

FIG. 1

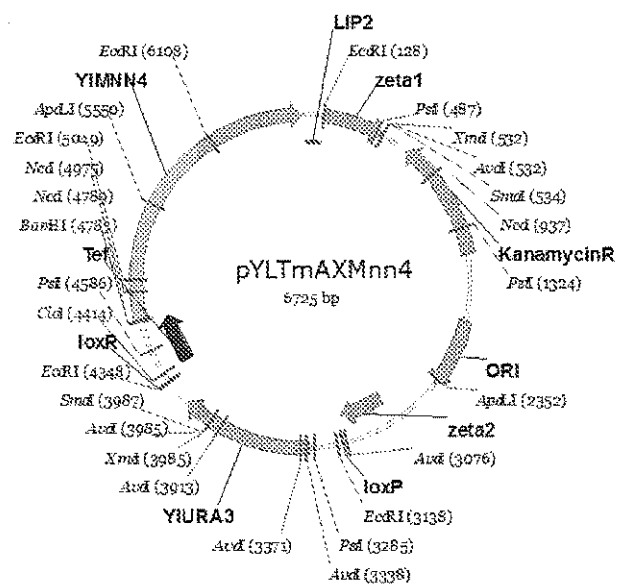
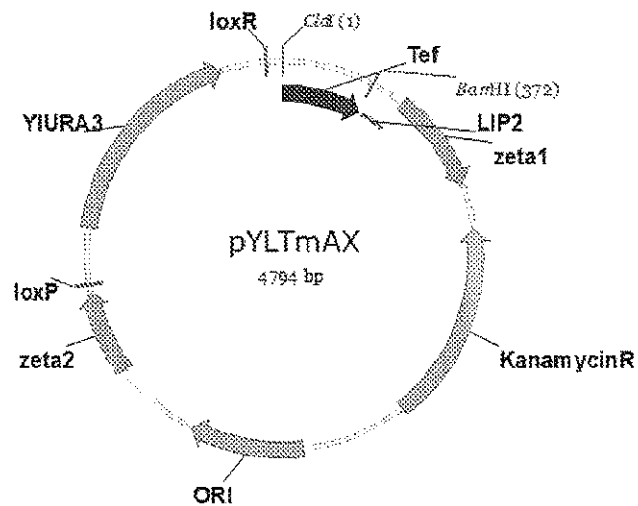


FIG. 2

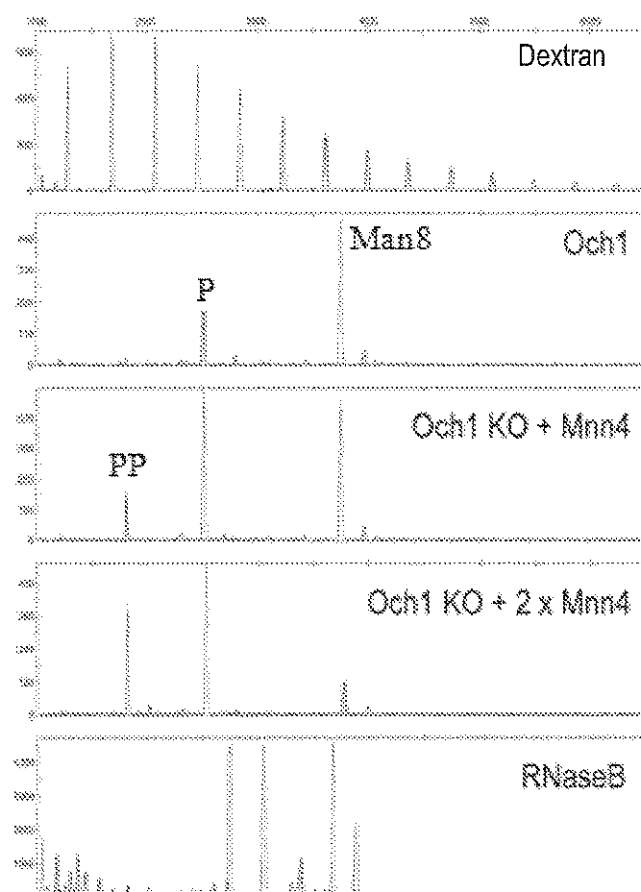


FIG. 3

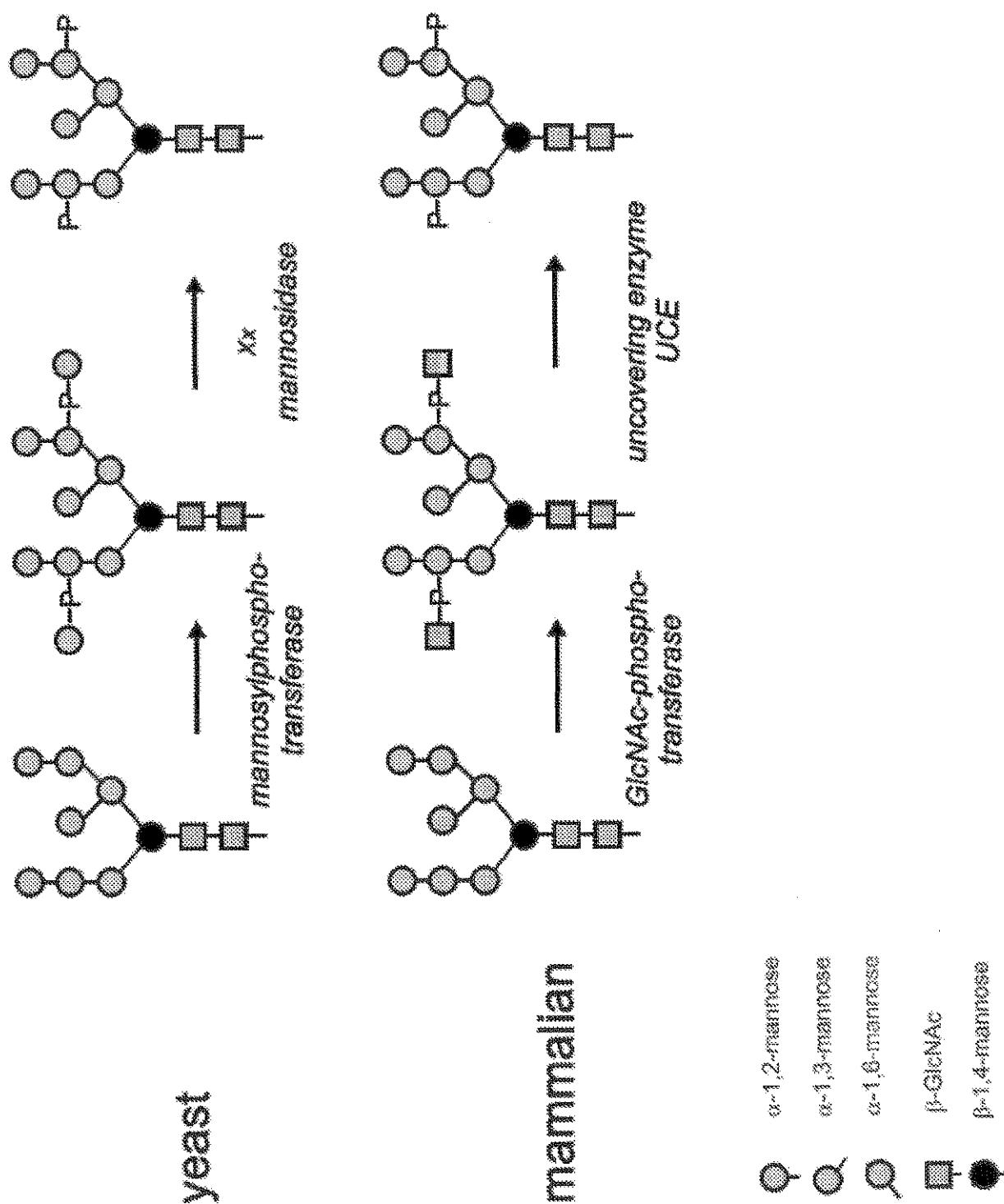


FIG. 4

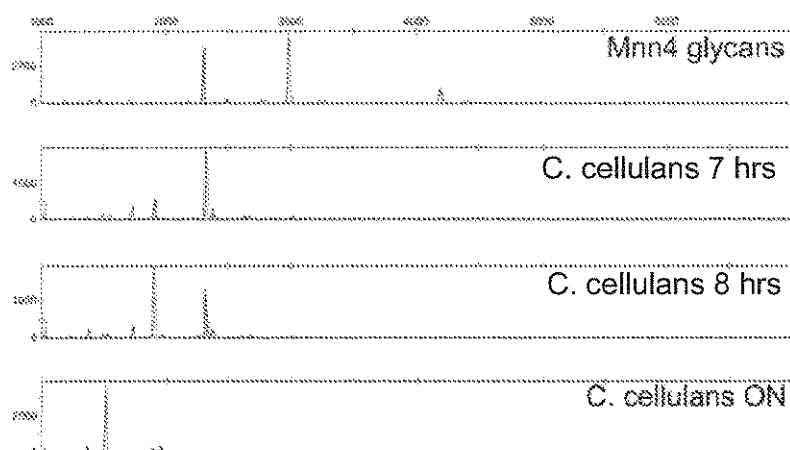


FIG. 5

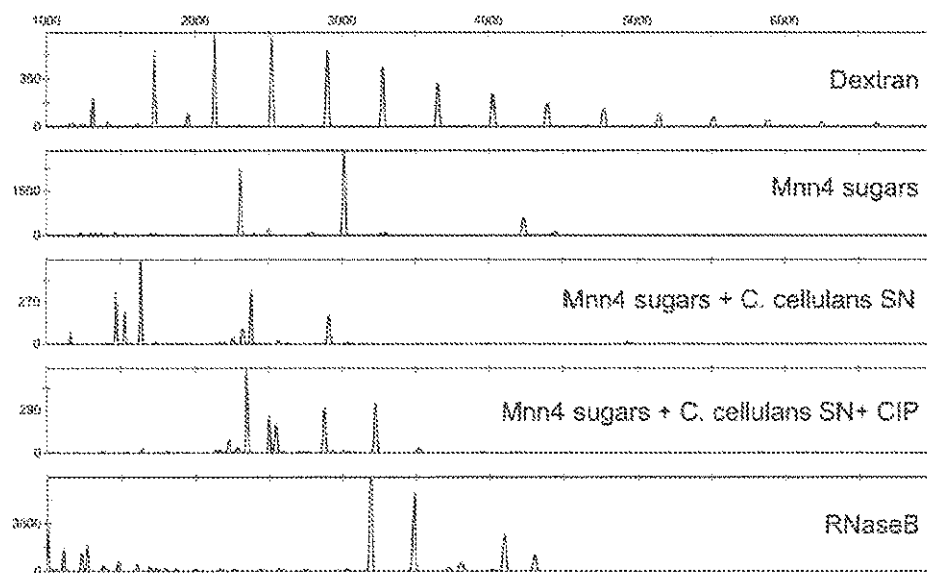


FIG. 6

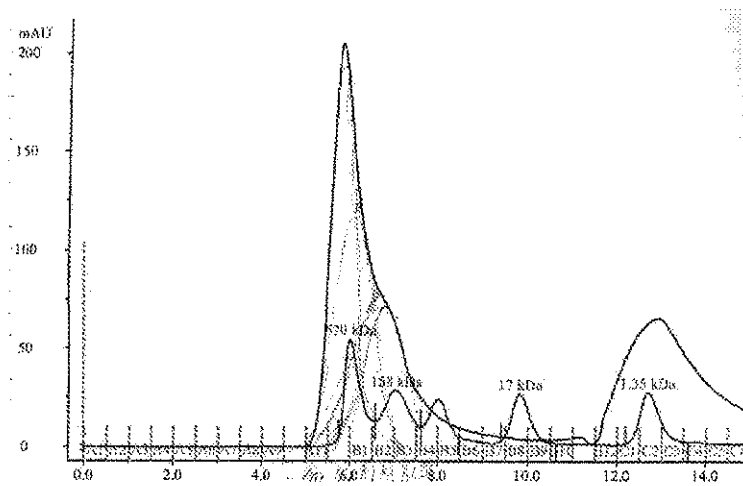


FIG. 7

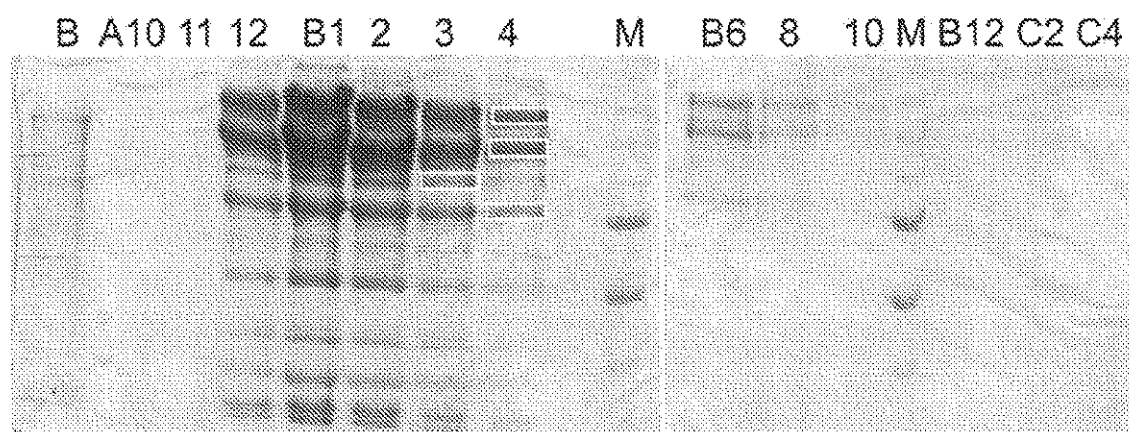


FIGURE 8A

ATGAGACGACCACGACTCGCCCTGCTCGCCGCGGGGCTCGCGCTCGCCGTTCGCACCGGG
CACGCTGCTGCCCCTCGCCGCGGGCGCCGCCCCCGCCGACGAGGGCACCGTACCGCCG
CCGCGGGCGACGACCTCACGCTCGAGGTCAACCCGTTTCGTTCGGCACCGAGAGCGAGGGC
AACGCCTACCCGGGCGCGACCGTGCCGTTTCGGCATGGTCCAGCTCAGCCCGGACAACAC
GAACTCCTACGCCTCGACGTTCGTACAGCACGAACGCGGGGGCGCGTGTGGGGCTTCAGCC
ACCGGCACGTGAACAGCGCGGGGCTGCCCCGCGGCGGGCGAGCTGCTCGTCACGCCGGAC
ACGAGCGCGACCCCGCGCACGTTCGCGCTCCTTCATCGCCATCAAGGACCAGAAGAGCAC
CGAGCGCGCGTCGGCCGGGTTCACGAGGTGACCCTCGCGAACGACGTGCACGCCGAGC
TCACCGCGACACGCGCGTCGGCGCGCACCGCTACACGTTCCCCGCCTCGACGACGTTCG
CACCTGTCGTTCAACGTGGGCCAGACCCTGCGCGACGCCGGCGCGAGCTCGGTGACGTG
GGTCGACGACCGCACGCTCGAGGGCTGGGTTCGACAACGGCGGGCTTCTGCGGCGGCACGC
CGGACAAGCAGCGGTACTTCTTCAGCGCGACGTTTCGACCGCCCGGTTCGCGTCGAGCGGC
ACGTGGGGGACCGATGCGCGCTACGTTCGCGGGCTCCACGACGAGCGAGGTTCGCGGGCGG
CAACAACGGCGCCGTCGCGGTGTTTCGACACCACGACCGACCGCGACGTTCGAGGTGAGCG
TGGGCGTGTCTTCGTGAGCGTCGACGGCGCGCGCGCCAACCGCGAGGCCGAGGCCACC
GACGAGGGCGGGCAGGTTCGCGTTTCGACACCGTGCGTGAGGAGGCCCGCGACGCGTGGAA
CGCGGAGCTGGGCCGTGCCGCGATCGACGCGTCGCCCCGACCAGCGCCGGATCTTCTACA
CCCAGCTCTACAAGACGCTGCTGTCCCCGACGATCGGCAGCGACGTTCGACGGCCGGTAC
CGCGGCATGGACCTCGAGGTCCACCAGGCCGACGGCTGGGACTACTACCAGAACTTCTC
GCTCTGGGACACGTACCGCACGCAGGGCGACGCTGCACGCCCTCCTGCTGCCCGAGCGCG
CGCAGGACATCGTGCGCTCGATGTACCAGCACCGCGTCGAGGGCGGCTGGCTGCCGCGC
TGGTCCCTCGGTGCACTGGAGACCAACATCATGGCGGGCGACCCCGTCACGCCGTGGCT
CGCGGAGAACTTCGCGCTCGGCACCGTCCCCGACGACATCGCGGACGAGCTGTGGGACT
ACCTCGTCGAGAACGCCACGACGACCCCGCCGACGACGTTCGCGTCCGTTCGGGCGGCGC
AGCACCGAGTTCTACGCCGAGCACGGCCACGTGCCGTTCTACCCCGAGAACGAGGGCGG
CCTCGGCGGCCAGTTTCGAGGAGTACCGCCACGGCGGCTCGGCGACGCTCGAGCTCGCGC
TCGCCGACGCGAGCCTCGGCGCTGCGGCCGAGCGCACGGGTTCGCGAGGGCGGCCAGGCG
TTCCTCGACAAGGGTCGCAACTGGCGCAACCTCTGGAACCCGGACGTTCGAGCTCTCGGG
TGGCTTCAGGGCATGGTCAACCGGAAGCGCCCGACGGGCGAGTTCGTACGCTGCCCG
AGCTGACGGACGTTCACGCGCTCCGGCTTCCACGAGGGCGTGCCGTGGCAGTACAGTGG
ATGGTGCCGCAGGACGTTCACGGGCCTCCAGGAGGTTCATGGGCGGCGAGGACGGCTTCGT
CGAGCGTCTCGACTACTACTTCGACCAGCCGGCGCTCGCCGCGAACCCCGGCGTCTCGC
CGAGCACGTGGGCCAAGGGCGGCAGCTCGTACTACACGACCATCCGCTACAACCCGGGC
AACGAGCCGACGATCATGAACGCGTGGCTCTACGGCTACGTGGGCCAGCCGTGGAAGAC
GAACGACGTCTTCGCCGCGAACCTCAACCGCTTCCCCGACACCCCGGGCGGCGGCTCG
GGAACGACGACCTCGGCACGCTTGCCGCTTGGTACGTTCATGGCGTCGCTCGGGTTCGAG
CCCCTCATGCCGGGCTCGGGGATCCTCGCGCTCAACGCGCCGAAGGTTCAGGCCGCGAC
GCTCACGACCGATGCCGGGGCGACGCTGCGCATCGACGCGGCGGGCGCGAACGAGAAGC
TCCCGAGCTACGTTCGCCGGCCTGGAGGTTCGACGGCGTCGCGCACACCGCCGCGTGGCTC
GACGTTCGCGGCGCTGCAGGACGGCGGCACGCTCGACTTCGACCTGTCCGGCACGAGCGC
GGGCCCTCACGTGGGGCACCGGCGCGGCCGACCGCATCCCGTCGGTCTCCGCCGTGCCCC
CGCCCGCGCCGGTCGAGGTTCGAGGCGAGCGCGCGCTGCCTCGGCGGCGGGCGTTCGTTC
GCGGTTCGCGCGACACGACGGCCGACGCGCCGGTGGACGTGACTCTCACGACGCCGTT

CGGCGAGCGGACGGTCCGGCACGTGCAGCCGGGCAGGAGCGCCTACCAGTCGTTACGA
CGCGCACGACGTCCGTCGAGGCCGGGACGGCGACCGTCACGGTCGTCGCCGCGGACGGC
ACGACGTCGACGGTCGACGCGGCGTACGAGGCGCTGGCCTGCGGC (SEQ ID NO:6)

FIGURE 8B

MRRPRLALLAAGLALAVAPGTLLPVAAGAAPADEGTVTAAAGDDLTLEVNPFGVTESEG
NAYPGATVPFGMVQLSPDNTNSYASTSYSTNAGRVWGFSHRVNSAGCPAAGELLVTPD
TSATPRTSRSFIAIKDQKSTERASAGFYEVTLANDVHAELTATTRVGAHRYTFPASTTS
HLSFNVGQTLRDAGASSVTWVDDRTLEGWVDNNGGFCGGTPDKQRYFFSATFDRPVASSG
TWGTDARYVAGSTTSEVAGGNGAVAVFDTTDDRDEVS SVGVSEFVSVDGARANREAEAT
DEGGQVAFDTVREEARDAWNAELGRAAIDASPDQRRIFYTQLYKTLLSPTIGSDVDGRY
RGMDELVHQADGWYYQNFSLWDTYRTQATLHALLPERAQDIVRSMYQHRVEGGWLPR
WSLGALETNIMAGDPVTPWLAENFALGTVPDDIADELWDYLVENATTPPDDVASVGRR
STEFYAEHGHVPPFYFENEGGLGGQFEEYRHGGSATLELALADASLGAAAERTGREGGQA
FLDKGRNWRNLWNPDELSSGGFQGMVNAKRPTGEFVTLPELTDVTRSGFHEGVWPQYQW
MVPQDVTGLQEVMGGEDGFVERLDYYFDQPALANPGVSPSTWAKGGSSYYTTIRYNPG
NEPTIMNAWLYGYVGQPWKTNDVLAANLNRFPDTPGGGVGNDDLGTAAWYVMASLGFE
PVMPGSGILALNAPKVQAATLTTDAGATLRIDAAGANEKLPSYVAGLEV DGV AHTAAWL
DVAALQDGGTLDLFDLSGTSAGLTWGTGAADRIPSVSAVAPPAPVEVEASARCLGGRAFV
AVRATSTADAPVDVTLTTPFGERTVRHVQPGRSAYQSFTTRTTTSVEAGTATVTVVAADG
TTSTVDAAYEALACG (SEQ ID NO:7)

FIGURE 9A

GTGAGCCTCGCGCTCCCGCTGGCGGGCGTACGCGGGCGCCCGGGATCGGGGCGTCCGCCGC
GACCGCCGCGGGGACGGAGGCAGCGACGGGGTCCGATGCCGCGCGCGTCGACGGCCCGC
TGGTCGACTACGTCAACCCGTTTCATCGGGACCAAGGACGACGGCAACACCTACCCGGGC
GCTGCCGTGCCGTTTCGGCATGGTGCAACTCTCGCCGGACAACGGCCACAACGTCGGGTA
CGACTACGACCGCACGTCCGTGCGCGGGTTCTCGCTCGTGACCTGTCCGGCGTCGGCT
GCGGCCTCGGCGGTCCGCTCCCGACCCTGCCGACGACGGGCGCGATCACCTCGACCGAC
TACGGCCAGTACGCGCTCGGTTTCTCGCACGACGACGAGGAGGCCTCGCCGGGGTACTA
CCGCGTGGGTCTCCAGGCGCCGGCGGGCACGATCGAGGCCGAGCTCACCGCGACCGAGC
GCACGGGCGTCCAGCGGTACACGTTCCCCGCGACGGCGCAGGCCAACGTCCTGCTCAAC
GCCGGCCAGGCGCTCAACCGGGTGACGGAGTCCGACGTGCGCGTCGTGGACGACCGCAC
GGTCGAGACGCGCATCACCGTCCGCGGGCTTCTGCCAGGACACCGAGCCGACGACGATCT
GGACCCGCGACGACCTTCGACCGGCCGTTTCGTGCGCGACGGCACGTGGGACGGCCAGGTC
GTCACCGCGGGCGCGGACGCCGCGTCCGGCGGGCAGGGCCGTGCGGGCGCGTACGTCAC
GTTTCGACACGACCGGGCGGCGACCTCGACGTGAGGCCGTACCGCGATGAGCTACGTGG
GCGCCGACGGCGCCGCGGCGAACCTCGCCGCGAGGCCGGCACGTTTCGACGCCGTGCAC
GACGCCGCGCGCTCGGCCTGGGAGGAGCGGCTCGGCCTCGTGCGGGTCGCGCAGGGCGA
CCCGGACGACCTGCGCACCTTCTACTCCTCGCTCTACCGCAGCTTCCTCGCGCCGAACG
TCGGCTCCGACGTGACGGGCGCTACCGCGGCTGGGACCAGGAGGTCCACGCCGCGGAA
CCGGACTTCACCTACTACCAGAACTACTCGCTCTGGGACACGTACCGCACCCAGCAGCA
GCTCCTGTACCTGCTCGCGCCCCGACGAGTCGGCCGACATGGCGCTCTCGCTCGTGCGCC
AGGGCCAGCAGGGCGGGTGGCTCCCGCGCTGGGGCTACGGCACGGTCGAGACGAACATC
ATGACCGGCGACCCGGCGACGCCGTTCTCGTCAGCGCCTGGCGCCAGGGCCTGCTCGC
GGGCCACGAGGAGGAGGCGTACGCGGTCTGAGGGAGAACGCCGACGGCGTCCCGCCCG
CCGACTCGCCCTTCAACGGGCGCGCGGCGAACGTCGAGTACCTGCGCGACGGGTTCGTC
CCGACAGAGCCGGCGCGCTCGGGCAAGCCGGCGACTACGACCTCCAGCACGGCGCCTC
GGCGACCATGGAGTACGCCCTCGCCGACGCGATGCTCTCGACCATGGCGCGCGGCCTCG
GCCACGACGAGGACGCCGACCGGTACGCCGCCCGCGGCCAGAGCTACCGCAACGTGTTTC
GACCCGCGCACGGGCAACTTCCGGGCGCGTAACGCGGACGGCTTCTTCGTGGGCGACGC
GGACCCCGCGCACTCCGACGGGTTCCACGAGGGCACGGCGGTGCAGTACCAGTGGCTCG
TGCCCCAGGACGTGCCGGGCCTGTTTCGACCTCATGGGCGGCACCGACGCCGCGGTTCGAC
CGCCTCGATGCGTTCTTCGCGTACGACGAGCTCGTCGCCGACCCCCCGCACGTTCGCGAG
CGAGGTGTGGGTCAACGGCACGTACGACTACTACGGCTGGGAGACCTACAACCCGAACA
ACGAGCCCAACCTCCATGCGCCGTACGTCTACCTGTGGACCGGGCAGCCCTGGAAGACG
ACGGACGTTCGTGCGCGCCGCGTCGACCCTCTTCACCGACGGCCCCGACGGCGTCACGGG
CAACGACGACCTCGGCACGATGTCCGCGTGGCACGTGCTGTCGTCGATCGGCGTGTACC
CGATCGTGCCGGGCGCCGATCTGTGGGGCCTGACGACGCCGCTCTTCGACGACGTGACG
ATCACGCTCGAACCAGGAGTCTTCGGTTCGGGACTCCCTGCGCCTCACGGCGGACGGCGT
CGCGCCCGACACGCACTACACGCACTCCGTGTCGCTCGGCGGCGAGCCGCTCGATCGCG
CCTGGGTACGGGCGACGAGCTACCGCGGCGGCGACGCTCGACGTGACCGTCGGCACC
GAGCCGTCCGCGTGGGCGACCGACCCCGCGGCCTCGCCGGGCGCCGTGCTGCCTGCGGA
CGGCACGGTCGAGCGCCTGTTTCGTGCGCGGACGCCGCGGACGCCGGTCTTCGCCCCGG
GCGGGCGGACCGAGGTTCGAGTCCAGGTTCGTGCCCCAGGGCGCGGGGACGTCCAGCGGG
ACGCTCGAGGTGACGTCCGACGGCGCGGTACCGCGACGACCGACCTCGCCGAGTGGAC
CGCCGAGTCCGACGGCCTGCCGGCCACGGTCGAGGGCACGGTGACGATCGAGGCTCCCG
CCGACGCCGAGCCGGGTCTGCACACGGTGCGGCTCGTCGTGCGCGACGCCGCGGGGACC

GAGGCGGTCCGCGAGGTCTCGGTCTGTCGTGTCCGGGGAGTCGTGGATCGCCGACGCGTT
CGACAACGTTCGGCATCGGCGACGCCGGGGCGGCCAACGCGAACCTCGACGGCTCGGGCG
CCTACCTCCTGCGCGACCTGCTCGCGGACCTCGGCGCCGTCCAGGGCCTGGAGCTCACC
GTGCCGGGCACGGACCTCACCTACACGCTCGGGGCCCCGCGGGCGGGCGCGCCCGACAA
CGTCGCGCGGAGCGGCGAGGTCCTCGAGGTGCCCGAGCACCTGCGCTCGGCCCCGCCACC
TCTCGGTGGTCGGGACGAGCACGCACGGCACGCACGGGGGCGGCCTCGTCCTCGGGTTC
GCCGACGGCTCGTCGCAGACCGTCGACGTGCGCCTCAGCGACTGGTGACGGGCTCGCC
CGAGCCCGGCAACATCACGGTCGCGAAGGCCGGGGCGCGCGGCGACCGCGAGAACGTGC
AGAAGATCGGCTGCGGCCTCTACGCCACCGCGCCCGTCGCGATCCCCGAGGGCAAGGTC
CTGACGTTCGGTCACGCTGCCGAGCGACGAGCGGTTCCACGTGTTTCGCGATCGCGACCGA
CGCGACGGGGGACGTCCCCGCGCCGCGAGGTCGAGGTCACGGCGCAGGCCCCGCTGCCTCG
GCGGCAAGGCGTTTCGTTCGCGGTGCGCGCGCTCAACACGGGCGAGCAGCCCGCCGCGATC
GAGCTCGCGACCCCGTACGGCTCCAAGCTCTTCGGTGACGTGCTCCCGGGGCGAACGC
GTACCAGTCGTTTCGCCACCCGCGCCGCGCCGTCGAGGCGGGCGAGGTCACGGTGACCG
TGACGACGCCCCGACGGCGAGCCCCAGCAGGTCACGGCCGCGTACGACGCCCGCCGCTGC
TCC (SEQ ID NO:8)

FIGURE 9B

VSLALPLAAYAAPGIGASPATAAGTEAATGSDAAAVDGPLVDYVNPFIGTKDDGNTYPG
AAVPFGMVQLSPDNHNVGYDYDRTSVRGFSLVHLSGVGCGLGGPLPTLPTTGAITSTD
YGQYALGFSHDDEEASPGYYRVGLQAPAGTIEAELTATERTGVQRYTFPATAQANVLLN
AGQALNRVTESDVRVVDDRTVETRITVRGFCQDTEPQTIWTRTTFDRPFVAHGTWDGQV
VTAGADAASGGEGRRGAYVTFD TTGGDL DVEAVTAMSYVGADGAAANLAAEAGTFDAVH
DAARSAWEERLGLVRVAQGDPDDLRTFYSSLYRSFLAPNVGSDVDGRYRGWDQEVHAAE
PDFTTYQNYSLWD TYRTQQQLLYLLAPDESADMALSLVRQGGQGGWLPRWGYGT VETNI
MTGDPATPFLVSAWRQGLLAGHEEEAYAVLRENADGVPPADSPFN GRAANVEYLRDGFV
PHEPARSGKPGDYDLQH GASATMEYALADAMLSTMARGLGHD EDADRYAARGQSYRNVF
DPRTGNFRARNADGFFVGDADPAHSDGFHEGTAVQYQWLVPQDVPGLFDLMGGTDAAVD
RLDAFFAYDELVADPPHVASEVWVNGTYDYYGWETYNPNNEPNLHAPYVYLWTGQPWKT
TDVVRAASTLFTDGP DGTGNDDLGTMSAWHVLSSIGVYPIVPGADLWGLTTPLEFDDVT
ITLDPEVFG RDSLRLTADGVAPDTHYTQSVSLGGEPLDRAWVTGDELTAAGTLDVTVTG
EPSAWATDPAASPGAVVPADGTVERL FVGATPRQPVLAPGGRTEVAVQVVAQGAGTSSG
TLEVTS DGAVTATTDLAEWTAESDGLPATVEGTVTIEAPADAEPGLHTVRLVVRDAAGT
EAVREVS VVVSGESWIADAFDNVGIGDAGAAANLDGSGAYLLRDLLADLGAVQGLELT
VPGTDLTYTLGAPRAGAPDNVAASGEVLEVPEHLRSARHLSVVG TSTHGTHGGGLVLGF
ADGSSQTV DVRLSDWCTGSPEPGNITVAKAGARGDRENVQKIGCGLYATAPVAIPEGKV
LTSVTLPSDERFHVFAIATDATGDVPAPQVEVTAQARCLGGKAFVAVRALNTGEQPAAI
ELATPYGSKLFGDVAPGANAYQSFATRAAAVEAGEVTVTVTTPDGEPQQVTAAYDAAAC
S

FIGURE 10A

GTGCGGCGCTCCGTGCGGGCGCTCTCTGCCACGGCGGTCCCTGGCCGCCGGACTCTCGAT
CGCGCCCCGCGTCCGGCTCGCGGTCCCGGCGGTGCGGGCCGCACCCGACCTCGTTGAGG
ACCCCGTCTCCTTCGTGACCCGTTTCGTGCGGACCGGCCAGGCGACGGGCGTCGTGCGG
GAGATCAACAACCTCCCCGGGCGCTCGATGCCGTTTCGGCATGATGCAGCTCTCGCCCCGA
CACCCAGGTCTCCGTGGGCAACGGCGACAAGGCGTACGCGGGCTACCGCTACTCGCACC
AGGCGATCCGCGGCTTCTCCATGACGCACGCGGCCGCCGGGTGCTGGATCTTCGGCGAC
GTCCCGATCCTCCCCGTGACGGGCGACGTGCGGCAGTACCCGTGGGACCGCAAGGAGGC
GTTTCAGCCACGACGCGGAGAGCGCCGAGGTGCGCCGGTACGCGGTACGCTCCAGTCGT
CGGGGATCGATGCGGAGGTGTGCGCCGCGACCCGCTCGGGCGGACTGACGTTGACTAC
CCCGAGGGCGGTGCCGCGTGCAGGTGATCGTCAACGCCGCGGGCTCGCTCGCGAGCGT
GCGCAACGCGACGGTCGAGGTGAGGACGCGCGCACGGTCACCGGCTCGGTGACGAGCG
GCGGGTTCTGCGGCAAGAACAACACGCACACGACGTACTTCGCGATCGAGCTCGACCAG
GACGCGCAGGCGTTTCGGCACGTGGCAGGGCTCGACCGTCTCGCCCCGGCGACCCGTGCGC
CGACGGCAACGGCGCGGGCGCGTGGCTCACCTTCGCGCCCCGGCGCGACGGTGCACGCGA
AGGTGCGCATGTCTACGTGAGCGTCGAGGGCGCGCGCGCCAACCTCGCGGCCGAGATC
CCGGGCTTCGACTTCGACGCCGTCCGGGACGCCAACC CGCGCCGCTGGTCCGACCTGCT
CGGCAAGGTCCGCGTGC GGGGCGAGGACGCCGACGACCTCACCATGTTCTACACGTGCG
TCTACCACTCGCTGCTGCACCCGAACACGTTACCGACGTGGACGGCCGGTACGTGCGG
TTCGACGGGGAGATCCACCAGGCCCCCGAGGGGCACGAGCGGTACGCGAACTTCTCCGA
CTGGGACACGTACCGGTGCTCGGCGCGCTCCAGGCGCTGCTGGCGCCCGACCAGGCGT
CGGACATGGCGCAGTCGCTCGTCGAGGTGCGCCGACCAGTCCGGCTGGGTGCCGCGCTGG
CCCGTCGCGAACCAGCACACGGGGCCAGATGACCGGTGACTCCTCGGTGCCGCTCATCGC
GAGCATGTACGCGTTTCGGGGCGCGCGACTTCGACGCGGAGTCCGGCGCTCGCGCACATGG
TCAAGGGTGCGACGAGCGCCGCCCGACCGCGAACGGCTACGTGCAGCGGCGCGGGATC
GAGACGTACCTCGAGCGCGGCTACGCGCCCCAGACCGAGGAGTTCCGGGGCGACCACCG
CGTCGTGCGCGCGTCGATCACGCTCGAGTGGTCGATCGCCGACTTCGCGATCGGGCAGC
TCGCGGCCGCGCTCGGCCAGGACGACGTGCGCCACCGAGTACGCCGCCCGCGGCCAGTGG
TGGCAGAACGTCCACGACCCCGTGACCCGCACGGCGGGCGCCCGGAACGACGACGGCAC
GTTTCGTGCGGTGCGCAGGGCGGCGGGCGGGTTTCGGGCAGGAGGGCTTCGACGAGGGCAACG
CCGAGCAGTACACGTGGCTCGTGCCGCGAAGCTCGCGGGGCTCACCAGCGCGCTCGGC
GGGCGTGAGGCCGTGCGCGAGCGGCTCGATGCCTTCACGGTGCAGCACAAACGCCGGCCC
GAACGAGCCGTACCTGTGGATCGGCAACGAGCCGAACCTTCGGCGTCCCGTGGCTGTACG
ACTACGTGGGCCAGCCGTGGCGGACGAGCGAGCTCGTGGACGAGCTTACGTCCACGCTG
TTCCGGCCCCGAGCCGAACGGCAAGCCCGGCAACGACGACCTCGGCGCCCAGGCCGGCTG
GTACGTGTGGGCCGCGATGGGCCTGTACCCACACGCGGGGCACGGACGTGCTCGCGC
TCAACGCGCCGCGCTTCGACCGCGTCTGTTGTCGACCTCGGCGAGGGCGACACCCTCGAC
CTGCGCGCCCCCGGCGCCTCGACCGGCGCCCGCTACATCAGCGGCGTCACCATCGACGG
CGCAGCCTGGGACGGGACCTCCCTGCCGCGCCACGTGCGGCACGACGGCGGCGTCTGTCG
AGCTCGCGATGTGACCCGCACGCGACACGACGTGGGGGACCGCAGCCGAGGACGCCCCG
CCGTGCTGGCGCGACGGCGAGTCCGCCGTGGTTCGCCGCCGCGGACCCGGGCCTCGTGAC
GGTCGCCCCCGGGACCGCCGACGCGTCCGTGGCCGTGCAGCTCTTCGGCGCCGACG
CCGCCGACGTGCGCGTTCGCGGTTCGACGCGCCCGGGGGCATCGGGGTTCGGTGAGCCCGC
CTCGTCGACGACGGCTCGGGCCACCTACCCGGGACGGTCCCCGTCCAGGTGGGTGCCGG
CGTCGCGTCCGGCTACACGACGCGCGCCTCGTGCTCTCGGCCGGGACGACGACGTGCG
AGGTGCCCTCACCGTCCCTCGTCGCCGCGCCCGGGTTCGCTCGTTGCGGCCCTACGACACG

GTCGGCACTGCGCCCGAGGCGAACCGCGGCGTCGGGAACTTCGACGCGGCCGGCAACTC
GTTCTCGCGCGAGGCGCTCGCCGACGCGGGTCTCACGCCCGGGTCGGCGCACGACGTCG
ACGGCCTGGCGTTACAGTGGCCGTCTCACCCGTGGGGCGCCCGGACTCGGTACGCTC
ACCGGCGAGACCGTGCGGCTCGACGCGCCGACGAGCCGGCTCGCGTTTCGTGGGCGCCGC
GACCGACGGGACCCATCGCGGGACCGCGGTTCGTGACGTTTCGACGACGGCAGCACCCGCGA
CCACGACGATCGGCTTCGGCGACTGGGTGCTGCCGAGCGCGGACGGCTCGCCGGTCGAG
GGCAACTCGGTTCGTTCGCGCAGATGAACCGGCGCAACGGCGACAAGGACAGCGCGTTCGT
GTTTCGCCACCGCCCCGTACACCGCGCCCGAGGACCGCCGCGTGGTCGCGGTGAGGTTCC
CCGACGTCGACGACCTGCACGTCTTTGCGATCGCGACCGAGCCGGCCGCGGACGTGCAC
CTCGTGGACGTGACGGTCTCCCTGCGCTGCCTCGCCGGGACCCCGTACGTGGCGGTGCG
CGCGGCGAACGTCTCCGCCGGGGCCGTCGACGTCGACCTCACGACGGGCGTGGGCTCGC
GGTCCTTCACGGCCGTGCCCCCGGCGCCAACGCCTACCAGTCGTTGCGCGCCCGCGGC
GCGACCGGGAACGTGACGTCACCGTCACGGCCACGGGGGAGGAGGGGACGCAGACGGT
CGCGCGGACCGTCGTTCGTCCCGCGCTGCTCC (SEQ ID NO:10)

