA
TCAGGCGCTCTTCCGCTTCTCGCTCACTGACTCGCTGCGCTCGGTTCGCTCGGTCGCGGAGCGGTATC
AGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAATGTGAGCA
AAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCC
CTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCA
GGCGTTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCC
GCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGG
TCGTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTTCAGCCCGACCGCTGCGCCTTATCCGGTAA
CTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAAACAGGATT
AGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAA
GGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATC
CGGCAAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTTGCAAGCAGCAGATTACGCGCAGAAAAAA
GGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACCTACGTTAAG
GGATTTTGGTCAATGCATTCTAGGTACTAAAACAATTCATCCAGTAAATATAATATTTTATTTTCTCCCA
ATCAGGCTTGATCCCCAGTAAGTCAAAAAATAGCTCGACATACTGTTCTTCCCCGATATCCTCCCTGATC
GACCGGACGCAGAAGGCAATGTCATACCACTTGTCCGCCCTGCCGCTTCTCCCAAGATCAATAAAGCCAC
TTACTTTGCCATCTTTACAAAGATGTTGCTGTCTCCAGGTGCGCGTGGGAAAAGACAAGTTCTCTTTC
GGGCTTTTCCGCTCTTTAAAAAATCATACAGCTCGCGCGGATCTTTAAATGGAGTGTCTTCTTCCAGTTT
TCGCAATCCACATCGGCCAGATCGTTATTCAGTAAGTAATCCAATTCGGCTAAGCGGCTGTCTAAGCTAT
TCGTATAGGGACAATCCGATATGTCGATGGAGTGAAAGAGCCTGATGCACTCCGCATACAGCTCGATAAT
CTTTTCAGGGCTTTGTTTCATCTTCATACTCTTCCGAGCAAAGGACGCCATCGGCCTCACTCATGAGCAGA

TTGCTCCAGCCATCATGCCGTTCAAAGTGCAGGACCTTTGGAACAGGCAGCTTTCTTCCAGCCATAGCA
TCATGTCTTTTTCCCGTTCCACATCATAGGTGGTCCCTTTATACCGGTGTCCGTCATTTTTAAATATAG
GTTTTTCATTTTCTCCCACCAGCTTATATACCTTAGCAGGAGACATTCTTCCGTATCTTTTACGCAGCGG
TATTTTTTCGATCAGTTTTTTCAATTCCGGTGATATTCTCATTTTAGCCATTTATTATTTCTTCTCTTT
TCTACAGTATTTAAAGATACCCCAAGAAGCTAATTATAACAAGACGAACTCCAATTCAGTGTTCCTTGCA
TTCTAAAACCTTAAATACCAGAAAAACAGCTTTTTTCAAAGTTGTTTTTCAAAGTTGGCGTATAACATAGTAT
CGACGGAGCCGATTTTTGAAAACCGCGGTGATCACAGGCAGCAACGCTCTGTTCATCGTTACAATCAACATGC
TACCCTCCGCGAGATCATCCGTGTTTTCAAACCCGGCAGCTTAGTTGCCGTCTTCCGAATAGCATCGGTA
ACATGAGCAAAGTCTGCCGCCTTACAACGGCTCTCCCGCTGACGCCGTCCCGGACTGATGGGCTGCCTGT
ATCGAGTGGTGATTTTTGTGCCGAGCTGCCGGTCGGGGAGCTGTTGGCTGGCTGGTGGCAGGATATATTGT
GGTGTAACAAATTGACGCTTAGACAACCTTAATAACACATTGCCGGACGTTTTTAAATGTACTGAATTAACG
CCGAATTAATTCGGGGGATCTGGATTTTAGTACTGGATTTTGGTTTTAGGAATTAGAAATTTTATTGATA
GAAGTATTTTACAAATACAAATACATACTAAGGGTTTCTTATATGCTCAACACATGAGCGAAACCTATA
GGAACCTAATTCCTTATCTGGAAGTACTCACACATTATTATGGAGAACTCGAGCTTGTGATCGAC
AGATCCGGTCGGCATCTACTCTATTTCTTTGCCCTCGGACGAGTGTGGGGCGTCGGTTTTCCACTATCGG
CGAGTACTTCTACACAGCCATCGGTCCAGACGGCCGCGCTTCTGCGGGCGATTTGTGTACGCCCCGACAGT
CCCGGCTCCGGATCGGACGATTGCGTCGCATCGACCCTGCGCCCAAGCTGCATCATCGAAATTGCCGTCA
ACCAAGCTCTGATAGAGTTGGTCAAGACCAATGCCGAGCATATACGCCCGGAGTCGTGGCGATCCTGCAA
