KIXX:
ATGATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACA
ACAGACAATCGGCTGCTCTGATGGCGCCGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCG
ACCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGC
GCAGCTGTGCTCGACGTTGTAACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCT
GTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGG
CTACCTGCCCATTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGAT
CAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAACTGTTCGCCAGGCTCAAGGCGCGCATGCCCGA
CGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTTTCTGGAT
TCATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAG
CTTGGCGGCGAATGGGCTGACCGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTCGCAGCGCATCGCCTTCTA
TCGCCTTCTTGACGAGTTCTTCTGA

p_{aph}:
GGATCCGTCGAGCTCCCGGGAAGCTTCTCGangttCTCATGTTTGACAGCTTATCATCGATAAGCTTCACGCT
GCCGCAAGCACTCAGGGCGCAAGGGCTGCTAAAGGAAGCGGAACACGTAGAAAGCCAGTCCGCAGAAACGGTGCTGA
CCCCGGATGAATGTCAGCTACTGGGCTATCTGGACAAGGGAAAACGCAAGCGCAAAGAGAAAGCAGGTAGCTTGCAG
TGGGCTTACATGGCGATAGCTAGACTGGGCGGTTTTATGGACAGCAAGCGAACCGGAATTGCCAGCTGGGGCGCCCT
CTGGTAAGGTTGGGAAGCCCTGCAAAGTAAACTGGATGGCTTTCTTGCCGCCAAGGATCTGATGGCGCAGGGGATCA
AGATCTGATCAAGAGACAGGATGAGGATCGTTTCGC

p_{cydAB}:
CTGCAGGTAGCCGAACACCTCCAGGTCCCGCCTTCCCAAGAGGGGGAGCCGGGTTCTGCGCGTCGCTTTTCATGCAC
ATGCGTACAGGCGAAGGTCATTGTTCCGCCTTCATTACATCCCCTACCAAAGGCTTAGGCACGTGCCGGCTTAAAAA
GTTAATACAAGTCATCTTTTTAAATATCATATACTTATAGCGCTTTAGCAGCCTGCTACCCCTCCGAAAGCCCCCTT
CTAGACAGCAAAAACGGGCAGGTTTCATTGACCTGCGTCAATTGGTCACTACCGATCGACAGTAAATCTTGATTTAT
TTGACCTGGATCCGTGTTGCCCCCTCCGTCGACCGTTGGCCATCCAGCCTTTTGGAGCTGCCCACATGTCTAAACCA
TCCATCCCAATCTTGCCTTGGCGTATTCCTCTGGTTCGGGAGCTCGTTGTCATCCTGGCGATCAGCTGGGTGTAATT
CTCGGCATCAAGGCACTCTGGTTCACGGAACCGACGGTGCCCGGTACCGAGAAAGTCAGCGAGCGACTGTTCGGCAG
TGTGGCAGTGCAAGATCAATCCCCGACCGAGGAGAGTCCCTGGGATCC

p_{cycB}:
CTCCGGCGCATTTCTAGCGGCCGCCGAAGTTCTCGGCAGCAAGTCCGTCTTGTATCGGCTTATTTCAGCCTGTCTTT
TGTAGGGTTATACTCCCGCGCGCTCGCGAAAACCCGTGGCCGCGGGCGCACGTAATCAGCCACGGTCGAC

***lacZ*:**
ATGACCATGATTACGCCAAGCTCGAAATTAACCCTCACTAAAGGGAACAAAAGCTGGAGCTCCACCGCGGTGGCGGC
CGCTCTAGAACTAGTGGATCCCCCGGGCTGCAGGAATTCGATATCAAGCTTATCGATACCGTCGACCTCGAGGGGGG
GCCCGGTACCCAATTCGCCCTATAGTGAGTCGTATTACAATTCACTGGCCGTCGTTTTACAACGTCGTGACTGGGAA
AACCCTGGCGTTACCCAACTTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCG
CACCGATCGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGGACGCGCCCTGTAGCGGCGCATTAAGCGCGG
CGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCCTAGCGCCCGCTCCTTTCGCTTTCTTCCCT
TCCTTTCTCGCCACGTTCGCCGGCTTTCCCCGTCAAGCTCTAAATCGGGGGCTCCCTTTAGGGTTCCGATTTAGTGC
TTTACGGCACCTCGACCCCAAAAAACTTGATTAG