FIGURE 10B

VRRSVAALSATAVLAAGLSIAPAVGLAVPAVAAAPDLVEDPVSEFVDPFVGTGQATGVVG
EINNFPGPSMPFGMMQLSPDTQVSVGNQDKAYAGYRYSHQAIRGFSMTHAAAGCWIFGD
VPILPVTGQYYPWDRKEAFSHDAESAIEVGRYAVTLQSSGIDAEVSAATRSGGLTFDY
PEGGAASQVIVNAAGSLASVRNATVEVEDARTVTGSVTSGGFCCGKNNHTTTFYFAIELDQ
DAQAFGTWQGSTVSPGDPSADGNGAGAWLTFAPGATVHAKVGMSEVSVVEGARANLAAEI
PGFDFDAVRDANRAAWSDLLGKVRVAGQDADDLTMFYTSLYHSLHPNTFTDVGGRYVG
FDGEIHQAPEGHERYANFSDWDTYRSLGALQALLAPDQASDMAQSLVEVADQSGWLPRW
PVANQHTGQMTGDSSVPLIASMYAFGARDFDAESALAHMVKGATSAAPTANGYVQRRGI
ETYLERYAPQTEEFGRDHRVVGASITLWESIADFAIGQLAAALGQDDVATEYAARGQW
WQNVHDFVTRTAGARNDDGTFVRSQGGGGFGQEGFDEGNAEQYTWLVPQNVAGLTDALG
GREAVAERLDAFTVQHNAGPNEPYLWIGNEPNFGVPWLYDYVGQPWRTSELVDELTSTL
FRPEPNGKPGNDDLGAQAGWYVWAAMGLYPTTPGTDVLALNAPRFDRVVVDLGEGLDLD
LRAPGASTGARYISGVTIDGAAWDGTSLPRHVAHDGGVVELAMSTARDTTWGTAEDAP
PSWRDGESAVVAAADPGLVTVAPGGTADASVAVQLFGADAADVRAVDAPGGIGVGEPA
LVDDGSGHLTGTVPVQVGAGVASGYHDARLVLSAGDDDVEVPLTVLVAAPGSLVAAAYDT
VGTAPEANRGVGNFDDAAGNSFSREALADAGLTPGSAHDVDGLAFTWPSSPVGRPDSVTL
TGETVRLDAPTSRLAFVGAATDGTGRGTAVVTFDDGSTATTTIGFGDWVLPSADGSPVE
GNSVVAQMNRRNGDKDSAFVFATAPYTAPEDRRVVAVRFPDVDDLHVFAIATEPAADVH
LVDVTVSLRCLAGTPYVAVRAANVSAGAVDVDLTTGVGSRSTAVAPGANAYQSFAARG
ATGNVDVTVTATGEEGTQTVARTVVVPRCS (SEQ ID NO:11)

FIGURE 11A

ATGACCAGACCACTCCCGCCCGGACGCGCGGTTCGCGCGGTCCGGCAGCGGCGCGCCCCG
GCCCCCTCGGCCTCGTGCTCGCCGCCGCACTCGCCGTCCCGCTCGGGGTGCCTCTCGCGG
CCCCCGCGGGAGCCCTCGCTGCCGCGCCCGCCGCGGCCCGCCGAGCCCGGCGACTTCTCG
TCCTCGTTTCGAGTCCGGCGACCCGGCCGCGCTGCCACCACCGTGGCGGAGCGCGACGG
CGCGCCCTGGCAGGCGAACGTTCGGCTCGTTACGGCCGGCCTGCCCGGGAGCGTCCTCG
GGCAGCTGAAGGGCGTACGGCGAGCGCGCAGAACCTGCCAACGAGGGCGCGGCGAAC
CTCGCCGACGGCAGCTCGGGCACCAAGTGGCTCGCGTTCGCGTCGACCCGGCTGGGTCCG
GTACGAGTTCGCCGAGCCCGTCTCGTTTCGTTCGCGTACACGATGACCTCCGGCGACGACG
CCGCCGGTTCGCGACCCGAAGACCTGGACGGTTCGAGGGGTTCGAACGACGGGTCCACGTGG
GCCGCGCTCGACCGCCGGACGGACGAGGACTTCCCGAACCGCCAGCAGACGCGCACGTT
CGAGCTCGAGGCGCCACCGCGGGCTACACGTACCTGCGCCTCAACGTACGGCGAACT
CGGGCGACTCCATCGTCCAGCTCGCCGGGTGGGACCTCTCGGCCGACCTGAGCGCCGGC
CCGTCCGCGGCCCCCATGACGACGAAGTTCGGCACCGGGCCGCGCGTCAGCTTCACCAA
CAAGGCGGGCGTTCGGGTTCTCCGGCCTGCACTCGCTCCGGTACGACGGCTCGCACCTCG
CCGACGGCGAGACGTACGCGACGAACGTGCTCTACGACGACGTGGACGTTCGTTCGTTCGGC
GAGGACACGCGCCTGAGCTACACGATCTTCCCCGAGCTGCTCGACGATCTGCAGTACCC
GTTCGACGTACGCGGCGGTGGACGTCTGTTCACCGACGGGACCTACCTGTCCGACCTCG
GCGCGCGCGACGCGCACGAGACGGTCGCGACCGCGCAGGCGCAGGGCGAGGGCAAGATC
CTCTACGCCGACCAAGTGGAACTCGGTTCGGGTTCGACCTCGGGCGACGTTCGCCGAGGGCAA
GACCGTGGACCAAGTTCGTTCGTTCGGGTACGACAACCCGGGCGGTTCACGCCGGGACGAAGT
TCGCGGGGTTCGTTCGACGACGTTCGAGATCACGGCGGAGCCGGCCACGATTCGACGGGTTCG
AGCCTCGCCAACTACGTGGACACGCGCCGCGGCACGCTCGCGTCGGGCAGCTTCTCGCG
CGGGAACAACATCCCCGCGACGGCGACGCCGAACGGGTTCAACTTCTGGACGCCGTACA
CGAACGCCTCCTCGCAGAGCTGGCTGTACGAGTACCACAAGGCCAACACGCCAACAAAC
AAGCCCGTCTCCAGGGCTTCGGGATCTCGCACGAGCCGAGCCCGTGGATGGGCGACCG
CAACCAGCTGACGTTCTCTCCCGTTCGACGGCGTTCGGGGACGCCCGACGCCACGCTCTCGA
CGCGCGGCCTCGAGTTTCGACCACGCGGACGAGACGGCGCGGCCGGACTACTACGGGGTC
ACGTTACCAACGGGTCCGCGATTCGAGGCGACGCCACCGACACGGCGCGGTTCGTTCG
CTTCAGCTACCCCGGAGCCAAGGGCCACGTGCTTCGTTCGACCAAGGTGGACGGCTCTCTCA
AGCTCACGTACGACCAAGGCCACGGGCACGATCTCCGGCTGGGTTCGAGAACGGCTTCGGGC
CTGTCCGTGGGCCGACGCGCATGTTTCGTTCGCCGGCACCTTCGACCGTAGTCCGACGGC
GGTTCGGGACGGCGGGCGGGCAACCGTTCGGGACGCGCGCTTCGCGACGTTTCGAGACGTTCG
CCGACAAGACGGTTCGAGCTGCGCGTTCGCGACGTTCGTTTCATCAGCCTTCGACCAGGCGCGC
AAGAACCCTCGACCTGGAGGTGACGGGCAAGACCTTCACGGAGGTCAAGGCCGCCGCCGCGC
GCAGGCGTGGAAACGACCGCCTGGGGGTTCATCGAGGTTCGAGGGCGCGAGCGAGGACCAGC
TCGTACGCTGTACTCGAACCTCTACCGCCTCAACCTGTACCCGAACCTCGCAGTTCGAG
AACACGGGCACGGCGCAGGAGCCGGTGTACAGGTACGCGAGCCCGGTCTCCGCGACACAC
GGGCTCCGCGACGGACACGCGACCAACGCGAAGATCGTTCGACGGCAAGATCTACGTGA
ACAACGGGTTCGTTGGGACACGTACCGCACGGCCTGGCCGGCGTACTCGCTCCTCTACCCG
GAGCTTCGCGGCCGAGCTGGTTCGACGGGTTCGTTCAGCAGTACCGCGACGGCGGGTTCGAT
CGCGCGCTGGTCTTCGCCGGGTACGCCGACCTCATGACGGGCACGAGCTCCGACGTGG
CGTTTCGCCGACGCGTACCTCAAGGGTTCGCTCCCCACGGGCACGGCGCTTCGAGGCGTAC
GACGCCGCGCTGCGCAACGCGACCGTTCGCGCCGCCGAGCAACGCCGTGGGCCGCAAGGG
CCTGCAGACCTCGCCGTTCCTCGGGTTCACGCCGGAGTCCACGCACGAGTCCGTGTCGT

GGGGCCTGGAGGGCCTGGTCAACGACTTCGGCATCGGCAACATGGCCGCCGCCCTCGCG
GAGGACCCGGCGACGCCGAGGAGCGCCGCGAGACGCTGCGCGAGGAGTCCGCGTACTT
CCTCGAGCGGGCCACGCACTACGTCGAGCTGTTGACCCCGAGGTCGACTTCTTCGTGC
CGCGGCACGAGGACGGCACGTGGGCCGTGACCCCGAGACGTACGACCCGGAGGCCTGG
GGCGGCGGGTACACCGAGACGAACGGCTGGAACCTTCGCGTTCCACGCCCGCAGGACGG
CCAGGGCCTCGCCAACCTCTACGGCGGCAAGCAGGGCCTCGAGGACAAGCTCGACGAGT
TCTTCTCCACGCCGAGAAGGGCGCCGGCAACGGCGGCATCCACGAGCAGCGCGAGGCG
CGCGACGTCCGCATGGGCCAGTGGGGCATGAGCAACCAGGTGTCGCACCACATCCCGTG
GCTCTACGACGCCGCGGGCGCGCCGTGCAAGGCGCAGGAGAAGGTCCGCGAGGTCACCC
GCCGCCTGTTCTGTGGGACGCGAGATCGGCCAGGGCTACCCGGGCGACGAGGACAACGGC
GAGATGTCGTCTGTGGTGGATCTTCGCCTCGCTCGGCTTCTACCCGCTCCAGGTCCGGCTC
GGACCAGTACGCGGTTCGGTTCGCCGCTGTTTCGACAAGGCGACCGTGCACCTGCCGGACG
GCGACCTCGTCTCAACGCCGAGAACAACCTCGGTTCGACAACGTCTACGTGCAGTCCCTC
GCGGTGGACGGCGAGGCCCGCACCTCGACGTCACTCTCCAGGCGGACCTCTCGGGCGG
CACGACTCTGGAATTCGTTCATGGGTCCGGAGCCGTTCGGACTGGGGCACGGGCGAGGACG
ACGCGCCGCGCTCGCTACCCGAGGGCGACGAGCCCCGACGCGCGGTGCAGGACGCGACG
ACCGCGGGCCTCGGCACCACCACCGTTCGCCGACGGCGACGCCACCACGAGCGCCGCGGC
GCTCACGGACAACACGTCCGGGACGCGCACGACGTTTCGCCACCACGACGCCGTCGATCA
CGTGGGCGGGCAACGGCATCCGCCCCGACCGTTCGGGTCTACACGCTGACCTCCGGGGCG
AGCGGGACGGCGTCACCGTCCGCATGGACTCTCGAGGGTTCCGACGACGGCGAGACGTG
GACGACGCTCGACGAGCGGTCCGGCGAGCAGTTCCGCTGGGCCCTGCAGACGCGGCCGT
TCACGGTTCGCGGAGCCGACGGCGTTTCGCGCGGTACCGGGTTCACGGTTCACGCGACGTTCG
GGCTCCGGCGCGCTGTCTCGCTCGCCGAGGTTCGAGCTCCTCGCCGACCCGAAGGAGTCCGG
GGCCGAGGAGCTACCCCTCTCGGCCGCGCCGGACCGTGACGGCGTTCACGGGCCGCGAGG
TCTCGGGCTCGTTCGCGACCCCTACCGGGGTTCGAGGGCGACGTTCGCGGCGCTCGACGTG
CAGGTTCGCGTTTCGGCGACGGCTCCGAGCCGTCGCGGGGACGCTGCGGGCGGGCGCGTT
CGGCGGGTACGCGGTGGACGCCGCGCACACGTGGACCGCACCCGGCGTCTACCCCGTGA
CCGTTCACGGTTCGCGGCGAGGGGATCGAGACCGTCTCGGCCTCCTCGTACGTACGCGTC
TCGCTCCTGCGCGAGGGCTCGCTGCTCGCCGCGTACGACAACGTCTGCATCGGCGACGC
CGGGACGACGGTTCGGTCTGTGCGACGGCCAGGGCGTGTCTTCGACCGGGCGCAGCTCG
CGGCGAAGGGCTTCGTCCAGGGCGAGCGCGCAGCGGTGCCGGGCACGGACCTCGCGTTC
GACGTCCCGGCGGTCCCCGCCGGGCAGCCGGACAACGCCACGGGCGACGGGCAGACCAT
CGAGCTCGACGTCCCCGCGGACGCGGAGCAGCTCTCGGTGATCGGCACGGGCACGGAGA
AGAACCAGCAGGCCACCGGCACGCTGACCTTCGACGACGGCTCGACCCAGCCGATCGAC
CTGAGCTTCGGCGACTGGTTCGGGCGCGGCCCGCAACCCCGTGTTCGGCAACATCCCCGT
CGCGGTGACGGACAGCCGCTCCGCGGCGGCAGCCCGCAGACCGGCACCCCGCCGCGT
TCTTCGCGACGGCGCCGATACCCCTCCCCGAGGGCAAGCGGCCCGTGAGCCTCACGCTC
CCGGACCAGCCGGGCGAGCTCTCGCGCGACGGCCGCATCCACGTGGTTCGCGGTTCGCGCA
CGACGGCACGTTTCGCCGAGCACCCCGCGCTCGAGGTTCACGGCCGCGGAGGGCGTGACGC
TCGCCGTTCGGGCGACCTCGGACGTGGCGCTCGCCCAGGTGGCGGGCGGCCGCGAGGGC
GCCGACCTCCGGGCGGCGGTTCAGTGGGGCGACGGCTCCGACGTTCGCGGCCGGCGCGGT
GACCGACGGGTTCGGTCTCCGGCTCGCACGCCCTACACGGCGGCCGGGACGTACACGGCGT
ACGTCTGTGGTTCGACGACGGCTGGACCAGCCAGGTGGTTCGAGGTCCCGGTGACCGTGACC
GAGGCGGAGCCGGCCCTCGCCGTTCGACGTTCAGGTGAGCACACGCTGCCTCGCCGGCAA
GGCGTACGTTCGCGGTTCGCGCCGAGAACGGCGAGGACGTGCCGCTTCGCGATCCGGCTCG
TCACGCCGTTTCGGCACCAAGGAGGTTCGCGGCCGTTCGCGCCGGGCGCCAACGCCCTACAG
TCGTTTCGCGACGCGGGTTCACGGCGGTTCGAGGCCGGCACCGTTCACCGTTCGAGGCGACGCG

CGGCACCGGCGACGAGGAGGTGACGGCGTCGATCCAGGCCGACTACGCCGCCGTGACCT
GCGGC (SEQ ID NO:12)

FIGURE 11B

MTRPLPPGRAVARSGSGRARPLGLVLAAALAVPLGVPLAAPAGALAAAPAAAAEPGDFS
SSFESGDPAALPTTVAERDGA PWQANVGSFTAGLP GSVLGQLKGV TASAQNLPNEGAAN
LADGSSG TKWLAFASTGWVRYEFAEPVSFVAYTMTSGDDAAGRDPKTWTVEGSNDGSTW
AALDRRTDEDFPNRQQTRTFELEAPTAAYTYLRLNVTANS GDSIVQLAGWDL SADLSAG
PSAAPMTTKVGTGPRVSFTNKAGVGFSGLHSLRYD GSHLADGETYATNVLYDDVDVVVG
EDTRLSTYTIFFELLDDLQYPSTYAAVDVLFDTGTYLSDLGARDAHETVATAQAQGE GKI
LYADQWNSVRVDLGDVAEGKTV DQVLLGYDNPGGHAGTKFAGWLDDVEITAE PATIDGS
SLANYVDTRRGTLASGSFSRGN NIPATATPNGFNFWTPYTNASSQSWLYEYHKANNANN
KPV LQGFGISHEPSPWMGDRNQLTFLPSTASGTPDATLSTRGLEFDHAE TARPDYYGV
TFTNGSAIEATPTDHGAVLRFSYPGAKGHVLVDKVDGSSKLTYDQATGTISGWVENGSG
LSVGRTRMFVAGTFDRSPTAVGTAAGNRADARFATFETSSDKTVELRVATSFISLDQAR
KNLDLEVTGKTFTEVKAAAAQAWNDRLGVIEVEGASEDQLVTLYSNLYRLNLYPNSQFE
NTGTAQEPVYRYASPV SATTGSATDTQTN AKIVDGKIYVNNGFWDTYRTAWPAYSLLYP
ELAAELVDGFVQYRDGGWIARWSSPGYADLMTGTSSDVAFADAYLKGS LPTGTALEAY
DAALRNATVAPPSNAVGRKGLQTS PFLGFTPESTHESVSWGLEGLVNDFGIGNMAAALA
EDPATPEERRETLREESAYFLERATHYVE LFDPEVDFVPRHEDGTWAVDPETYDPEAW
GGGYTETNGWNFAFHAPQDGQGLANLYGGKQGLEDKLDEFFSTPEKGAGNGGIHEQREA
RDVRMGQWGM SNQVSHHIPWLYDAAGAPSKAQEKVREVTRRL FVGSEIGQGYPGDEDNG
EMSSWWIFASLG FYPLQVGS DQYAVGSPLFDKATVHLPDGD LVVNAENNSVDNVYVQSL
AVDGEARTSTSLSQADLSGGTTLD FVMGPEPSDWGTGEDDAPPSLTEGDEPPTPVQDAT
TAGLGTTTVADGDATTSAAALTDNTSGTRTTFATTTPSITWAGNGIRPTVGSYTLTSGA
SGTASPSAWTLEGSDDGETWTTLDERSGEQFRWALQTRPFTVAEPTAFARYRVTVTATS
GSGALSLAEVELLADPKESGAEELTLSAAPDRDGV TGREVSGSFATLTGVEGDVAALDV
QVAFGDGSEP VAGTLRAGAFGGYAVDAAHTWTAPGVYPVTVTVSGEG IETVSASSYVSV
SLLREGSLLAAYDNVCIGDAGTTVGSCDGQGVFFDRAQLAAKGFVQGERATVP GTDLAF
DVP AVPAGQPDNATGDGQTIELDVPADAEQLSVIGTGTEKNQQATGTLT FDDGSTQPID
LSFGDWSGAARNPVFGNIPVAVTDSRLRGSPQTGT PAAFFATAPITLPEGKR PVS LTL
PDQPGELSRDGR IHVVAVAH DGTFAEH PALEVTA AEGVTLAVGQTS DVALAQVAGGREG
ADLRAAVTWGDGSDVAAGAVTDG SVSGSHAYTAAGTYTAYVVVDDGWT SQVVEVPVTVT
EAEPALAVDVTVSTRCLAGKAYVAVRAENGEDVPLAIRLVTPFGTKEVA AVAPGANAYQ
SFATRVTAVEAGTVTVEATRGTGDEEVTASI QADYAAVTCG (SEQ ID NO:13)

FIGURE 12A

GCGCTCGCCGTCGTCGGCCTCGCGCCCGCGACCGCCGCGAGCGCCGCCCCGAGCCGCC
GTCGGCCGACTACGCGTCCCTGGTCGACGTCTTCGTCGGCACCGAGGGCGACTTCGGCA
ACGACATGCCCGCCGCGCAGGCGCCGAACGGCCTCGCGAAGGTCAACCCGCGCACGACC
CCGGGCCGCAACAACACCGGGTACGACTACGCGCAGTCGAAGATCTCGGGCTTCACGCA
CACCAACCTCGACGGGGTCGGGGGCTCCGGCGGCGGTGGTGACCTCCTCGTGGTGCCGA
CGTCCGGGTCGTACACGGCGCGCCCCGGCACGGGCACGTACGCGCACCCGTTCTCGCAC
GACGACGAGGACGCCGGACCGGGCTTCTACTCCGTCTGGGCTCGGCAACGTCTCGGGGCAC
GGACGGCGCGATCACCGGCGCGCCGGGCACGATCGAGGCCGAGGTCTCGGGCGGCCACGC
GCTCGGGCGTGCACCGCTACGCGTTCCTCCGCGGGGCTCGACGCCGAGCCTCGTCTGGAC
CTCGAGACGAACAACACGAGCCGCCGGTCTGTCCTCGGTGCAGGTCTGAGACGCGCGCGGA
CGGCACCGTGGAGCTGTCCGGACAGGTACAGGGCTACTTCTACAACCGGGCCTACACGC
TGTAATAACCGCGCGCACGCTCCAGCCCGCGACGGTGCAGACGTGGGGCGACGACGAC
CGGCTCGTCGACGCCACGGCCCAGGACGGCGTCGACACCGGCGCGATCCTCACGTTCTGA
CCCCGGCGACGCCGGGGAGATCGGGCTCCAGGTACCCCTGTCTCGCCGGTGAGCGTCGAGC
AGGCGCGGATCGACCAGCAGGTCTGAGCTCGGCGACCTGTCTGTCGACGCGATCCGTGAC
CGCACCCGCGCGGAGTGGAACGCGACGCTCGGGCGGGTCTCGGATCGACGCCTCGACGGC
GACGGACCCGACGGGCGAGCTCCAGCGGCTCTTCTACACGCACCTCTACCGCATGTTCTG
CGATGCCGATGAACGCGACGAGCACCTCGGGCACGTACCGCGGGCGTCGACGGGGCGGTG
CACGCCGCGCAGGGCTTCACGTACTACGACTCGTGGGCCACGTGGGACGACTTCCGCAA
GTTCTCCGTTCATCGCGTACATCGACCCGGCGCTGTACCGGGACATGGTGCAGTCGCTGG
TCTACCTGTTCTCGGGACGCCGAGGCGACGGGCACCGGCGGCGGCCTCGGCGGGTTCGTG
CACTCGGTCCCGACGGTTCGCTGGGAGCGGTCTGTCGGTCTGTTGTCGCGGACGCGATCGC
CAAGGGCTTCGACGGGTTCGACCGCCTCGACGAGGCGTACCCGGCGCTCCAGCGGCTCG
TCGGGCAGTACAGCGCGGACGAGCTCCGGCGCGGCTACGTGGCGGGCAACCCCGGCGCG
TCCGTGACGCGCGGCTACGACCAGTACGGCCTGTCCGTGATCGCGGACGAGCTCGGCCT
GACCGAGGAGGCCGAGACGCTGCGCGAGCAGGCGTCTGGCCGATCGAGAAGCTCACCA
AGCCGGGCGCGTGGACCGCCGCCGACGGCACGCAGGTCTGGCCTCCTCACCCCGCGCGCC
GCGGACGGGTCTGTCGAGAGCGCCGACCACGCGAAGTTCGAGGCCGCGGCCTCTACCA
GGGCACGCTCTGGCAGTACCACTGGTACGACGCGTACGACATGGACGCGCTCGTCGAGG
CGATGGGGCGGCCACGAGGCGGCGCGCCTCGGCATGCGCCACATGTTCTGGTGAGCACGCG
CCGGACGACGGCAAGGCCATGCTCCACTCGAACGCCAACGAGATCGACCTCCAGGCGCC
GTACCTCTTCAACTACACGGGCGAGCCGAGCCTCACGCAGAAGTGGGCGCGCGCGATCT
ACACGAAGGAGACCTGGAACCGGTACATCGCGACCGGCTCCTCCAGCGCCGTGCCGAGC
GGCGGCGGCGAGTTCACGCCGCCCTTGAAGACGAAGGTGTACCGGCTCGACCCCGCGG
GATGCTCCCCACGATGGACAACGACGCGGGCACGATGTTCGACGATGTTCTGTCGCCGCGG
CCGTCTGGGCTGTTCCCGGTGACCGCGGGCTCGTCCCAGTTCCAGGTCTGGGTCTGCCGTTCT
TTCGACTCGACGACCATCACCTACGACGACGGCAGCGCCTTCACGGTCACGGCCGACGG
CGTCTCCGAGGACGCGTCTACGTCCAGTCCGCGACGCTCGACGGCGCGACGTTTCGGCA
ACACGTGGGTCTGACTACGCCACCGTGGTCTGGGGGAGCCGACCTCGCGTTCGCGATGGGC
GAGCAGCCGAGCGACTGGGGCACGGACACCGCGCCCGCGTTCCTCGATGAGTACCGCGAC
CGACGAGCCGGCCGAGGGACCGCGCGTCAGCGCCGAACCGACACCGTGCAGACCGGCG
ACGGCGGCGCGCTCGACGCGACCGTGACGCTCACGCTCGACGGCGCCCGCCTCGCCGCG
CCCGCCGGCACGGACCTCGTTCAGAGCGGGGCGGGCGAGCGTCTGTCGGGCTGCCCGACGG
CGTTCAGGCGGCGGTGACGGTCTGCGTCTGCCGACCGCGCTGACCGTCTCCTGACGGGGA
CGGCGTCCGCCGACGCGCGCTTCTTCGTGCACCTGCGCGACGCCGCGCTCGCCGACGGC

GTCTGCCGCGGCGTCGCTCCAGGGACAGGGCGTCTCGGTGCGCTCGCCCCCTGCGGCTGTC
CGTGGCGTCCGCCGAGCGCGACGCGCTCGCCGCGCTCGTCGACGACGCCGTGCTCGTGC
GGCACGGGAACCTACTCCTCGGTGACGTTGACCCGGTTCTCCACCGCGCTGACGAAGGCG
CAGGAGGCCCTCGGTGACGAGGCCGCGACGAGCATCGCGCTGCGGTTGCGGGCCGACCG
GCTCGGTGCGGCGGGCCGACGCGCTCGACCTACGGGCGGCGGGTACCGCACGCTCGAGG
CCGAGCAGTCCGAGGCGTGGTCGGGCGGGGAGCTGAAGAACGAGGCGAACAGCTCGTCC
GGCAACCTCGGCGGGCGTGGCTCCGGGTGCTGGGTGCAGTACCGCGACATGACCTTCGA
GACCGCCGCGGGGACACCCCGCCGCGCTTCCTACGGTCCGGTACGACACGAGCTTCG
CCCCGACGGACACGCCGAGCACCGTGGCGCTGCACGCGGGCGACGTGAGCGGCCCTGTG
GTCGCGACCGTTCGACCTGAAGGGCACGAGCGGTGGGGCAAGTACACCGAGGTACGGC
GGAGCTCGGCGACGTGCAGGCGCTCGTCGACGCGCAGGTGTCACGTTTCGAGCTGCTCG
CGCCGTCCGGGCGGAGCTGGGTTCGCAACTTCGACTGGTTCCGGTTCAGCGCCGAGGAC
CCGGTTCGCCCCAGGTTCAGCCGGGCGAGTCCCCGACGGTGACGATCGAGGCCGAGGACTG
GACCGCGAGCTCCGGTTCGCGGGCTCAAGAAGGAGTCTTCGACGTGGACGAGCGGTCCGG
TGACGAACGTTCGGCGGCACCGCGGACGGCGACTGGATCGCCTACGGCGAGGTTCGACCTG
GGTGAGCTCCCGCTCGGCGAGCTGTGGTCCACTACGTGCACAACTCCAACCGGTCCGG
GAACAACCTCCGCGCTGTGGTGTACCTCGACGCGTTCGACCCGGCGAACCCGGGCGAGC
CGTTCGTACCCGTGCCGCTGCCGACGACCGGGTTCGAGCTGGACCGCGGACGGGACCGCG
ACCGTTCGTCTGCCCCGAGACGGTGCAGGGGACGCACGAGGTGTTTCGTGCGCCTGTTCGAC
CGAGCCGTACGCCGACCACCGTACGTTCGCGAACCTTCGACAGCCTGACGTTCGCGCCGG
GCGGCCCCGACGTTCGGTTCGTTCGTTCGAGTCCGAGGCCTGGACGTTCGAACCTCCGGCCGCGGG
CTGAAGAACGAGAGCTTCGACGTGGACGAGCGGTCCGGTGACGAACGTTCGGCGGCACCGC
GGACGGCGACTGGCTTCGCTACGGCGAGATCGACCTTCGGTCCGCCGCGCTTCGACACG
TCTCGGTCCACTACGTGCACAACTCCAACCGGTCCGGGCGGAACTCCGCGCTGTTCGGTG
TACCTTCGACGCGTTCGACCCGGCGAACCCGGGCGAGCCGTTCGTACCCGTCCCGCTGGC
CAACACCGGGTTCGAGCTGGACGACGAGCGGGACCGCCGTTCGTTCGACCTTCGCGAGCACGG
TGCGCGGCAAGCACCAAGGTGTGGGTGCGCCTGTCCACCGAGGCGTACGCCGACCAACCG
TACGTTCGCCAACCTTCGACAGCATGCGCTTCTTCACCGACGCGTACGACGTTCGAGGTCCC
GCCGACCGACACCGCGGCGCTTCGCGGCGGTGGTTCGACGCGGCGGGACGCCCGAGGCGG
AGATCGCGCGGTACGGCCGGATTCGACGCGCGCTTTCACACGCGAGCTTCGCGGCGGCA
CGGTCCGTGCTTCGCCGACGCCGGCGCCACCCAGGCGCAGGCCGACGAGCGGGCGCGGCG
CCTCGGCCTGGCGACCGACAGCTTCGTGCCCGCCGAGCGCCGTTCGGCTTCGAGAACCTTC
TGGCGAGCGCCGAGGCCCTGACCGACGAGGGGTACAGCCCCGAGTCTTCGGCAGGCCTTC
CGCACGGCTTCGCGCGGCGGACCGGGACGCTTCGACGACGCGGCGGGCGTCCGACGAGGC
GCTGCACGACGCGCGGCTTCGCGCTCCAGGGCGCGCTTCGACGCCCCTGGAGGAGCCGGCCG
ACGTTCGTGCTTCGTTCGAGGTTCGAGGTTCAGCCCGCGCTTCCTTCGCCGGCAAGCCCTACGTC
GCGGTCCGCGCGGTGAACGTTCGACGCGGCGCTTCGACGTTCGAGCTGGCGTTCGTCACT
GGGCACGAGGTTCGTTCGTTCGGCGTTCGCGCCGGGGGCGAGCGGTACAGTTCGTTCGCGG
CGCGGTCCGCGACGGGCGACCTGGACGTTCACCGTTCACGGCGACGGGGGCGGACGGCACCC
CAGACGGTTCGAGCAGGTTCGTTCACCGTCCCGTTCCTGCTCC (SEQ ID NO:14)

FIGURE 12B

ALAVVGLAPATAASAAPEPPSADYASLVDVFVGTEGDFGNDMPAAQAPNGLAKVNPRTT
PGRNNTGYDYAQSKISGFTHTNLDGVGGSGGGGDLVVP TSGSYTARPGTGT YAHFESH
DDEDAGPGFYSVGLGNVAGTDGAITGAPGTIEAEVAAAATRSGVHRYAFFAGSTPSLVVD
LETNNTSRRSSSVQVETRADGTVELSGQVTGYFYNAAYTLYYTARTLQPATVQTWGDDD
RLVDATAQDGVDTGAILTFDPADAGEIGLQVTLSPVSVEQARIDQQVELGDLSFDAIRD
RTRAEWNATLGRVAIDASTATDPTGELQRLFYTHLYRMFAMP MNATSTSGTYRGVDGAV
HAAQGFTYYDSWATWDDFRKF SVIAYIDPALYRDMVQSLVYLFADAEATGTGGGLGGFV
HSVPTVRWERSSSVVADAI AKGFDGFDRLDEAYPALQRLVGQYSADELRRGYVAGNPGA
SVQRGYDQYGLSVIADDELGLTEEAETLREQASWPIEKLT KPGAWTAADGTQVGLLT PRA
ADGSWQSADHAKFEAAGLYQGT LWQYHWYDAYDMDALVEAMGGHEAARLGMRHMFGEHA
PDDGKAMLHNSANEIDLQAPYLFNYTGEPSLTQKWARAIYTKETWNR YIATGSSSAVPS
GGGEFTPPLKTKVYRLDPRGMLPTMDNDAGTMSTM FVAAAVGLFPVTAGSSQFQVGSPF
FDSTTITYDDGSAFTVTADGVSEDAFYVQSATLDGATFGNTWVDYATV VGGADLAFRMG
EQPSDWGTD TAPAFSMSTATDEPAEGPRVSAEPTTVQTDGGGALDATVTLTLDGARLAA
PAGTDLVTSGAASVVG LPDGVTA AVTVASPTALT VSLTGTASADARFFVHLRDAALADG
VAAASLQGGQGVSVRSPLRLSVASAERDALAALVDDAVLVRHGNYSSVTFDRFSTALTKA
QEALGDEAATSIALRF AADRLGAAADALDLTGGGYRTLEAEQSEAWSGGELKNEANSSS
GNLGGVRSGSWVQYRDMTFETAAGDTPPRFLT VRYDTSFAPTDTPSTVRVHAGDVSGPV
VATVDLKGTSWGKYTEVT AELGDVQALVDAQVVT FELLAPSGRSWVG NFDWFRFSAED
PAAPGQPGESPTVTIEAEDWTASSGRGLKKESTWTSGPVTNVGGTADGDW IAYGEVDL
GELPLGELSVHYVHNSNRSGNNSALSVYLD AFDPANPGEFFVTVPLPTTGSSWTADGTA
TVVLPETVQGTHEVFVRLSTEPYADHPYVANLDSLTFAPGGPTSVVVESEAWTSNSGRG
LKNESSTWTSGPVTNVGGTADGDW LAYGEIDLGSAALDQLSVHYVHNSNRSGRNSALS
YLD AFDPANPGEFFVTVPLANTGSSWTTDGTAVVDLPSTVRGKHQVWVRLSTEAYADHP
YVANLDSMRFFFTDAYDVEVPPTDTAALAAV VDAAGTPEAEIARYGRIDARVFTRELAAA
RSVLADAGATQAQADERARRLGLATDQLVPAERRRLENLVASAEALTDEGYSPESWQAF
RTALAAATGTLDDAAASDEALHDARLALQGAVDALEEPADVVLVEVEVSPRCLAGKPYV
AVRAVNVSDAAVDVELASSLGTRSFVGVAPGASAYQSFAARSATGDLDVTVTATGADGT
QTVEQVVTVPSCS (SEQ ID NO:15)

FIGURE 12C

APEPPSADYASLVDVFGTEGDFGNDMPAAQAPNGLAKVNPRTTPGRNNTGYDYAQQSKISGF
THTNLDGVGGSGGGDLLVVP TSGSYTARPGTGTYAHPFSDDEDAGPGFYSVGLGNVAGTD
GAITGAPGTIEAEVAAATRSVGHRYAFPAGSTPSLVVDLETNNTSRRSSSVQVETRADGTVE
LSGQVTGYFYNAAYTLYYTARTLQPATVQTWGGDDRLVDATAQDGVDTGAILTFDPADAGEI
GLQVTLSPVSVEQARIDQQVELGDLSFDAIRDRTAEWNATLGRVAIDASTATDPTGELQRL
FYTHLYRMFAMP MNATSTSGTYRGVDGAVHAAQGFTYYDSWATWDDFRKF SVIAYIDPALYR
DMVQSLVYLFADAEATGTGGGLGGFVHSVPTVRWERS SVVVADAIKGFDFDRLDEAYPAL
QRLVGQYSADELRRGYVAGNPGASVQRGYDQYGLSVIADELGLTEEAETLREQASWPIEKLT
KPGAWTAADGTQVGLLT PRAADGSWQSADHAKFEAAGLYQGTLWQYHWYDAYDMDALVEAMG
GHEAARLGMRHMFGEHAPDDGKAMLHSNANEIDLQAPYLFNYTGEP SLTQKWARAIYTKETW
NRYIATGSSSAVPSGGGEFTPLKTKVYRLDPRGMLPTMDNDAGTMSTMFEVAAA VGLFPVTA
GSSQFQVGS PFFDSTTITYDDGSFTVTADGVSEDAFYVQSATLDGATFGNTWVDYATVVGG
ADLAFRMGEQPSDWGTD TAPAFSMSTATDEPAEGPRVSAEPTTVQTGDGGALDATVTTLTDG
ARLAAPAGTDLVTSGAASVVG LPDGVTA AVTVASPTALT VSLTGTASADARFFVHLRDAALA
DGVAASLQGGQVS VRSPRLRSVASAERDALAALVDDAVLVVRHGNYS SVTFDRFSTALTKAQ
EALGDEAATSIALRFAADRLGAAADALDLTGGGYRTLEAEQSEAWSGGELKNEANSSSGNLG
GVRSGSWVQYRDMTFETAAGDT PPRFLTVRYDTSFAPTDTPSTVRVHAGDVSGPVVATVDLK
GTSGWGKYTEVTAE LGDVQALVDAQVVT FELLAPSGRSWVG NFDWFRFSAEDPAAPGQPGES
PTVTIEAEDWTASSGRGLKKE SSTWTS GPVTNVGGTADGDW IAYGEVDL GELPLGELSVHYV
HNSNRSGNNSALSVYLD AFDPANPGE PFVTVPLPTTGSSWTADGTATVVL PETVQGTHEVFV
RLSTEPYADHPYVANLDSLTFAPGGPTSVVVESEAWTSNSGRGLKNE SSTWTS GPVTNVGGT
ADGDWLAYGEIDLGSAALDQLSVHYVHNSNRSGRNSALSVYLD AFDPANPGE PFVTVPLANT
GSSWTTDGTAVVDLPSTVRGKHQVWVRLSTEAYADHPYVANLDSMRFFTDAYDVEVPPTDTA
ALAAVVDAAGTPEAEIARYGRIDARVFTRELAARSVLADAGATQAQADERARRLGLATDQL
VPAERRRLENLVASAEALTDEGYSPESWQAFRTALAAATGTLDDAAASDEALHDARLALQGA
VDAL EEPADVVLVEVEVSPRCLAGKPYVAVRAVNVSDAAVDVELASSLGTRSFVGVAPGASA
YQSFAARSATGDL DVTVTATGADGTQTVEQVVTVPSCS (SEQ ID NO:50)