GCTCCGGATGCCTCCGCTCGAAGTAGCGCGTCTGCTGCTCCATACAAGCCAACCACGGCCTCCAGAAGAA
GATGTTGGCGACCTCGTATTGGGAATCCCCGAACATCGCCTCGCTCCAGTCAATGACCGCTGTTATGCGG
CCATTGTCCGTCAAGACATTGTTGGAGCCGAAATCCGCGTGCACGAGGTGCCGGACTTCGGGGCAGTCCT
CGGCCCCAAAGCATCAGCTCATCGAGAGCCTGCGCGACGGACGCACTGACGGTGTGCTCCATCACAGTTTG
CCAGTGATACACATGGGGATCAGCAATCGCGCATATGAAATCACGCCATGTAGTGTATTGACCGATTCTT
TGCGGTCCGAATGGGCCGAACCCGCTCGTCTGGCTAAGATCGGCCGACGATCGCATCCATAGCCTCCG
CGACCGGTTGTAGAACAGCGGGCAGTTCCGGTTTCAGGCAGGTCTTGC AACGTGACACCCTGTGCACGGCG
GGAGATGCAATAGGTCAAGCTCTCGCTAAACTCCCCAATGTCAAGCACTTCCGGAATCGGGAGCGCGGCC
GATGCAAAGTGCCGATAAACATAACGATCTTTGTAGAAACCATCGGCGCAGCTATTTACCCGCAGGACAT
ATCCACGCCCTCCTACATCGAAGCTGAAAGCACGAGATTCTTCGCCCTCCGAGAGCTGCATCAGGTCCGA
GACGCTGTGCAACTTTTCGATCAGAACTTCTCGACAGACGTGCGGGTGAGTTCAGGCTTTTTTCATATCT
CATTGCCCCCGGGATCTGCGAAAGCTCGAGAGAGATAGATTTGTAGAGAGAGACTGGTGATTTTCAGCGT
GTCCTCTCAAATGAAATGAACTTCTTATATAGAGGAAGGTCTTGCGAAGGATAGTGGGATTGTGCGTC
ATCCCTTACGTCAGTGGAGATATCACATCAATCCACTTGCTTTGAAGACGTGGTTGGAACGTCTTCTTTT
TCCACGATGCTCCTCGTGGGTGGGGGTCCATCTTTGGGACCACTGTGCGCAGAGGCATCTTGAACGATAG
CCTTTCTTTTATCGCAATGATGGCATTGTAGGTGCCACCTTCTTTTCTACTGTCTTTTGATGAAGTG
ACAGATAGCTGGGCAATGGAATCCGAGGAGGTTTCCCGATATTACCCTTTGTTGAAAAGTCTCAATAGCC
CTTTGGTCTTCTGAGACTGTATCTTTGATATTCTTGGAGTAGACGAGAGTGTGCTGCTCCACCATGTTAT
CACATCAATCCACTTGCTTTGAAGACGTGGTTGGAACGTCTTCTTTTCCACGATGCTCCTCGTGGGTGG
GGGTCCATCTTTGGGACCACTGTGCGCAGAGGCATCTTGAACGATAGCCTTTCTTTTATCGCAATGATGG
CATTTGTAGGTGCCACCTTCTTTTCTACTGTCTTTTGATGAAGTGACAGATAGCTGGGCAATGGAATC
CGAGGAGGTTTCCCGATATTACCCTTTGTTGAAAAGTCTCAATAGCCCTTTGGTCTTCTGAGACTGTATC
TTTGATATTCTTGGAGTAGACGAGAGTGTGCTGCTCCACCATGTTGGCAAGCTGCTCTAGCCAATACGCA
AACC GCCTCTCCCCGCGCGTTGGCCGATTCAATTAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAAAGC
GGGCAGTGAGCGCAACGCAATTAATGTGAGTTAGCTCACTCATTAGGCACCCAGGCTTTTACACTTTATG
CTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACACAGGAAACAGCTATGACCATG
ATTACGAATTCGAGCTCGGTACCCGGGGATCCTCTAGAGTCGACCTGCAGGCATGCAAGCTTTGGCACTGG
CCGTCGTTTTTACAACGTGCTGACTGGGAAAACCTGGCGTTACCCAACCTTAATCGCCTTGCAGCACATCC
CCCTTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGATCGCCCTTCCCAACAGTTGCGCAGCCTG
AATGGCGAATGCTAGAGCAGCTTGAGCTTGATCAGATTGTGCTTTCCCGCCTTCAGTTTAGCTTCATGG
AGTCAAAGATTCAAATAGAGGACCTAACAGAACTCGCCGTAAAGACTGGCGAACAGTTCATACAGAGTCT
CTTACGACTCAATGACAAGAAGAAAATCTTCGTCAACATGGTGGAGCACGACACACTTGTCTACTCCAAA
AATATCAAAGATACAGTCTCAGAAGACCAAAGGGCAATTGAGACTTTTTCAACAAAGGGTAATATCCGGAA
ACCTCCTCGGATTCCATTGCCAGCTATCTGTCACTTTATTGTGAAGATAGTGGAAAAGGAAGGTGGCTC
CTACAAATGCCATCATTGCGATAAAGGAAAGGCCATCGTTGAAGATGCCTCTGCCGACAGTGGTCCAAA
GATGGACCCCCACCCACGAGGAGCATCGTGAAAAAGAACGTTCCAACCACGTCTTCAAAGCAAGTGG
ATTGATGTGATATCTCCACTGACGTAAGGGATGACGCACAATCCCACTATCTTCGCAAGACCTTCTCTC

TATATAAGGAAGTTCATTTCATTTGGAGAGAACACGGGGGACTCTTGAC