1276 bp upstream genomic region:
CGATTAAGGTGCGGCACAGGATTTGCTAATCTTCTCTCAGGCCCAACACGCCCCTCCGGCGGACGCAGCCGCGCTCG
CCGGTTTTCTTGGATAGACGAGGCACAGCATGACCCCGGCCAACCCGACCCTGAGCAACGAGCCGCAAGCGCCTCAC
GCCGAGAGCGACGAGCTGCTTCCCGAGATCTTTCGCCAGACGGTGGAGCATGCGCCCATCGCCATTTCCATCACCGA
CCTCAAGGCCAACATTCTTTACGCCAATCGCGCTTTCCGCACCATCACCGGCTACGGCAGCGAGGAAGTGCTCGGCA
AGAACGAATCGATCCTCTCCAACGGCACCACGCCGCGCCTGGTCTACCAGGCCCTGTGGGGCCGGCTGGCGCAGAAG
AAGCCCTGGTCCGGCGTGCTGGTCAACCGCCGCAAGGACAAGACCCTGTACCTGGCCGAACTGACCGTGGCGCCGGT
GCTCAACGAGGCCGGCGAGACCATCTACTACCTGGGCATGCACCGCGACACCAGCGAATTGCACGAACTGGAACAAC
GCGTCAACAACCAGCGCCTGATGATCGAGGCGGTGGTCAACGCCGCCCCGGCGGCGATGGTGGTGCTCGACCGCCAG
CACCGGGTGATGCTCTCCAACCCGAGCTTCTGCCGCCTGGCCCGCGACCTGGTCGAGGATGGCAGCAGCGAGAGCCT
GGTGGCGCTGCTGCGGGAAAACCTCGCCGCCCCCTTCGAGACGCTGGAAAACCAGGGCAGCGCCTTCTCCGGCAAGG

AGATCTCCTTCGACCTGGGCGGCCGCTCGCCGCGCTGGCTGTCCTGCCACGGCCGGGCCATCCACATCGAGAACGAG
CAGGCCCACGTGTTCTTCGCGCCCACCGAGGAACGCTACCTGCTGCTGACCATCAACGACATCTCCGAGCTGCGCCA
GAAGCAGCAGGATTCGCGGCTCAACGCGCTGAAGGCGCTGATGGCCGAGGAAGAGCTGCTGGAAGGCATGCGCGAGA
CCTTCAACGCCGCCATCCATCGCCTGCAGGGCCCGGTCAACCTGATCAGCGCGGCGATGCGCATGCTCGAACGGCGC
CTCGGCGACAAGGCCGGCAACGACCCGGTGCTGAGCGCCATGCGCGAAGCCAGCACGGCCGGAATGGAGGCACTGGA
GAACCTCAGTGGCTCCATTCCGGTGCGCATGGCCGAGTCCAAGATGCCGGTCAACCTCAACCAGTTGATCCGCGAGG
TGATCACCCTGTGCACCGACCAGTTGCTGGCCCAGGGCATCGTC