FIG. 13

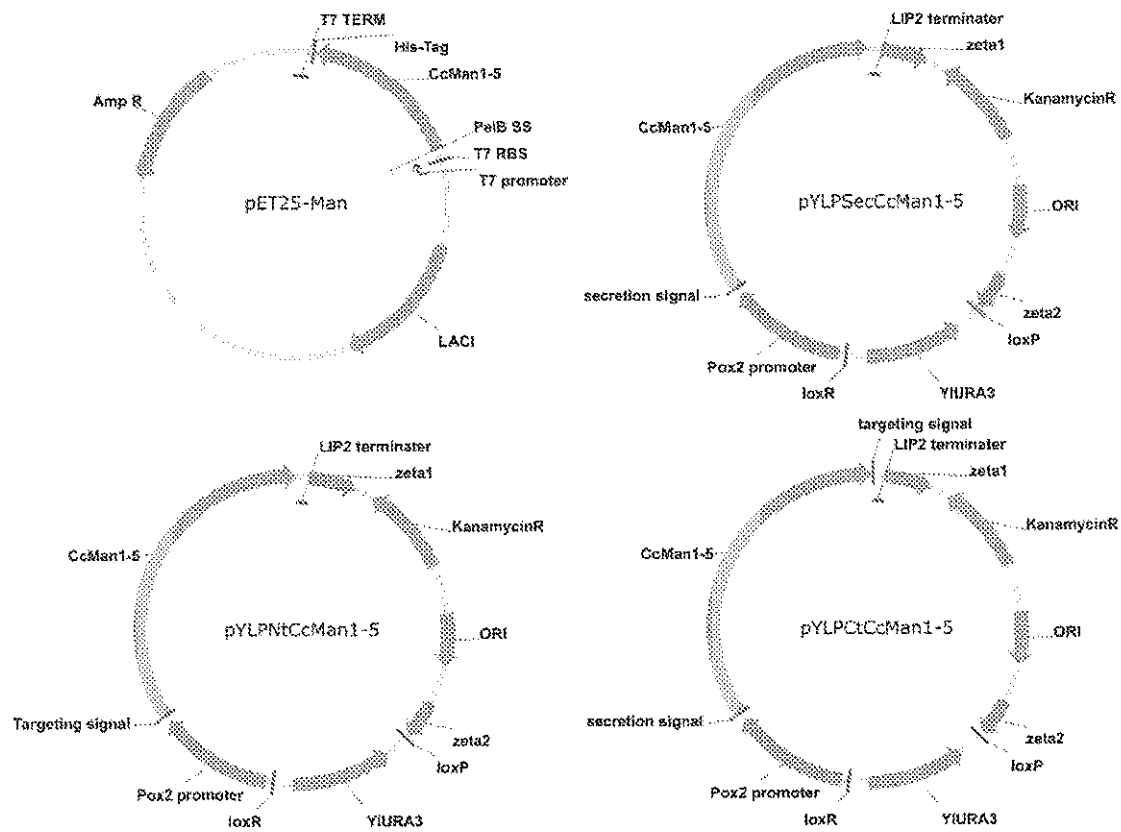


FIGURE 14

GCACCGGCAGATGAAGGCACCGTTACCGCAGCAGCCGGTGATGATCTGACCCTGGAAGTTAATCCGTTTGT
TGGCACCAGAAAGCGAAGGTAATGCATATCCGGGTGCAACCGTTCCGTTTGGTATGGTTCAGCTGTCTCCGG
ATAATACCAATAGCTATGCCAGCACCAGCTATAGCACCATGCAGSTCGTGTGGGGTTTTAGCCATCGT
CATGTTAATAGCGCAGGTTGTCCGGCAGCCGGTGAACCTGCTGGTTACACCGGATACCAGCGCAACACCGCG
TACCAGCCGTAGCTTTATTGCCATCAAAGATCAGAAAAGCACCGAACGTGCAAGCGCAGGTTTTTATGAAG
TTACCCTGGCAAATGATGTTTCATGCAGAACTGACCGCAACCACCCGTGTTGGTGCACATCGTTATACCTTT
CCGGCAAGCACCACCTCTCATCTGAGCTTTAATGTTGGTCAGACCCTGCGTGATGCCGGTGCAAGCAGCGT
TACCTGGGTTGATGATCGTACACTGGAAGGTTGGGTTGATAATGGTGGTTTTTGTGGTGGTACACCGGATA
AACAGCGCTATTTTTTTAGCGCAACCTTTGATCGTCCGGTTGCCAGCAGCGGTACATGGGGCACCAGTGA
CGTTATGTTGCAGGTAGCACCACCGTGAAGTTGCCGGTGGTAATAATGGTGCAGTTGCCGTTTTTGTATAC
CACCACCGATCGTGATGTTGAAGTTAGCGTTGGTGTTAGCTTTGTTAGCGTTGATGGTGCACGTGCAAAATC
GTGAAGCCGAAGCAACCGATGAAGGTGGTCAGGTTGCATTTGATACCGTTCGTGAAGAAGCACGCGACGCC
TGGAATGCAGAACTGGGTCGTGCAGCAATTGATGCATCTCCGGATCAGCGTCGTATCTTTTATACCCAGCT
GTATAAAACCCCTGCTGAGCCCGACCATGTTGTTCTGATGTTGATGGTTCGTTATCGTGGTATGGATCTGGAAG
TTCATCAGGCAGATGGCTGGGATTATTATCAGAACTTTAGCCTGTGGGATACCTATCGTACCCAGGCAACC
CTGCATGCACTGCTGCTGCCGGAACGTGCACAGGATATTGTTTCGTAGCATGTATCAGCATCGTGTTGAAGG
TGTTGGCTGCCTCGTTGGTCTCTGGGTGCACTGGAAACCAATATCATGGCAGGCGATCCGGTTACCCCGT
GGCTGGCAGAAAATTTTGCACCTGGGCACCGTTCCGGATGATATTGCAGATGAACTGTGGGATTATCTGGTT
GAAAATGCAACCACCACCCCTCCGGATGATGTTGCCAGCGTTGGTTCGTCTGAGCACCAGAAATTTATGCCGA
ACATGGTCATGTTCCGTTTTTATCCGGAAAACGAAGGTGGCCTGGGTGGTTCAGTTTGAAGAATATCGTCATG
GTGGTAGCGCAACCCTGGAACCTGGCACTGGCAGATGCAAGCCTGGGTGCCGAGCAGAACGTACCGGTCGT
GAAGGTGGCCAGGCATTTCTGGATAAAGGTGCGCAATTGGCGTAATCTGTGGAATCCGGATGTTGAACTGAG
CGGTGGTTTTTCAGGGTATGGTTAATGCAAAACGTCCGACCGGTGAATTTGTTACCCTGCCGGAACCTGACCG
ATGTTACCCGTAGCGGTTTTTCATGAAGGTGTTCCGTGGCAGTATCAGTGGATGGTTCCGCAGGATGTTACC
GGTCTGCAAGAAGTTATGGGAGGCGAAGATGGTTTTGTGGAACGCCTGGATTATTATTTTATGATCAGCCTGC
ACTGGCAGCAAAATCCGGGTGTTAGCCCGAGCACCTGGGCAAAAGGTGGTAGCAGCTATTATACCCATTTC
GCTATAATCCGGGTAATGAACCGACCATTTGAATGCATGGCTGTATGGTTATGTTGGTCAGCCGTGGAAA
ACCAATGATGTTCTGGCAGCCAATCTGAATCGTTTTCCGGATACACCGGGTGGTGGTGTGGTAAATGATGA
TCTGGGCACCCCTGGCAGCATGGTATGTTATGGCCAGCCTGGGTTTTGAACCGGTTATGCCCTGGTAGCGGTA
TTCTGGCACTGAATGCACCGAAAAGTTTCAGGCAGCAACCCTGACCACCGATGCCGGTGCCACCCTGCCGTTAT
GATGCAGCCCGGTGCAAAATGAAAACTGCCGAGCTATGTTGCCGGTCTGGAAGTTGATGGTGTGCACATAC
CGCAGCATGGCTGGATGTTGCAGCACTGCAGGATGGTGGCACCCCTGGATTTTGTCTGAGCGGTACAGCG
CAGGTCTGACATGGGGTACAGGTGCAGCAGATCGTATTCCGAGCGTTAGCGCAGTTGCACCGCCTGCACCG
GTTGAAGTGGAAGCAAGCGCACGTTGTCTGGGTGGTTCGTGCATTTGTTGCAGTTTCGTGCAACCAGCACCGC
AGATGCACCGGTGGATGTTACACTGACCACACCGTTTGGTGAACGTACCGTTTCGTGATGTTTACGCTGGTC
GTAGCGCATATCAGAGCTTTACCACCCGTACCACCTCTGTTGAAGCAGGCACCGCAACCGTTACCGTTGTT
GCAGCAGATGGCACCACCTCAACCGTTGATGCAGCATATGAAGCACTGGCATGTGGTTAATAA (SEQ ID
NO:16)

FIGURE 15

GCAGGCACCGAAGCAGCAACCGGTTCTGATGCAGCAGCAGTTGATGGTCCGCTGGTTGATTATGTGAATCC
GTTTATTGGCACCAAGATGATGGTAATACCTATCCGGGTGCAGCAGTTCCGTTTGGTATGGTTCAGCTGT
CTCCGGATAATGGTCATAATGTGGGCTATGATTATGATCGTACCAGCGTTTCGTGGTTTTAGCCTGGTTCAT
CTGAGCGGTGTTGGTTGTGGTCTGGGTGGTCCGCTGCCGACACTGCCGACCACCGGTGCAATTACCAGCAC
CGATTATGGTCAGTATGCACTGGGTTTTAGCCATGATGATGAAGAAGCATCTCCGGGTTATTATCGTGTTG
GTCTGCAGGCACCTGCAGGAACCATGAAGCAGAACTGACCGCAACCGAACGTACCGGTGTTACAGCGTTAT
ACCTTTCGGCAACCGCACAGGCAAATGTTCTGCTGAATGCAGGTGAGGCACTGAATCGTGTTACCGAATC
TGATGTTCTGTTGTTGATGATCGTACC GTTGAAACCGGTATTACCGTGCGTGGTTTTTGTGAGGATACCG
AACCGCAGACATTTGGACCGGTACCACCTTTGATCGTCCGTTTGTGACATGGCACCTGGGATGGTCAG
GTTGTTACCGCAGGCGCAGATGCAGCAAGCGGTGGTGAAGGTGCTCGTGGTGCATATGTTACCTTTGATAC
AACCGGTGGTGATCTGGATGTTGAAGCAGTTACCGCAATGAGCTATGTTGGTGCAGATGGTGCAGCAGCAA
ATCTGGCAGCAGAAGCAGGCACCTTTGACGCAGTTCATGATGCAGCACGTAGCGCATGGGAAGAAGCTCTG
GGTCTGGTTCGTGTTGCACAGGGTGATCCGGATGATCTGCGTACCTTTTATAGCAGCCTGTATCGTAGCTT
TCTGGCACCGAATGTTGGTCTGATGTGGATGGTCTGTTATCGTGGTGGGATCAGGAAGTTCACGCAGCAG
AACCGGATTTTACCTATTATCAGAAATATAGCCTGTGGGATACCTATCGTACCCAACAGCAACTGCTGTAT
CTGCTGGCACCGGATGAAAGCGCAGATATGGCACTGAGCCTGGTTCGTGAGGGTCAGCAGGGTGGTTGGCT
GCCCTCGTTGGGGTTATGGTACAGTGGAAACCAATATTATGACCGGTGATCCGGCAACCCCGTTTCTGGTTA
GCGCATGGCGTCAGGGTCTGCTGGCAGGTGATGAAGAAGAAGCATAACGCAGTCTGCGTGAAAATGCAGAT
GGTGTTCCTCCGGCAGATAGCCCGTTTAATGGTCTGTCAGCCAAATGTTGAATATCTGCGTGATGGTTTTGT
TCCGCATGAACCGGCACGTAGCGGTAAACCGGGTGATTATGATCTGCAGCATGGTGCAAGCGCAACCATGG
AATATGCACTGGCAGATGCAATGCTGAGCACCATGGCACGTGGTCTGGGTGATGATGAAGATGCAGATCGT
TATGCAGCCCGTGGTGCAGAGCTATCGTAATGTTTTTGATCCGCGTACCGGTAATTTTCGTGCACGTAATGC
CGATGGTTTTTTTTGTTGGTGATGCAGATCCGGCACATTCTGATGGTTTTTCATGAAGGCACCGCAGTTCAGT
ATCAGTGGCTGGTTCGGCAGGATGTTCCGGGTCTGTTTGATCTGATGGGTGGCACCGATGCAGCCGTTGAT
CGTCTGGATGCATTTTTTGCCTATGATGAACGGTTGCAGATCCTCCGCATGTTGCAAGCGAAGTTTGGGT
TAATGGCACCTATGATTATTATGGCTGGGAAACCTATAATCCGAATAATGAACCGAATCTGCATGCACCGT
ATGTTTATCTGTGGACCGGTGAGCCGTGGAAACACCGATGTTGTTCTGTCAGCAAGCACCTGTTTACC
GATGGTCCGGATGGTGTACCGGTAATGATGATCTGGGCACCATGAGCGCATGGCATGTTCTGAGCAGCAT
TGGTGTATATCCGATTGTTCCGGGTGCCGATCTGTGGGTCTGACCACACCGCTGTTTGATGATGTTACCA
TTACCTGGACCCGGGAAGTTTTTGGTCTGTGATAGCCTGCGTCTGACCGCAGATGGTGTGGCACCGGATACC
CATTATACCCAGAGCGTTAGCCTGGGTGGTGAACCGTGGATCGTGCATGGGTTACAGGTGATGAACGAC
CGCTGCAGGCACCGTGGATGTTACCGTTGGCACCGAACCGAGCGCATGGGCAACCGATCCGGCAGCATCAC
CGGGTGCACTGTTCCGGCTGATGGCACCGTTGAACGCTCTGTTGTTGGTGCAACACCGCGTCAGCCGGTT
CTGGCACCGGGTGGTCTGATACCGAAGTTGCAGTTCAGGTGTTGTTGCCAGGGTGCAGGCACCTCTAGCGGCAC
CCTGGAAGTGACCTCTGATGGTGCAGTTACCGCCACCACCGATCTGGCAGAATGGACCGCAGAATCTGATG
GTCTGCCTGCCACCGTTGAAGGAACCGTTACCATTTGAAGCTCCGGCAGATGCCGAACCGGGTCTGCATACC
GTTCTGCTGGTTGTTCTGATGCAGCCGGTACAGAAGCAGTTTCGCGAAGTTAGCGTTGTTGTTAGCGGTGA
AAGCTGGATTGCAGATGCCTTTGATAATGTGGGTATTGGTGATGCCGGTGCAGCAAATGCAAATCTGGATG
GTAGCGGTGCCTATCTGCTGCGTGATCTGCTGGCCGATCTGGGTGCAGTTCAGGGTCTGGAACGACCGTT
CCGGGTACTGATCTGACCTATACCTGGGTGCACCGGTGCTGGTGCACCGGATAATGTTGCAGCCAGCGG
TGAAGTTCTGGAAGTTCCGGAACATCTGCGTAGCGCACGTCATCTGAGCGTTGTGGGCACCGCAGCCCATG
GTACACATGGTGGTGGTCTGGTTCTGGGTTTTGCCGATGGTAGCAGCCAGACCGTTGATGTTCTGCTGAGC
GATTGGTGTACCGGTTCTCCGGAACCGGGTAATATTACCGTTGCAAAAGCCGGTGCACGTGGTGTGATCGTGA
AAATGTGCAGAAAATTGGCTGTGGTCTGTATGCAACCGCACCGGTGGCAATTCCGGAAGGTAAAGTTCTGA
CCAGCGTTACCTGCCGTCTGATGAACGTTTTTATGTGTTTGAATTGCAACCGATGCAACCGGTGATGTT
CCGGCACCGCAGGTTGAAGTTACCGCACAGGCTCGTTGTTCTGGGTGGTAAAGCATTTGTTGCAGTTCGTGC
ACTGAATACCGGTGAACAGCCTGCAGCAATTGAACGGCAACCCCGTATGGTAGCAAACTGTTTGGTGATG
TTGCTCCGGGTGCAAAATGCATATCAGAGCTTTGCAACCCGTGCAGCAGCCGTTGAAGCCGGTGAAGTTACC
GTTACCGTGACCACACCGGATGGTGAACCGCAGCAGGTTACCGCAGCATATGATGCAGCGGCATGTAGCTA
ATAA (SEQ ID NO:17)

FIGURE 16

GCAGGCACCGAAGCAGCAACCGGTTCTGATGCAGCAGCAGTTGATGGTCCGCTGGTTGATTATGTGAATCC
GTTTATTGGCACCAAGATGATGGTAATACCTATCCGGGTGCAGCAGTTCCGTTTGGTATGGTTCAGCTGT
CTCCGGATAATGGTCATAATGTGGGCTATGATTATGATCGTACCAGCGTTTCGTGGTTTTAGCCTGGTTCAT
CTGAGCGGTGTTGGTTGTGGTCTGGGTGGTCCGCTGCCGACACTGCCGACCACCGGTGCAATTACCAGCAC
CGATTATGGTCAGTATGCACTGGGTTTTAGCCATGATGATGAAGAAGCATCTCCGGGTTATTATCGTGTG
GTCTGCAGGCACCTGCAGGAACCATGAAGCAGAACTGACCGCAACCGAACGTACCGGTGTTACAGCGTTAT
ACCTTTCCGGCAACCGCACAGGCAAAATGTTCTGCTGAATGCAGGTGAGGCACTGAATCGTGTACCGAATC
TGATGTTCTGTGTTGATGATCGTACCCTTGAAACCCGTATTACCGTGCGTGGTTTTTGTGAGGATACCG
AACCGCAGACCATTTGGACCCGTACCACCTTTGATCGTCCGTTTTGTTGCACATGGCACCTGGGATGGTCAG
GTTGTTACCGCAGGCGCAGATGCAGCAAGCGGTGGTGAAGGTGCTCGTGGTGCATATGTTACCTTTGATAC
AACCGGTGGTGATCTGGATGTTGAAGCAGTTACCGCAATGAGCTATGTTGGTGCAGATGGTGCAGCAGCAA
ATCTGGCAGCAGAAGCAGGCACCTTTGACGCAGTTCATGATGCAGCACGTAGCGCATGGGAAGAACGTCTG
GGTCTGGTTCGTGTTGCACAGGGTGATCCGGATGATCTGCGTACCTTTTATAGCAGCCTGTATCGTAGCTT
TCTGGCACCGAATGTTGGTCTGATGTGGATGGTCTGTTATCGTGGTGGGATCAGGAAGTTCACCGCAGCAG
AACCGGATTTTACCTATTATCAGAATTATAGCCTGTGGGATACCTATCGTACCCAACAGCAACTGCTGTAT
CTGCTGGCACCGGATGAAAGCGCAGATATGGCACTGAGCCTGGTTCGTGAGGTGTCAGGGTGGTGGCT
GCCTCGTTGGGGTTATGGTACAGTGGAAACCAATATTATGACCGGTGATCCGGCAACCCGTTTCTGGTTA
GCGCATGGCGTCAGGGTCTGCTGGCAGGTGATGAAGAAGAAGCATACGCAGTCTGCGTGAAAATGCAGAT
GGTGTTCCTCCGGCAGATAGCCCGTTTAATGGTCTGTCAGCCAATGTTGAATATCTGCGTGATGGTTTTGT
TCCGCATGAACCGGCACGTAGCGGTAAACCGGGTGATTATGATCTGCAGCATGGTGCAAGCGCAACCATGG
AATATGCACTGGCAGATGCAATGCTGAGCACCATGGCACGTGGTCTGGGTGATGATGAAGATGCAGATCGT
TATGCAGCCCGTGGTCAGAGCTATCGTAATGTTTTTATGATCCGCGTACCGGTAATTTTCGTGCACGTAATGC
CGATGGTTTTTTTTGTTGGTGATGCAGATCCGGCACATTCTGATGGTTTTTCATGAAGGCACCGCAGTTCAGT
ATCAGTGGCTGGTTCGCGCAGGATGTTCCGGGTCTGPTTGATCTGATGGGTGGCACCGATGCAGCCGTTGAT
CGTCTGGATGCATTTTTTGCCTATGATGAACTGGTGCAGATCCTCCGCATGTTGCAAGCGAAGTTGGGT
TAATGGCACCTATGATTATTATGGCTGGGAAACCTATAATCCGAATAATGAACCGAATCTGCATGCACCGT
ATGTTTATCTGTGGACCGGTGAGCCGTGGAAACACCGATGTTGTTCTGTCAGCAAGCACCTGTTTACC
GATGGTCCGGATGGTGTACCGGTAATGATGATCTGGGCACCATGAGCGCATGGCATGTTCTGAGCAGCAT
TGTTGTTTATCCGATTGTTCCGGGTGCCGATCTGTGGGGTCTGACCACACCGCTGTTTATGATGATTACCA
TTACCTGGGACCCGGAAGTTTTTGGTCTGATAGCCTGCGTCTGACCGCAGATGGTGTGGCACCAGGATACC
CATTATACCCAGAGCGTTAGCCTGGGTGGTGAACCGCTGGATCGTGCATGGGTACAGGTGATGAACTGAC
CGCTGCAGGCACCTGGATGTTACCGTTGGCACCGAACCGAGCGCATGGGCAACCGATCCGGCAGCATCAC
CGGGTGCAGTTGTTCCGGCTGATGGCACCGTTGAACGCTCTGTTGTTGGTGCACACCGCGTCAGCCGGT
CTGGCACCGGGTGGTCTGATCCGAAGTTGCAGTTCAGGTTGTTGCCAGGGTGCAGGCACCTCTAGCGGCAC
CCTGGAAGTGACCTCTGATGGTGCAGTTACCGCCACCACCGATCTGGCAGAATGGACCGCAGAATCTGATG
GTCTGCCCTGCCACCGTTGAAGGAACCGTTACCATTGAAGCTCCGGCAGATGCCGAACCGGGTCTGCATACC
GTTCTGCTGGTTGTTCTGATGCAGCCGGTACAGAAGCAGTTTCGGAAGTTAGCGTTGTTGTTAGCGGTGA
AAGCTGGATTGCAGATGCCTTTGATAATGTGGGTATTGGTGATGCCGGTGCAGCAAATGCAAATCTGGATG
GTAGCGGTGCCTATCTGCTGCGTGATCTGCTGGCCGATCTGGGTGCAGTTCAGGGTCTGGAACCTGACCGTT
CCGGGTACTGATCTGACCTATACCTGGGTGCACCGGTGCTGGTGCACCGGATAATGTTGCAGCCAGCGG
TGAAGTTCTGGAAGTTCCGGAACATCTGCGTAGCGCACGTCATCTGAGCGTTGTGGGCACCAGCACCCATG
GTACACATGGTGGTGGTCTGGTCTGCGGTTTGGCGATGGTAGCAGCCAGACCGTTGATGTTCTGCTGAGC
GATTGGTGTACCGGTTCTCCGGAACCGGGTAATATTACCGTTGCAAAAGCCGGTGCACGTGGTGTATCGTGA
AAATGTGCAGAAAATTGGCTGTGGTCTGTATGCAACCGCACCGGTGGCAATTCCGGAAGGTAAAGTTCTGA
CCAGCGTTACCTGCCGTCTGATGAACGTTTTTCATGTGTTTGAATTGCAACCGATGCAACCGGTGATGTT
CCGGCACCGCAGGTTGAAGTTACCGCACAGGCTCGTTGTCTGGGTGGTAAAGCATTTGTTGCAGTTCGTGC
ACTGAATACCGGTGAACAGCCTGCAGCAATTGAACTGGCAACCCCGTATGGTAGCAAACTGTTTGGTGATG
TTGCTCCGGGTGCAATGCATATCAGAGCTTTGCAACCCGTGCAGCAGCCGTTGAAGCCGGTGAAGTTACC
GTTACCGTGACCACACCGGATGGTGAACCGCAGCAGGTTACCGCAGCATATGATGCAGCGGCATGTAGCTA
ATAA (SEQ ID NO:18)

FIGURE 17

GCAGAACCGGGTGATTTTAGCAGCAGCTTTGAATCTGGCGATCCGGCAGCACTGCCGACCACCGTTGCAGA
ACGTGATGGTGCACCGTGGCAGGCAAATGTTGGTAGCTTTACCGCAGGTCTGCCTGGTAGCGTTCTGGGTC
AGCTGAAAGGTGTTACCGCAAGCGCACAGAATCTGCCGAATGAAGGTGCAGCAAATCTGGCAGATGGTAGC
AGCGGCACCAAATGGCTGGCATTGCAAGCACCGGTGGGGTTCGTTATGAATTTGCAGAACCGGTTAGCTT
TGTTGCATATACCATGACCAGCGGTGATGATGCCGCAGGTTCGTGATCCGAAAACCTGGACCGTTGAAGGTA
GCAATGATGGTTCTACCTGGGCAGCACTGGATCGTCGTACCGATGAAGATTTTCCGAATCGTCAGCAGACC
CGTACCTTTGAACTGGAAGCACCGACCGCAGCATATACCTATCTGCGTCTGAATGTTACCGCAAATAGCGG
TGATAGCATTGTTTACGCTGGCAGGTTGGGATCTGAGCGCAGATCTGTCTGCAGGTCCGAGCGCAGCACC
TGATGACCAAAGTTGGCACCGGTCCGCGTGTAGCTTTACCAATAAAGCCGGTGGTGGTTTTAGCGGTCTG
CATAGCCTGCGTTATGATGGTAGCCATCTGGCCGATGGTGAAACCTATGCAACCAATGTGCTGTATGATGA
TGTTGATGTTGTGGTTGGTGAAGATACCCGCTCTGAGCTATACCATTTTTCCGGAACCTGCTGGATGATCTGC
AGTATCCGAGCACCTATGCAGCAGTTGATGTTCTGTTTACCGATGGCACCTATCTGAGCGATCTGGGTGCA
CGTGATGCACATGAAACCGTTGCAACCGCACAGGCACAGGGTGAAGGTAAAATTCTGTATGCCGATCAGTG
GAATAGCGTTCTGTGTTGATCTGGGTGATGTTGCAGAAGGTAAAACCGTTGATCAGGTTCTGCTGGGTTATG
ATAATCCGGGTGGTTCATGCAGGCACCAAATTTGCAGGTTGGCTGGATGATGTTGAAATTACCGCAGAACCG
GCAACCATTGATGGTAGCTCACTGGCAAATTATGTTGATACCCGTCGTGGCACCCCTGGCAAGCGGTAGCTT
TAGCCGTGGTAATAATATTCGGCAACCGCAACCCGAATGGTTTTAATTTTTGGACCCCGTATACCAATG
CAAGCAGCCAGAGCTGGCTGTATGAATATCATAAAGCCAATAATGCCAATAATAAACCGGTTCTGCAGGGT
TTTGGTATTAGCCATGAACCGAGCCCGTGGATGGGTGATCGTAATCAGCTGACCTTTCTGCCGAGCACCGC
AAGCGGTACACCGGATGCAACCCCTGAGCACCCGTTGGTCTGGAATTTGATCATGCAGATGAAACCGCACGTC
CGGATTATTATGGTGTGACCTTTACCAATGGTAGCGCAATTGAAGCAACCCGACCGATCATGGTGCAGTT
CTGCGTTTTAGCTATCCGGGTGCAAAGGTGATGTTCTGGTGGATAAAGTTGATGGTAGCAGTAAACTGAC
CTATGATCAGGCAACCGGCACCATTAGCGGTTGGGTTGAAAATGGTAGCGGTCTGAGCGTTGGTCTGATCCC
GTATGTTTGTGTCAGGCACCTTTGATCGTAGCCCGACCGCAGTTGGCACAGCAGCAGGTAATCGTGCAGAT
GCACGTTTTGCAACCTTTGAAACAGCAGCGATAAAACCGTGGAACCTGCGTGTGCAACCGCTTTATTAG
CCTGGATCAGGCACGTAAAAATCTGGATCTGGAAGTTACCGGTAAAACCTTTACCGAAGTTAAAGCAGCAG
CAGCACAGGCATGGAATGATCGTCTGGGTGTTATTGAAGTTGAAGGTGCAAGCGAAGATCAGCTGGTTACC
CTGTATAGCAATCTGTATCGCCTGAATCTGTATCCGAATAGCCAGTTTGAATAACCGGCACCGCACAGGA
ACCGGTTTATCGTTACGCATCTCCGTTAGCGCAACACCGGTAGCGCAACCGATACCCAGACCAATGCCA
AAATGTGGATGGCAAAATTTATGTGAATAATGCGCTTTTGGGATACCTATCGTACCGCATGGCCTGCATAT
AGCCTGCTGTATCCGGAACCTGGCAGCAGAACTGGTGTGATGGTTTTGTTTTCAGCAGTATCGTGATGGTGGTTG
GATTGCACGTTGGAGCAGTCCGGGTTATGCAGATCTGATGACCGGTACAAGCTCTGATGTTGCATTTGCAG
ATGCCATCTGAAAGGTAGCCTGCCGACCGGTACAGCACTGGAAGCATATGATGCAGCACTGCGTAATGCA
ACCGTTGCACCTCCGAGCAATGCAGTTGGTCTGTAAGGTCTGCAGACAAGCCCGTTTTCTGGGTTTTACACC
GGAAAGCACCCATGAAAGCGTTAGCTGGGGTCTGGAAGGTCTGGTTAATGATTTTGGCATTGGCAATATGG
CTGCAGCACTGGCAGAAGATCCGGCAACACCGGAAGACGTCTGTAACCCCTGCGTGAAGAAAGCGCATAT
TTTTCTGGAACGTGCCACCCATTATGTTGAACGTGTTGATCCGGAAGTGGATTTTTTTGTTCCGCGTCATGA
AGATGGTACATGGGCAGTTGATCCGGAACCTATGATCCGGAAGCATGGGGTGGTGGTTATACCGAAACCA
ATGGCTGGAATTTTGCATTTTCATGCACCGCAGGATGGTCAGGGTCTGGCAAATCTGTATGGTGGTAAACAG
GGTCTGGAAGATAAACTGGATGAATTTTTTAGCACACCGGAAAAAGGTGCAGGTAATGGTGGTATTTCATGA
ACAGCGTGAAGCACGTGATGTTTCGTATGGGTGAGTGGGGTATGAGCAATCAGGTTAGCCATCATATTTCCGT
GGCTGTATGATGCAGCCGGTGCTCCGAGCAAAGCACAGGAAAAAGTTCGCGAAGTTACCCGTCGTCTGTTT
GTTGGTAGCGAAATGGTCAGGGTTATCCGGGTGATGAAGATAATGGTGAATGTCTCTGTTGGTGGATTTT
TGCAAGCCTGGGTTTTATCCGCTGCAGGTTGGTAGCGATCAGTATGCAGTTGGTTCTCCGCTGTTTGATA
AAGCAACCGTTCATCTGCCGGATGGTGTCTGTTGTTAATGCCGAAAATAATAGCGTGGATAATGTGTAT
GTTTCAGAGCCTGGCAGTTGATGGTGAAGCACGTACCAGCACCGCCTGAGCCAGGCAGATCTGAGCGGTGG
CACCACCTGGATTTTGTATGGGTCCGGAACCGAGCGATTGGGGCACCGGTGAAGATGATGCACCTCCGT
CACTGACCGAAGGTGATGAACCTCCGACACCGGTTTACGATGCAACACCGCAGGCCTGGGCACCACCACC
GTTGCCGATGGTGTATGCCACCACCTCTGCAGCAGCCCTGACCGATAATACCAGCGGCACCCGTACCACCTT
TGCAACCACCACCCGAGCATTACATGGGCAGGTAATGGCATTCGTCCGACCGTTGGTAGCTATACCCGTGA
CCTCTGGTGAAGCGGCACCGCAAGCCCGTCTGCATGGACCCCTGGAAGGTTCTGATGATGGCGAAACCTGG
ACCACCTGGATGAACAGTGAACAGTTTTCTGGGCACTGCAGACCCGTCGCTTTACCGTTACCGTTGCCGA
ACCGACCGCATTTGCACGTTATCGTGTACCGTTACCGCAACACCGCGTTCTGGTGCAGTGCAGCTGGCAG
AAGTTGAACCTGCTGGCAGATCCGAAAGAAAGCGGTGCAGAAGAACTGACCCTGTCTGCAGCACCGGATCGT

GATGGCGTTACCGGTCGTGAAGTTAGCGGTTCTTTTGCAACCCTGACCGGTGTTGAAGGTGATGTTGCCGC
ACTGGATGTTTCAGGTTGCATTTGGTGATGGTAGCGAACCGGTTGCAGGTACACTGCGTGCCGGTGCATTTG
GTGGTTATGCAGTTGATGCAGCACATACCTGGACCGCACCGGGTGTATCCGGTTACCGTGACCGTTAGC
GGTGAAGGTATTGAAACCGTTAGCGCAAGCAGCTATGTTAGCGTTAGCCTGCTGCGTGAAGGTTCTCTGCT
GGCAGCATATGATAATGTGTGCATTGGTGATGCAGGTACAACCGTTGGTTCTTGTGATGGTCAGGGCGTTT
TTTTTGATCGTGACAGCTGGCAGCAAAAGGTTTTGTGCAGGGTGAACGTGCAACCGTTCCGGGTACAGAT
CTGGCATTGTGATGTTCCGGCAGTTCCGGCTGGTCAGCCTGATAATGCAACCGGTGATGGTCAGACCATTGA
ACTGGATGTTCCGGCTGATGCAGAACAGCTGAGCGTTATTGGCACCGGCACCGAAAAAATCAGCAGGCAA
CCGGTACACTGACCTTTGATGATGGTTCTACCCAGCCGATTGATCTGAGCTTTGGTGATTGGAGCGGTGCA
GCACGTAATCCGGTGTTTGGTAATATTCCGGTTGCAGTTACCGATAGCCGTCTGCGTGGTGGTTCTCCGCA
GACCGGTACACCGGCAGCATTTTTTGCCACCGCACCGATTACCCTGCCGGAAGGTAAACGTCCGGTTAGCC
TGACCCTGCCGGATCAGCCTGGTGAACGTAGCCGTGATGGTCGTATTGATGTTGTTGCAGTTGCACATGAT
GGCACCTTTGCAGAACATCCTGCACTGGAAGTGACCGCAGCAGAAGGTGTTACCCTGGCAGTTGGTCAGAC
CTCAGATGTTGCACTGGCACAGGTTGCCGGTGGTCGTGAAGGTGCAGATCTGCGTGCCGCAGTTACCTGGG
GTGATGGTTCTGATGTGGCAGCCGGTGCCGTTACCGATGGTAGCGTTAGCGGTAGCCATGCATATACCGCA
GCAGGCACCTATACCGCATATGTTGTTGTGGATGATGGTTGGACCAGCCAGGTTGTTGAAGTTCCGGTGAC
CGTTACAGAAGCCGAACCGGCACTGGCCGTTGATGTCAACGTTAGCACCCGTTGCCGTGGCAGGTAAAGCAT
ATGTTGCAGTGCGTGCAAAAATGGTGAAGATGTTCCGCTGGCAATTCGTCTGGTTACCCCGTTTGGCACC
AAAGAAGTTGCAGCAGTTGCTCCGGGAGCCAATGCATATCAGAGCTTTGCAACCCGTGTTACCGCAGTTGA
AGCAGGCACCGTTACCGTTGAAGCCACCCGTGGCACCGGTGATGAAGAAGTTACCGCCAGCATTCAGGCAG
ATTATGCAGCCGTTACCTGCGGTTAATAA (SEQ ID NO:19)

FIGURE 18

GATATGCCTGCAGCACAGGCACCGAATGGTCTGGCAAAAGTTAATCCGCGTACCACACCGGGTCGTAATAA
TACCGGTTATGATTATGCCAGAGCAAAATTAGCGGTTTTACCCATACCAATCTGGATGGTGGTGGTA
GCGGTGGTGGTGGTGGTATCTGCTGGTGTCCGACCAGCGGTAGCTATACCGCACGTCCGGGTACAGGCACC
TATGCACATCCGTTTAGCCATGATGATGAAGATGCAGGTCGGGTTTTATAGCGTTGGTCTGGGTAATGT
TGCAGGCACCGATGGTGAATTACCGGTGCTCCGGGTACAATTGAAGCAGAAGTTGCAGCAGCAACCCGTA
GCGGTGTTTCATCGTTATGCATTTCCGGCAGGTAGCACCCCGAGCCTGGTTGTTGATCTGGAAACCAATAAT
ACCAGCCGTCGTAGCAGCAGCGTTCAGGTTGAAACCCGTGCAGATGGCACCGTTGAACTGAGCGGTGAGGT
TACCGGCTATTTTTATAATGCAGCCTATACCCTGTATTATACCGCACGCACCCTGCAGCCTGCAACCGTTC
AGACCTGGGGTGATGATGATCGTCTGGTGTATGCAACCGCACAGGATGGTGTGATACCGGTGCAATTCTG
ACCTTTGATCCGGCAGATGCCGGTGAAATGGTCTGCAGGTTACCCTGTCTCCGGTTAGCGTTGAACAGGC
ACGTATTGATCAGCAGGTTGAACTGGGTGATCTGAGCTTTGATGCAATTCGTGATCGTACCCGTGCAGAAT
GGAATGCAACCCGTGGGTGCTGTTGCAATTGATGCAAGCACCGCAACCGATCCGACCGGTGAACTGCAGCGT
CTGTTTTATACCCATCTGTATCGCATGTTTGAATGCCGATGAATGCAACCAGCACCGCGCACCTATCG
TGGTGTGATGGTGCAGTTCATGCAGCACAGGGCTTTACCTATTATGATAGCTGGGCAACCTGGGATGATT
TTCGCAAATTTAGCGTGATTGCCATATATTGATCCGGCAGCTGTATCGTGATATGGTTCAGAGCCTGGTTAC
CTGTTTGAGATGCAGAACGCAACCGGTACAGCGGTGGTCTGGGTGGTTTTGTTTCATAGCGTTCCGACCGT
TCGTTGGGAACGTAGCAGCGTTGTTGTTGCAGATGCAATTGCCAAAGGCTTTGATGGTTTTGATCGTCTGG
ATGAAGCATATCCGGCACTGCAGCGCTGGTGGTTCAGTATAGCGCAGATGAACTGCGTCGTGGTTATGTT
GCAGGTAATCCGGGTGCAAGCGTTCAGCGTGGTTATGATCAGTATGGTCTGAGCGTTATTGCCGATGAACT
GGGTCTGACCGAAGAAGCAGAAACCCGTGCGCAACAGGCAAGCTGGCCGATTGAAAACTGACCAAACCGG
GTGCATGGACCGCAGCAGATGGTACACAGGTTGGTCTGCTGACACCGCGTGCAGCCGATGGTAGCTGGCAG
AGCGCAGATCATGCCAAATTTGAAGCAGCAGGTCTGTATCAGGGCACCCCTGTGGCAGTATCATTTGGTATGA
TGCCATGATATGGATGCACTGGTTGAAGCAATGGGTGGTTCATGAAGCAGCCCGTCTGGGTATGCGTCATA
TGTTTGGTGAACATGCACCGGATGATGGTAAAGCAATGCTGCATAGCAATGCCAATGAAATTTGATCTGCAG
GCACCGTACCTGTTTAAATTATACCGGTGAACCGAGCCTGACCCAGAAATGGGCACGTGCAATTTATACCAA
AGAAACCTGGAATCGCTATATTGCAACCGGTAGCAGCTCTGCAGTTCCTGTCAGGTGGTGGTGAATTTACAC
CTCCGCTGAAAACCAAGTTTATCGTCTGGACCCCTCGTGGTATGCTGCCGACCATGGATAATGATGCAGGT
ACAATGAGCACCATGTTTGGTGCAGCAGCGGTTGGTCTGTTTCCGGTTACCGCAGGTAGCAGCCAGTTTCA
GGTTGGTAGCCCGTTTTTTGATAGCACCAACCTATACCTATGATGATGGTAGCGCATTTACCGTTACCGCAG
ATGGTGTAGCGAAGATGCCTTTTATGTTTCAGAGCGCAACCCCTGGATGGTGAACCTTTGGTAATACCTGG
GTTGATTATGCAACCGTTGTTGGTGGTGCAGATCTGGCATTTCTGTATGGGTGAACAGCCGAGCGATTGGGG
CACCGATACCGCACCGGCATTTAGCATGAGCACCGCCACCGATGAACCGGCAGAAGGTCCTCGCGTTAGCG
CAGAACCGACACCGTGCAGACCGGTGATGGTGGTGCAGTGGATGCAACCGTTACCCGTGACACTGGATGGC
GCACGTCTGGCAGCACCGGCAGGTACAGATCTGGTTACCAGCGGTGCAGCAAGCGTTGTTGGTCTGCCGGA
TGGTGTACCAGCAGCAGTTACCGTTGCAAGCCCGACCGCACTGACCGTTAGCCTGACCGGCACCGCATCAG
CAGATGCACGTTTTTTTTGTGCATCTGCGTGATGCAGCACTGGCCGATGGTGTGACCGCGCAAGCCTGCAG
GGTCAGGGTGTTAGCGTTCTGTTCTCCGCTGCGTCTGAGCGTTGCAAGCGCAGAACGTGATGCACTGGCAGC
ACTGGTTGATGATGCCGTTCTGGTTCGTCATGGTAATTATAGCAGCGTTACCTTTGATCGTTTTAGCACCG
CTCTGACAAAAGCACAGGAAGCACTGGGCGACGAAGCAGCAACCGCATTGCACTGCGTTTTTCAGCAGAT
CGTCTGGGTGCAGCAGCAGATGCACTGGATCTGACCGGTGGTGGTTATCGTACCCTGGAAGCAGAACAGAG
CGAAGCATGGTCTGGTGGTGAATGAAAAATGAAGCCAATAGCAGCAGCGGTAATCTGGGTGGTGTTCGTA
GCGGTAGCTGGGTTCAGTATCGCGATATGACCTTTGAAACCGCAGCCGGTGATACACCTCCGCGTTTTCTG
ACCGTTCTGTTATGATACCAGCTTTGCACCGACCGATACCCCGAGCACCGTTCTGTGTTTCATGCCGGTGATGT
TTCTGGTCCGGTTGTTGCAACCGTTGATCTGAAAGGCACCGAGCGGTTGGGGTAAATATACCGAAGTTACCG
CAGAACTGGGTGATGTTACAGCCCTGGTTGATGCCAGGTTGTTACCTTTGAACTGCTGGCACCGAGCGGT
CGTAGCTGGGTGGTAAATTTGATTGGTTTCGCTTTAGCGCAGAAGATCCGGCAGCACCGGGTCAGCCTGG
TGAAAGCCCGACCGTTACCATTTGAAGCCGAAGATTGGACCGCAAGCAGCGGTCGTGGTCTGAAAAAGAAA
GCAGCACCTGGACCGGTCCGGTGACCAATGTTGGTGGTACAGCAGATGGTGGTGGTGGTGGTGGTGGTGGT
GAAGTTGATCTGGGTGAACTGCCGCTGGGCGAACTGAGCGTTTATTATGTGCATAATAGCAATCCGAGCGG
TAATAATAGCGCACTGAGCGTTTTATCTGGATGCATTTGATCCGGCTAATCCGGGTGAACCGTTTTGTTACCG
TTCCGCTGCCGACACCGGTAGCAGTTGGACCGCAGATGGCACAGCCACCGTTGTTCTGCCGGAACCGGTG
CAGGGCACCCATGAAGTTTTTGTCTGAGCACCAGAACCGTATGCAGATCATCCGTATGTTGCAAAATCT
GGATAGCCTGACCTTTGCACCGGTGGTCCGACCGAGCGTTGTTGGTTGAAAGCGAAGCCTGGACCGCAATT
CTGGTCTGGCCTGAAAAATGAATCTTCTACCTGGACCTCTGGTCCGGTTACAAATGTGGGTGGCACCGCT