1306 bp downstream genomic region:
CATTCCGCCCGACCTGGTGCTGAAGGTGTTCGAGCCGTTCTTCAGCACCAAGCCGCCACACCGCGTCGGGCGCGGCA
TGGGCCTGCCGGTGGTGCAGGAGATCGTCGCCAAGCACGCCGGCATGGTGCACGTAGACACCGACTATCGCGAAGGC
TGCCGGATCGTCGTCGAGCTGCCCTTCTCGGCCTCCACCTGAACAGCGACAGGGAATGCCCATGAATGCAACCATCC
CTCAGCGCTCGGCCAAACAGAACCCGGTCGAACTCTATGACCTGCAATTGCAGGCCCTGGCGAGCATCGCCCGCACG
CTCAGCCGCGAACAACAGATCGACGAACTGCTCGAACAGGTCCTGGCCGTACTGCACAATGACCTCGGCCTGCTGCA
TGGCCTGGTGACCATTTCCGACCCGGAACACGGCGCCCTGCAGATCGGCGCCATCCACACCGACTCGGAAGCGGTGG
CCCAGGCCTGCGAAGGCGTGCGCTACAGAAGCGGCGAAGGCGTGATCGGCAACGTGCTCAAGCACGGCAACAGCGTG
GTGCTCGGGCGCATCTCCGCCGACCCGCGCTTTCTCGACCGCCTGGCGCTGTACGACCTGGAAATGCCGTTCATCGC
CGTGCCGATCAAGAACCCCGAGGGCAACACCATCGGCGTGCTGGCGGCCCAGCCGGACTGCCGCGCCGACGAGCACA
TGCCCGCGCGCACGCGCCTTCTGGAGATCGTCGCCAACCTGCTGGCGCAGACCGTGCGCCTGGTGGTGAACATCGAG
GACGGCCGCGAGGCGGCCGACGAGCGCGACGAACTGCGTCGCGAGGTGCGCGGCAAGTACGGCTTCGAGAACATGGT
GGTGGGCCACACCCCCACCATGCGCCGGGTGTTCGATCAGATCCGCCGGGTCGCCAAGTGGAACAGCACCGTACTGG
TCCTCGGCGAGTCCGGTACCGGCAAGGAACTGATCGCCAGCGCCATCCACTACAACTCGCCGCGCGCGCACCGCCCC
TTCGTGCGCCTGAACTGCGCCGCGCTGCCGGAAACCCTGCTCGAGTCCGAACTCTTCGGCCACGAGAAGGGCGCCTT
CACCGGCGCGGTGAAGCAGCGCAAGGGGCGTTTCGAGCAGGCCGACGGCGGCACCCTGTTCCTCGACGAGATCGGCG
AGATCTCGCCGATGTTCCAGGCCAAGCTGCTGCGCGTGCTGCAGGAAGGCGAGTTCGAGCGGGTCGGCGGCAACCAG
ACGGTGCGGGTCAACGTGCGCATCGTCGCCGCCACCAACCGCGACCTGGAAAGCGAGGTGGAAAAGGGCAAGTT

1534 bp upstream genomic region:
GCATCCTCCAGCACCACGTGGACCTGCCCGCTGGCGCCGACGATGGCGTCGGTGGGGCAGGCACGGTAGCAGCGGGT
GCAGCCGATGCACTGCGAGGCCTCCACCCGCGCCAGCATGGGCGCGGCCACCTGGCTGGCATCCAGGGGCACGCCGA
GGATCGCGGCGAGCTTCTCGGCCAGGCCCACGCCGCCGGGCGGGCAGCAAGTGACCGAAGCATTGCCTTCGACGATC
GCCACGGCGGCGGCACCGCAGCCGGGAAAGCCGCACTGTCCGCACTGGCTGCCCGGCATCAGATCGCTGACTTCCTT
GATCAGGGGATTTTCGTCGGTCACCGCGAACTTGCGTGCCGCCAGACCGAGGCCGCAGCCCAGGAGCACACCCATCA
CGGTCAGAGCCAGAGTTGCCTCTATCATAATTTGTCCTCCTCTCGTCGCCGGTCGTGCCGGCCGTCCAGTGTCAGAA
TCAGATCAGGCCGCCGAAGCCCATGAAGGCCAGCGCCAGCAGGCCGGCGGTGACGAAGGCGATCGGCGGGCCGGAAA
AGGCGGCCGGCACATTGGCCAGGGCCAGACGCTCGCGCAGACCGGCGAAGATGATCATGATCAGCGAGAAGCCCAGG
CCCGAGCCCAGGCCGAACAGCACGGCCATGGTCAGGTCGTGGCCTTCGCGCACGCTGAGCAGCGGTACGCCGAGCAC
CGCGCAGTTGGTGGTGATCAGCGGCAGGTAGATGCCCAGCGAGCGGTACAGCGACGGGCTGGCCTTGCGGATGATCA
TCTCGATCAACTGCACCATGCCGGCGATGACCACGATGTAGGCGAGGATGCGGATGAAGCCGATGCCCAGCGGCAGC
AGCACGTAGTGCTCGAGCAGCCAGCTGCTGGCGCCACCGAGTCCCATGACCAGGGTGGTGGCCACGGCCAGGCCGAT
CGAAGGATCGAGCTTGCTCGACACGCCCATGAACGGACACAGGCCAAGAAAGCCCACCAGCACCACGTTGTGAACCA
ACACGGTGCCCAATAGAAACAGAACGTACTCCATAAGCGACCTCACCTGCTCGGCTAAACTTTGTCGATGCGCCTTT
GTCGGGCGCAGTCTTTATGCCGGAAGTTGTGCATCAAGCATGCCAGCGCTCAAAATTTGCACAGGCGTATCGCGGGA
GCCCCTCTAAAATTGACCTGGATCAACAAATAGCTTCGGCACGCCAGCCGCCTATCCACCCGGCGGCCCCGGTTTTG
TAAGGTTTGTGACAGCTCGTTACTGAGCCTGCCGCCCGGCTTGTGCGCTTTCGCACAGCTAGAGGGCGACCACCCCG
AAAATCCATGTTTCGAGGTTTTTCCGAGCAATTCGGCGCACCCGGGCGATTAAGGTGCGGCACAGGATTTGCTAATC
TTCTCTCAGGCCCAACACGCCCCTCCGGCGGACGCAGCCGCGCTCGCCGGTTTTCTTGGATAGACGAGGCACAGCAT
GACCCCGGCCAACCCGACCCTGAGCAACGAGCCGCAAGCGCCTCACGCCGAGAGCGACGAGCTGCTTCCCG