GATGGCGATTGGCTGGCATATGGCGAAATTGATCTGGGCAGCGCAGCACTGGATCAGCTGTCTGTGCATTA
TGTTTCATAATTCTAATCGCTCTGGTCGTAATTCTGCACTGTCTGTGTATCTGGATGCCTTTGATCCGGCAA
ATCCGGGTGAACCGTTTGTGACAGTGCCGCTGGCAAATACCGGTAGCTCTTGGACCACCGATGGTACTGCA
GTTGTGGATCTGCCGTCTACCGTTCGTGGTAAACATCAGGTTTGGGTTTCGTCTGTCTACCGAAGCATATGC
CGATCATCCGTATGTGGCCAATCTGGATTCTATGCGCTTTTTTACCGATGCATATGATGTTGAAGTTCCTC
CGACCGATACAGCAGCACTGGCAGCCGTTGTTGATGCAGCAGGTACACCGGAAGCAGAAATTGCACGTTAT
GGTCGTATTGATGCCCCGTGTTTTTACCGTGAACTGGCAGCAGCACGTAGCGTTCTGGCCGATGCCGGTGC
AACACAGGCACAGGCAGATGAACGTGCTCGTCGTCTGGGTCTGGCAACCGATCAGCTGGTTCCGGCAGAAC
GTCGTCTGTCTGAAAATCTGGTTGCCAGCGCAGAAAGCACTGACCGACGAAGGTTATTCTCCGGAAAGCTGG
CAGGCATTTTCGTACCGCACTGGCTGCTGCAACCGGCACCCTGGATGATGCAGCAGCATCTGATGAAGCACT
GCATGATGCACGTCTGGCGCTGCAGGGTGCAGTTGATGCACTGGAAGAACCGGCAGATGTTGTTCTGGTTG
AAGTTGAAGTTTCTCCGCGTTGTCTGGCAGGTAAACCGTATGTTGCCGTTTCGTGCAGTTAATGTTTCTGAT
GCAGCCGTTGATGTTGAACTGGCAAGCTCTCTGGGCACCCGTAGCTTTGTTGGTGTGGCACCGGGTGCAG
CGCATATCAGAGCTTTGCAGCCCGTAGCGCAACCGGTGATCTGGATGTTACCGTGACCGCAACCGGTGCAG
ATGGTACTCAGACCGTTGAACAGGTTGTGACCGTTCCGAGCTGTAGCTAATAA (SEQ ID NO:20)

FIGURE 19

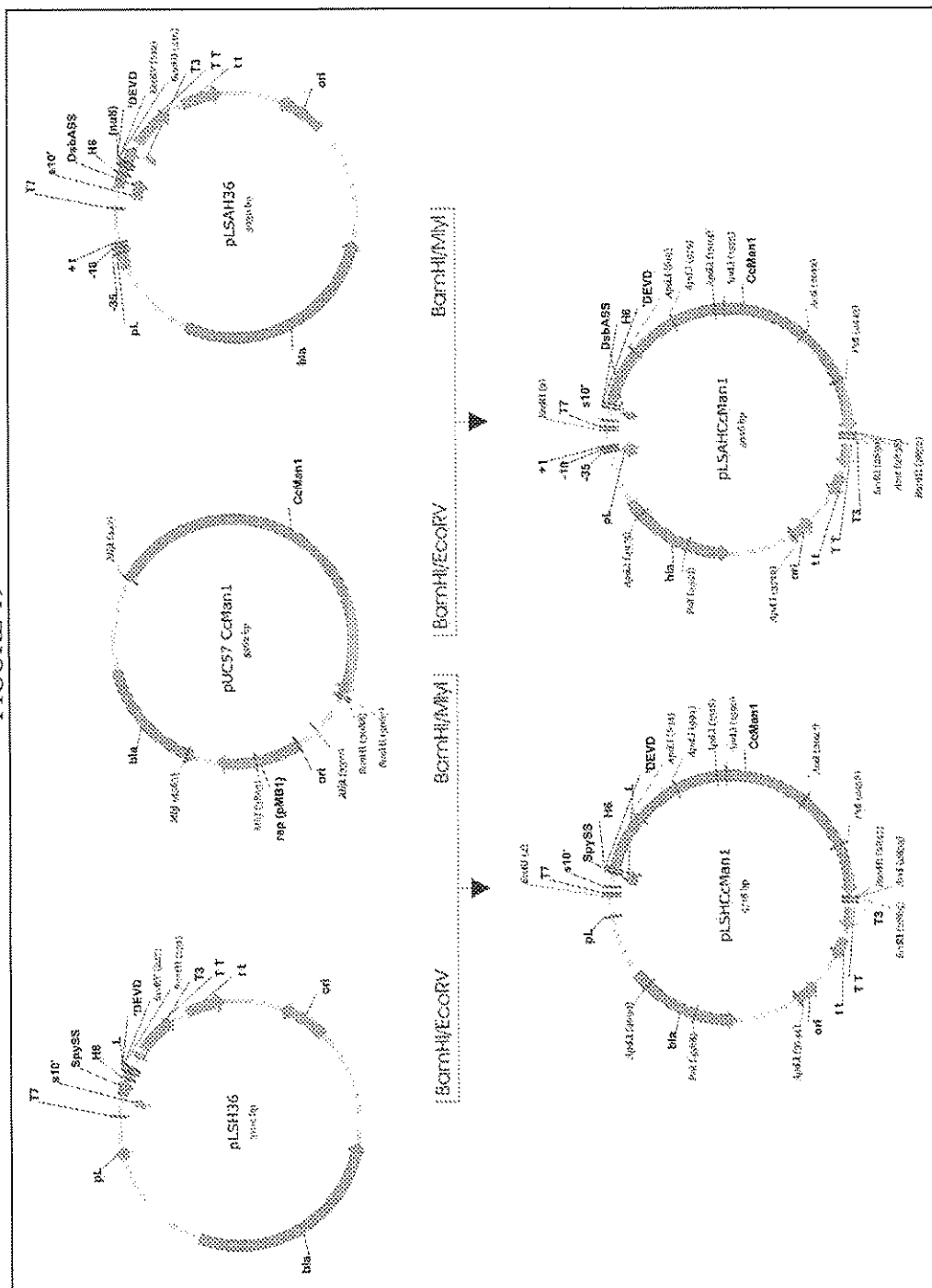


FIGURE 20

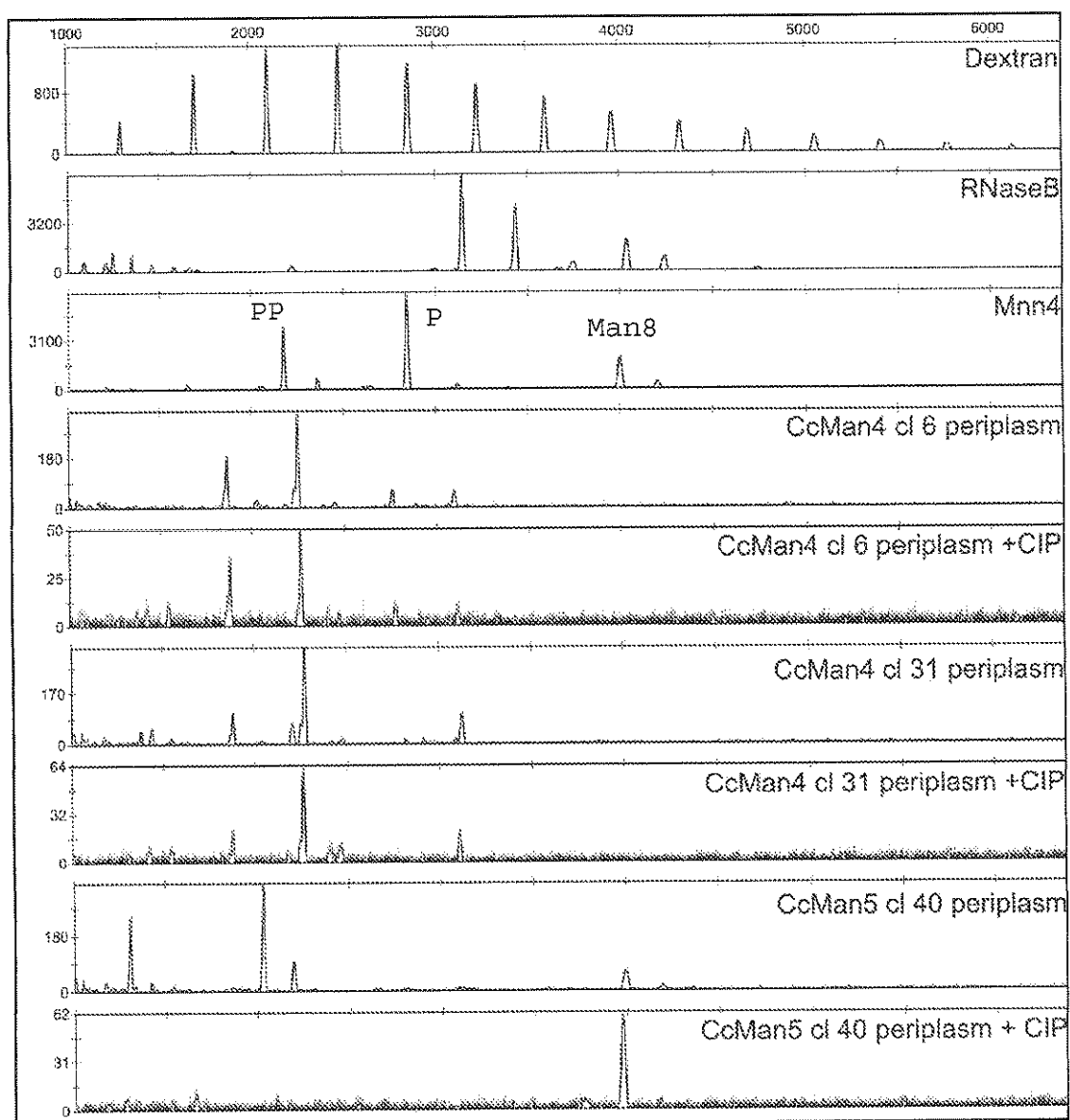


FIGURE 21

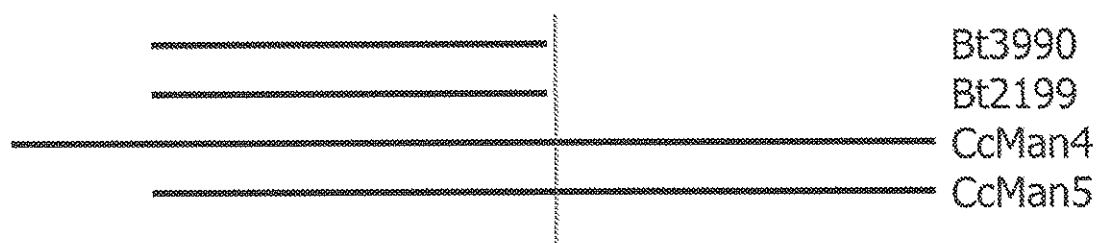


FIGURE 22

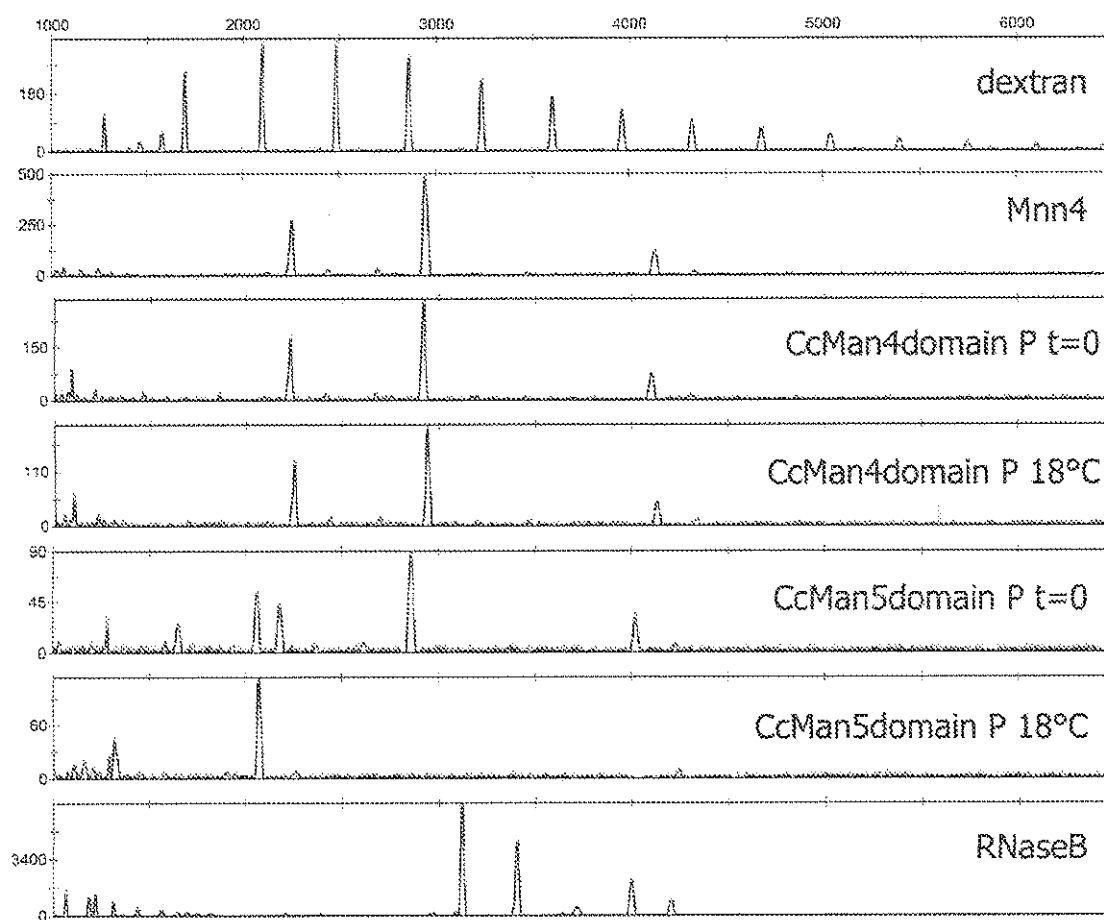


FIG. 23



FIG. 24

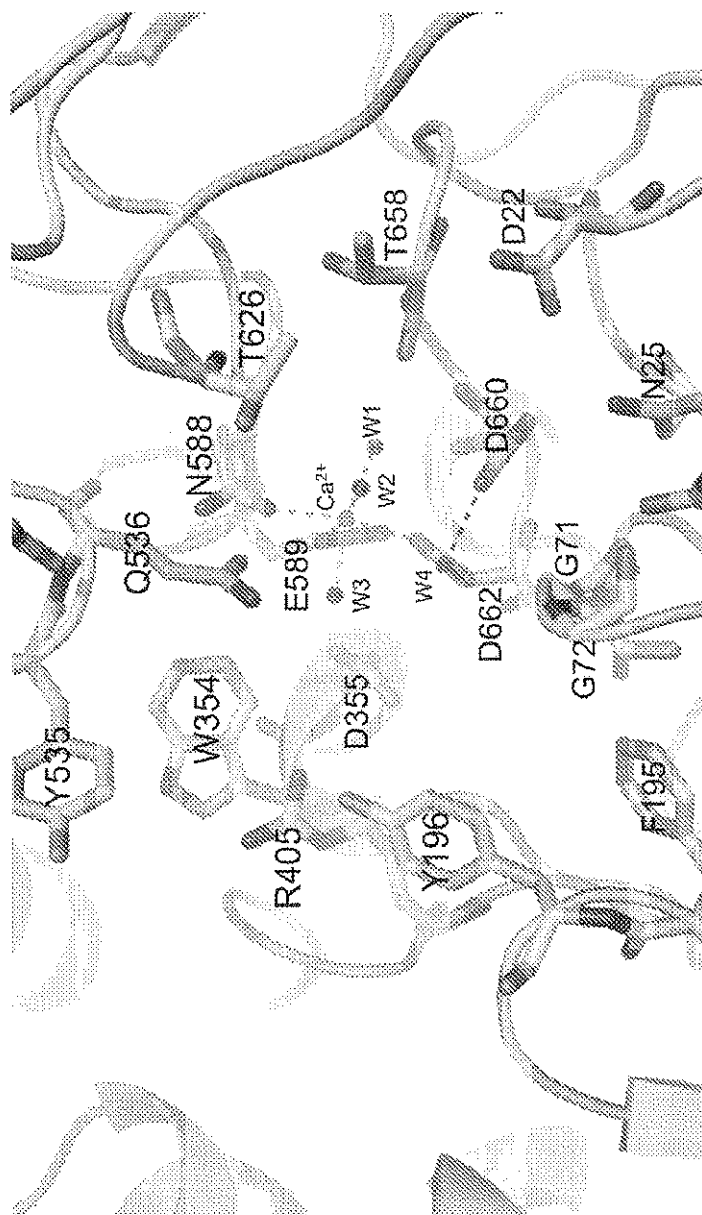


FIG. 25

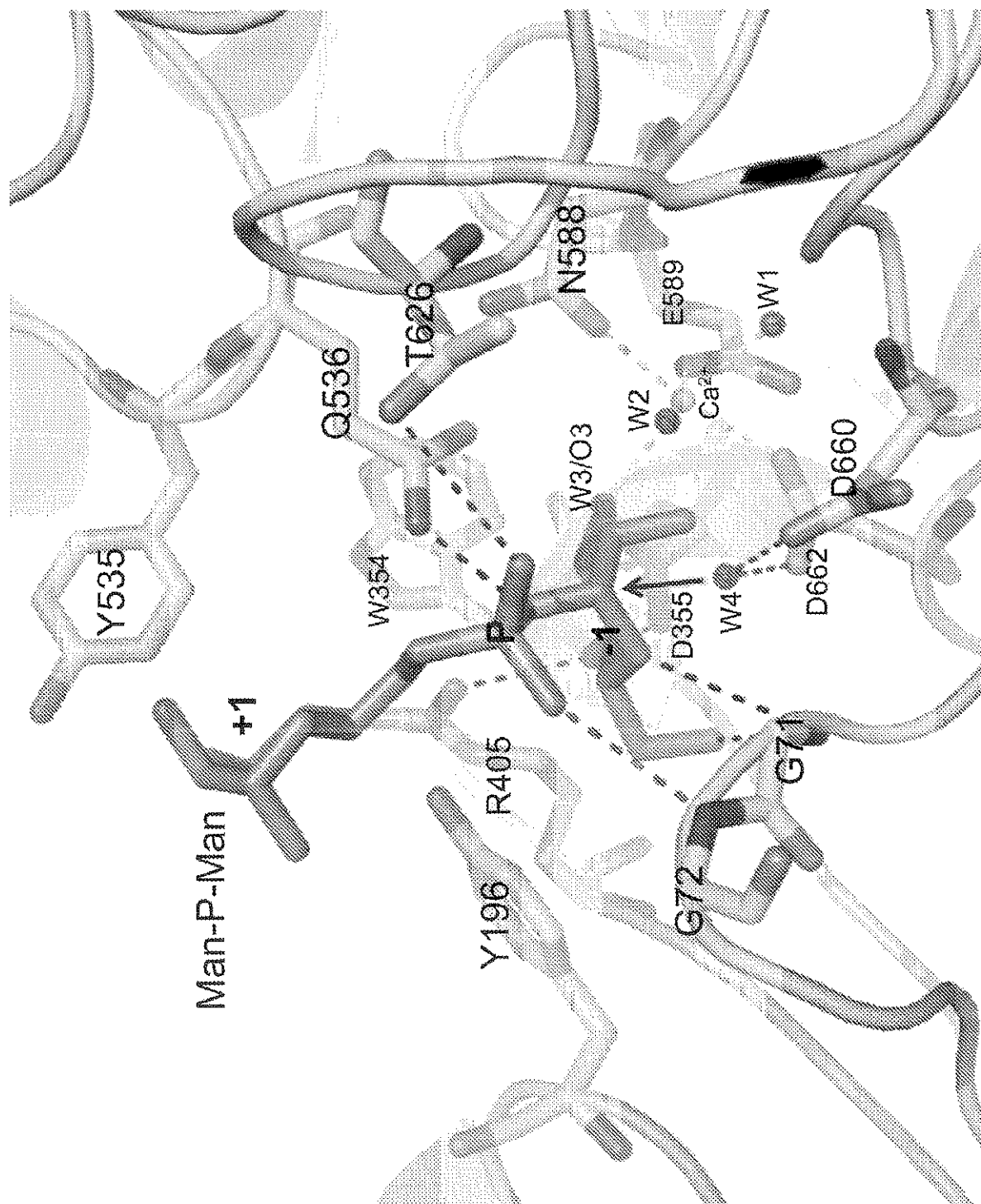


FIGURE 26A

ATGAAGCTTTCCACCATCCTCTTCACAGCCTGCGCTACCCTGGCCCTGGACAACGGCCTGGCCCCGAACCCC
CACCATGGGCTGGCTGCACCTGGGAGCGATTTCATGTGTAACTGGACTGTCAGGAAGAGCCCGACTCTTGTA
TCTCTGAGAAGCTGTTTCATGGAAATGGCCGAGCTGATGGTGTCTGAGGGCTGGAAGGACGCCGGCTACGAG
TACCTGTGTATCGACGACTGTTGGATGGCCCCCAGCGAGACTCTGAGGGCCGACTCCAGGCCGACCCCCA
GCGATTCCCCCACGGCATCCGACAGCTCGCCAACTACGTGCACTCTAAGGGCCTGAAGCTGGGCATCTACG
CCGACGTGGGCAACAAGACCTGTGCCGGCTTCCCCGGCTCTTTTCGGCTACTACGACATCGACGCCCAGACC
TTCGCCGACTGGGGCGTGGACCTGCTGAAGTTCGACGGCTGTTACTGTGACTCTCTCGAGAACCTGGCCGA
CGGCTACAAGCACATGTCTCTGGCCCTGAACCGAACCGGCCGATCTATCGTGTACTCTTGAGTGGCCCC
TGTACATGTGGCCCTTCCAGAAGCCCAACTACACCGAGATCCGACAGTACTGTAACCACTGGCGAAACTTC
GCCGACATCGACGACTCGTGGAAGTCTATCAAGTCTATTCTGGACTGGACCTCTTTCAACCAGGAGCGAAT
CGTCGACGTGCGCCGACCCGGCGGATGGAACGACCCCGACATGCTGGTGATCGGCAACTTCGGCCTGTCTT
GGAACCAGCAGGTGACCCAGATGGCCCTGTGGGCTATCATGGCTGCCCCCTGTTTCATGTCTAACGACCTG
CGACACATCTCTCCCCAGGCCAAGGCCCTGCTCCAGGACAAGGACGTGATCGCCATCAACCAGGACCCCCCT
GGGCAAGCAGGGCTACCAGCTCCGACAGGGCGACAACCTCGAGGTGTGGGAGCGACCCCTGTCTGGCCTGG
CCTGGGCGCGTGGCCATGATCAACCGACAGGAGATCGGGCGGACCCCGATCTTACACCATCGCCGTGGCCTCC
CTGGGAAAGGGCGTGGCCTGTAACCCCGCCTGTTTCATCACCCAGCTCCTGCCCGTGAAGCGAAAGCTGGG
ATTCTACGAGTGGACCTCTCGACTGCGATCTCACATCAACCCACCGGCACCGTGCTGCTCCAGCTCGAGA
ACACCATGCAGATGTCTCTGAAGGACCTGCTGACGCGTGAACAAAACTCATCTCAGAAGAGGATCTGAAT
AGCGCCGTCGACCATCATCATCATCAT (SEQ ID NO:22)

FIGURE 26B

MKLSTILFTACATLALDNGLARTPTMGWLHWERFMCNLDCQEEDSCISEKLFMEMAELMVSEGWKDAGYE
YLCIDDCWMAFQORDSEGRQLADPQRFPHGIRQLANYVHSGGLKLGIIYADVGNKTCAGFPGSFGYYDIDAQT
FADWGVDLLKFDGICYCDSLENLADGYKHMSLALNRTGRSIVYSCEWPLYMWPFQKPNYTEIRQYCNHWRNF
ADIDDSWKSISILDWTSFNQERIVDVAGPGGWNDPDMLVIGNFGLSWNQVQTQMALWAIMAAPLFMSNDL
RHISPOAKALLQDKDVIAINQDPLGKQGYQLRQGDNFEVWERPLSGLAWAVAMINRQEIGGPRSYTIAVAS
LGKGVACNPACFITQLLPVKKRLGFYEWTSLRLRSHINPTGTVLLQLENTMQMSLKDLLTREQKLISEEDLN
SAVDHHHHHH (SEQ ID NO:23)

FIGURE 27A

ATGAAGCTTTCCACCATCCTCTTCACAGCCTGCGCTACCCTGGCTGCCGCCAGCAGGGAGCCT
CTCGACCCCGGACCCCGAGATGCCAGGCTCACCCCGGACGACCTCGAGCTGTGCCACCCAGTGTG
ACGTGCCCCCAACTCTCGATTGACTGTGCCCCGACAAGGCCATCACCCAGGAGCAGTGGGAGG
CCCGAGGCTGTTGTTACATCCCCGCTAAGCAGGGCCCTGCAGGGCGCTCAGATGGGCCAGCCCTGGT
GTTTCTTCCCCCTCTTACCCCTCCTACAAGCTGGAGAACCTGTCTCTTCGGAGATGGGCTACAC
CGCCACCCTGACCCGAACCAACCCCACTTTTCCCCAAGGACATCCTGACCCTGCGACTGGACGTG
ATGATGGAGACCGAGAACCGACTGCACTTCACCATCAAGGACCCCGCCAACCGACGATACGAGGT
GCCCCGAGACCCCCACGTGCACTCTCGAGCCCTTCCCCCTGTACTCTGTGGAGTCTCTTGAG
GAGCCCTTCGGCGTGATCGTGCGACGACAGCTGGACGGCCGAGTGCTGCTGAACACCACCGTGGCC
CCCCGTCTTCGCGGACCAGTTCCTGCAGCTGTCTACCTCTCTGCCCTCTCAGTACATCACCGGCCT
GGCCGAGCACCTGTCCCCCTGATGCTGTCCACCTCTTGGACTCGAATCACCTGTGGAAACCGAGA
CCTGGCCCCCAACCCCGGTGCCAACCTGTACGGCTCTCACCCCTTCTACCTGGCCCTGGAGGACGGC
GGCTCTGCCACGGCGTGTTTCTGCTGAACTCTAACGCCATGGACGTGGTGCTGCAGCCCTCTCCCG
CCCTGTCTTGGCGATCTACCGGCGGCATCCTGGACGTGTACATCTTCTTGGGCCCTGAGCCCAAGTC
TGTGGTCCAGCAGTACCTGGACGTGGTCGGATACCCCTTCATGCCCCCTACTGGGGCCCTGGGCTTC
CACCTGTGTCGATGGGGCTACTCTTCTACCGCCATCACCCGACAGGTGGTGGAGAACATGACCCGA
GCCCCTTCCCCCTGGACGTGCAATGGAACGACCTGGACTACATGGACTCTCGACGAGACTTCACC
TTCAACAAGGACGGCTTCCGAGACTTCCCCGCCATGGTCCAGGAGCTGCACCAGGGAGGACGACG
ATACATGATGATCGTGGACCCCGCCATCTCTTCTTCCGGACCCGCGGATCTTACCGACCCTACGAC
GAGGGCCTGCGACGAGGCGTGTTATCACCAACGAGACCGGCCAGCCCTGATCGGCAAGGTGTG
GCCCCGCTCTACCGCCTTCCCCGACTTACCAACCCCAACCGCCCTGGCTTGGTGGGAGGACATGGT
GGCCGAGTTCCACGACCAGGTGCCCTTCGACGGCATGTGGATCGACATGAACGAGCCCTCTAACTT
CATCCGAGGCTCTGAGGACGGCTGTCCCAACAACGAGCTGGAGAACCCCCCTACGTGCCCGGCGT
GGTGGGCGGAACCTGCAGGCCGCCACCATCTGTGCCTCTTCGCACCAGTTTCTGTCTACCCACTAC
AACCTGCACAACCTGTACGGACTGACCGAGGCCATTGCCTCTCACCGAGCCCTGGTGAAGGCCCGA
GGCACCCGACCCCTTCGTGATCTCTCGATCTACCTTCGCCCGGCCACGGCCGATACGCCGGACACTGG
ACCGGCGATGTGTGGTCCTCTTGGGAGCAGCTGGCCTCTTCTGTGCCCGAGATCCTGCAGTTCAACC
TGCTGGGCGTGCCCTGGTGGGCGCCGACGTGTGTGGCTTCTTGGGCAACACCTCTGAGGAGCTGT
GTGTTGATGGACCCAGCTCGGCGCCTTCTACCCCTTTCATGCGAAACCACAACCTCCCTGCTGTCTCT
GCCCCAGGAGCCCTACTCGTTCTCTGAGCCCGCTCAGCAGGCCATGCGAAAGGCTCTGACCCTGCG
ATACGCCCTGCTGCCCCACCTGTACACCTGTTCACCAGGCCACGTGGCTGGAGAGACCGTGGC
CCGACCCCTGTTCTTGAGTTCCCTAAGGACTCTTCTACCTGGACCGTGGACCATCAGCTGCTGTGG
GGCGAGGCCCTCCTGATCACCCCGTGCTGCAGGCCGGCAAGGCTGAGGTGACCGGCTACTTCCCT
CTGGGCACCTGGTACGACCTGCAGACCGTGCCTGTGGAGGCCCTGGGATCTCTGCCCCCTCCTCCCG
CCGCTCCCCGAGAGCCCCGCCATCCACTCTGAGGGCCAGTGGGTGACCCTGCCCGCTCCCCTGGACA
CCATCAACGTGCACCTGCGAGCCGGCTACATCATCCCTCTGCAGGGACCCGGCCTGACCAACACCG
AGTCTCGACAGCAGCCCATGGCCCTGGCCGTGGCTCTGACCAAGGGCGGAGAGGCCCGAGGCGAG
CTGTTCTGGGACGATGGCGAGTCTCTGGAGGTGCTGGAGCGAGGCGCCTACACCCAGGTGATCTTT
CTGGCCCCGAAACAACACCATCGTGAACGAGCTGGTGGGAGTGACCTCTGAGGGCGCTGGTCTGCAG
CTCCAGAAGGTGACCGTCTGGGCGTGGCCACCGCTCCCCAGCAGGTCTGTCTAACGGCGTGCCC
GTGTCTAACTTCACCTACTCTCCCGACACCAAGGTGCTGGACATCTGTGTGTCTCTGCTGATGGGCG
AGCAGTTCCTGGTGTCTTGGTGTTAAC (SEQ ID NO:24)

FIGURE 27B

MKLSTILFTACATLAAAQQGASRPGPRDAQAHPGRPRAVPTQCDVPPNSRFDCA
PDKAITQEQCEARGCCYIPAKQGLQGAQMGPWCFFPPSYPSYKLENLSSSEM
GYTATLTRTTPTFFPKDILTLRLDVMMETENRLHFTIKDPANRRYEVPLETPH
VHSRAPSPLYSVEFSEEPFGVIVRRQLDGRVLLNTTVAPLFFADQFLQLSTSL
PSQYITGLAEHLSPLMLSTSWTRITLWNRDLAPTPGANLYGSHPFYLALEDG
GSAHGVFLLNSNAMDVVLQPSPALSWRSTGGILDVYIFLGPEPKSVVQQYLDV
VGYPFMPYWG LGFHL CRWGYSS TAITRQVVENM TRAHFPLDVQWNDLDYMD
SRRDFTFNKDGFRDFPAMVQELHQGGRRYMMIVDPAISSGPAGSYR
PYDEGLRRGVFITNETGQPLIGKVWPGSTAFPDFTNPTALAWWEDMVAEF
HDQVPFDGMWIDMNEPSNFIRGSEDGCPNNELENPPYVPGVVGGTLQAATIC
ASSHQFLSTHYNLHNLGLTEAIAASHRALVKARGTRPFVISRSTFAGHGRYAG
HWTGDVWSSWEQLASSVPEILQFNLLGVPLVGADVCGFLGNTSEELCVRWTQ
LGAFYPFMRNHNLSLLSLPQEPYSFSEPAQQAMRKALTTRYALLPHLYTLFHQ
AHVAGETVARPLFLEFPKDSSTWTVDHQLLWGEALLITPVLQAGKAEVTGYF
PLGTWYDLQTVPVEALGSLPPPPAAPREPAIHSEGQWVTLPAPLDTINVHLR
AGYIIPLQGPGLTTTESRQQPMALAVALTGGGEARGELFWDDGESLEVLERGAY
TQVIFLARNTIVNELVRVTSEGAGLQLQKVTVLGVATAPQQVLSNGVPVSNFT
YSPDTKVL DICVSLLMGEQFLVSWC* (SEQ ID NO:25)

FIGURE 28

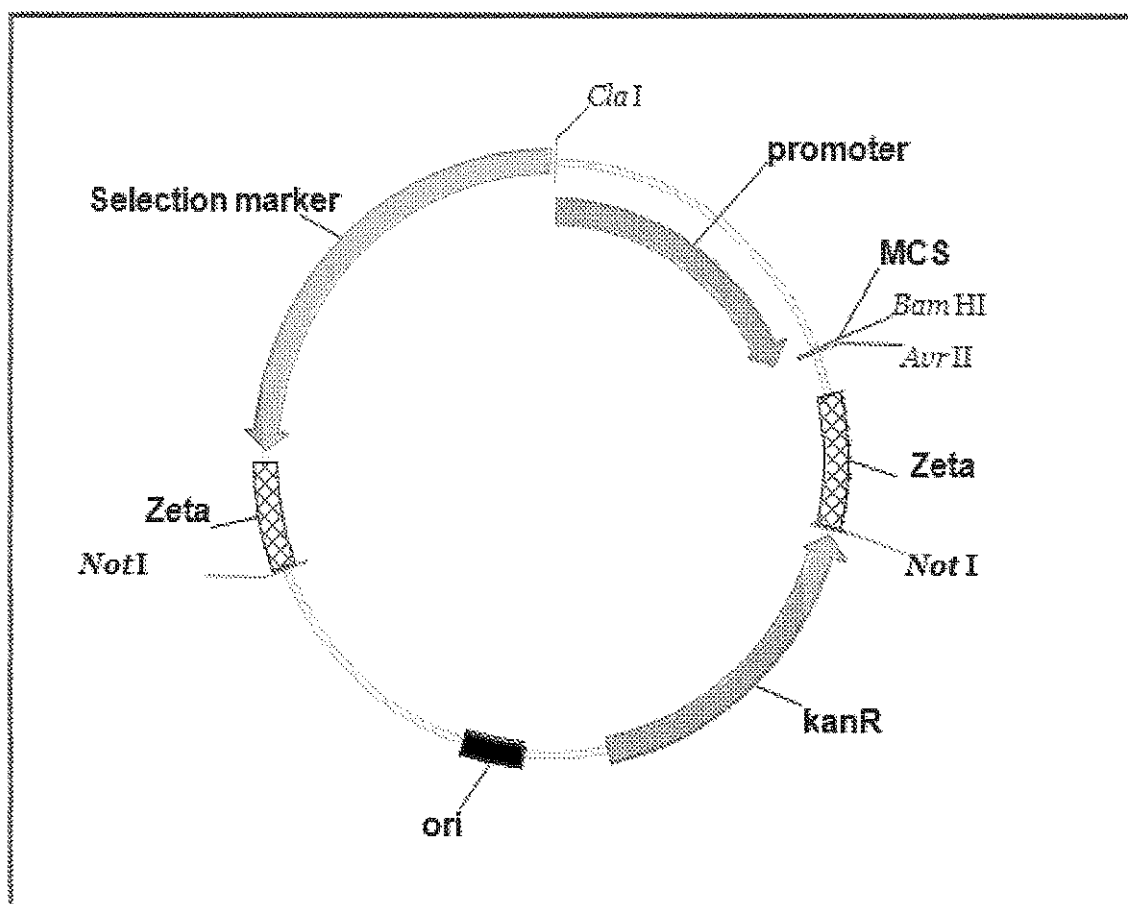


FIGURE 29

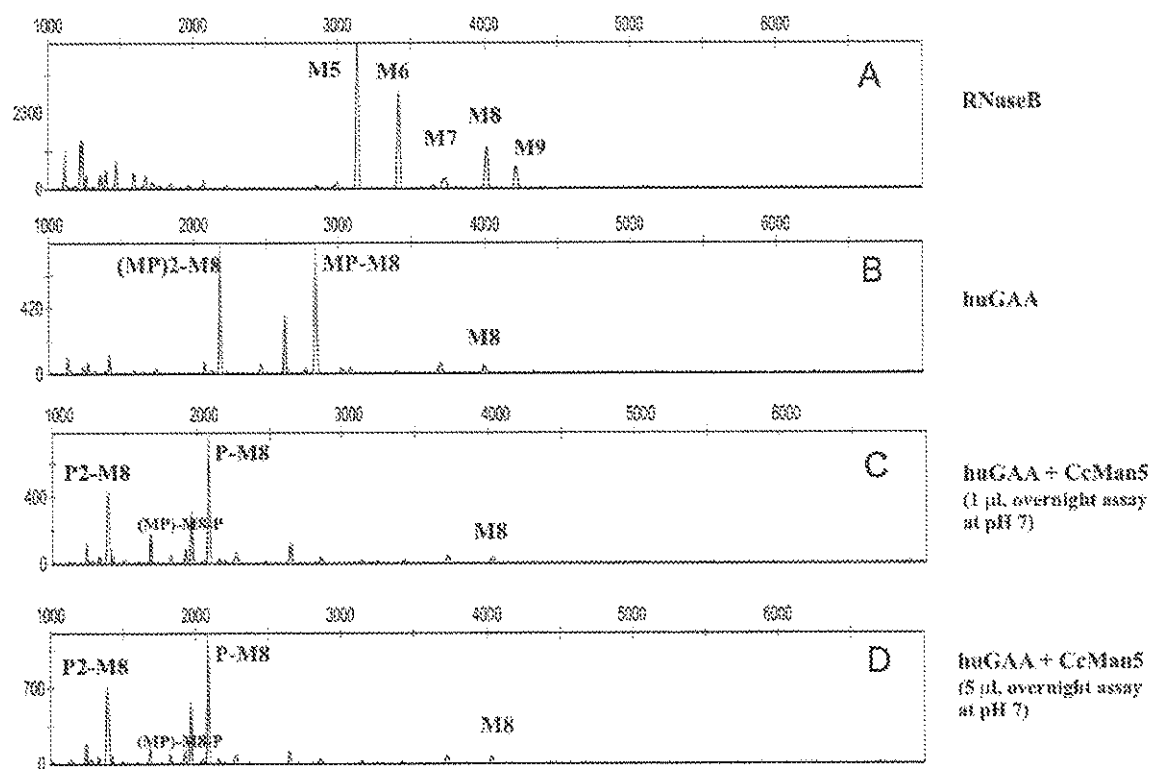
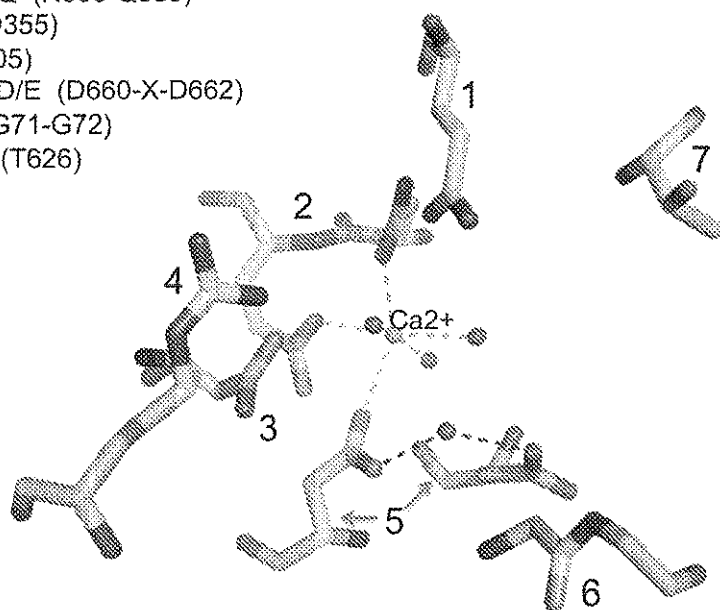


FIGURE 30

- 1: Q (Q536)
- 2: N/D-E/Q (N588-Q589)
- 3: D/E (D355)
- 4: R (R405)
- 5: D/E-X-D/E (D660-X-D662)
- 6: G-G (G71-G72)
- 7: T/S/G (T626)



Numbering for equivalent residues in SEC ID NO:50 is given in parenthesis

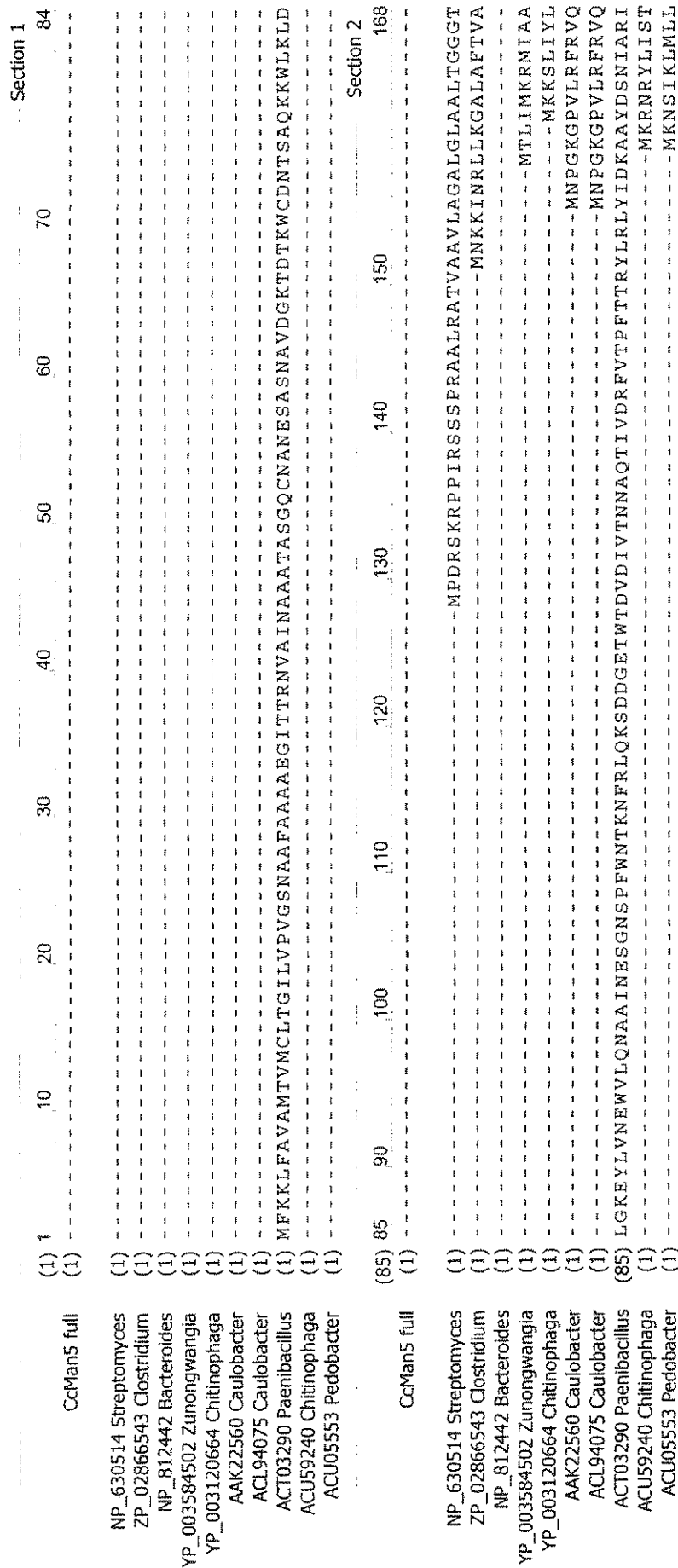


FIG. 31

		Section 3									
		169	180	190	200	210	220	230	240	252	
CcMan5 full		(169)	180	190	200	210	220	230	240	252	
(1)		(1)	---	---	---	---	---	---	---	---	
			AVAN	PVT	KAS	P	P	P	P	P	HTN
NP_630514 Streptomyces		(42)	AVAN	PVT	KAS	P	P	P	P	P	D
ZP_02866543 Clostridium		(19)	FST	AVT	TS	SR	KV	SA	VE	Q	ATN
NP_812442 Bacteroides		(1)	---	---	---	---	---	---	---	---	D
YP_003584502 Zunongwangia		(12)	IA	AL	CV	AC	Q	P	K	S	HTH
YP_003120664 Chitinophaga		(9)	LS	SL	TA	VA	Q	S	G	Q	HTH
AAK22560 Caulobacter		(15)	LL	GF	AL	GA	HA	HA	QA	AP	HTH
ACL94075 Caulobacter		(15)	LL	GF	AL	GA	HA	HA	QA	AP	HTH
ACT03290 Paenibacillus		(169)	YE	EV	GV	EA	D	Q	I	P	HTH
ACU59240 Chitinophaga		(11)	AI	LG	IT	TS	AL	Q	V	G	HTH
ACU05553 Pedobacter		(11)	CL	S	---	---	---	---	---	---	
			(253)	260	270	280	290	300	310	320	
CcMan5 full		(253)	260	270	280	290	300	310	320	336	
(69)		(69)	---	---	---	---	---	---	---	---	
			AVAN	PVT	KAS	P	P	P	P	P	HTN
NP_630514 Streptomyces		(123)	AVAN	PVT	KAS	P	P	P	P	P	D
ZP_02866543 Clostridium		(103)	AVAN	PVT	KAS	P	P	P	P	P	D
NP_812442 Bacteroides		(67)	AVAN	PVT	KAS	P	P	P	P	P	D
YP_003584502 Zunongwangia		(93)	AVAN	PVT	KAS	P	P	P	P	P	D
YP_003120664 Chitinophaga		(79)	AVAN	PVT	KAS	P	P	P	P	P	D
AAK22560 Caulobacter		(97)	AVAN	PVT	KAS	P	P	P	P	P	D
ACL94075 Caulobacter		(97)	AVAN	PVT	KAS	P	P	P	P	P	D
ACT03290 Paenibacillus		(250)	AVAN	PVT	KAS	P	P	P	P	P	D
ACU59240 Chitinophaga		(89)	AVAN	PVT	KAS	P	P	P	P	P	D
ACU05553 Pedobacter		(80)	AVAN	PVT	KAS	P	P	P	P	P	D

Region: MISC(69, 77): glycine-rich motif

Section 7

	(505)	505	510	520	530	540	550	560	570	580	
CcMan5 full	(311)	MEAMEM	MEAMEM	TSGLTRGV	TSGLTRGV	AAQGF	TVYDS	ATWDDFRK	YIDPALR	YIDPALR	
NP_630514 Streptomyces	(356)	MAALV	MAALV	TSGLTRGV	TSGLTRGV	KANGF	TVYDGS	STWDDFRK	SAAY	DEATR	ITADSHAA
ZP_02866543 Clostridium	(351)	MEMMVA	MEMMVA	TSGLTRGV	TSGLTRGV	EANDY	IHYDS	TLWDDYRK	SAAY	QPDYK	ADALDYCIVT
NP_812442 Bacteroides	(264)	SYLGLQ	SYLGLQ	PDGAYLCT	PDGAYLCT	ISEDFR	YYSNWS	WTERTR	PIY	TEPAKMR	GNATSHHATATGKGD
YP_003584502 Zunongwangia	(286)	LYLGLQ	LYLGLQ	EEDGTTPA	EEDGTTPA	QKTEGT	ISGWA	WQNRREQE	PIY	DRYDR	REYFENAFGKKN
YP_003120664 Chitinophaga	(271)	LSIQ	LSIQ	PDGAYANT	PDGAYANT	QHTNSK	MNGWA	WQNRREQE	PIY	DRYDR	REYFENAFGKKN
AAK22560 Caulobacter	(318)	EQRRFYS	EQRRFYS	HPDRSLDQ	HPDRSLDQ	PAARLGRPN	WDEHYT	WDEHYT	WDEHYT	WDEHYT	WDEHYT
ACL94075 Caulobacter	(318)	EQRRFYS	EQRRFYS	HPDRSLDQ	HPDRSLDQ	PAARLGRPN	WDEHYT	WDEHYT	WDEHYT	WDEHYT	WDEHYT
ACT03290 Paenibacillus	(470)	SLGLQ	SLGLQ	SASTRSLDQ	SASTRSLDQ	PAARLGRPN	WDEHYT	WDEHYT	WDEHYT	WDEHYT	WDEHYT
ACU59240 Chitinophaga	(280)	YERMVN	YERMVN	NEYGYYS	NEYGYYS	YDHK	TSDDKP	TSDDKP	TSDDKP	TSDDKP	TSDDKP
ACU05553 Pedobacter	(272)	YERMVN	YERMVN	NEYGYYS	NEYGYYS	YDHK	SDSRP	SDSRP	SDSRP	SDSRP	SDSRP

Section 8

	(589)	589	590	600	610	620	630	640	650	660	672
CcMan5 full	(389)	GGGGLG	GGGGLG	GGGGLG	GGGGLG	GGGGLG	GGGGLG	GGGGLG	GGGGLG	GGGGLG	
NP_630514 Streptomyces	(434)	GKS	GKS	LGSLTHSV	LGSLTHSV	WPR	WPR	WPR	WPR	WPR	WPR
ZP_02866543 Clostridium	(429)	WSDH	WSDH	KQPV	KQPV	TDI	TDI	TDI	TDI	TDI	TDI
NP_812442 Bacteroides	(343)	WSTG	WSTG	WSTG	WSTG	WSTG	WSTG	WSTG	WSTG	WSTG	WSTG
YP_003584502 Zunongwangia	(364)	WAT	WAT	WAT	WAT	WAT	WAT	WAT	WAT	WAT	WAT
YP_003120664 Chitinophaga	(349)	YAT	YAT	YAT	YAT	YAT	YAT	YAT	YAT	YAT	YAT
AAK22560 Caulobacter	(395)	DTAIG	DTAIG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG
ACL94075 Caulobacter	(395)	DTAIG	DTAIG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG	GQNYHVG
ACT03290 Paenibacillus	(554)	TQWG	TQWG	DGYWPS	DGYWPS	DGYWPS	DGYWPS	DGYWPS	DGYWPS	DGYWPS	DGYWPS
ACU59240 Chitinophaga	(358)	PSFA	PSFA	VAHGDM	VAHGDM	VAHGDM	VAHGDM	VAHGDM	VAHGDM	VAHGDM	VAHGDM
ACU05553 Pedobacter	(350)	PSFA	PSFA	LVFGDN	LVFGDN	LVFGDN	LVFGDN	LVFGDN	LVFGDN	LVFGDN	LVFGDN

Region: Misc(404, 408): VRxE motif

Section 11									
	841	850	860	870	880	890	900	910	924
CcMan5 full	(841)	(596)							
NP_630514 Streptomyces	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
ZP_02866543 Clostridium	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
NP_812442 Bacteroides	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
YP_003584502 Zunongwangia	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
YP_003120664 Chitinophaga	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
AAK22560 Caulobacter	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
ACL94075 Caulobacter	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
ACT03290 Paenibacillus	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
ACU59240 Chitinophaga	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
ACU05553 Pedobacter	YTYTSGE	ESG	YTKETWNR	ATGSSSAVPSGGGEFTPLKTKVYRLDPR					
Section 12									
	925	930	940	950	960	970	980	990	1008
CcMan5 full	(925)	(680)							
NP_630514 Streptomyces	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
ZP_02866543 Clostridium	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
NP_812442 Bacteroides	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
YP_003584502 Zunongwangia	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
YP_003120664 Chitinophaga	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
AAK22560 Caulobacter	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
ACL94075 Caulobacter	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
ACT03290 Paenibacillus	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
ACU59240 Chitinophaga	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D
ACU05553 Pedobacter	VTAGSSQ	QSSP	DSY	TYDDGSA	TDGVS	EDAF	QSA	LSATFGNT	D

[illegible]

[illegible]

[illegible]

	(2017)	2017	2030	2040	2050	2060	2070	2080	2090	Section 25
CcMan5 full (1602)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
NP_630514 Streptomyces (1651)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ZP_02866543 Clostridium (1785)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
NP_812442 Bacteroides (654)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
YP_003584502 Zunongwangia (697)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
YP_003120664 Chitinophaga (681)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
AAK22560 Caulobacter (868)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACL94075 Caulobacter (868)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACT03290 Paenibacillus (1819)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACU59240 Chitinophaga (752)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACU05553 Pedobacter (729)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
CcMan5 full (1651)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
NP_630514 Streptomyces (1735)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ZP_02866543 Clostridium (1869)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
NP_812442 Bacteroides (654)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
YP_003584502 Zunongwangia (697)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
YP_003120664 Chitinophaga (681)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
AAK22560 Caulobacter (868)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACL94075 Caulobacter (868)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACT03290 Paenibacillus (1903)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACU59240 Chitinophaga (752)	2017	2030	2040	2050	2060	2070	2080	2090	2100	
ACU05553 Pedobacter (729)	2017	2030	2040	2050	2060	2070	2080	2090	2100	

[illegible]

[illegible]

[illegible]

CcMan5 full		1	10	20	30	40	50	60	70	82	Section 1
		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
NP_630514 Streptomyces		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_05522540 Streptomyces		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_06527366 Streptomyces		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
YP_003013376 Paenibacillus		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
NP_812442 Bacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_04848482 Bacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_03677957 Bacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
YP_003584502 Zunongwangia		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_01061975 Leeuwenhoekeiella		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_07083984 Sphingobacterium		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
YP_003120664 Chitinophaga		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_01885202 Pedobacter		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_02866543 Clostridium		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
XP_367221 Magnaporthe		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_07042437 Bacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_05759807 Bacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_05287524 Bacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
ZP_06076108 Bacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
YP_001302992 Parabacteroides		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

FIG. 32

Section 3

	165	170	180	190	200	210	220	230	246
CcMan5 full	(165)	(170)	(180)	(190)	(200)	(210)	(220)	(230)	(246)
NP_630514 Streptomyces	(1)	-----APEPPS-----ADYASLN	DV	GT	EE	DF	DM	DA	Q
ZP_05522540 Streptomyces	(37)	TGGGTAVAMPVTKASPPAGERS	GGTDYTKL	OP	SH	GD	DS	DL	EO
ZP_06527366 Streptomyces	(40)	TGGGTAVAMPVTKASPPAGERS	GGTDYTKL	OP	SH	GD	DS	DL	EO
YP_003013376 Paenibacillus	(12)	TGGGTAVAMPVTKASPPAGERS	GGTDYTKL	OP	SH	GD	DS	DL	EO
NP_812442 Bacteroides	(165)	IARIYELENYGVEADQIP	EPETNLAPIDY	DP	NLE	EN	EN	EN	EN
ZP_04848482 Bacteroides	(1)	-----MTPSVAQN-----TKY	LL	GA	EN	EN	EN	EN	EN
ZP_03677957 Bacteroides	(4)	NRSRWYAL	LLVLS	IMTPS	VAQN	-----	MVQAQTSF	VP	GA
YP_003584502 Zunongwangia	(1)	-----	-----	-----	-----	-----	-----	-----	-----
ZP_01061975 Leeuwenhoekeiella	(8)	MIAIAVAL	CAQPKSQE	KTSKSNITD	VS	GA	DD	CD	DE
ZP_07083984 Sphingobacterium	(4)	YIAVLFTLLAFTS	VAQES	-----	-----	-----	-----	-----	-----
YP_003120664 Chitinophaga	(15)	PLSQFSVCVLL	ILSSQQFVYAQSR	-----	-----	-----	-----	-----	-----
ZP_01885202 Pedobacter	(1)	-MKKSLLIYLLSLLSLTAV	QAQSCQ	-----	-----	-----	-----	-----	-----
ZP_02866543 Clostridium	(8)	NLRLLAFF	LLLVNKTIIYA	QQTCKD	-----	-----	-----	-----	-----
XP_367221 Magnaporthe	(15)	FTVAFSTLAVTT	STSRKV	SAVEQESYQY	DP	CA	DV	CA	DV
ZP_07042437 Bacteroides	(1)	-----MA	IHFLLSLSL	QAQELADYVFTNTG	EGG	TP	ES	SE	SE
ZP_05759807 Bacteroides	(1)	-MKILHFCAA	ITMA	AMLSGCNCGQ	-----	-----	-----	-----	-----
ZP_05287524 Bacteroides	(2)	KTCLKTSMAL	AS	AFVFLWV	SCAGSGG	-----	-----	-----	-----
ZP_06076108 Bacteroides	(1)	-----	-----	-----	-----	-----	-----	-----	-----
YP_001302992 Parabacteroides	(2)	KTCLKTSMAL	AS	AFVFLWV	SCAGSGG	-----	-----	-----	-----

Section 4

	247	260	270	280	290	300	310	328
(247)	HTN	GS	TS	SY	SH	DE	GS	GA
(63)	HTN	GS	TS	SY	SH	DE	GS	GA
	Region: Misc(69..77): glycine-rich motif							
	TATN	GS	TS	SY	SH	DE	GS	GA
(117)	TATN	GS	TS	SY	SH	DE	GS	GA
(120)	TATN	GS	TS	SY	SH	DE	GS	GA
(92)	TATN	GS	TS	SY	SH	DE	GS	GA
(244)	SHLR	GS	TS	SY	SH	DE	GS	GA
(61)	SVNR	GS	TS	SY	SH	DE	GS	GA
(79)	SVNR	GS	TS	SY	SH	DE	GS	GA
(59)	SQTR	GS	TS	SY	SH	DE	GS	GA
(87)	THTH	GS	TS	SY	SH	DE	GS	GA
(76)	THTR	GS	TS	SY	SH	DE	GS	GA
(91)	THNR	GS	TS	SY	SH	DE	GS	GA
(73)	THNR	GS	TS	SY	SH	DE	GS	GA
(84)	THNR	GS	TS	SY	SH	DE	GS	GA
(97)	SHTR	GS	TS	SY	SH	DE	GS	GA
(76)	MLH	GS	TS	SY	SH	DE	GS	GA
(74)	LNGLPLI	GS	TS	SY	SH	DE	GS	GA
(74)	LNGLPLI	GS	TS	SY	SH	DE	GS	GA
(77)	LGGLPII	GS	TS	SY	SH	DE	GS	GA
(56)	YLADRI	GS	TS	SY	SH	DE	GS	GA
(77)	LGGLPII	GS	TS	SY	SH	DE	GS	GA

CcMan5 full

NP_630514 Streptomyces
 ZP_05522540 Streptomyces
 ZP_06527366 Streptomyces
 YP_003013376 Paenibacillus
 NP_812442 Bacteroides
 ZP_04848482 Bacteroides
 ZP_03677957 Bacteroides
 YP_003584502 Zunongwangia
 ZP_01061975 Leeuwenhoekeia
 ZP_07083984 Sphingobacterium
 YP_003120664 Chitinophaga
 ZP_01885202 Pedobacter
 ZP_02866543 Clostridium
 XP_367221 Magnaporthe
 ZP_07042437 Bacteroides
 ZP_05759807 Bacteroides
 ZP_05287524 Bacteroides
 ZP_06076108 Bacteroides
 YP_001302992 Parabacteroides

		Section 5									
		329	340	350	360	370	380	390	400	410	
CcMan5 full	(139) AAATR	AGST-PSI	ETNNTSR	RSSSVQVETRADGTV	ELSGQVTGY	----	----	----	----	----	
NP_630514 Streptomyces	(183) PATTR	AKAR-PQ	ANFTSR	TRAT	DATRLKDGTTAISGLVAGS	----	----	----	----	----	
ZP_05522540 Streptomyces	(186) PATTR	AKAR-PQ	ANFTSR	TRAT	DATRLKDGTTAISGLVAGS	----	----	----	----	----	
ZP_06527366 Streptomyces	(158) PATTR	AKAR-PQ	ANFTSR	TRAT	DATRLKDGTTAISGLVAGS	----	----	----	----	----	
YP_003013376 Paenibacillus	(305) TSSD	DTAN-TGS	VDLSNSYAG	MVDANLKV	TGSN-ET	KSQNV	----	----	----	----	
NP_812442 Bacteroides	(115) PATNAM	RSLS-AAW	FASTFED	VATCHYKR	ISSET-CH	QKNV	----	----	----	----	
ZP_04848482 Bacteroides	(133) PATNAM	RSLS-AAW	FASTFED	VATCHYKR	ISSET-CH	QKNV	----	----	----	----	
ZP_03677957 Bacteroides	(115) TGRTA	ATET-AGK	NFKHSYK	HIAEEHS	IIGDNV	RSACT	----	----	----	----	
YP_003584502 Zunongwangia	(142) SVTH	NGEK--GGLF	DSFALSN	RFVSEEH	EIKDN-KIS	WATKT	----	----	----	----	
ZP_01061975 Leeuwenhoekella	(131) IVAQ	FNAN--SGLY	DSFALSN	REVAETH	EIRRN-LIS	DTKTT	----	----	----	----	
ZP_07083984 Sphingobacterium	(147) AVDQ	FKGK--KGFS	DAHAFNG	AFVSNTY	DDAKGM	ESRTT	----	----	----	----	
YP_003120664 Chitinophaga	(129) VVYK	EGK--KGE	GFHVG	RFVAEEH	TIEGN-AVS	ESRTT	----	----	----	----	
ZP_01885202 Pedobacter	(140) VVNK	AGK--KGFS	DEGHTFNN	ALVDESH	THDGN-VL	AKTTT	----	----	----	----	
ZP_02866543 Clostridium	(175) TDQR	FEAGS-VN	TYHGT	DIRNAY	VDVLEQSDTTA	GGRFS	----	----	----	----	
XP_367221 Magnaporthe	(136) AASS	TPRN	SHVLP	SYRQGLQRYL	GGSI	SVDRDDSN	QYKGS	GSYDNGWNRAP	NTT	CGA	
ZP_07042437 Bacteroides	(132) ALSH	ADKP-AY	NSRNGSIHV	GENFI	SGHQQLSANTNV	VIEPQ	----	----	----	----	
ZP_05759807 Bacteroides	(132) ALSH	ADKP-AY	NSRNGSIHV	GENFI	SGHQQLSANTNV	VIEPQ	----	----	----	----	
ZP_05287524 Bacteroides	(137) APSH	KEGP-AY	FNSRNGQLQV	NGNAV	SGYQYIDKKT	KTV	YATN	----	----	----	
ZP_06076108 Bacteroides	(124) TVTQ	KSSE-SN	NNNQCVRVV	GNNCH	ESVEAVDSTQT	YVAIFS	----	----	----	----	
YP_001302992 Parabacteroides	(137) APSH	KEGP-AY	FNSRNGQLQV	NGNAV	SGYQYIDKKT	KTV	YATN	----	----	----	

	(411)	420	430	440	450	460	470	480	492
CcMan5 full	(208)	TLQPAT - VQTWGD - - - - DDRLVDATAQDGVDT	GA	TFDPPADAGE	IG	QV	TF	P	DRTR
NP_630514 Streptomyces	(252)	TNPVPTSLRTWGD - - - - DGALGDATARDGTD	T	A	GFPDADGDDVE	R	T	P	DRTR
ZP_05522540 Streptomyces	(255)	TNPVPTSLRTWGD - - - - DGALGDATARDGTD	T	A	GFPDADGDDVE	R	T	P	DRTR
ZP_06527366 Streptomyces	(227)	TNPVPTSLRTWGD - - - - DGALGDATARDGTD	T	A	GFPDADGDDVE	R	T	P	DRTR
YP_003013376 Paenibacillus	(373)	FDHDFDSYSSWQG - - - - DSVGAVAQ - RSGSNS	VW	NFNFTAGSKTVQ	A	G	S	T	ARHEE
NP_812442 Bacteroides	(182)	TSQPFQ - - - - - LEEQKETTACLTFGKKVRS	E	R	C	A	S	L	DR SRTA
ZP_04848482 Bacteroides	(200)	TSHPFQ - - - - - LEEQKETTACLTFGKKVRS	E	R	C	A	S	L	DR SRTA
ZP_03677957 Bacteroides	(182)	KDKSTYEP - - - - - EDNDSSEL WKFPQTEPNEQ	II	C	S	S	S	S	Q
YP_003584502 Zunongwangia	(208)	LKNMAE - - - - - IAQISDHE	A	KAKAEDNSKEVK	H	C	S	S	Q
ZP_01061975 Leeuwenhoekiella	(197)	LPEEAQ - - - - - IQNVGEHQ	-	VKGLG - - DAEE	C	A	S	S	Q
ZP_07083984 Spingobacterium	(214)	VSSSHV - - - - - WEGKGNQ -	-	TLHLEENSEKVT	Q	E	S	A	Q
YP_003120664 Chitinophaga	(195)	TDRPVK - - - - - WTATQAHE	-	ADVIDNN - - LG	R	C	S	S	Q
ZP_01885202 Pedobacter	(206)	FNQSVK - - - - - WKDLGEHR	-	AVPADDATAVQ	K	D	S	A	Q
ZP_02866543 Clostridium	(248)	TSKPANSVKTWND - - - - TTLSDKTS - QKGNDC	IT	NFDVKENEEO	Q	E	S	A	Q
XP_367221 Magnaporthe	(218)	FNSSATFKTFVGTNATNTLSKFSNDKNVESLSR	-	GAVFTFDAANVVS	R	C	S	S	Q
ZP_07042437 Bacteroides	(201)	IEASKDN - - - - - AEGIN	CAAWRFADGTTT	VS	E	R	C	S	Q
ZP_05759807 Bacteroides	(201)	IEASKDN - - - - - AEGIN	CAAWRFADGTTT	VS	E	R	C	S	Q
ZP_05287524 Bacteroides	(206)	VKYDETS - - - - - VEGTN	A	ALSFGEDEVKKG	AV	C	S	S	Q
ZP_06076108 Bacteroides	(193)	ISQDVQK - - - - - EGLDI	N	TFDTSQDEEIM	Q	E	S	A	Q
YP_001302992 Parabacteroides	(206)	VNYNETS - - - - - VEGIN	A	ALSFGEDEVKKG	AV	C	S	S	Q

Section 7

	(493)	493	500	510	520	530	540	550	560	574																
CcMan5 full	(284)	AE	TR	RV	AD	DA	STATDPTG	LQR	HT	ME	AMP	AF	STS	ST	RCV	TC	AG	FT	---	ADS	T	ED				
NP_630514 Streptomyces	(329)	AD	RT	GA	AA	KA	SKKADPD	STLT	KQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED			
ZP_05522540 Streptomyces	(332)	AD	RT	GA	AA	KA	SKKADPD	STLT	KQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED			
ZP_06527366 Streptomyces	(304)	AD	RT	GA	AA	KA	SKKADPD	STLT	KQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED			
YP_003013376 Paenibacillus	(448)	AA	SNV	GA	AA	KA	SKKADPD	STLT	KQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED			
NP_812442 Bacteroides	(242)	DQ	KK	Q	AA	DA	DE	DADE	---	QNK	R	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED	
ZP_04848482 Bacteroides	(260)	DQ	KK	Q	AA	DA	DE	DADE	---	QNK	R	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED	
ZP_03677957 Bacteroides	(244)	IA	ENL	GO	OM	ETS	---	DE	DL	KTS	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
YP_003584502 Zunongwangia	(265)	AA	KA	SKKADPD	STLT	KQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED	---	ADS	T	ED		
ZP_01061975 Leeuwenhoekella	(252)	AS	AY	KT	ES	SG	---	EK	DL	RQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
ZP_07083984 Sphingobacterium	(273)	QQ	IC	SH	ES	SG	---	EK	DL	RQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
YP_003120664 Chitinophaga	(250)	KA	MDM	CH	ES	SG	---	EK	DL	RQ	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
ZP_01885202 Pedobacter	(264)	MA	DEL	SS	DK	KE	---	DP	ARE	K	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
ZP_02866543 Clostridium	(324)	KA	DV	ES	DK	KE	---	DP	ARE	K	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
XP_3677221 Magnaporthe	(300)	DV	TD	LS	RV	AS	NDKN	---	TT	KL	QH	TS	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED
ZP_07042437 Bacteroides	(262)	QI	EA	GP	KE	EG	---	TE	DD	KT	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
ZP_05759807 Bacteroides	(262)	QI	EA	GP	KE	EG	---	TE	DD	KT	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
ZP_05287524 Bacteroides	(267)	ND	DA	CK	LO	Q	GG	---	TK	DE	KT	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED	
ZP_06076108 Bacteroides	(254)	EI	INA	SH	KE	EG	---	TD	KQ	KT	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED		
YP_001302992 Parabacteroides	(267)	ND	DA	CK	LO	Q	GG	---	TK	DE	KT	HT	MA	AL	AS	TS	ST	RCV	TC	AG	FT	---	ADS	T	ED	

	(575)	575	580	590	600	610	620	630	640	650	
CcMan5 full	(359)	KFS	Y	PALRPRQ	YS	ADAEATGTGGGLGGFVHSV	WNR	S	F-DGDFRLDEAYPAQR	VVG	
						Region: Misc404..408: VR-E motif					
NP_630514 Streptomyces	(404)	K	Y	PATRRD	QA	IADAAHAAGKS	--LGSLTHSV	WNR	S	F-KFRLDEAYPA	RSYTG
ZP_05522540 Streptomyces	(407)	K	Y	PATRRD	QA	IADAAHAAGKS	--LGSLTHSV	WNR	S	F-KFRLDEAYPA	RSYTG
ZP_06527366 Streptomyces	(379)	K	Y	PATRRD	QA	IADAAHAAGKS	--LGSLTHSV	WNR	S	F-KFRLDEAYPA	RSYTG
YP_003013376 Paenibacillus	(524)	K	Y	PORNNEK	KS	DINTRGYTQWG	---DGYNP	RVR	N	F-QFQVKALKG	AVANN
NP_812442 Bacteroides	(313)	K	Y	PAKMREATS	H	ATSKKDS	TG---	FES	WNR	I-TNDFRKGYA	KQ--
ZP_04848482 Bacteroides	(331)	K	Y	PAKMREATS	H	ATSKKDS	TG---	FES	WNR	I-TNDFRKGYA	KQ--
ZP_03677957 Bacteroides	(315)	K	Y	PTPKHSS	AEL	KQSKPRSATK	---TEPFL	WNR	S	M-PGSLDELPL	SAAD
YP_003584502 Zunongwangia	(334)	QLR	Y	ANDRARD	KS	ENDAFSCKNNWAD	---YEPA	TVR	EHA	--YGIKRKD	YAR-
ZP_01061975 Leeuwenhoekella	(321)	QLR	Y	ANDEVOR	ITS	ANDAFSCKNNWAD	---HEP	TVR	EHA	--YDFEAKD	YAR-
ZP_04848482 Bacterium	(342)	QLR	Y	YVOLQND	SS	SDARYCKYDPAGP	---NEPAN	WNR	S	--YDFEAKD	YAR-
YP_003120664 Chitinophaga	(319)	QLR	Y	AFQEQNLNS	AGI	AHKKKDWAL	---HEP	TVR	EHA	--YDFEAKD	YAR-
ZP_01885202 Pedobacter	(333)	QLR	Y	YKRIQPG	GS	ANDPYCKDNMAGP	---NEPN	WNR	S	--YDFEAKD	YAR-
ZP_02866543 Clostridium	(399)	K	Y	CVDTIKRD	KS	ADALDYIVTSHD	---KQPV	WNR	S	F-TLNLEEAYEER	VNV
XP_367221 Magnaporthe	(364)	TIAS	Y	QOKVEE	ERS	DITMRHEGYLPDAR	---SSFENGAC	QGN	EDU	VRGQNWEDGFA	YRVNV
ZP_07042437 Bacteroides	(334)	A	Y	QKKEED	ASP	LMAEQMGTMMPRT	FPEVTGDSRR	N	BAKAAYECRN	E	
ZP_05759807 Bacteroides	(334)	A	Y	QKKEED	ASP	LMAEQMGTMMPRT	FPEVTGDSRR	N	BAKAAYECRN	E	
ZP_05287524 Bacteroides	(338)	T	Y	NEREND	NSY	LMAEQMGTDMPRT	FPEVTGDSRR	N	LRGFLEKAYICRN	E	
ZP_06076108 Bacteroides	(327)	L	Y	FEIOND	RSY	RMODEDLVN	SG----	G-YRN	IQHIS	RGFRLFIEKAYE	KRSKE
YP_001302992 Parabacteroides	(338)	T	Y	NEREND	NSY	LMAEQMGTDMPRT	FPEVTGDSRR	N	LRGFLEKAYICRN	E	

		657	670	680	690	700	710	720	738
		QYSA	-----	-----	-----	DELRRGYVAGNEGA	CPG	ASV	ETLREQS
CcMan5 full		(657)	657	670	680	690	700	710	738
NP_630514 Streptomyces		(483)	YYTG	-----	-----	-----	TQLRQGYIAGDEGT	CPG	DAKKKLREQ
ZP_05522540 Streptomyces		(486)	YYTG	-----	-----	-----	TQLRQGYIAGDPGT	CPG	DAKKKLREQ
ZP_06527366 Streptomyces		(458)	YYTG	-----	-----	-----	TQLRQGYIAGDEGT	CPG	DAKKKLREQ
YP_003013376 Paenibacillus		(602)	-----	-----	-----	-----	FSISDGEISGK	NSAFPM	KATFEKKEEL
NP_812442 Bacteroides		(388)	-----	-----	-----	-----	RLPMRSPDQ	NS	KA
ZP_04848482 Bacteroides		(406)	-----	-----	-----	-----	RLPMRSPDQ	NS	KA
ZP_03677957 Bacteroides		(391)	-----	-----	-----	-----	ISNDS-PDKA	NS	KA
YP_003584502 Zunongwangia		(408)	-----	-----	-----	-----	SLDYRAPDKA	NS	KA
ZP_01061975 Leuconhoekiella		(395)	-----	-----	-----	-----	HLDFGAPDKA	NS	KA
ZP_07083984 Sphingobacterium		(416)	-----	-----	-----	-----	RPDFSFPDKA	NS	KA
YP_003120664 Chitinophaga		(393)	-----	-----	-----	-----	GLDYAHEDKA	NS	KA
ZP_01885202 Pedobacter		(407)	-----	-----	-----	-----	RLDFSKEPK	NS	KA
ZP_02866543 Clostridium		(475)	EVITS	-----	-----	-----	EVEKIGYVPNRVDR	NS	KA
XP_367221 Magnaporthe		(443)	VPALNDDPRDKTGSTKEGR	-----	-----	-----	GALPDWKERGFSLTKFERSVSRA	NS	KA
ZP_07042437 Bacteroides		(413)	KTLPAPWSGAAAGWLDNFYRENGYI	-----	-----	-----	PALRPDEKETDPNVHPFEKRQPVAV	NS	KA
ZP_05759807 Bacteroides		(413)	KTLPAPWSGAAAGWLDNFYRENGYI	-----	-----	-----	PALRPDEKETDPNVHPFEKRQPVAV	NS	KA
ZP_05287524 Bacteroides		(418)	KTLPAPWSAAPAGWLDNFYKEHGYI	-----	-----	-----	PALRPGEKETVPNVSIWEKRQPIAV	NS	KA
ZP_06076108 Bacteroides		(401)	ATMLSRHIGKDWRLNELDKVYLEKGFYPAKPSDQPEWVKEVGFGRQSVAV	-----	-----	-----	NS	NS	KA
YP_001302992 Parabacteroides		(418)	KTLPAPWSAAPAGWLDNFYKEHGYI	-----	-----	-----	PALRPGEKETVPNVSIWEKRQPIAV	NS	KA

Section 10

	(739) 739	750	760	770	780	790	800	810	820
CcMan5 full	WPIEK	TKPGAWTAADGTQVGLL	TPRAADGSWQSA	HAKFEAAG	Region: Msc(534..538) LYQGT motif	DA	DA	DA	DA
NP_630514 Streptomyces	MATDN	VKPGAWTAADGTAVSLL	TPRDGEGGWQV	YEKFEER	DA	DA	DA	DA	DA
ZP_05522540 Streptomyces	MATDN	VKPGAWTAADGTAVSLL	TPRDGEGGWQV	YEKFEER	DA	DA	DA	DA	DA
ZP_06527366 Streptomyces	MATDN	VKPGAWTAADGTAVSLL	TPRDGEGGWQV	YEKFEER	DA	DA	DA	DA	DA
YP_003013376 Paenibacillus	S	NFTQVDEKGTPTG	---	FFTPNGT	TVGAGDIQAVDRYA	---	---	---	---
NP_812442 Bacteroides	SL	FEEL	FMNVIP	---	---	---	---	---	---
ZP_04848482 Bacteroides	SL	FEEL	FMNVIP	---	---	---	---	---	---
ZP_03677957 Bacteroides	E	PLQ	FKD	IGP	---	---	---	---	---
YP_003584502 Zunongwangia	D	EY	N	FKD	ITRN	---	---	---	---
ZP_01061975 Leeuwenhoekella	D	EY	N	FKD	ITRN	---	---	---	---
ZP_07083984 Sphingobacterium	S	T	Q	FKD	ITRN	---	---	---	---
YP_003120664 Chitinophaga	D	KY	LL	FQD	TKR	---	---	---	---
ZP_01885202 Pedobacter	D	KY	LL	FQD	TKR	---	---	---	---
ZP_02866543 Clostridium	N	NT	RT	AVDS	PFSDKKLGL	LWNRDS	NGNWL	QDPSS	TNTG
XP_367221 Magnaporthe	Q	SH	N	MKA	GFS	GFLG	PKGED	QFEE	QDPLNCRG
ZP_07042437 Bacteroides	N	N	N	TGFF	HPKDK	KEG	---	---	---
ZP_05759807 Bacteroides	N	N	N	TGFF	HPKDK	KEG	---	---	---
ZP_05287524 Bacteroides	N	N	N	TGFF	HPKDK	KEG	---	---	---
ZP_06076108 Bacteroides	N	N	N	DKSG	FMRPK	TADG	---	---	---
YP_001302992 Parabacteroides	N	N	N	DKSG	FMRPK	TADG	---	---	---

		Section 11									
		821	830	840	850	860	870	880	890	902	
CcMan5 full	(821) 821	GEHAP-								GEF	
	(571)										
NP_630514 Streptomyces	(614)	GEDSDA-								GEF	
	(617)	EDSDA-								GEF	
ZP_05522540 Streptomyces	(589)	EDSDA-								GEF	
	(720)	IDEX-								GEF	
ZP_06527366 Streptomyces	(579)	HHLY-								GEF	
	(580)	HHLY-								GEF	
YP_003013376 Paenibacillus	(490)	NNLFN-								GEF	
	(508)	EFNY-								GEF	
NP_812442 Bacteroides	(511)	EHYF-								GEF	
	(492)	NDYF-								GEF	
ZP_04848482 Bacteroides	(510)	NDYF-								GEF	
	(496)	NDYF-								GEF	
ZP_03677957 Bacteroides	(597)	NDYF-								GEF	
	(570)	NDYF-								GEF	
YP_003584502 Zunongwangia	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_01061975 Leeuwenhoekiella	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_07083984 Sphingobacterium	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
YP_003120664 Chitinophaga	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_01885202 Pedobacter	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_02866543 Clostridium	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
XP_367221 Magnaporthe	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_07042437 Bacteroides	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_05759807 Bacteroides	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_05287524 Bacteroides	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
ZP_06076108 Bacteroides	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	
YP_001302992 Parabacteroides	(575)	NDYF-								GEF	
	(559)	NDYF-								GEF	

		Section 12																
		903	910	920	930	940	950	960	970	984								
CcMan5 full		TPPLKTT	VVRLLD	PRGME	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA	FA
(903)	903																	
(640)	903																	
NP_630514 Streptomyces	(684)	RPPVKT	KAVELAPD	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_05522540 Streptomyces	(687)	RPPVKT	KAVELAPD	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_06527366 Streptomyces	(659)	RPPVKT	KAVELAPD	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
YP_003013376 Paenibacillus	(778)	-----	VVRDDPE	SPEND	SPEND	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
NP_812442 Bacteroides	(547)	-----	RAEKNABE	SPEND	SPEND	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_04848482 Bacteroides	(565)	-----	RAEKNABE	SPEND	SPEND	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_03677957 Bacteroides	(549)	-----	RIENTTEQ	KEMD	KEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
YP_003584502 Zunongwangia	(569)	-----	RIYQNKPK	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_01061975 Leuwohhoekella	(556)	-----	RIYQNKPK	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_07083984 Spingobacterium	(572)	-----	RIYQNKPK	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
YP_003120664 Chitinophaga	(554)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_01885202 Pedobacter	(568)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_02866543 Clostridium	(669)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
XP_367221 Magnaporthe	(659)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_07042437 Bacteroides	(638)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_05759807 Bacteroides	(638)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_05287524 Bacteroides	(643)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
ZP_06076108 Bacteroides	(630)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA
YP_001302992 Parabacteroides	(643)	-----	PIYKNQKA	PEMD	PEMD	DAGINS	IMPA	MA	GI	EV	PA	SO	Q	ST	TYDD	SAG	TA	DGVSEDA

		Section 13									
		985	990	1000	1010	1020	1030	1040	1050	1066	
CcMan5 full		(985)	(990)	(1000)	(1010)	(1020)	(1030)	(1040)	(1050)	(1066)	
		(722)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
NP_630514 Streptomyces		(766)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_05522540 Streptomyces		(769)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_06527366 Streptomyces		(741)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
YP_003013376 Paenibacillus		(853)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
NP_812442 Bacteroides		(623)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_04848482 Bacteroides		(641)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_03677957 Bacteroides		(625)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
YP_003584502 Zunongwangia		(645)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_01061975 Leeuwenhoekeella		(632)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_07083984 Sphingobacterium		(647)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
YP_003120664 Chitinophaga		(630)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_01885202 Pedobacter		(643)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_02866543 Clostridium		(745)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
XP_367221 Magnaporthe		(720)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_07042437 Bacteroides		(702)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_05759807 Bacteroides		(702)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_05287524 Bacteroides		(707)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
ZP_06076108 Bacteroides		(692)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		
YP_001302992 Parabacteroides		(707)	TTD	ATGNTD	DAATVVG-	DAERICE-QPSD	TTTAPAFSMSTATDEPAEGPR	-----	VSAREPTTVQTGDGG		