1565 bp downstream genomic region:
CCTTCGACCTGGGCGGCCGCTCGCCGCGCTGGCTGTCCTGCCACGGCCGGGCCATCCACATCGAGAACGAGCAGGCC
CACGTGTTCTTCGCGCCCACCGAGGAACGCTACCTGCTGCTGACCATCAACGACATCTCCGAGCTGCGCCAGAAGCA
GCAGGATTCGCGGCTCAACGCGCTGAAGGCGCTGATGGCCGAGGAAGAGCTGCTGGAAGGCATGCGCGAGACCTTCA
ACGCCGCCATCCATCGCCTGCAGGGCCCGGTCAACCTGATCAGCGCGGCGATGCGCATGCTCGAACGGCGCCTCGGC
GACAAGGCCGGCAACGACCCGGTGCTGAGCGCCATGCGCGAAGCCAGCACGGCCGGAATGGAGGCACTGGAGAACCT
CAGTGGCTCCATTCCGGTGCGCATGGCCGAGTCCAAGATGCCGGTCAACCTCAACCAGTTGATCCGCGAGGTGATCA

CCCTGTGCACCGACCAGTTGCTGGCCCAGGGCATCGTCGTCGACTGGCAGCCGGCGCTGCGCCTGCCCTGGGTGATG
GGCGGGGAAAGCAGCCTGCGCAGCATGATCAAGCACCTGGTCGACAACGCCATCGAGTCCATGAGCCAGAACCAGGT
CAGCCGCCGCGAGCTGTTCATCAGCACCCGCGTGGAGAACCACCTGGTGCGCATGGAGATCACCGACAGCGGCCCGG
GCATTCCGCCCGACCTGGTGCTGAAGGTGTTCGAGCCGTTCTTCAGCACCAAGCCGCCACACCGCGTCGGGCGCGGC
ATGGGCCTGCCGGTGGTGCAGGAGATCGTCGCCAAGCACGCCGGCATGGTGCACGTAGACACCGACTATCGCGAAGG
CTGCCGGATCGTCGTCGAGCTGCCCTTCTCGGCCTCCACCTGAACAGCGACAGGGAATGCCCATGAATGCAACCATC
CCTCAGCGCTCGGCCAAACAGAACCCGGTCGAACTCTATGACCTGCAATTGCAGGCCCTGGCGAGCATCGCCCGCAC
GCTCAGCCGCGAACAACAGATCGACGAACTGCTCGAACAGGTCCTGGCCGTACTGCACAATGACCTCGGCCTGCTGC
ATGGCCTGGTGACCATTTCCGACCCGGAACACGGCGCCCTGCAGATCGGCGCCATCCACACCGACTCGGAAGCGGTG
GCCCAGGCCTGCGAAGGCGTGCGCTACAGAAGCGGCGAAGGCGTGATCGGCAACGTGCTCAAGCACGGCAACAGCGT
GGTGCTCGGGCGCATCTCCGCCGACCCGCGCTTTCTCGACCGCCTGGCGCTGTACGACCTGGAAATGCCGTTCATCG
CCGTGCCGATCAAGAACCCCGAGGGCAACACCATCGGCGTGCTGGCGGCCCAGCCGGACTGCCGCGCCGACGAGCAC
ATGCCCGCGCGCACGCGCCTTCTGGAGATCGTCGCCAACCTGCTGGCGCAGACCGTGCGCCTGGTGGTGAACATCGA
GGACGGCCGCGAGGCGGCCGACGAGCGCGACGAACTGCGTCGCGAGGTGCGCGGCAAGTACGGCTTCGAGAACATGG
TGGTGGGCCACACCCCCACCATGCG