	(1067)	1067	1080	1090	1100	1110	1120	1130	Section 14
CcMan5 full	(795)	ALDATVTLTLDG	-ARLAAPAGTDLVTSGAASVVGLPDGVTAAVTVAASPTALT	VS	LT	GT	AS	ADARFFVHLRDAALADGVAAAS	1148
NP_630514 Streptomyces	(846)	TVDASVELRLS	GRASFAARKGTS	SLTRTGAASVTGLPDGVTADLRVTGKRTAS	LR	LT	GT	TRTDARFGITFRDRAPPHGIPAST	
ZP_05522540 Streptomyces	(849)	TVDASVELRLS	GRASFAARKGTS	SLTRTGAASVTGLPDGVTADLRVTGKRTAS	LR	LT	GT	TRTDARFGITFRDRAPPHGIPAST	
ZP_06527366 Streptomyces	(821)	TVDASVELRLS	GRASFAARKGTS	SLTRTGAASVTGLPDGVTADLRVTGKRTAS	LR	LT	GT	TRTDARFGITFRDRAPPHGIPAST	
YP_003013376 Paenibacillus	(934)	EGWTQVDFDD	SSWSGKAMLGYSY	GKPA	TVSYGPNANNKYVTT	TYFRKTFDAKDL	DG	SLIRDDGAI	VYLNCH
NP_812442 Bacteroides	(654)								
ZP_04848482 Bacteroides	(672)								
ZP_03677957 Bacteroides	(676)								
YP_003584502 Zunongwangia	(697)								
ZP_01061975 Leuwenhoekiella	(683)								
ZP_07083984 Sphingobacterium	(698)								
YP_003120664 Chitinophaga	(681)								
ZP_01885202 Pedobacter	(695)								
ZP_02866543 Clostridium	(826)	ITITLKTKEFAGE	IGEDLVATGKIN	ITNIP	EGLEASAIKTEANKVEVSLNGKAKNHT	LN	DSIS	NLTIEITD	GATNEPIKDSI
XP_3677221 Magnaporthe	(802)	PVAVTVPIVVVAA	AFAICV	TFFFIRRRRAAAQ	KALSSGSGT	PESG	IE	TLTPTSQ	PVDTSKTNVQVEIVGAPPLDSTQGANIA
ZP_07042437 Bacteroides	(754)								
ZP_05759807 Bacteroides	(754)								
ZP_05287524 Bacteroides	(759)								
ZP_06076108 Bacteroides	(747)								
YP_001302992 Parabacteroides	(759)								

[illegible]

	1313	1320	1330	1340	1350	1360	1370	1380	1394
CcMan5 full (983)	---	EANSSSGNLGGVRS	GWQYRD	MTFETAAGD	TPPRFLT	VRYDTSF	APT	---	---
NP_630514 Streptomyces (1035)	---	EAYYSDGDLGGVTE	GAWEQYTD	LDLDFGGVA	---	PRSVSVRYANSQ	AAAA	---	---
ZP_05522540 Streptomyces (1038)	---	EAYYSDGDLGGVTE	GAWEQYTD	LDLDFGGVP	---	PRSVSVRYANSQ	AAAA	---	---
ZP_06527366 Streptomyces (1010)	---	EAYYSDGDLGGVTE	GAWEQYTD	LDLDFGGVP	---	PRSVSVRYANSQ	AAAA	---	---
YP_003013376 Paenibacillus (1180)	LDADI	HQDGNM	VVDVTG	TLKGDY	TD	SAVVVFQ	LM	DKG	HEAWSSAVPVQTGS
NP_812442 Bacteroides (654)	---	---	---	---	---	---	---	---	---
ZP_04848482 Bacteroides (672)	---	---	---	---	---	---	---	---	---
ZP_03677957 Bacteroides (676)	---	---	---	---	---	---	---	---	---
YP_003584502 Zunongwangia (697)	---	---	---	---	---	---	---	---	---
ZP_01061975 Leeuwenhoekeiella (683)	---	---	---	---	---	---	---	---	---
ZP_07083984 Sphingobacterium (698)	---	---	---	---	---	---	---	---	---
YP_003120664 Chitinophaga (681)	---	---	---	---	---	---	---	---	---
ZP_01885202 Pedobacter (695)	---	---	---	---	---	---	---	---	---
ZP_02866543 Clostridium (1072)	AVAKQ	ELLDNKNATS	KEIDLA	IGDI	IDAQEQ	LDIPR	DGFSV	LQAESSD	VTSGGSLRVEG
XP_367221 Magnaporthe (893)	---	---	---	---	---	---	---	---	---
ZP_07042437 Bacteroides (754)	---	---	---	---	---	---	---	---	---
ZP_05759807 Bacteroides (754)	---	---	---	---	---	---	---	---	---
ZP_05287524 Bacteroides (759)	---	---	---	---	---	---	---	---	---
ZP_06076108 Bacteroides (747)	---	---	---	---	---	---	---	---	---
YP_001302992 Parabacteroides (759)	---	---	---	---	---	---	---	---	---

Section 17

	1477	1490	1500	1510	1520	1530	1540	Section 19
	(1477)	(1110)						1558
CcMan5 full	PGQPGESPTVTIEAEDWTASSGRGLKKESSTWTSGPVTNVGGTAGDWDIA YGEVDL GELPLGELSVHYVHNSNRSGNNSALS							
NP_630514 Streptomyces (1158)	SSPITTLATLTANTTSTGDGSLPLKVS							
ZP_05522540 Streptomyces (1161)	SSPITTLATLTANTTSTGDGALPLKVS							
ZP_06527366 Streptomyces (1133)	SSPITTLATLTANTTSTGDGALPLKVS							
YP_003013376 Paenibacillus (1310)	EVPETGMKIQFEDRAEWTSAHPN							
NP_812442 Bacteroides (654)								
ZP_04848482 Bacteroides (672)								
ZP_03677957 Bacteroides (676)								
YP_003584502 Zunongwangia (697)								
ZP_01061975 Leeuwenhoeikiella (683)								
ZP_07083984 Sphingobacterium (698)								
YP_003120664 Chitinophaga (681)								
ZP_01885202 Pedobacter (695)								
ZP_02866543 Clostridium (1236)	VAKVDYLQFKETADIDSVKLEAKSD							
XP_367221 Magnaporthe (893)								
ZP_07042437 Bacteroides (754)								
ZP_05759807 Bacteroides (754)								
ZP_05287524 Bacteroides (759)								
ZP_06076108 Bacteroides (747)								
YP_001302992 Parabacteroides (759)								

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FIG. 33

ATOM	5859	N	GLY	B	21	8.798	41.888	151.532	1.00	6.14	B	N
ATOM	5860	CA	GLY	B	21	7.349	41.901	151.577	1.00	6.87	B	C
ATOM	5861	C	GLY	B	21	6.718	40.662	150.976	1.00	7.36	B	C
ATOM	5862	O	GLY	B	21	7.111	39.526	151.272	1.00	7.83	B	O
ATOM	5863	N	ASP	B	22	5.749	40.896	150.115	1.00	6.97	B	N
ATOM	5864	CA	ASP	B	22	5.019	39.846	149.439	1.00	6.61	B	C
ATOM	5865	CB	ASP	B	22	3.516	40.156	149.545	1.00	6.75	B	C
ATOM	5866	CG	ASP	B	22	2.645	38.964	149.165	1.00	8.00	B	C
ATOM	5867	OD1	ASP	B	22	3.121	37.817	149.252	1.00	8.66	B	O
ATOM	5868	OD2	ASP	B	22	1.479	39.168	148.781	1.00	10.69	B	O
ATOM	5869	C	ASP	B	22	5.471	39.814	147.976	1.00	6.58	B	C
ATOM	5870	O	ASP	B	22	4.647	39.889	147.070	1.00	6.88	B	O
ATOM	5871	N	PHE	B	23	6.785	39.719	147.753	1.00	5.72	B	N
ATOM	5872	CA	PHE	B	23	7.350	39.730	146.400	1.00	5.51	B	C
ATOM	5873	CB	PHE	B	23	8.139	41.020	146.136	1.00	5.56	B	C
ATOM	5874	CG	PHE	B	23	7.315	42.266	146.256	1.00	6.28	B	C
ATOM	5875	CD1	PHE	B	23	7.127	42.875	147.497	1.00	7.33	B	C
ATOM	5876	CE1	PHE	B	23	6.344	44.032	147.621	1.00	6.32	B	C
ATOM	5877	CZ	PHE	B	23	5.755	44.584	146.490	1.00	7.38	B	C
ATOM	5878	CE2	PHE	B	23	5.941	43.979	145.235	1.00	7.39	B	C
ATOM	5879	CD2	PHE	B	23	6.713	42.824	145.132	1.00	7.45	B	C
ATOM	5880	C	PHE	B	23	8.243	38.517	146.175	1.00	5.47	B	C
ATOM	5881	O	PHE	B	23	9.345	38.640	145.612	1.00	5.14	B	O
ATOM	5882	N	GLY	B	24	7.750	37.349	146.600	1.00	4.56	B	N
ATOM	5883	CA	GLY	B	24	8.458	36.090	146.362	1.00	4.07	B	C
ATOM	5884	C	GLY	B	24	8.397	35.090	147.499	1.00	3.76	B	C
ATOM	5885	O	GLY	B	24	8.310	33.871	147.263	1.00	4.04	B	O
ATOM	5886	N	ASN	B	25	8.467	35.594	148.734	1.00	2.92	B	N
ATOM	5887	CA	ASN	B	25	8.571	34.746	149.915	1.00	2.81	B	C
ATOM	5888	CB	ASN	B	25	7.253	34.007	150.179	1.00	3.39	B	C
ATOM	5889	CG	ASN	B	25	6.227	34.911	150.842	1.00	3.67	B	C
ATOM	5890	OD1	ASN	B	25	6.478	35.461	151.917	1.00	6.16	B	O
ATOM	5891	ND2	ASN	B	25	5.090	35.098	150.199	1.00	5.91	B	N
ATOM	5892	C	ASN	B	25	9.804	33.822	149.943	1.00	2.73	B	C
ATOM	5893	O	ASN	B	25	9.747	32.691	150.423	1.00	2.49	B	O
ATOM	5894	N	ASP	B	26	10.924	34.343	149.450	1.00	3.00	B	N
ATOM	5895	CA	ASP	B	26	12.206	33.663	149.535	1.00	3.13	B	C
ATOM	5896	CB	ASP	B	26	12.975	33.829	148.235	1.00	3.67	B	C
ATOM	5897	CG	ASP	B	26	12.481	32.904	147.140	1.00	4.56	B	C
ATOM	5898	OD1	ASP	B	26	12.308	31.693	147.408	1.00	6.75	B	O
ATOM	5899	OD2	ASP	B	26	12.281	33.385	146.007	1.00	5.43	B	O
ATOM	5900	C	ASP	B	26	13.041	34.166	150.702	1.00	3.37	B	C
ATOM	5901	O	ASP	B	26	12.747	35.212	151.278	1.00	3.44	B	O
ATOM	6036	N	GLY	B	46	7.869	42.799	161.557	1.00	5.19	B	N
ATOM	6037	CA	GLY	B	46	7.346	42.212	160.323	1.00	4.86	B	C
ATOM	6038	C	GLY	B	46	8.311	41.184	159.770	1.00	5.18	B	C
ATOM	6039	O	GLY	B	46	9.481	41.143	160.175	1.00	5.13	B	O
ATOM	6040	N	ARG	B	47	7.818	40.352	158.848	1.00	5.25	B	N
ATOM	6041	CA	ARG	B	47	8.581	39.247	158.248	1.00	4.58	B	C
ATOM	6042	CB	ARG	B	47	8.650	38.046	159.210	1.00	4.70	B	C
ATOM	6043	CG	ARG	B	47	7.282	37.403	159.599	1.00	5.20	B	C
ATOM	6044	CD	ARG	B	47	7.495	36.267	160.596	1.00	6.03	B	C
ATOM	6045	NE	ARG	B	47	6.339	35.388	160.817	1.00	5.27	B	N
ATOM	6046	CZ	ARG	B	47	5.957	34.374	160.030	1.00	7.87	B	C
ATOM	6047	NH1	ARG	B	47	6.586	34.104	158.889	1.00	6.65	B	N
ATOM	6048	NH2	ARG	B	47	4.910	33.627	160.378	1.00	6.18	B	N
ATOM	6049	C	ARG	B	47	7.861	38.854	156.975	1.00	4.46	B	C
ATOM	6050	O	ARG	B	47	6.656	39.124	156.837	1.00	3.68	B	O
ATOM	6051	N	ASN	B	48	8.584	38.257	156.029	1.00	4.25	B	N
ATOM	6052	CA	ASN	B	48	7.898	37.485	154.983	1.00	4.09	B	C
ATOM	6053	CB	ASN	B	48	8.627	37.525	153.605	1.00	3.81	B	C
ATOM	6054	CG	ASN	B	48	9.824	36.572	153.502	1.00	3.63	B	C
ATOM	6055	OD1	ASN	B	48	10.191	35.864	154.455	1.00	4.51	B	O
ATOM	6056	ND2	ASN	B	48	10.441	36.556	152.325	1.00	2.00	B	N
ATOM	6057	C	ASN	B	48	7.626	36.082	155.535	1.00	4.15	B	C
ATOM	6058	O	ASN	B	48	7.928	35.813	156.710	1.00	4.08	B	O

ATOM	6059	N	ASN	B	49	7.049	35.200	154.730	1.00	3.96	B	N
ATOM	6060	CA	ASN	B	49	6.685	33.858	155.217	1.00	4.78	B	C
ATOM	6061	CB	ASN	B	49	5.892	33.072	154.155	1.00	4.58	B	C
ATOM	6062	CG	ASN	B	49	4.528	33.683	153.864	1.00	6.22	B	C
ATOM	6063	OD1	ASN	B	49	3.827	33.270	152.922	1.00	8.25	B	O
ATOM	6064	ND2	ASN	B	49	4.151	34.685	154.655	1.00	4.90	B	N
ATOM	6065	C	ASN	B	49	7.840	33.013	155.763	1.00	4.50	B	C
ATOM	6066	O	ASN	B	49	7.632	32.168	156.622	1.00	5.46	B	O
ATOM	6067	N	THR	B	50	9.054	33.243	155.273	1.00	5.02	B	N
ATOM	6068	CA	THR	B	50	10.246	32.518	155.744	1.00	4.39	B	C
ATOM	6069	CB	THR	B	50	11.413	32.651	154.748	1.00	4.34	B	C
ATOM	6070	OG1	THR	B	50	11.882	34.011	154.742	1.00	3.44	B	O
ATOM	6071	CG2	THR	B	50	10.950	32.254	153.325	1.00	4.57	B	C
ATOM	6072	C	THR	B	50	10.745	33.031	157.096	1.00	4.84	B	C
ATOM	6073	O	THR	B	50	11.450	32.306	157.804	1.00	4.54	B	O
ATOM	6074	N	GLY	B	51	10.432	34.293	157.416	1.00	4.48	B	N
ATOM	6075	CA	GLY	B	51	10.802	34.910	158.707	1.00	4.48	B	C
ATOM	6076	C	GLY	B	51	11.560	36.232	158.553	1.00	5.18	B	C
ATOM	6077	O	GLY	B	51	11.862	36.918	159.542	1.00	5.14	B	O
ATOM	6200	N	LEU	B	67	10.876	26.584	154.563	1.00	4.27	B	N
ATOM	6201	CA	LEU	B	67	10.335	26.228	153.272	1.00	4.24	B	C
ATOM	6202	CB	LEU	B	67	8.858	25.822	153.413	1.00	3.74	B	C
ATOM	6203	CG	LEU	B	67	8.558	24.462	154.063	1.00	2.90	B	C
ATOM	6204	CD1	LEU	B	67	7.076	24.167	154.019	1.00	2.92	B	C
ATOM	6205	CD2	LEU	B	67	9.361	23.328	153.400	1.00	2.00	B	C
ATOM	6206	C	LEU	B	67	10.436	27.457	152.371	1.00	4.38	B	C
ATOM	6207	O	LEU	B	67	9.926	28.517	152.720	1.00	4.30	B	O
ATOM	6208	N	ASP	B	68	11.070	27.282	151.216	1.00	4.40	B	N
ATOM	6209	CA	ASP	B	68	11.312	28.351	150.252	1.00	4.81	B	C
ATOM	6210	CB	ASP	B	68	12.398	27.937	149.254	1.00	4.70	B	C
ATOM	6211	CG	ASP	B	68	13.677	27.502	149.932	1.00	5.37	B	C
ATOM	6212	OD1	ASP	B	68	13.702	26.364	150.444	1.00	4.55	B	O
ATOM	6213	OD2	ASP	B	68	14.636	28.300	149.964	1.00	5.37	B	O
ATOM	6214	C	ASP	B	68	10.079	28.727	149.459	1.00	4.93	B	C
ATOM	6215	O	ASP	B	68	9.469	27.878	148.818	1.00	5.94	B	O
ATOM	6216	N	GLY	B	69	9.723	30.005	149.507	1.00	5.17	B	N
ATOM	6217	CA	GLY	B	69	8.769	30.598	148.558	1.00	4.56	B	C
ATOM	6218	C	GLY	B	69	7.327	30.161	148.689	1.00	4.60	B	C
ATOM	6219	O	GLY	B	69	6.573	30.236	147.713	1.00	4.30	B	O
ATOM	6220	N	VAL	B	70	6.932	29.725	149.887	1.00	3.48	B	N
ATOM	6221	CA	VAL	B	70	5.589	29.149	150.102	1.00	3.51	B	C
ATOM	6222	CB	VAL	B	70	5.627	27.927	151.063	1.00	3.54	B	C
ATOM	6223	CG1	VAL	B	70	6.419	26.772	150.442	1.00	3.34	B	C
ATOM	6224	CG2	VAL	B	70	6.209	28.314	152.422	1.00	2.91	B	C
ATOM	6225	C	VAL	B	70	4.609	30.183	150.644	1.00	3.44	B	C
ATOM	6226	O	VAL	B	70	5.033	31.257	151.119	1.00	3.41	B	O
ATOM	6227	N	GLY	B	71	3.317	29.856	150.590	1.00	3.21	B	N
ATOM	6228	CA	GLY	B	71	2.243	30.766	151.033	1.00	4.39	B	C
ATOM	6229	C	GLY	B	71	1.896	30.610	152.517	1.00	5.23	B	C
ATOM	6230	O	GLY	B	71	2.732	30.168	153.313	1.00	5.01	B	O
ATOM	6231	N	GLY	B	72	0.653	30.950	152.869	1.00	5.67	B	N
ATOM	6232	CA	GLY	B	72	0.165	30.889	154.256	1.00	5.93	B	C
ATOM	6233	C	GLY	B	72	0.949	31.862	155.107	1.00	6.07	B	C
ATOM	6234	O	GLY	B	72	1.165	33.016	154.692	1.00	6.64	B	O
ATOM	6235	N	SER	B	73	1.390	31.404	156.282	1.00	5.79	B	N
ATOM	6236	CA	SER	B	73	2.360	32.159	157.086	1.00	5.71	B	C
ATOM	6237	CB	SER	B	73	1.884	32.320	158.534	1.00	5.72	B	C
ATOM	6238	OG	SER	B	73	1.572	31.062	159.111	1.00	5.04	B	O
ATOM	6239	C	SER	B	73	3.751	31.512	157.055	1.00	5.79	B	C
ATOM	6240	O	SER	B	73	4.621	31.864	157.855	1.00	5.53	B	O
ATOM	6241	N	GLY	B	74	3.943	30.560	156.136	1.00	5.50	B	N
ATOM	6242	CA	GLY	B	74	5.232	29.886	155.962	1.00	4.98	B	C
ATOM	6243	C	GLY	B	74	5.389	28.660	156.834	1.00	4.36	B	C
ATOM	6244	O	GLY	B	74	4.702	28.512	157.834	1.00	4.36	B	O
ATOM	6245	N	GLY	B	75	6.284	27.765	156.443	1.00	4.59	B	N
ATOM	6246	CA	GLY	B	75	6.527	26.565	157.216	1.00	4.40	B	C

ATOM	6247	C	GLY	B	75	7.889	26.594	157.880	1.00	4.18	B	C
ATOM	6248	O	GLY	B	75	8.717	27.435	157.575	1.00	4.41	B	O
ATOM	6249	N	GLY	B	76	8.116	25.653	158.788	1.00	4.82	B	N
ATOM	6250	CA	GLY	B	76	9.371	25.580	159.508	1.00	4.57	B	C
ATOM	6251	C	GLY	B	76	9.475	26.759	160.434	1.00	4.29	B	C
ATOM	6252	O	GLY	B	76	8.504	27.108	161.114	1.00	4.51	B	O
ATOM	6253	N	GLY	B	77	10.647	27.390	160.433	1.00	3.80	B	N
ATOM	6254	CA	GLY	B	77	10.953	28.443	161.386	1.00	3.39	B	C
ATOM	6255	C	GLY	B	77	11.241	27.958	162.792	1.00	3.21	B	C
ATOM	6256	O	GLY	B	77	11.099	28.729	163.743	1.00	3.66	B	O
ATOM	7082	N	TYR	B	194	3.643	22.233	162.238	1.00	3.12	B	N
ATOM	7083	CA	TYR	B	194	2.613	21.951	161.250	1.00	3.30	B	C
ATOM	7084	CB	TYR	B	194	1.229	21.842	161.911	1.00	3.34	B	C
ATOM	7085	CG	TYR	B	194	0.110	21.512	160.940	1.00	3.71	B	C
ATOM	7086	CD1	TYR	B	194	-0.461	22.504	160.135	1.00	4.84	B	C
ATOM	7087	CE1	TYR	B	194	-1.490	22.204	159.240	1.00	6.19	B	C
ATOM	7088	CZ	TYR	B	194	-1.954	20.908	159.146	1.00	4.77	B	C
ATOM	7089	OH	TYR	B	194	-2.964	20.602	158.255	1.00	6.66	B	O
ATOM	7090	CE2	TYR	B	194	-1.400	19.908	159.936	1.00	5.56	B	C
ATOM	7091	CD2	TYR	B	194	-0.370	20.213	160.817	1.00	2.00	B	C
ATOM	7092	C	TYR	B	194	2.618	23.039	160.183	1.00	3.39	B	C
ATOM	7093	O	TYR	B	194	2.833	24.217	160.484	1.00	2.89	B	O
ATOM	7094	N	PHE	B	195	2.402	22.634	158.934	1.00	3.57	B	N
ATOM	7095	CA	PHE	B	195	2.176	23.583	157.852	1.00	4.28	B	C
ATOM	7096	CB	PHE	B	195	3.495	24.128	157.273	1.00	3.41	B	C
ATOM	7097	CG	PHE	B	195	3.307	25.061	156.101	1.00	2.84	B	C
ATOM	7098	CD1	PHE	B	195	2.857	26.368	156.296	1.00	2.00	B	C
ATOM	7099	CE1	PHE	B	195	2.688	27.240	155.214	1.00	2.78	B	C
ATOM	7100	CZ	PHE	B	195	2.970	26.810	153.920	1.00	2.01	B	C
ATOM	7101	CE2	PHE	B	195	3.431	25.487	153.713	1.00	3.28	B	C
ATOM	7102	CD2	PHE	B	195	3.588	24.636	154.801	1.00	2.14	B	C
ATOM	7103	C	PHE	B	195	1.340	22.977	156.739	1.00	4.75	B	C
ATOM	7104	O	PHE	B	195	1.700	21.949	156.158	1.00	4.94	B	O
ATOM	7105	N	TYR	B	196	0.234	23.655	156.460	1.00	6.22	B	N
ATOM	7106	CA	TYR	B	196	-0.598	23.421	155.296	1.00	7.19	B	C
ATOM	7107	CB	TYR	B	196	0.228	23.437	153.995	1.00	7.83	B	C
ATOM	7108	CG	TYR	B	196	-0.616	23.795	152.800	1.00	10.54	B	C
ATOM	7109	CD1	TYR	B	196	-1.022	25.116	152.596	1.00	12.24	B	C
ATOM	7110	CE1	TYR	B	196	-1.824	25.468	151.513	1.00	15.08	B	C
ATOM	7111	CZ	TYR	B	196	-2.227	24.487	150.619	1.00	16.10	B	C
ATOM	7112	OH	TYR	B	196	-3.015	24.861	149.550	1.00	19.44	B	O
ATOM	7113	CE2	TYR	B	196	-1.840	23.147	150.800	1.00	15.05	B	C
ATOM	7114	CD2	TYR	B	196	-1.038	22.812	151.890	1.00	11.35	B	C
ATOM	7115	C	TYR	B	196	-1.432	22.161	155.434	1.00	7.32	B	C
ATOM	7116	O	TYR	B	196	-2.592	22.244	155.848	1.00	8.08	B	O
ATOM	7117	N	ASN	B	197	-0.848	21.010	155.111	1.00	6.91	B	N
ATOM	7118	CA	ASN	B	197	-1.557	19.737	155.149	1.00	7.00	B	C
ATOM	7119	CB	ASN	B	197	-1.448	19.010	153.804	1.00	6.93	B	C
ATOM	7120	CG	ASN	B	197	-2.381	19.573	152.756	1.00	8.25	B	C
ATOM	7121	OD1	ASN	B	197	-3.492	19.991	153.063	1.00	6.81	B	O
ATOM	7122	ND2	ASN	B	197	-1.932	19.577	151.499	1.00	9.68	B	N
ATOM	7123	C	ASN	B	197	-1.097	18.779	156.242	1.00	6.55	B	C
ATOM	7124	O	ASN	B	197	-1.841	17.875	156.589	1.00	6.69	B	O
ATOM	7125	N	ALA	B	198	0.104	18.977	156.793	1.00	5.68	B	N
ATOM	7126	CA	ALA	B	198	0.738	17.907	157.606	1.00	5.17	B	C
ATOM	7127	CB	ALA	B	198	1.519	16.952	156.715	1.00	3.99	B	C
ATOM	7128	C	ALA	B	198	1.644	18.391	158.727	1.00	4.90	B	C
ATOM	7129	O	ALA	B	198	2.316	19.416	158.594	1.00	5.24	B	O
ATOM	8311	N	ALA	B	352	5.634	20.319	147.023	1.00	5.44	B	N
ATOM	8312	CA	ALA	B	352	4.594	21.317	146.769	1.00	6.09	B	C
ATOM	8313	CB	ALA	B	352	5.135	22.730	146.962	1.00	5.99	B	C
ATOM	8314	C	ALA	B	352	4.223	21.089	145.329	1.00	6.35	B	C
ATOM	8315	O	ALA	B	352	4.288	21.990	144.503	1.00	6.13	B	O
ATOM	8316	N	THR	B	353	3.821	19.855	145.044	1.00	7.15	B	N
ATOM	8317	CA	THR	B	353	3.818	19.352	143.690	1.00	7.57	B	C
ATOM	8318	CB	THR	B	353	3.887	17.837	143.696	1.00	7.65	B	C

ATOM	8319	OG1	THR	B	353	4.943	17.447	144.580	1.00	8.17	B	O
ATOM	8320	CG2	THR	B	353	4.184	17.295	142.296	1.00	6.93	B	C
ATOM	8321	C	THR	B	353	2.656	19.914	142.859	1.00	8.28	B	C
ATOM	8322	O	THR	B	353	2.750	19.992	141.631	1.00	8.21	B	O
ATOM	8323	N	TRP	B	354	1.581	20.325	143.531	1.00	8.91	B	N
ATOM	8324	CA	TRP	B	354	0.511	21.060	142.861	1.00	10.28	B	C
ATOM	8325	CB	TRP	B	354	-0.559	21.535	143.859	1.00	10.88	B	C
ATOM	8326	CG	TRP	B	354	-1.795	22.053	143.189	1.00	13.77	B	C
ATOM	8327	CD1	TRP	B	354	-2.904	21.331	142.861	1.00	15.75	B	C
ATOM	8328	NE1	TRP	B	354	-3.829	22.131	142.242	1.00	18.84	B	N
ATOM	8329	CE2	TRP	B	354	-3.338	23.407	142.172	1.00	19.33	B	C
ATOM	8330	CD2	TRP	B	354	-2.050	23.396	142.759	1.00	17.76	B	C
ATOM	8331	CE3	TRP	B	354	-1.317	24.588	142.806	1.00	19.35	B	C
ATOM	8332	CZ3	TRP	B	354	-1.887	25.751	142.273	1.00	22.00	B	C
ATOM	8333	CH2	TRP	B	354	-3.175	25.730	141.696	1.00	22.73	B	C
ATOM	8334	CZ2	TRP	B	354	-3.914	24.569	141.634	1.00	22.09	B	C
ATOM	8335	C	TRP	B	354	1.082	22.248	142.090	1.00	9.94	B	C
ATOM	8336	O	TRP	B	354	0.679	22.498	140.957	1.00	10.17	B	O
ATOM	8337	N	ASP	B	355	2.027	22.961	142.708	1.00	9.68	B	N
ATOM	8338	CA	ASP	B	355	2.607	24.171	142.126	1.00	9.25	B	C
ATOM	8339	CB	ASP	B	355	3.020	25.161	143.224	1.00	9.39	B	C
ATOM	8340	CG	ASP	B	355	1.920	25.410	144.250	1.00	11.18	B	C
ATOM	8341	OD1	ASP	B	355	2.026	24.884	145.380	1.00	12.17	B	O
ATOM	8342	OD2	ASP	B	355	0.957	26.138	143.927	1.00	14.96	B	O
ATOM	8343	C	ASP	B	355	3.832	23.883	141.261	1.00	8.63	B	C
ATOM	8344	O	ASP	B	355	4.010	24.505	140.198	1.00	8.49	B	O
ATOM	8345	N	ASP	B	356	4.679	22.961	141.721	1.00	7.73	B	N
ATOM	8346	CA	ASP	B	356	6.027	22.821	141.162	1.00	7.97	B	C
ATOM	8347	CB	ASP	B	356	7.084	22.835	142.282	1.00	8.30	B	C
ATOM	8348	CG	ASP	B	356	7.193	21.517	143.028	1.00	10.67	B	C
ATOM	8349	OD1	ASP	B	356	6.378	20.590	142.800	1.00	12.81	B	O
ATOM	8350	OD2	ASP	B	356	8.130	21.405	143.856	1.00	13.11	B	O
ATOM	8351	C	ASP	B	356	6.290	21.648	140.225	1.00	6.85	B	C
ATOM	8352	O	ASP	B	356	7.432	21.434	139.843	1.00	6.23	B	O
ATOM	8702	N	THR	B	403	6.656	20.211	154.931	1.00	2.24	B	N
ATOM	8703	CA	THR	B	403	6.223	19.841	153.605	1.00	2.00	B	C
ATOM	8704	CB	THR	B	403	6.095	18.282	153.520	1.00	2.05	B	C
ATOM	8705	OG1	THR	B	403	5.760	17.892	152.198	1.00	3.15	B	O
ATOM	8706	CG2	THR	B	403	5.030	17.770	154.453	1.00	2.00	B	C
ATOM	8707	C	THR	B	403	4.913	20.578	153.289	1.00	2.00	B	C
ATOM	8708	O	THR	B	403	4.316	21.193	154.178	1.00	2.00	B	O
ATOM	8709	N	VAL	B	404	4.491	20.536	152.026	1.00	2.00	B	N
ATOM	8710	CA	VAL	B	404	3.295	21.247	151.582	1.00	2.02	B	C
ATOM	8711	CB	VAL	B	404	3.633	22.358	150.571	1.00	2.00	B	C
ATOM	8712	CG1	VAL	B	404	2.406	23.239	150.320	1.00	2.00	B	C
ATOM	8713	CG2	VAL	B	404	4.800	23.187	151.064	1.00	2.00	B	C
ATOM	8714	C	VAL	B	404	2.175	20.345	151.023	1.00	2.65	B	C
ATOM	8715	O	VAL	B	404	1.183	20.118	151.702	1.00	2.92	B	O
ATOM	8716	N	ARG	B	405	2.332	19.834	149.803	1.00	3.29	B	N
ATOM	8717	CA	ARG	B	405	1.236	19.105	149.134	1.00	3.66	B	C
ATOM	8718	CB	ARG	B	405	0.170	20.101	148.633	1.00	3.90	B	C
ATOM	8719	CG	ARG	B	405	0.641	20.982	147.480	1.00	3.00	B	C
ATOM	8720	CD	ARG	B	405	-0.271	22.201	147.301	1.00	2.02	B	C
ATOM	8721	NE	ARG	B	405	-1.643	21.828	146.974	1.00	3.88	B	N
ATOM	8722	CZ	ARG	B	405	-2.594	22.700	146.644	1.00	5.53	B	C
ATOM	8723	NH1	ARG	B	405	-2.324	24.001	146.580	1.00	5.29	B	N
ATOM	8724	NH2	ARG	B	405	-3.812	22.271	146.379	1.00	6.56	B	N
ATOM	8725	C	ARG	B	405	1.717	18.221	147.981	1.00	3.69	B	C
ATOM	8726	O	ARG	B	405	2.837	18.353	147.494	1.00	3.54	B	O
ATOM	8727	N	TRP	B	406	0.861	17.315	147.540	1.00	4.26	B	N
ATOM	8728	CA	TRP	B	406	1.343	16.193	146.726	1.00	4.40	B	C
ATOM	8729	CB	TRP	B	406	1.380	14.920	147.575	1.00	4.23	B	C
ATOM	8730	CG	TRP	B	406	2.088	15.094	148.872	1.00	4.31	B	C
ATOM	8731	CD1	TRP	B	406	3.417	14.922	149.110	1.00	4.94	B	C
ATOM	8732	NE1	TRP	B	406	3.696	15.167	150.429	1.00	5.82	B	N
ATOM	8733	CE2	TRP	B	406	2.537	15.516	151.067	1.00	4.54	B	C

ATOM	8734	CD2	TRP	B	406	1.500	15.472	150.112	1.00	4.03	B	C
ATOM	8735	CE3	TRP	B	406	0.192	15.805	150.507	1.00	2.57	B	C
ATOM	8736	CZ3	TRP	B	406	-0.024	16.148	151.840	1.00	4.33	B	C
ATOM	8737	CH2	TRP	B	406	1.032	16.167	152.764	1.00	4.13	B	C
ATOM	8738	CZ2	TRP	B	406	2.316	15.859	152.397	1.00	3.80	B	C
ATOM	8739	C	TRP	B	406	0.565	15.933	145.433	1.00	4.65	B	C
ATOM	9696	N	GLY	B	533	-15.847	27.725	140.342	1.00	9.53	B	N
ATOM	9697	CA	GLY	B	533	-15.211	26.855	141.335	1.00	9.25	B	C
ATOM	9698	C	GLY	B	533	-13.705	26.691	141.187	1.00	8.71	B	C
ATOM	9699	O	GLY	B	533	-13.098	25.875	141.883	1.00	8.16	B	O
ATOM	9700	N	LEU	B	534	-13.099	27.477	140.293	1.00	8.58	B	N
ATOM	9701	CA	LEU	B	534	-11.653	27.388	140.006	1.00	8.07	B	C
ATOM	9702	CB	LEU	B	534	-11.286	28.145	138.734	1.00	7.63	B	C
ATOM	9703	CG	LEU	B	534	-11.866	27.619	137.420	1.00	6.93	B	C
ATOM	9704	CD1	LEU	B	534	-11.597	28.602	136.307	1.00	3.89	B	C
ATOM	9705	CD2	LEU	B	534	-11.303	26.245	137.079	1.00	7.25	B	C
ATOM	9706	C	LEU	B	534	-10.747	27.869	141.134	1.00	8.88	B	C
ATOM	9707	O	LEU	B	534	-11.033	28.870	141.822	1.00	7.62	B	O
ATOM	9708	N	TYR	B	535	-9.637	27.152	141.288	1.00	9.49	B	N
ATOM	9709	CA	TYR	B	535	-8.638	27.486	142.280	1.00	10.81	B	C
ATOM	9710	CB	TYR	B	535	-8.010	26.197	142.861	1.00	11.89	B	C
ATOM	9711	CG	TYR	B	535	-8.753	25.749	144.106	1.00	16.97	B	C
ATOM	9712	CD1	TYR	B	535	-8.130	25.772	145.361	1.00	20.37	B	C
ATOM	9713	CE1	TYR	B	535	-8.832	25.389	146.520	1.00	23.75	B	C
ATOM	9714	CZ	TYR	B	535	-10.184	25.009	146.424	1.00	23.62	B	C
ATOM	9715	OH	TYR	B	535	-10.865	24.649	147.562	1.00	24.62	B	O
ATOM	9716	CE2	TYR	B	535	-10.827	24.987	145.193	1.00	22.59	B	C
ATOM	9717	CD2	TYR	B	535	-10.111	25.365	144.038	1.00	20.68	B	C
ATOM	9718	C	TYR	B	535	-7.604	28.447	141.703	1.00	10.16	B	C
ATOM	9719	O	TYR	B	535	-6.865	28.094	140.801	1.00	10.24	B	O
ATOM	9720	N	GLN	B	536	-7.600	29.677	142.211	1.00	9.98	B	N
ATOM	9721	CA	GLN	B	536	-6.568	30.681	141.905	1.00	10.33	B	C
ATOM	9722	CB	GLN	B	536	-5.234	30.334	142.598	1.00	10.30	B	C
ATOM	9723	CG	GLN	B	536	-5.313	30.141	144.128	1.00	13.24	B	C
ATOM	9724	CD	GLN	B	536	-3.939	29.900	144.772	1.00	16.30	B	C
ATOM	9725	OE1	GLN	B	536	-2.909	29.886	144.095	1.00	17.97	B	O
ATOM	9726	NE2	GLN	B	536	-3.929	29.725	146.091	1.00	18.13	B	N
ATOM	9727	C	GLN	B	536	-6.337	30.936	140.402	1.00	10.03	B	C
ATOM	9728	O	GLN	B	536	-5.217	31.217	139.967	1.00	10.11	B	O
ATOM	9729	N	GLY	B	537	-7.397	30.850	139.608	1.00	10.06	B	N
ATOM	9730	CA	GLY	B	537	-7.264	31.159	138.187	1.00	8.79	B	C
ATOM	9731	C	GLY	B	537	-8.584	31.268	137.454	1.00	8.30	B	C
ATOM	9732	O	GLY	B	537	-9.659	31.075	138.037	1.00	7.71	B	O
ATOM	10119	N	ASN	B	586	1.158	35.774	134.842	1.00	4.61	B	N
ATOM	10120	CA	ASN	B	586	2.561	35.487	135.130	1.00	4.87	B	C
ATOM	10121	CB	ASN	B	586	3.446	36.671	134.695	1.00	4.94	B	C
ATOM	10122	CG	ASN	B	586	3.354	36.964	133.194	1.00	4.99	B	C
ATOM	10123	OD1	ASN	B	586	2.930	38.041	132.796	1.00	8.76	B	O
ATOM	10124	ND2	ASN	B	586	3.754	36.017	132.371	1.00	4.46	B	N
ATOM	10125	C	ASN	B	586	2.791	35.182	136.618	1.00	5.09	B	C
ATOM	10126	O	ASN	B	586	3.852	34.691	136.997	1.00	3.71	B	O
ATOM	10127	N	ALA	B	587	1.777	35.465	137.446	1.00	5.34	B	N
ATOM	10128	CA	ALA	B	587	1.917	35.442	138.923	1.00	6.16	B	C
ATOM	10129	CB	ALA	B	587	1.006	36.491	139.546	1.00	5.10	B	C
ATOM	10130	C	ALA	B	587	1.688	34.108	139.635	1.00	6.83	B	C
ATOM	10131	O	ALA	B	587	2.084	33.957	140.784	1.00	6.45	B	O
ATOM	10132	N	ASN	B	588	0.997	33.179	138.977	1.00	8.41	B	N
ATOM	10133	CA	ASN	B	588	0.684	31.857	139.540	1.00	9.70	B	C
ATOM	10134	CB	ASN	B	588	-0.790	31.765	139.954	1.00	10.13	B	C
ATOM	10135	CG	ASN	B	588	-1.026	30.752	141.077	1.00	12.26	B	C
ATOM	10136	OD1	ASN	B	588	-0.090	30.198	141.622	1.00	15.20	B	O
ATOM	10137	ND2	ASN	B	588	-2.286	30.513	141.418	1.00	15.01	B	N
ATOM	10138	C	ASN	B	588	1.027	30.786	138.509	1.00	10.25	B	C
ATOM	10139	O	ASN	B	588	1.296	31.109	137.356	1.00	10.70	B	O
ATOM	10140	N	GLU	B	589	1.014	29.523	138.913	1.00	10.86	B	N
ATOM	10141	CA	GLU	B	589	1.574	28.445	138.079	1.00	11.52	B	C

ATOM	10142	CB	GLU	B	589	2.198	27.370	138.976	1.00	11.45	B	C
ATOM	10143	CG	GLU	B	589	3.501	27.805	139.630	1.00	9.96	B	C
ATOM	10144	CD	GLU	B	589	3.311	28.386	141.028	1.00	10.68	B	C
ATOM	10145	OE1	GLU	B	589	2.146	28.629	141.434	1.00	10.43	B	O
ATOM	10146	OE2	GLU	B	589	4.335	28.606	141.722	1.00	8.00	B	O
ATOM	10147	C	GLU	B	589	0.608	27.804	137.071	1.00	11.76	B	C
ATOM	10148	O	GLU	B	589	1.027	27.008	136.207	1.00	11.79	B	O
ATOM	10149	N	ILE	B	590	-0.670	28.170	137.171	1.00	11.86	B	N
ATOM	10150	CA	ILE	B	590	-1.724	27.523	136.394	1.00	11.76	B	C
ATOM	10151	CB	ILE	B	590	-3.097	28.106	136.760	1.00	11.88	B	C
ATOM	10152	CG1	ILE	B	590	-3.531	27.471	138.085	1.00	12.53	B	C
ATOM	10153	CD1	ILE	B	590	-4.228	28.396	138.985	1.00	13.66	B	C
ATOM	10154	CG2	ILE	B	590	-4.143	27.847	135.665	1.00	12.30	B	C
ATOM	10155	C	ILE	B	590	-1.461	27.444	134.877	1.00	11.77	B	C
ATOM	10156	O	ILE	B	590	-1.563	26.362	134.286	1.00	11.66	B	O
ATOM	10444	CA	ILE	B	624	-2.166	38.601	140.777	1.00	6.95	B	C
ATOM	10445	CB	ILE	B	624	-2.394	39.529	142.009	1.00	7.43	B	C
ATOM	10446	CG1	ILE	B	624	-3.881	39.873	142.189	1.00	6.21	B	C
ATOM	10447	CD1	ILE	B	624	-4.256	40.384	143.612	1.00	6.93	B	C
ATOM	10448	CG2	ILE	B	624	-1.589	40.820	141.848	1.00	5.38	B	C
ATOM	10449	C	ILE	B	624	-2.529	37.158	141.097	1.00	8.00	B	C
ATOM	10450	O	ILE	B	624	-3.395	36.597	140.423	1.00	7.71	B	O
ATOM	10451	N	ALA	B	625	-1.876	36.566	142.107	1.00	8.28	B	N
ATOM	10452	CA	ALA	B	625	-2.036	35.146	142.429	1.00	9.17	B	C
ATOM	10453	CB	ALA	B	625	-0.672	34.532	142.890	1.00	8.73	B	C
ATOM	10454	C	ALA	B	625	-3.121	34.848	143.476	1.00	9.67	B	C
ATOM	10455	O	ALA	B	625	-3.305	33.688	143.871	1.00	9.55	B	O
ATOM	10456	N	THR	B	626	-3.813	35.889	143.941	1.00	10.19	B	N
ATOM	10457	CA	THR	B	626	-4.883	35.743	144.940	1.00	9.61	B	C
ATOM	10458	CB	THR	B	626	-4.311	35.718	146.381	1.00	10.06	B	C
ATOM	10459	OG1	THR	B	626	-5.328	35.322	147.300	1.00	9.01	B	O
ATOM	10460	CG2	THR	B	626	-3.722	37.088	146.791	1.00	10.40	B	C
ATOM	10461	C	THR	B	626	-5.890	36.882	144.760	1.00	9.89	B	C
ATOM	10462	O	THR	B	626	-5.682	37.753	143.914	1.00	9.41	B	O
ATOM	10463	N	GLY	B	627	-6.954	36.880	145.563	1.00	10.02	B	N
ATOM	10464	CA	GLY	B	627	-8.057	37.828	145.428	1.00	11.00	B	C
ATOM	10465	C	GLY	B	627	-7.684	39.294	145.557	1.00	12.06	B	C
ATOM	10466	O	GLY	B	627	-8.185	40.135	144.815	1.00	12.64	B	O
ATOM	10467	N	SER	B	628	-6.793	39.604	146.489	1.00	13.03	B	N
ATOM	10468	CA	SER	B	628	-6.410	40.988	146.753	1.00	14.00	B	C
ATOM	10469	CB	SER	B	628	-7.482	41.650	147.614	1.00	14.26	B	C
ATOM	10470	OG	SER	B	628	-7.266	43.039	147.649	1.00	15.26	B	O
ATOM	10471	C	SER	B	628	-5.047	41.111	147.452	1.00	14.28	B	C
ATOM	10472	O	SER	B	628	-4.640	40.217	148.191	1.00	14.61	B	O
ATOM	10473	N	SER	B	629	-4.362	42.229	147.219	1.00	14.43	B	N
ATOM	10474	CA	SER	B	629	-3.055	42.511	147.827	1.00	14.96	B	C
ATOM	10475	CB	SER	B	629	-1.950	42.366	146.779	1.00	14.81	B	C
ATOM	10476	OG	SER	B	629	-0.708	42.826	147.280	1.00	15.07	B	O
ATOM	10477	C	SER	B	629	-2.997	43.923	148.390	1.00	15.25	B	C
ATOM	10478	O	SER	B	629	-3.433	44.866	147.747	1.00	15.02	B	O
ATOM	10680	N	PRO	B	657	4.050	41.388	143.073	1.00	6.53	B	N
ATOM	10681	CA	PRO	B	657	3.402	41.236	144.385	1.00	6.71	B	C
ATOM	10682	CB	PRO	B	657	2.633	42.551	144.560	1.00	6.75	B	C
ATOM	10683	CG	PRO	B	657	2.497	43.125	143.179	1.00	6.81	B	C
ATOM	10684	CD	PRO	B	657	3.695	42.650	142.401	1.00	6.65	B	C
ATOM	10685	C	PRO	B	657	2.446	40.037	144.343	1.00	7.09	B	C
ATOM	10686	O	PRO	B	657	1.785	39.823	143.317	1.00	7.31	B	O
ATOM	10687	N	THR	B	658	2.382	39.270	145.438	1.00	6.82	B	N
ATOM	10688	CA	THR	B	658	1.659	37.972	145.528	1.00	7.41	B	C
ATOM	10689	CB	THR	B	658	0.160	38.025	145.092	1.00	7.22	B	C
ATOM	10690	OG1	THR	B	658	0.091	38.108	143.663	1.00	8.46	B	O
ATOM	10691	CG2	THR	B	658	-0.562	39.183	145.720	1.00	7.56	B	C
ATOM	10692	C	THR	B	658	2.281	36.761	144.802	1.00	6.95	B	C
ATOM	10693	O	THR	B	658	1.850	35.614	145.012	1.00	7.00	B	O
ATOM	10694	N	MET	B	659	3.266	37.002	143.944	1.00	6.43	B	N
ATOM	10695	CA	MET	B	659	3.892	35.925	143.184	1.00	5.95	B	C

ATOM	10696	CB	MET	B	659	4.588	36.511	141.944	1.00	5.41	B	C
ATOM	10697	CG	MET	B	659	5.187	35.490	140.977	1.00	5.34	B	C
ATOM	10698	SD	MET	B	659	5.754	36.339	139.483	1.00	5.63	B	S
ATOM	10699	CE	MET	B	659	6.973	35.196	138.813	1.00	4.33	B	C
ATOM	10700	C	MET	B	659	4.865	35.073	144.034	1.00	5.78	B	C
ATOM	10701	O	MET	B	659	6.092	35.284	144.006	1.00	6.02	B	O
ATOM	10702	N	ASP	B	660	4.327	34.118	144.791	1.00	4.92	B	N
ATOM	10703	CA	ASP	B	660	5.190	33.199	145.543	1.00	4.96	B	C
ATOM	10704	CB	ASP	B	660	4.357	32.285	146.424	1.00	5.01	B	C
ATOM	10705	CG	ASP	B	660	3.584	33.032	147.473	1.00	6.04	B	C
ATOM	10706	OD1	ASP	B	660	4.035	34.111	147.913	1.00	7.34	B	O
ATOM	10707	OD2	ASP	B	660	2.522	32.524	147.864	1.00	7.88	B	O
ATOM	10708	C	ASP	B	660	6.037	32.337	144.596	1.00	4.93	B	C
ATOM	10709	O	ASP	B	660	5.508	31.791	143.621	1.00	4.69	B	O
ATOM	10710	N	ASN	B	661	7.340	32.240	144.873	1.00	4.84	B	N
ATOM	10711	CA	ASN	B	661	8.255	31.368	144.118	1.00	5.08	B	C
ATOM	10712	CB	ASN	B	661	9.694	31.455	144.681	1.00	5.10	B	C
ATOM	10713	CG	ASN	B	661	10.780	31.140	143.629	1.00	6.08	B	C
ATOM	10714	OD1	ASN	B	661	10.526	30.495	142.608	1.00	5.96	B	O
ATOM	10715	ND2	ASN	B	661	11.992	31.636	143.872	1.00	6.67	B	N
ATOM	10716	C	ASN	B	661	7.761	29.903	144.132	1.00	5.04	B	C
ATOM	10717	O	ASN	B	661	7.831	29.211	143.113	1.00	4.57	B	O
ATOM	10718	N	ASP	B	662	7.240	29.473	145.287	1.00	4.48	B	N
ATOM	10719	CA	ASP	B	662	6.702	28.114	145.513	1.00	4.85	B	C
ATOM	10720	CB	ASP	B	662	5.483	27.819	144.630	1.00	5.02	B	C
ATOM	10721	CG	ASP	B	662	4.285	28.656	144.989	1.00	5.82	B	C
ATOM	10722	OD1	ASP	B	662	3.900	28.697	146.173	1.00	7.25	B	O
ATOM	10723	OD2	ASP	B	662	3.725	29.259	144.068	1.00	5.44	B	O
ATOM	10724	C	ASP	B	662	7.733	27.009	145.308	1.00	4.49	B	C
ATOM	10725	O	ASP	B	662	7.726	26.335	144.268	1.00	4.33	B	O
ATOM	10726	N	ALA	B	663	8.587	26.804	146.304	1.00	4.58	B	N
ATOM	10727	CA	ALA	B	663	9.647	25.783	146.215	1.00	5.19	B	C
ATOM	10728	CB	ALA	B	663	9.032	24.354	146.294	1.00	4.88	B	C
ATOM	10729	C	ALA	B	663	10.523	25.941	144.958	1.00	5.61	B	C
ATOM	10730	O	ALA	B	663	10.951	24.953	144.355	1.00	6.58	B	O
ATOM	10731	N	GLY	B	664	10.798	27.191	144.580	1.00	6.10	B	N
ATOM	10732	CA	GLY	B	664	11.674	27.503	143.453	1.00	5.63	B	C
ATOM	10733	C	GLY	B	664	11.067	27.352	142.068	1.00	5.88	B	C
ATOM	10734	O	GLY	B	664	11.783	27.416	141.077	1.00	6.30	B	O
ATOM	12383	CA	CA	C	6	1.503	30.134	143.317	1.00	32.32	C	CA
ATOM	11905	O	HOH	C	7	2.949	31.974	142.705	1.00	3.45	C	O
ATOM	12345	O	HOH	C	8	1.937	29.983	147.278	1.00	20.75	C	O
ATOM	12381	O	HOH	C	9	0.607	31.785	144.943	1.00	23.64	C	O
ATOM	12380	O	HOH	C	10	0.075	28.500	144.774	1.00	23.09	C	O
ATOM	12403	O3	GOL	E	1	2.366	27.082	149.806	1.00	23.71	E	O
ATOM	12404	C3	GOL	E	1	0.966	27.273	149.833	1.00	24.21	E	C
ATOM	12405	C2	GOL	E	1	0.495	27.587	148.416	1.00	22.96	E	C
ATOM	12406	O2	GOL	E	1	-0.173	28.816	148.396	1.00	22.95	E	O
ATOM	12407	C1	GOL	E	1	-0.470	26.521	147.940	1.00	23.83	E	C
ATOM	12408	O1	GOL	E	1	0.108	25.826	146.867	1.00	22.02	E	O

END

FIG. 34

CRYST1	82.202	91.158	224.523	90.00	90.00	90.00	P 2 2 21		
SCALE1	0.012165	0.000000	0.000000			0.000000			
SCALE2	-0.000000	0.010970	0.000000			0.000000			
SCALE3	0.000000	-0.000000	0.004454			0.000000			
ATOM	2	CA	ALA	A	7	74.405	12.350	86.541	1.00 19.71 A C
ATOM	7	CA	ASP	A	8	72.571	11.287	83.330	1.00 16.72 A C
ATOM	15	CA	TYR	A	9	68.912	11.738	84.261	1.00 12.13 A C
ATOM	27	CA	ALA	A	10	68.003	12.081	80.575	1.00 8.97 A C
ATOM	32	CA	SER	A	11	68.548	8.297	80.172	1.00 8.34 A C
ATOM	38	CA	LEU	A	12	65.749	7.661	82.703	1.00 6.43 A C
ATOM	46	CA	VAL	A	13	63.113	9.628	80.736	1.00 5.75 A C
ATOM	53	CA	ASP	A	14	60.886	7.538	78.450	1.00 6.27 A C
ATOM	61	CA	VAL	A	15	59.534	10.004	75.843	1.00 4.66 A C
ATOM	68	CA	PHE	A	16	57.177	7.311	74.498	1.00 3.87 A C
ATOM	79	CA	VAL	A	17	55.121	7.160	77.667	1.00 3.47 A C
ATOM	86	CA	GLY	A	18	51.656	8.454	76.810	1.00 3.67 A C
ATOM	90	CA	THR	A	19	52.191	8.387	72.991	1.00 3.13 A C
ATOM	97	CA	GLU	A	20	49.720	5.556	72.200	1.00 4.27 A C
ATOM	106	CA	GLY	A	21	46.188	6.265	70.980	1.00 5.40 A C
ATOM	110	CA	ASP	A	22	43.990	8.104	73.483	1.00 5.27 A C
ATOM	118	CA	PHE	A	23	46.225	7.338	76.520	1.00 4.39 A C
ATOM	129	CA	GLY	A	24	47.673	10.774	77.312	1.00 3.08 A C
ATOM	133	CA	ASN	A	25	48.095	12.630	73.991	1.00 2.47 A C
ATOM	141	CA	ASP	A	26	51.797	13.270	74.588	1.00 3.20 A C
ATOM	149	CA	MET	A	27	54.547	13.334	71.981	1.00 3.36 A C
ATOM	157	CA	PRO	A	28	57.941	11.662	71.502	1.00 3.20 A C
ATOM	164	CA	ALA	A	29	59.066	14.935	69.784	1.00 3.06 A C
ATOM	169	CA	ALA	A	30	62.625	16.198	70.105	1.00 3.69 A C
ATOM	174	CA	GLN	A	31	62.423	19.283	72.321	1.00 5.14 A C
ATOM	183	CA	ALA	A	32	64.432	21.430	74.735	1.00 4.55 A C
ATOM	188	CA	PRO	A	33	63.094	22.317	78.204	1.00 4.64 A C
ATOM	195	CA	ASN	A	34	60.021	24.568	77.625	1.00 4.19 A C
ATOM	203	CA	GLY	A	35	60.994	24.689	73.959	1.00 3.44 A C
ATOM	207	CA	LEU	A	36	59.041	26.309	71.169	1.00 3.34 A C
ATOM	215	CA	ALA	A	37	60.477	23.938	68.541	1.00 3.52 A C
ATOM	220	CA	LYS	A	38	58.932	20.498	68.910	1.00 3.01 A C
ATOM	229	CA	VAL	A	39	60.209	18.174	66.213	1.00 2.00 A C
ATOM	236	CA	ASN	A	40	57.543	15.463	66.213	1.00 2.24 A C
ATOM	244	CA	PRO	A	41	57.420	12.468	63.910	1.00 3.24 A C
ATOM	251	CA	ARG	A	42	53.989	12.144	62.244	1.00 4.43 A C
ATOM	262	CA	THR	A	43	52.366	8.720	62.032	1.00 5.82 A C
ATOM	269	CA	THR	A	44	49.941	7.692	59.271	1.00 7.54 A C
ATOM	276	CA	PRO	A	45	47.070	6.985	58.732	1.00 7.64 A C
ATOM	283	CA	GLY	A	46	46.363	7.283	62.482	1.00 5.22 A C
ATOM	287	CA	ARG	A	47	47.876	9.677	65.005	1.00 4.33 A C
ATOM	298	CA	ASN	A	48	47.297	10.971	68.487	1.00 2.87 A C
ATOM	306	CA	ASN	A	49	46.469	14.686	68.971	1.00 3.59 A C
ATOM	314	CA	THR	A	50	50.174	15.553	68.695	1.00 2.96 A C
ATOM	321	CA	GLY	A	51	50.582	13.739	65.384	1.00 2.16 A C
ATOM	325	CA	TYR	A	52	52.147	10.463	66.622	1.00 2.75 A C
ATOM	337	CA	ASP	A	53	50.289	7.308	67.663	1.00 3.03 A C
ATOM	345	CA	TYR	A	54	52.612	4.563	69.034	1.00 3.42 A C
ATOM	357	CA	ALA	A	55	50.295	1.835	67.698	1.00 3.80 A C
ATOM	362	CA	GLN	A	56	50.932	2.905	64.064	1.00 4.22 A C
ATOM	371	CA	SER	A	57	53.533	1.527	61.658	1.00 6.71 A C
ATOM	377	CA	LYS	A	58	54.051	4.328	59.145	1.00 6.64 A C
ATOM	386	CA	ILE	A	59	55.576	7.777	59.431	1.00 5.57 A C
ATOM	394	CA	SER	A	60	55.344	10.584	56.904	1.00 4.00 A C
ATOM	400	CA	GLY	A	61	57.749	13.214	58.346	1.00 3.12 A C
ATOM	404	CA	PHE	A	62	58.483	15.778	61.088	1.00 4.01 A C
ATOM	415	CA	THR	A	63	56.355	18.741	62.206	1.00 3.06 A C
ATOM	422	CA	HIS	A	64	57.952	21.581	64.185	1.00 2.46 A C
ATOM	432	CA	THR	A	65	55.187	23.059	66.366	1.00 2.07 A C
ATOM	439	CA	ASN	A	66	52.932	21.418	68.894	1.00 2.86 A C
ATOM	447	CA	LEU	A	67	51.019	21.341	72.178	1.00 3.42 A C
ATOM	455	CA	ASP	A	68	51.501	18.692	74.851	1.00 2.88 A C

ATOM	463	CA	GLY	A	69	48.598	16.584	76.017	1.00	3.16	A	C
ATOM	467	CA	VAL	A	70	45.743	18.719	74.687	1.00	2.95	A	C
ATOM	474	CA	GLY	A	71	42.319	17.506	73.447	1.00	4.24	A	C
ATOM	478	CA	GLY	A	72	40.310	18.076	70.238	1.00	5.07	A	C
ATOM	482	CA	SER	A	73	42.497	16.981	67.319	1.00	5.30	A	C
ATOM	488	CA	GLY	A	74	45.570	18.647	68.860	1.00	4.44	A	C
ATOM	492	CA	GLY	A	75	47.211	22.012	68.196	1.00	4.03	A	C
ATOM	496	CA	GLY	A	76	50.230	23.149	66.192	1.00	3.47	A	C
ATOM	500	CA	GLY	A	77	51.645	20.417	63.910	1.00	2.77	A	C
ATOM	504	CA	ASP	A	78	53.003	23.083	61.502	1.00	3.19	A	C
ATOM	512	CA	LEU	A	79	55.816	22.729	58.975	1.00	3.46	A	C
ATOM	520	CA	LEU	A	80	55.960	19.099	57.867	1.00	3.19	A	C
ATOM	528	CA	VAL	A	81	59.330	17.935	56.541	1.00	2.38	A	C
ATOM	535	CA	VAL	A	82	59.151	14.633	54.633	1.00	2.66	A	C
ATOM	542	CA	PRO	A	83	62.241	12.791	53.307	1.00	3.10	A	C
ATOM	549	CA	THR	A	84	61.709	10.950	50.007	1.00	3.64	A	C
ATOM	556	CA	SER	A	85	63.546	9.484	47.006	1.00	3.93	A	C
ATOM	562	CA	GLY	A	86	60.474	10.171	44.894	1.00	4.58	A	C
ATOM	566	CA	SER	A	87	59.775	13.000	42.432	1.00	6.80	A	C
ATOM	572	CA	TYR	A	88	56.783	15.353	42.023	1.00	6.34	A	C
ATOM	584	CA	THR	A	89	55.158	17.278	39.133	1.00	6.35	A	C
ATOM	591	CA	ALA	A	90	52.313	18.731	41.257	1.00	5.37	A	C
ATOM	596	CA	ARG	A	91	51.505	19.377	44.932	1.00	5.13	A	C
ATOM	607	CA	PRO	A	92	52.147	16.058	46.755	1.00	5.88	A	C
ATOM	614	CA	GLY	A	93	49.327	13.739	47.757	1.00	6.88	A	C
ATOM	618	CA	THR	A	94	49.802	13.201	51.509	1.00	7.19	A	C
ATOM	625	CA	GLY	A	95	49.477	9.410	51.104	1.00	6.49	A	C
ATOM	629	CA	THR	A	96	52.770	9.459	49.173	1.00	4.50	A	C
ATOM	636	CA	TYR	A	97	54.650	10.619	52.300	1.00	3.46	A	C
ATOM	648	CA	ALA	A	98	54.035	7.311	54.100	1.00	3.39	A	C
ATOM	653	CA	HIS	A	99	57.136	5.240	55.089	1.00	4.47	A	C
ATOM	663	CA	PRO	A	100	57.203	1.916	56.975	1.00	5.44	A	C
ATOM	670	CA	PHE	A	101	58.803	2.128	60.401	1.00	5.59	A	C
ATOM	681	CA	SER	A	102	59.416	-0.191	63.342	1.00	7.19	A	C
ATOM	687	CA	HIS	A	103	59.895	0.563	67.048	1.00	6.56	A	C
ATOM	697	CA	ASP	A	104	62.859	-1.852	66.789	1.00	10.20	A	C
ATOM	705	CA	ASP	A	105	64.517	0.789	64.587	1.00	10.01	A	C
ATOM	713	CA	GLU	A	106	63.589	3.886	66.611	1.00	9.26	A	C
ATOM	722	CA	ASP	A	107	65.354	5.697	69.473	1.00	9.20	A	C
ATOM	730	CA	ALA	A	108	64.518	8.899	71.371	1.00	5.45	A	C
ATOM	735	CA	GLY	A	109	65.127	10.798	74.597	1.00	4.60	A	C
ATOM	739	CA	PRO	A	110	65.502	14.365	75.895	1.00	3.95	A	C
ATOM	746	CA	GLY	A	111	66.404	16.609	72.933	1.00	4.26	A	C
ATOM	750	CA	PHE	A	112	66.407	13.997	70.163	1.00	4.28	A	C
ATOM	761	CA	TYR	A	113	64.446	11.529	68.079	1.00	5.36	A	C
ATOM	773	CA	SER	A	114	65.729	8.957	65.540	1.00	5.75	A	C
ATOM	779	CA	VAL	A	115	64.016	6.387	63.260	1.00	4.53	A	C
ATOM	786	CA	GLY	A	116	64.781	4.199	60.259	1.00	5.51	A	C
ATOM	790	CA	LEU	A	117	62.194	4.893	57.576	1.00	5.77	A	C
ATOM	798	CA	GLY	A	118	61.496	2.539	54.687	1.00	6.00	A	C
ATOM	802	CA	ASN	A	119	62.614	4.169	51.445	1.00	5.77	A	C
ATOM	810	CA	VAL	A	120	59.965	5.458	49.014	1.00	5.26	A	C
ATOM	817	CA	ALA	A	121	60.384	6.350	45.306	1.00	6.56	A	C
ATOM	822	CA	GLY	A	122	58.455	6.925	42.071	1.00	6.12	A	C
ATOM	826	CA	THR	A	123	56.572	9.913	40.635	1.00	7.50	A	C
ATOM	833	CA	ASP	A	124	53.544	11.573	42.245	1.00	7.71	A	C
ATOM	841	CA	GLY	A	125	50.654	9.176	43.087	1.00	7.97	A	C
ATOM	845	CA	ALA	A	126	52.803	6.284	41.903	1.00	8.07	A	C
ATOM	850	CA	ILE	A	127	55.283	6.769	44.795	1.00	8.60	A	C
ATOM	858	CA	THR	A	128	55.591	3.528	46.766	1.00	9.40	A	C
ATOM	865	CA	GLY	A	129	58.010	1.444	48.876	1.00	9.09	A	C
ATOM	869	CA	ALA	A	130	61.528	1.221	47.442	1.00	8.74	A	C
ATOM	874	CA	PRO	A	131	64.650	-0.773	48.532	1.00	9.45	A	C
ATOM	881	CA	GLY	A	132	66.719	0.579	51.405	1.00	9.13	A	C
ATOM	885	CA	THR	A	133	66.380	2.820	54.435	1.00	8.85	A	C
ATOM	892	CA	ILE	A	134	66.150	6.548	55.020	1.00	7.14	A	C

ATOM	900	CA	GLU	A	135	67.868	6.967	58.400	1.00	7.03	A	C
ATOM	909	CA	ALA	A	136	66.326	10.008	60.046	1.00	5.25	A	C
ATOM	914	CA	GLU	A	137	67.736	11.833	63.043	1.00	3.46	A	C
ATOM	923	CA	VAL	A	138	66.270	15.029	64.552	1.00	2.00	A	C
ATOM	930	CA	ALA	A	139	67.283	17.116	67.586	1.00	2.00	A	C
ATOM	935	CA	ALA	A	140	66.021	20.401	69.089	1.00	3.29	A	C
ATOM	940	CA	ALA	A	141	67.192	23.587	70.725	1.00	5.41	A	C
ATOM	945	CA	THR	A	142	64.774	26.112	72.324	1.00	3.98	A	C
ATOM	952	CA	ARG	A	143	63.747	27.685	69.007	1.00	3.05	A	C
ATOM	963	CA	SER	A	144	65.230	25.253	66.475	1.00	3.15	A	C
ATOM	969	CA	GLY	A	145	64.814	21.822	64.969	1.00	3.61	A	C
ATOM	973	CA	VAL	A	146	67.745	20.138	63.259	1.00	3.66	A	C
ATOM	980	CA	HIS	A	147	67.601	17.212	60.859	1.00	4.27	A	C
ATOM	990	CA	ARG	A	148	70.193	14.697	59.628	1.00	5.28	A	C
ATOM	1001	CA	TYR	A	149	69.133	12.182	56.930	1.00	5.88	A	C
ATOM	1013	CA	ALA	A	150	70.978	9.286	55.295	1.00	6.54	A	C
ATOM	1018	CA	PHE	A	151	69.444	8.138	51.980	1.00	6.34	A	C
ATOM	1029	CA	PRO	A	152	70.329	4.881	50.196	1.00	8.11	A	C
ATOM	1036	CA	ALA	A	153	73.284	5.138	47.799	1.00	9.27	A	C
ATOM	1041	CA	GLY	A	154	72.114	6.052	44.300	1.00	9.43	A	C
ATOM	1045	CA	SER	A	155	69.016	7.860	45.553	1.00	8.94	A	C
ATOM	1051	CA	THR	A	156	68.111	11.379	44.480	1.00	5.81	A	C
ATOM	1058	CA	PRO	A	157	67.363	12.771	47.997	1.00	5.54	A	C
ATOM	1065	CA	SER	A	158	64.501	15.181	48.463	1.00	5.58	A	C
ATOM	1071	CA	LEU	A	159	62.757	16.902	51.348	1.00	4.75	A	C
ATOM	1079	CA	VAL	A	160	59.189	18.092	50.985	1.00	3.15	A	C
ATOM	1086	CA	VAL	A	161	58.408	21.099	53.170	1.00	2.91	A	C
ATOM	1093	CA	ASP	A	162	54.597	21.001	53.529	1.00	2.92	A	C
ATOM	1101	CA	LEU	A	163	53.165	24.242	54.913	1.00	4.33	A	C
ATOM	1109	CA	GLU	A	164	49.518	23.198	54.922	1.00	4.22	A	C
ATOM	1118	CA	THR	A	165	49.840	20.473	57.636	1.00	3.08	A	C
ATOM	1125	CA	ASN	A	166	48.201	21.399	60.948	1.00	3.13	A	C
ATOM	1133	CA	ASN	A	167	46.701	19.356	63.804	1.00	3.44	A	C
ATOM	1141	CA	THR	A	168	43.479	21.366	63.648	1.00	4.11	A	C
ATOM	1148	CA	SER	A	169	43.334	24.170	61.080	1.00	2.77	A	C
ATOM	1154	CA	ARG	A	170	45.644	25.892	58.648	1.00	3.20	A	C
ATOM	1165	CA	ARG	A	171	44.592	29.537	58.189	1.00	2.85	A	C
ATOM	1176	CA	SER	A	172	47.387	30.959	56.027	1.00	2.36	A	C
ATOM	1182	CA	SER	A	173	50.992	30.215	55.065	1.00	3.42	A	C
ATOM	1188	CA	SER	A	174	53.845	31.585	52.935	1.00	4.21	A	C
ATOM	1194	CA	VAL	A	175	57.213	30.528	51.618	1.00	4.87	A	C
ATOM	1201	CA	GLN	A	176	60.036	32.533	50.050	1.00	7.10	A	C
ATOM	1210	CA	VAL	A	177	63.000	30.700	48.499	1.00	8.23	A	C
ATOM	1217	CA	GLU	A	178	66.645	31.960	48.440	1.00	10.90	A	C
ATOM	1226	CA	THR	A	179	69.583	30.187	46.804	1.00	9.85	A	C
ATOM	1233	CA	ARG	A	180	72.927	31.368	48.203	1.00	10.39	A	C
ATOM	1244	CA	ALA	A	181	76.419	31.485	46.632	1.00	11.40	A	C
ATOM	1249	CA	ASP	A	182	77.367	28.014	47.948	1.00	11.35	A	C
ATOM	1257	CA	GLY	A	183	74.201	26.531	46.431	1.00	9.02	A	C
ATOM	1261	CA	THR	A	184	72.333	25.942	49.723	1.00	6.71	A	C
ATOM	1268	CA	VAL	A	185	68.670	26.993	50.031	1.00	5.35	A	C
ATOM	1275	CA	GLU	A	186	66.959	29.077	52.696	1.00	5.35	A	C
ATOM	1284	CA	LEU	A	187	63.146	29.005	52.987	1.00	3.46	A	C
ATOM	1292	CA	SER	A	188	61.169	31.481	55.086	1.00	2.87	A	C
ATOM	1298	CA	GLY	A	189	57.690	32.795	55.787	1.00	2.92	A	C
ATOM	1302	CA	GLN	A	190	54.805	32.417	58.222	1.00	2.71	A	C
ATOM	1311	CA	VAL	A	191	52.276	29.832	59.268	1.00	2.84	A	C
ATOM	1318	CA	THR	A	192	48.954	30.792	60.850	1.00	3.69	A	C
ATOM	1325	CA	GLY	A	193	46.998	28.051	62.583	1.00	3.21	A	C
ATOM	1329	CA	TYR	A	194	44.116	27.757	64.995	1.00	3.16	A	C
ATOM	1341	CA	PHE	A	195	43.413	25.739	68.120	1.00	3.26	A	C
ATOM	1352	CA	TYR	A	196	40.408	25.930	70.460	1.00	3.84	A	C
ATOM	1364	CA	ASN	A	197	39.874	29.693	71.045	1.00	4.26	A	C
ATOM	1372	CA	ALA	A	198	42.510	31.491	69.033	1.00	3.45	A	C
ATOM	1377	CA	ALA	A	199	44.567	31.753	65.914	1.00	3.47	A	C
ATOM	1382	CA	TYR	A	200	48.369	32.096	66.243	1.00	2.36	A	C

ATOM	1394	CA	THR	A	201	51.191	33.045	63.858	1.00	2.69	A	C
ATOM	1401	CA	LEU	A	202	54.816	31.843	63.819	1.00	2.11	A	C
ATOM	1409	CA	TYR	A	203	57.621	32.892	61.467	1.00	2.45	A	C
ATOM	1421	CA	TYR	A	204	60.210	30.396	60.264	1.00	2.82	A	C
ATOM	1433	CA	THR	A	205	63.573	30.086	58.500	1.00	2.58	A	C
ATOM	1440	CA	ALA	A	206	64.904	26.723	57.213	1.00	4.47	A	C
ATOM	1445	CA	ARG	A	207	68.253	26.305	55.508	1.00	5.09	A	C
ATOM	1456	CA	THR	A	208	69.773	23.209	53.912	1.00	4.88	A	C
ATOM	1463	CA	LEU	A	209	73.404	22.419	54.654	1.00	5.26	A	C
ATOM	1471	CA	GLN	A	210	73.983	20.900	51.175	1.00	6.01	A	C
ATOM	1480	CA	PRO	A	211	73.274	22.391	47.732	1.00	6.91	A	C
ATOM	1487	CA	ALA	A	212	69.689	21.962	46.560	1.00	7.18	A	C
ATOM	1492	CA	THR	A	213	67.307	23.100	43.847	1.00	5.83	A	C
ATOM	1499	CA	VAL	A	214	63.724	23.957	44.710	1.00	5.43	A	C
ATOM	1506	CA	GLN	A	215	60.145	24.166	43.470	1.00	5.10	A	C
ATOM	1515	CA	THR	A	216	57.130	25.576	45.286	1.00	4.16	A	C
ATOM	1522	CA	TRP	A	217	53.372	25.146	45.243	1.00	3.72	A	C
ATOM	1536	CA	GLY	A	218	50.356	27.288	46.105	1.00	3.16	A	C
ATOM	1540	CA	ASP	A	219	46.606	26.736	46.322	1.00	3.69	A	C
ATOM	1548	CA	ASP	A	220	46.180	25.735	42.659	1.00	3.99	A	C
ATOM	1556	CA	ASP	A	221	48.330	22.647	43.374	1.00	5.99	A	C
ATOM	1564	CA	ARG	A	222	50.800	23.609	40.598	1.00	6.95	A	C
ATOM	1575	CA	LEU	A	223	54.426	22.727	41.314	1.00	6.51	A	C
ATOM	1583	CA	VAL	A	224	56.418	25.552	39.779	1.00	7.29	A	C
ATOM	1590	CA	ASP	A	225	59.828	27.203	39.638	1.00	8.47	A	C
ATOM	1598	CA	ALA	A	226	58.537	30.421	41.281	1.00	8.13	A	C
ATOM	1603	CA	THR	A	227	60.445	31.382	44.417	1.00	7.82	A	C
ATOM	1610	CA	ALA	A	228	57.480	32.859	46.386	1.00	7.30	A	C
ATOM	1615	CA	GLN	A	229	54.054	31.642	47.513	1.00	5.21	A	C
ATOM	1624	CA	ASP	A	230	51.457	33.169	49.802	1.00	5.36	A	C
ATOM	1632	CA	GLY	A	231	48.063	31.590	50.521	1.00	3.52	A	C
ATOM	1636	CA	VAL	A	232	46.718	28.704	52.595	1.00	2.62	A	C
ATOM	1643	CA	ASP	A	233	48.105	25.470	51.111	1.00	3.49	A	C
ATOM	1651	CA	THR	A	234	51.701	26.281	50.149	1.00	3.46	A	C
ATOM	1658	CA	GLY	A	235	54.937	24.312	50.148	1.00	3.13	A	C
ATOM	1662	CA	ALA	A	236	58.416	23.735	48.763	1.00	3.15	A	C
ATOM	1667	CA	ILE	A	237	60.286	20.673	47.495	1.00	3.80	A	C
ATOM	1675	CA	LEU	A	238	64.059	20.549	47.934	1.00	4.57	A	C
ATOM	1683	CA	THR	A	239	66.059	18.244	45.649	1.00	6.16	A	C
ATOM	1690	CA	PHE	A	240	69.681	17.295	46.371	1.00	8.00	A	C
ATOM	1701	CA	ASP	A	241	72.537	15.737	44.401	1.00	10.79	A	C
ATOM	1709	CA	PRO	A	242	72.834	11.907	44.637	1.00	10.26	A	C
ATOM	1716	CA	ALA	A	243	76.443	12.489	45.768	1.00	9.54	A	C
ATOM	1721	CA	ASP	A	244	75.082	13.939	49.047	1.00	9.68	A	C
ATOM	1729	CA	ALA	A	245	72.792	10.984	49.778	1.00	9.01	A	C
ATOM	1734	CA	GLY	A	246	75.008	9.953	52.749	1.00	8.32	A	C
ATOM	1738	CA	GLU	A	247	74.244	13.241	54.603	1.00	8.02	A	C
ATOM	1747	CA	ILE	A	248	71.325	15.626	54.100	1.00	6.42	A	C
ATOM	1755	CA	GLY	A	249	71.023	18.320	56.806	1.00	5.33	A	C
ATOM	1759	CA	LEU	A	250	68.338	20.892	57.577	1.00	3.68	A	C
ATOM	1767	CA	GLN	A	251	67.982	23.542	60.272	1.00	3.91	A	C
ATOM	1776	CA	VAL	A	252	64.613	25.109	61.086	1.00	4.45	A	C
ATOM	1783	CA	THR	A	253	64.148	28.007	63.522	1.00	4.13	A	C
ATOM	1790	CA	LEU	A	254	60.850	29.555	64.744	1.00	3.15	A	C
ATOM	1798	CA	SER	A	255	60.066	33.075	65.957	1.00	3.13	A	C
ATOM	1804	CA	PRO	A	256	56.835	34.755	67.030	1.00	2.32	A	C
ATOM	1811	CA	VAL	A	257	58.462	38.034	65.945	1.00	2.47	A	C
ATOM	1818	CA	SER	A	258	59.667	37.831	62.318	1.00	3.37	A	C
ATOM	1824	CA	VAL	A	259	61.516	35.892	59.699	1.00	3.32	A	C
ATOM	1831	CA	GLU	A	260	64.595	38.024	60.217	1.00	4.54	A	C
ATOM	1840	CA	GLN	A	261	64.385	37.533	63.976	1.00	2.88	A	C
ATOM	1849	CA	ALA	A	262	64.235	33.748	63.289	1.00	3.15	A	C
ATOM	1854	CA	ARG	A	263	67.445	34.085	61.196	1.00	4.21	A	C
ATOM	1865	CA	ILE	A	264	69.210	35.928	64.012	1.00	4.33	A	C
ATOM	1873	CA	ASP	A	265	67.932	33.358	66.544	1.00	4.14	A	C
ATOM	1881	CA	GLN	A	266	69.289	30.623	64.311	1.00	6.08	A	C

ATOM	1890	CA	GLN	A	267	72.772	32.164	64.108	1.00	9.62	A	C
ATOM	1899	CA	VAL	A	268	72.748	32.711	67.907	1.00	8.96	A	C
ATOM	1906	CA	GLU	A	269	71.365	29.282	68.815	1.00	8.04	A	C
ATOM	1915	CA	LEU	A	270	73.089	27.042	66.271	1.00	8.55	A	C
ATOM	1923	CA	GLY	A	271	76.001	29.052	64.802	1.00	10.23	A	C
ATOM	1927	CA	ASP	A	272	78.321	26.600	63.009	1.00	10.69	A	C
ATOM	1935	CA	LEU	A	273	77.764	23.840	65.566	1.00	8.02	A	C
ATOM	1943	CA	SER	A	274	77.383	20.316	64.224	1.00	5.99	A	C
ATOM	1949	CA	PHE	A	275	74.219	18.210	64.582	1.00	4.80	A	C
ATOM	1960	CA	ASP	A	276	75.912	16.069	67.289	1.00	5.78	A	C
ATOM	1968	CA	ALA	A	277	76.925	19.139	69.337	1.00	5.08	A	C
ATOM	1973	CA	ILE	A	278	73.442	20.669	69.150	1.00	5.84	A	C
ATOM	1981	CA	ARG	A	279	71.924	17.315	70.206	1.00	6.83	A	C
ATOM	1992	CA	ASP	A	280	74.549	16.902	72.944	1.00	7.77	A	C
ATOM	2000	CA	ARG	A	281	74.023	20.429	74.293	1.00	7.74	A	C
ATOM	2011	CA	THR	A	282	70.270	19.953	74.599	1.00	6.38	A	C
ATOM	2018	CA	ARG	A	283	70.839	16.638	76.431	1.00	5.81	A	C
ATOM	2029	CA	ALA	A	284	73.047	18.504	78.940	1.00	5.99	A	C
ATOM	2034	CA	GLU	A	285	70.461	21.247	79.310	1.00	6.57	A	C
ATOM	2043	CA	TRP	A	286	67.904	18.490	80.139	1.00	5.67	A	C
ATOM	2057	CA	ASN	A	287	70.291	16.909	82.648	1.00	8.00	A	C
ATOM	2065	CA	ALA	A	288	70.657	20.275	84.422	1.00	8.86	A	C
ATOM	2070	CA	THR	A	289	66.862	20.740	84.464	1.00	7.09	A	C
ATOM	2077	CA	LEU	A	290	66.138	17.180	85.630	1.00	6.19	A	C
ATOM	2085	CA	GLY	A	291	69.085	17.378	88.069	1.00	6.65	A	C
ATOM	2089	CA	ARG	A	292	67.121	19.931	90.104	1.00	6.77	A	C
ATOM	2100	CA	VAL	A	293	65.530	16.844	91.707	1.00	8.09	A	C
ATOM	2107	CA	ALA	A	294	67.845	14.070	92.912	1.00	10.40	A	C
ATOM	2112	CA	ILE	A	295	66.318	10.811	94.046	1.00	13.23	A	C
ATOM	2120	CA	ASP	A	296	67.534	7.879	96.121	1.00	14.69	A	C
ATOM	2128	CA	ALA	A	297	65.001	5.043	95.685	1.00	12.88	A	C
ATOM	2133	CA	SER	A	298	65.612	1.701	97.466	1.00	11.58	A	C
ATOM	2139	CA	THR	A	299	64.657	-1.726	96.152	1.00	9.13	A	C
ATOM	2146	CA	ALA	A	300	61.955	-1.728	98.846	1.00	7.00	A	C
ATOM	2151	CA	THR	A	301	59.955	1.150	97.314	1.00	6.08	A	C
ATOM	2158	CA	ASP	A	302	61.022	0.632	93.655	1.00	6.93	A	C
ATOM	2166	CA	PRO	A	303	62.048	-3.016	93.116	1.00	7.98	A	C
ATOM	2173	CA	THR	A	304	62.107	-2.745	89.277	1.00	8.90	A	C
ATOM	2180	CA	GLY	A	305	63.438	0.816	88.893	1.00	8.26	A	C
ATOM	2184	CA	GLU	A	306	60.285	1.808	86.935	1.00	8.98	A	C
ATOM	2193	CA	LEU	A	307	59.007	4.206	89.571	1.00	6.57	A	C
ATOM	2201	CA	GLN	A	308	62.236	6.260	89.308	1.00	7.75	A	C
ATOM	2210	CA	ARG	A	309	61.928	6.228	85.486	1.00	7.83	A	C
ATOM	2221	CA	LEU	A	310	58.276	7.252	85.828	1.00	6.95	A	C
ATOM	2229	CA	PHE	A	311	59.288	10.140	88.071	1.00	5.21	A	C
ATOM	2240	CA	TYR	A	312	61.933	11.475	85.641	1.00	4.28	A	C
ATOM	2252	CA	THR	A	313	59.676	10.962	82.611	1.00	3.87	A	C
ATOM	2259	CA	HIS	A	314	56.982	13.080	84.288	1.00	4.29	A	C
ATOM	2269	CA	LEU	A	315	59.509	15.636	85.519	1.00	3.00	A	C
ATOM	2277	CA	TYR	A	316	60.512	15.912	81.827	1.00	2.15	A	C
ATOM	2289	CA	ARG	A	317	56.827	16.467	80.909	1.00	3.71	A	C
ATOM	2300	CA	MET	A	318	56.497	19.172	83.611	1.00	6.35	A	C
ATOM	2308	CA	PHE	A	319	58.967	21.419	81.712	1.00	7.83	A	C
ATOM	2319	CA	ALA	A	320	57.045	21.807	78.404	1.00	7.53	A	C
ATOM	2324	CA	MET	A	321	54.323	24.487	78.650	1.00	6.18	A	C
ATOM	2332	CA	PRO	A	322	54.063	27.434	78.638	1.00	5.02	A	C
ATOM	2339	CA	MET	A	323	56.762	27.568	75.935	1.00	4.44	A	C
ATOM	2347	CA	ASN	A	324	59.593	30.069	75.619	1.00	3.49	A	C
ATOM	2355	CA	ALA	A	325	57.989	32.716	73.341	1.00	2.49	A	C
ATOM	2360	CA	THR	A	326	61.012	35.098	73.515	1.00	2.79	A	C
ATOM	2367	CA	SER	A	327	63.597	35.861	70.819	1.00	3.68	A	C
ATOM	2373	CA	THR	A	328	67.381	35.744	71.383	1.00	4.17	A	C
ATOM	2380	CA	SER	A	329	67.191	39.550	71.284	1.00	4.95	A	C
ATOM	2386	CA	GLY	A	330	64.860	39.602	74.327	1.00	4.52	A	C
ATOM	2390	CA	THR	A	331	61.681	40.533	72.420	1.00	2.64	A	C
ATOM	2397	CA	TYR	A	332	58.212	38.956	72.097	1.00	2.99	A	C

ATOM	2409	CA	ARG	A	333	55.039	39.623	70.103	1.00	4.36	A	C
ATOM	2420	CA	GLY	A	334	52.050	40.974	71.967	1.00	4.85	A	C
ATOM	2424	CA	VAL	A	335	48.352	40.362	71.328	1.00	5.79	A	C
ATOM	2431	CA	ASP	A	336	48.362	43.923	69.904	1.00	8.91	A	C
ATOM	2439	CA	GLY	A	337	50.391	42.488	67.010	1.00	8.05	A	C
ATOM	2443	CA	ALA	A	338	53.464	44.524	67.878	1.00	7.17	A	C
ATOM	2448	CA	VAL	A	339	56.967	43.729	69.093	1.00	6.49	A	C
ATOM	2455	CA	HIS	A	340	57.792	44.405	72.780	1.00	8.62	A	C
ATOM	2465	CA	ALA	A	341	60.735	44.008	75.137	1.00	9.13	A	C
ATOM	2470	CA	ALA	A	342	60.679	41.217	77.711	1.00	11.07	A	C
ATOM	2475	CA	GLN	A	343	62.952	43.339	79.907	1.00	14.61	A	C
ATOM	2484	CA	GLY	A	344	64.997	41.352	82.439	1.00	14.36	A	C
ATOM	2488	CA	PHE	A	345	62.907	38.172	82.163	1.00	11.18	A	C
ATOM	2499	CA	THR	A	346	61.913	35.493	79.671	1.00	8.35	A	C
ATOM	2506	CA	TYR	A	347	58.429	35.786	78.204	1.00	5.52	A	C
ATOM	2518	CA	TYR	A	348	56.503	32.511	78.127	1.00	4.55	A	C
ATOM	2530	CA	ASP	A	349	53.244	31.880	76.254	1.00	3.32	A	C
ATOM	2538	CA	SER	A	350	50.780	29.020	75.499	1.00	3.95	A	C
ATOM	2544	CA	TRP	A	351	48.175	28.588	78.184	1.00	3.88	A	C
ATOM	2558	CA	ALA	A	352	45.515	26.000	79.064	1.00	3.39	A	C
ATOM	2563	CA	THR	A	353	44.865	27.385	82.495	1.00	3.82	A	C
ATOM	2570	CA	TRP	A	354	41.278	26.050	82.947	1.00	4.26	A	C
ATOM	2584	CA	ASP	A	355	42.871	22.556	82.994	1.00	4.99	A	C
ATOM	2592	CA	ASP	A	356	46.325	23.205	84.330	1.00	5.97	A	C
ATOM	2600	CA	PHE	A	357	46.209	25.899	87.012	1.00	5.02	A	C
ATOM	2611	CA	ARG	A	358	47.423	23.675	89.886	1.00	4.11	A	C
ATOM	2622	CA	LYS	A	359	50.623	22.752	87.999	1.00	2.82	A	C
ATOM	2631	CA	PHE	A	360	52.171	26.201	88.467	1.00	2.32	A	C
ATOM	2642	CA	SER	A	361	52.008	25.888	92.261	1.00	2.68	A	C
ATOM	2648	CA	VAL	A	362	54.293	22.814	91.937	1.00	3.61	A	C
ATOM	2655	CA	ILE	A	363	56.639	24.444	89.399	1.00	3.43	A	C
ATOM	2663	CA	ALA	A	364	57.066	27.142	92.096	1.00	3.80	A	C
ATOM	2668	CA	TYR	A	365	58.855	24.692	94.414	1.00	4.70	A	C
ATOM	2680	CA	ILE	A	366	60.869	22.863	91.729	1.00	6.01	A	C
ATOM	2688	CA	ASP	A	367	62.106	25.826	89.627	1.00	5.57	A	C
ATOM	2696	CA	PRO	A	368	61.194	29.124	91.362	1.00	3.96	A	C
ATOM	2703	CA	ALA	A	369	62.922	31.367	88.734	1.00	3.74	A	C
ATOM	2708	CA	LEU	A	370	61.088	29.740	85.833	1.00	3.88	A	C
ATOM	2716	CA	TYR	A	371	57.804	30.009	87.729	1.00	4.80	A	C
ATOM	2728	CA	ARG	A	372	58.430	33.689	88.384	1.00	5.45	A	C
ATOM	2739	CA	ASP	A	373	59.035	34.310	84.651	1.00	6.19	A	C
ATOM	2747	CA	MET	A	374	55.843	32.441	83.776	1.00	3.88	A	C
ATOM	2755	CA	VAL	A	375	53.730	34.523	86.171	1.00	2.79	A	C
ATOM	2762	CA	GLN	A	376	55.358	37.744	84.962	1.00	3.18	A	C
ATOM	2771	CA	SER	A	377	54.574	36.606	81.413	1.00	3.14	A	C
ATOM	2777	CA	LEU	A	378	50.953	35.908	82.336	1.00	3.14	A	C
ATOM	2785	CA	VAL	A	379	50.799	39.454	83.766	1.00	3.57	A	C
ATOM	2792	CA	TYR	A	380	52.193	40.950	80.508	1.00	4.06	A	C
ATOM	2804	CA	LEU	A	381	49.694	38.961	78.456	1.00	4.18	A	C
ATOM	2812	CA	PHE	A	382	46.697	40.475	80.286	1.00	4.57	A	C
ATOM	2823	CA	ALA	A	383	48.397	43.881	80.475	1.00	6.03	A	C
ATOM	2828	CA	ASP	A	384	48.684	43.708	76.664	1.00	7.44	A	C
ATOM	2836	CA	ALA	A	385	44.974	42.882	76.223	1.00	9.01	A	C
ATOM	2841	CA	GLU	A	386	44.199	45.935	78.362	1.00	10.91	A	C
ATOM	2850	CA	ALA	A	387	46.670	48.106	76.365	1.00	12.41	A	C
ATOM	2855	CA	THR	A	388	44.776	47.471	73.087	1.00	13.68	A	C
ATOM	2862	CA	GLY	A	389	41.944	49.514	74.624	1.00	14.39	A	C
ATOM	2866	CA	THR	A	390	39.452	47.191	72.889	1.00	15.63	A	C
ATOM	2873	CA	GLY	A	391	38.019	45.522	76.019	1.00	14.99	A	C
ATOM	2877	CA	GLY	A	392	37.896	42.282	73.993	1.00	13.79	A	C
ATOM	2881	CA	GLY	A	393	38.759	38.874	75.470	1.00	11.07	A	C
ATOM	2885	CA	LEU	A	394	42.017	37.084	74.740	1.00	7.81	A	C
ATOM	2893	CA	GLY	A	395	40.142	34.863	72.238	1.00	7.24	A	C
ATOM	2897	CA	GLY	A	396	39.767	37.812	69.847	1.00	7.80	A	C
ATOM	2901	CA	PHE	A	397	43.479	38.330	69.213	1.00	7.11	A	C
ATOM	2912	CA	VAL	A	398	46.038	36.458	67.145	1.00	5.79	A	C

ATOM	2919	CA	HIS	A	399	48.445	34.799	69.624	1.00	3.71	A	C
ATOM	2929	CA	SER	A	400	52.295	34.534	69.502	1.00	3.42	A	C
ATOM	2935	CA	VAL	A	401	52.383	30.703	69.819	1.00	2.51	A	C
ATOM	2942	CA	PRO	A	402	49.744	27.945	69.645	1.00	3.03	A	C
ATOM	2949	CA	THR	A	403	47.621	28.327	72.753	1.00	2.63	A	C
ATOM	2956	CA	VAL	A	404	44.423	27.083	74.389	1.00	2.59	A	C
ATOM	2963	CA	ARG	A	405	42.502	28.941	77.121	1.00	2.87	A	C
ATOM	2974	CA	TRP	A	406	43.027	31.341	80.033	1.00	3.31	A	C
ATOM	2988	CA	GLU	A	407	40.430	30.754	82.763	1.00	4.40	A	C
ATOM	2997	CA	ARG	A	408	41.810	30.579	86.344	1.00	3.53	A	C
ATOM	3008	CA	SER	A	409	44.708	32.938	85.445	1.00	3.56	A	C
ATOM	3014	CA	SER	A	410	43.670	35.101	88.462	1.00	4.17	A	C
ATOM	3020	CA	VAL	A	411	44.366	32.099	90.707	1.00	3.23	A	C
ATOM	3027	CA	VAL	A	412	47.816	31.532	89.197	1.00	2.11	A	C
ATOM	3034	CA	VAL	A	413	48.819	35.209	89.648	1.00	2.29	A	C
ATOM	3041	CA	ALA	A	414	47.478	35.051	93.214	1.00	2.19	A	C
ATOM	3046	CA	ASP	A	415	49.593	31.906	93.728	1.00	3.52	A	C
ATOM	3054	CA	ALA	A	416	52.816	33.913	93.216	1.00	3.54	A	C
ATOM	3059	CA	ILE	A	417	51.560	36.792	95.351	1.00	4.96	A	C
ATOM	3067	CA	ALA	A	418	50.526	34.493	98.238	1.00	7.10	A	C
ATOM	3072	CA	LYS	A	419	53.976	32.864	97.904	1.00	7.37	A	C
ATOM	3081	CA	GLY	A	420	55.694	36.259	98.483	1.00	8.91	A	C
ATOM	3085	CA	PHE	A	421	56.789	37.036	94.914	1.00	9.86	A	C
ATOM	3096	CA	ASP	A	422	56.741	40.741	94.170	1.00	13.61	A	C
ATOM	3104	CA	GLY	A	423	57.809	43.423	91.676	1.00	13.34	A	C
ATOM	3108	CA	PHE	A	424	55.491	42.086	88.966	1.00	11.76	A	C
ATOM	3119	CA	ASP	A	425	55.749	44.833	86.387	1.00	12.47	A	C
ATOM	3127	CA	ARG	A	426	52.408	45.949	84.848	1.00	10.18	A	C
ATOM	3138	CA	LEU	A	427	50.173	44.147	87.370	1.00	9.19	A	C
ATOM	3146	CA	ASP	A	428	48.058	47.323	87.662	1.00	10.66	A	C
ATOM	3154	CA	GLU	A	429	47.378	47.038	83.880	1.00	10.07	A	C
ATOM	3163	CA	ALA	A	430	46.738	43.286	83.995	1.00	8.16	A	C
ATOM	3168	CA	TYR	A	431	44.091	43.690	86.747	1.00	8.25	A	C
ATOM	3180	CA	PRO	A	432	41.138	45.159	84.775	1.00	8.05	A	C
ATOM	3187	CA	ALA	A	433	41.670	42.554	82.030	1.00	7.78	A	C
ATOM	3192	CA	LEU	A	434	41.696	39.872	84.724	1.00	7.30	A	C
ATOM	3200	CA	GLN	A	435	38.424	41.359	86.060	1.00	9.52	A	C
ATOM	3209	CA	ARG	A	436	36.760	41.034	82.610	1.00	8.83	A	C
ATOM	3220	CA	LEU	A	437	38.067	37.458	82.349	1.00	8.34	A	C
ATOM	3228	CA	VAL	A	438	36.448	36.553	85.664	1.00	9.83	A	C
ATOM	3235	CA	GLY	A	439	33.227	38.399	84.746	1.00	9.87	A	C
ATOM	3239	CA	GLN	A	440	30.557	39.769	87.076	1.00	11.48	A	C
ATOM	3248	CA	TYR	A	441	27.387	38.162	88.403	1.00	9.32	A	C
ATOM	3260	CA	SER	A	442	24.326	39.771	86.747	1.00	9.01	A	C
ATOM	3266	CA	ALA	A	443	21.930	41.944	88.804	1.00	10.00	A	C
ATOM	3271	CA	ASP	A	444	19.645	38.962	89.504	1.00	11.36	A	C
ATOM	3279	CA	GLU	A	445	22.683	36.814	90.345	1.00	10.65	A	C
ATOM	3288	CA	LEU	A	446	24.057	39.420	92.752	1.00	12.13	A	C
ATOM	3296	CA	ARG	A	447	20.688	39.484	94.519	1.00	14.84	A	C
ATOM	3307	CA	ARG	A	448	20.411	35.689	94.956	1.00	13.37	A	C
ATOM	3318	CA	GLY	A	449	24.148	34.933	95.289	1.00	11.12	A	C
ATOM	3322	CA	TYR	A	450	24.570	32.356	92.478	1.00	11.01	A	C
ATOM	3334	CA	VAL	A	451	24.024	31.514	88.794	1.00	10.44	A	C
ATOM	3341	CA	ALA	A	452	20.597	29.813	88.469	1.00	11.06	A	C
ATOM	3346	CA	GLY	A	453	20.832	26.118	87.493	1.00	10.92	A	C
ATOM	3350	CA	ASN	A	454	24.597	26.415	86.920	1.00	9.68	A	C
ATOM	3358	CA	PRO	A	455	26.517	25.184	90.002	1.00	9.01	A	C
ATOM	3365	CA	GLY	A	456	29.710	24.813	87.923	1.00	7.30	A	C
ATOM	3369	CA	ALA	A	457	29.902	28.429	86.804	1.00	5.98	A	C
ATOM	3374	CA	SER	A	458	29.216	29.530	90.428	1.00	5.00	A	C
ATOM	3380	CA	VAL	A	459	32.021	27.538	92.097	1.00	3.77	A	C
ATOM	3387	CA	GLN	A	460	34.377	28.579	89.287	1.00	3.69	A	C
ATOM	3396	CA	ARG	A	461	33.738	32.298	89.725	1.00	3.05	A	C
ATOM	3407	CA	GLY	A	462	34.143	31.742	93.464	1.00	2.45	A	C
ATOM	3411	CA	TYR	A	463	37.707	30.519	92.994	1.00	3.51	A	C
ATOM	3423	CA	ASP	A	464	38.419	33.243	90.372	1.00	3.80	A	C

ATOM	3431	CA	GLN	A	465	37.202	35.909	92.790	1.00	4.82	A	C
ATOM	3440	CA	TYR	A	466	39.300	34.526	95.621	1.00	5.23	A	C
ATOM	3452	CA	GLY	A	467	42.325	34.871	93.265	1.00	5.67	A	C
ATOM	3456	CA	LEU	A	468	41.385	38.365	92.150	1.00	6.17	A	C
ATOM	3464	CA	SER	A	469	40.991	39.304	95.828	1.00	5.97	A	C
ATOM	3470	CA	VAL	A	470	44.682	38.455	96.482	1.00	6.48	A	C
ATOM	3477	CA	ILE	A	471	45.705	40.579	93.461	1.00	6.17	A	C
ATOM	3485	CA	ALA	A	472	43.411	43.420	94.600	1.00	8.07	A	C
ATOM	3490	CA	ASP	A	473	45.060	43.606	98.080	1.00	10.08	A	C
ATOM	3498	CA	GLU	A	474	48.496	43.569	96.443	1.00	10.69	A	C
ATOM	3507	CA	LEU	A	475	47.508	46.603	94.342	1.00	11.15	A	C
ATOM	3515	CA	GLY	A	476	46.177	48.346	97.453	1.00	13.34	A	C
ATOM	3519	CA	LEU	A	477	42.538	48.006	96.344	1.00	15.39	A	C
ATOM	3527	CA	THR	A	478	41.434	47.034	99.867	1.00	17.62	A	C
ATOM	3534	CA	GLU	A	479	37.723	47.742	99.394	1.00	18.74	A	C
ATOM	3543	CA	GLU	A	480	37.595	45.763	96.110	1.00	16.33	A	C
ATOM	3552	CA	ALA	A	481	39.372	42.864	97.813	1.00	13.75	A	C
ATOM	3557	CA	GLU	A	482	36.715	42.720	100.595	1.00	14.63	A	C
ATOM	3566	CA	THR	A	483	33.842	42.673	98.101	1.00	12.95	A	C
ATOM	3573	CA	LEU	A	484	35.614	39.932	96.121	1.00	11.73	A	C
ATOM	3581	CA	ARG	A	485	36.127	37.758	99.233	1.00	11.05	A	C
ATOM	3592	CA	GLU	A	486	32.458	38.265	100.146	1.00	10.61	A	C
ATOM	3601	CA	GLN	A	487	31.331	37.147	96.664	1.00	8.60	A	C
ATOM	3610	CA	ALA	A	488	33.786	34.225	96.759	1.00	6.52	A	C
ATOM	3615	CA	SER	A	489	32.029	32.893	99.875	1.00	7.12	A	C
ATOM	3621	CA	TRP	A	490	28.661	32.726	98.010	1.00	7.33	A	C
ATOM	3635	CA	PRO	A	491	28.980	29.421	96.072	1.00	6.73	A	C
ATOM	3642	CA	ILE	A	492	29.748	27.439	99.257	1.00	8.58	A	C
ATOM	3650	CA	GLU	A	493	27.034	29.091	101.368	1.00	11.10	A	C
ATOM	3659	CA	LYS	A	494	24.283	29.217	98.744	1.00	10.38	A	C
ATOM	3668	CA	LEU	A	495	24.772	25.992	96.727	1.00	8.08	A	C
ATOM	3676	CA	THR	A	496	25.642	23.390	99.397	1.00	9.94	A	C
ATOM	3683	CA	LYS	A	497	22.269	21.696	99.874	1.00	10.32	A	C
ATOM	3692	CA	PRO	A	498	21.844	20.282	103.387	1.00	9.82	A	C
ATOM	3699	CA	GLY	A	499	21.074	16.559	103.567	1.00	10.14	A	C
ATOM	3703	CA	ALA	A	500	21.838	16.042	99.846	1.00	10.82	A	C
ATOM	3708	CA	TRP	A	501	23.386	12.728	100.863	1.00	11.71	A	C
ATOM	3722	CA	THR	A	502	22.581	10.696	104.006	1.00	12.62	A	C
ATOM	3729	CA	ALA	A	503	25.365	8.647	105.597	1.00	13.78	A	C
ATOM	3734	CA	ALA	A	504	24.951	4.994	106.737	1.00	15.02	A	C
ATOM	3739	CA	ASP	A	505	24.357	6.130	110.325	1.00	14.83	A	C
ATOM	3747	CA	GLY	A	506	21.856	8.861	109.305	1.00	12.52	A	C
ATOM	3751	CA	THR	A	507	24.298	11.810	109.343	1.00	10.12	A	C
ATOM	3758	CA	GLN	A	508	23.119	14.588	106.989	1.00	8.56	A	C
ATOM	3767	CA	VAL	A	509	25.765	15.604	104.451	1.00	6.31	A	C
ATOM	3774	CA	GLY	A	510	25.468	18.758	102.362	1.00	5.03	A	C
ATOM	3778	CA	LEU	A	511	26.594	18.750	98.722	1.00	4.48	A	C
ATOM	3786	CA	LEU	A	512	26.884	21.120	95.793	1.00	5.45	A	C
ATOM	3794	CA	THR	A	513	23.470	21.012	94.071	1.00	7.09	A	C
ATOM	3801	CA	PRO	A	514	21.941	23.109	91.250	1.00	7.88	A	C
ATOM	3808	CA	ARG	A	515	19.517	25.737	92.573	1.00	9.63	A	C
ATOM	3819	CA	ALA	A	516	16.670	27.438	90.743	1.00	11.40	A	C
ATOM	3824	CA	ALA	A	517	16.201	31.213	90.509	1.00	13.83	A	C
ATOM	3829	CA	ASP	A	518	13.518	31.125	93.261	1.00	16.58	A	C
ATOM	3837	CA	GLY	A	519	15.865	29.277	95.648	1.00	16.47	A	C
ATOM	3841	CA	SER	A	520	14.202	25.852	95.069	1.00	15.99	A	C
ATOM	3847	CA	TRP	A	521	16.785	23.089	94.870	1.00	13.14	A	C
ATOM	3861	CA	GLN	A	522	16.878	21.329	91.494	1.00	12.01	A	C
ATOM	3870	CA	SER	A	523	16.780	17.550	91.127	1.00	12.74	A	C
ATOM	3876	CA	ALA	A	524	20.170	15.972	90.267	1.00	11.18	A	C
ATOM	3881	CA	ASP	A	525	22.087	12.671	90.488	1.00	8.84	A	C
ATOM	3889	CA	HIS	A	526	25.271	13.887	92.225	1.00	6.57	A	C
ATOM	3899	CA	ALA	A	527	27.293	11.003	90.717	1.00	6.14	A	C
ATOM	3904	CA	LYS	A	528	26.151	11.481	87.106	1.00	7.50	A	C
ATOM	3913	CA	PHE	A	529	28.818	12.767	84.690	1.00	7.13	A	C
ATOM	3924	CA	GLU	A	530	27.867	16.202	83.304	1.00	7.91	A	C

ATOM	3933	CA	ALA	A	531	24.533	16.513	85.106	1.00	8.44	A	C
ATOM	3938	CA	ALA	A	532	23.397	20.032	86.170	1.00	7.77	A	C
ATOM	3943	CA	GLY	A	533	25.194	21.889	83.332	1.00	6.76	A	C
ATOM	3947	CA	LEU	A	534	28.619	20.734	84.578	1.00	5.97	A	C
ATOM	3955	CA	TYR	A	535	31.682	20.411	82.372	1.00	8.46	A	C
ATOM	3967	CA	GLN	A	536	33.627	17.123	82.410	1.00	6.34	A	C
ATOM	3976	CA	GLY	A	537	32.521	16.050	85.901	1.00	4.04	A	C
ATOM	3980	CA	THR	A	538	29.936	15.281	88.564	1.00	3.50	A	C
ATOM	3987	CA	LEU	A	539	28.500	17.232	91.498	1.00	3.71	A	C
ATOM	3995	CA	TRP	A	540	30.500	15.072	93.986	1.00	3.80	A	C
ATOM	4009	CA	GLN	A	541	33.680	16.012	92.073	1.00	3.42	A	C
ATOM	4018	CA	TYR	A	542	32.808	19.714	91.708	1.00	4.03	A	C
ATOM	4030	CA	HIS	A	543	31.606	19.795	95.352	1.00	4.44	A	C
ATOM	4040	CA	TRP	A	544	35.221	20.315	96.537	1.00	4.40	A	C
ATOM	4054	CA	TYR	A	545	36.045	23.019	93.950	1.00	4.18	A	C
ATOM	4066	CA	ASP	A	546	36.276	26.024	96.237	1.00	5.25	A	C
ATOM	4074	CA	ALA	A	547	39.546	24.793	97.671	1.00	5.51	A	C
ATOM	4079	CA	TYR	A	548	40.358	28.217	99.183	1.00	6.10	A	C
ATOM	4091	CA	ASP	A	549	37.753	27.586	101.917	1.00	6.22	A	C
ATOM	4099	CA	MET	A	550	37.554	24.017	103.177	1.00	6.61	A	C
ATOM	4107	CA	ASP	A	551	36.549	25.382	106.586	1.00	8.26	A	C
ATOM	4115	CA	ALA	A	552	33.422	27.067	105.225	1.00	7.80	A	C
ATOM	4120	CA	LEU	A	553	32.800	24.021	103.028	1.00	7.77	A	C
ATOM	4128	CA	VAL	A	554	32.983	21.675	106.066	1.00	8.48	A	C
ATOM	4135	CA	GLU	A	555	30.421	23.906	107.886	1.00	10.05	A	C
ATOM	4144	CA	ALA	A	556	28.101	24.172	104.869	1.00	8.14	A	C
ATOM	4149	CA	MET	A	557	28.262	20.355	104.586	1.00	7.75	A	C
ATOM	4157	CA	GLY	A	558	26.833	20.080	108.112	1.00	7.77	A	C
ATOM	4161	CA	GLY	A	559	29.995	19.989	110.230	1.00	8.36	A	C
ATOM	4165	CA	HIS	A	560	33.086	17.891	110.775	1.00	10.24	A	C
ATOM	4175	CA	GLU	A	561	31.496	14.448	111.036	1.00	10.61	A	C
ATOM	4184	CA	ALA	A	562	29.420	15.118	107.900	1.00	9.17	A	C
ATOM	4189	CA	ALA	A	563	32.594	16.099	105.943	1.00	7.47	A	C
ATOM	4194	CA	ARG	A	564	34.534	13.129	107.304	1.00	6.15	A	C
ATOM	4205	CA	LEU	A	565	31.813	10.683	106.236	1.00	5.27	A	C
ATOM	4213	CA	GLY	A	566	31.408	12.469	102.857	1.00	4.45	A	C
ATOM	4217	CA	MET	A	567	35.136	12.086	102.137	1.00	5.05	A	C
ATOM	4225	CA	ARG	A	568	35.000	8.412	103.020	1.00	6.55	A	C
ATOM	4236	CA	HIS	A	569	31.985	7.943	100.689	1.00	7.31	A	C
ATOM	4246	CA	MET	A	570	33.786	9.924	97.906	1.00	7.92	A	C
ATOM	4254	CA	PHE	A	571	36.388	7.150	97.840	1.00	7.04	A	C
ATOM	4265	CA	GLY	A	572	34.058	4.168	98.426	1.00	8.17	A	C
ATOM	4269	CA	GLU	A	573	35.790	3.316	101.736	1.00	10.14	A	C
ATOM	4278	CA	HIS	A	574	32.693	1.377	102.888	1.00	11.27	A	C
ATOM	4288	CA	ALA	A	575	32.914	-0.845	99.770	1.00	11.91	A	C
ATOM	4293	CA	PRO	A	576	36.615	-1.198	98.736	1.00	13.14	A	C
ATOM	4300	CA	ASP	A	577	35.923	-3.909	96.131	1.00	13.69	A	C
ATOM	4308	CA	ASP	A	578	32.994	-2.108	94.404	1.00	12.41	A	C
ATOM	4316	CA	GLY	A	579	34.247	-0.097	91.423	1.00	11.12	A	C
ATOM	4320	CA	LYS	A	580	30.905	1.748	91.259	1.00	11.21	A	C
ATOM	4329	CA	ALA	A	581	31.370	3.276	94.757	1.00	8.19	A	C
ATOM	4334	CA	MET	A	582	34.358	5.303	93.506	1.00	5.86	A	C
ATOM	4342	CA	LEU	A	583	33.022	8.889	93.198	1.00	4.23	A	C
ATOM	4350	CA	HIS	A	584	36.434	10.466	92.671	1.00	3.37	A	C
ATOM	4360	CA	SER	A	585	37.816	10.665	89.125	1.00	3.12	A	C
ATOM	4366	CA	ASN	A	586	41.508	10.091	88.359	1.00	3.90	A	C
ATOM	4374	CA	ALA	A	587	41.103	10.824	84.638	1.00	5.72	A	C
ATOM	4379	CA	ASN	A	588	40.425	14.577	84.853	1.00	7.03	A	C
ATOM	4387	CA	GLU	A	589	41.649	17.614	86.824	1.00	7.17	A	C
ATOM	4396	CA	ILE	A	590	38.295	18.647	88.338	1.00	7.24	A	C
ATOM	4404	CA	ASP	A	591	38.863	16.848	91.650	1.00	7.24	A	C
ATOM	4412	CA	LEU	A	592	42.668	16.421	91.471	1.00	6.70	A	C
ATOM	4420	CA	GLN	A	593	42.981	17.626	95.053	1.00	4.59	A	C
ATOM	4429	CA	ALA	A	594	40.356	15.206	96.428	1.00	4.71	A	C
ATOM	4434	CA	PRO	A	595	42.784	12.503	97.633	1.00	5.03	A	C
ATOM	4441	CA	TYR	A	596	44.506	15.069	99.845	1.00	6.02	A	C

ATOM	4453	CA	LEU	A	597	41.304	16.226	101.591	1.00	4.94	A	C
ATOM	4461	CA	PHE	A	598	41.417	13.474	104.213	1.00	5.47	A	C
ATOM	4472	CA	ASN	A	599	44.037	15.684	105.929	1.00	6.53	A	C
ATOM	4480	CA	TYR	A	600	41.176	18.148	106.491	1.00	7.92	A	C
ATOM	4492	CA	THR	A	601	38.801	15.556	107.938	1.00	9.25	A	C
ATOM	4499	CA	GLY	A	602	41.334	14.393	110.555	1.00	9.27	A	C
ATOM	4503	CA	GLU	A	603	42.259	11.247	108.634	1.00	8.63	A	C
ATOM	4512	CA	PRO	A	604	45.684	11.982	107.132	1.00	7.11	A	C
ATOM	4519	CA	SER	A	605	46.475	8.224	106.915	1.00	5.46	A	C
ATOM	4525	CA	LEU	A	606	43.781	7.928	104.201	1.00	4.96	A	C
ATOM	4533	CA	THR	A	607	45.390	10.729	102.175	1.00	4.57	A	C
ATOM	4540	CA	GLN	A	608	48.682	8.824	102.399	1.00	5.02	A	C
ATOM	4549	CA	LYS	A	609	47.008	5.602	101.265	1.00	5.44	A	C
ATOM	4558	CA	TRP	A	610	45.214	7.208	98.331	1.00	5.42	A	C
ATOM	4572	CA	ALA	A	611	48.211	9.266	97.205	1.00	6.31	A	C
ATOM	4577	CA	ARG	A	612	50.436	6.184	97.099	1.00	5.71	A	C
ATOM	4588	CA	ALA	A	613	47.643	4.074	95.492	1.00	4.20	A	C
ATOM	4593	CA	ILE	A	614	46.445	6.379	92.691	1.00	4.67	A	C
ATOM	4601	CA	TYR	A	615	49.973	7.212	91.557	1.00	4.85	A	C
ATOM	4613	CA	THR	A	616	51.897	3.953	92.071	1.00	4.62	A	C
ATOM	4620	CA	LYS	A	617	49.365	1.088	92.368	1.00	6.36	A	C
ATOM	4629	CA	GLU	A	618	46.132	-0.236	90.829	1.00	7.91	A	C
ATOM	4638	CA	THR	A	619	42.939	1.583	91.795	1.00	6.88	A	C
ATOM	4645	CA	TRP	A	620	39.227	1.357	91.008	1.00	7.46	A	C
ATOM	4659	CA	ASN	A	621	38.296	3.692	88.170	1.00	6.73	A	C
ATOM	4667	CA	ARG	A	622	34.663	4.574	87.576	1.00	4.87	A	C
ATOM	4678	CA	TYR	A	623	35.087	7.709	85.473	1.00	5.03	A	C
ATOM	4690	CA	ILE	A	624	36.716	8.661	82.149	1.00	5.64	A	C
ATOM	4698	CA	ALA	A	625	37.316	12.291	81.127	1.00	6.35	A	C
ATOM	4703	CA	THR	A	626	34.590	12.516	78.472	1.00	6.19	A	C
ATOM	4710	CA	GLY	A	627	31.208	10.937	77.589	1.00	5.93	A	C
ATOM	4714	CA	SER	A	628	32.592	7.840	75.913	1.00	7.00	A	C
ATOM	4720	CA	SER	A	629	35.720	6.302	74.355	1.00	9.77	A	C
ATOM	4726	CA	SER	A	630	36.292	3.632	71.688	1.00	11.33	A	C
ATOM	4732	CA	ALA	A	631	39.492	2.767	73.559	1.00	10.90	A	C
ATOM	4737	CA	VAL	A	632	37.659	1.102	76.492	1.00	8.53	A	C
ATOM	4744	CA	PRO	A	633	34.094	-0.107	77.097	1.00	7.28	A	C
ATOM	4751	CA	SER	A	634	32.472	3.099	78.345	1.00	5.04	A	C
ATOM	4757	CA	GLY	A	635	29.414	5.345	78.326	1.00	4.96	A	C
ATOM	4761	CA	GLY	A	636	27.832	8.244	80.176	1.00	6.17	A	C
ATOM	4765	CA	GLY	A	637	31.304	9.416	81.298	1.00	5.99	A	C
ATOM	4769	CA	GLU	A	638	32.099	6.071	82.923	1.00	5.01	A	C
ATOM	4778	CA	PHE	A	639	34.109	2.868	82.500	1.00	4.24	A	C
ATOM	4789	CA	THR	A	640	31.342	0.261	81.956	1.00	5.80	A	C
ATOM	4796	CA	PRO	A	641	32.109	-1.741	83.969	1.00	6.76	A	C
ATOM	4803	CA	PRO	A	642	34.393	0.103	86.417	1.00	8.12	A	C
ATOM	4810	CA	LEU	A	643	38.016	-0.971	85.969	1.00	9.82	A	C
ATOM	4818	CA	LYS	A	644	40.825	-1.805	88.435	1.00	11.06	A	C
ATOM	4827	CA	THR	A	645	43.998	-0.565	86.793	1.00	8.37	A	C
ATOM	4834	CA	LYS	A	646	47.067	1.637	87.273	1.00	7.54	A	C
ATOM	4843	CA	VAL	A	647	46.307	5.272	86.488	1.00	5.75	A	C
ATOM	4850	CA	TYR	A	648	49.922	5.925	85.527	1.00	5.56	A	C
ATOM	4862	CA	ARG	A	649	51.964	3.328	83.533	1.00	7.76	A	C
ATOM	4873	CA	LEU	A	650	55.512	3.322	82.177	1.00	6.76	A	C
ATOM	4881	CA	ASP	A	651	54.026	2.407	78.809	1.00	6.42	A	C
ATOM	4889	CA	PRO	A	652	53.043	4.126	75.570	1.00	5.92	A	C
ATOM	4896	CA	ARG	A	653	49.549	3.680	77.020	1.00	4.60	A	C
ATOM	4907	CA	GLY	A	654	50.724	6.058	79.774	1.00	4.89	A	C
ATOM	4911	CA	MET	A	655	47.517	7.356	81.356	1.00	4.93	A	C
ATOM	4919	CA	LEU	A	656	43.963	6.075	81.567	1.00	3.04	A	C
ATOM	4927	CA	PRO	A	657	42.105	6.134	78.251	1.00	3.10	A	C
ATOM	4934	CA	THR	A	658	40.754	9.734	77.676	1.00	3.53	A	C
ATOM	4941	CA	MET	A	659	43.088	11.046	80.398	1.00	3.65	A	C
ATOM	4949	CA	ASP	A	660	44.895	13.859	78.555	1.00	3.95	A	C
ATOM	4957	CA	ASN	A	661	48.031	15.161	80.276	1.00	3.15	A	C
ATOM	4965	CA	ASP	A	662	46.843	18.761	79.522	1.00	2.87	A	C

ATOM	4973	CA	ALA	A	663	50.075	20.739	79.098	1.00	3.12	A	C
ATOM	4978	CA	GLY	A	664	51.894	18.459	81.548	1.00	2.70	A	C
ATOM	4982	CA	THR	A	665	49.328	18.721	84.376	1.00	2.81	A	C
ATOM	4989	CA	MET	A	666	48.910	14.993	85.026	1.00	2.55	A	C
ATOM	4997	CA	SER	A	667	52.753	14.620	84.897	1.00	2.87	A	C
ATOM	5003	CA	THR	A	668	53.193	17.564	87.294	1.00	3.50	A	C
ATOM	5010	CA	MET	A	669	50.719	16.032	89.771	1.00	2.90	A	C
ATOM	5018	CA	PHE	A	670	52.751	12.810	89.639	1.00	2.90	A	C
ATOM	5029	CA	VAL	A	671	55.921	14.716	90.519	1.00	3.29	A	C
ATOM	5036	CA	ALA	A	672	54.049	16.446	93.385	1.00	3.04	A	C
ATOM	5041	CA	ALA	A	673	52.740	13.126	94.733	1.00	3.21	A	C
ATOM	5046	CA	ALA	A	674	56.289	11.665	94.548	1.00	4.16	A	C
ATOM	5051	CA	VAL	A	675	57.770	14.572	96.510	1.00	3.68	A	C
ATOM	5058	CA	GLY	A	676	54.729	14.329	98.773	1.00	3.81	A	C
ATOM	5062	CA	LEU	A	677	53.628	17.976	98.689	1.00	3.63	A	C
ATOM	5070	CA	PHE	A	678	50.401	18.865	96.910	1.00	4.98	A	C
ATOM	5081	CA	PRO	A	679	48.736	22.236	96.308	1.00	4.89	A	C
ATOM	5088	CA	VAL	A	680	45.131	21.802	97.449	1.00	3.54	A	C
ATOM	5095	CA	THR	A	681	44.815	25.594	97.517	1.00	3.01	A	C
ATOM	5102	CA	ALA	A	682	46.410	27.062	94.421	1.00	2.78	A	C
ATOM	5107	CA	GLY	A	683	46.558	30.790	95.067	1.00	4.10	A	C
ATOM	5111	CA	SER	A	684	47.895	30.234	98.585	1.00	5.30	A	C
ATOM	5117	CA	SER	A	685	51.390	29.528	99.913	1.00	6.30	A	C
ATOM	5123	CA	GLN	A	686	50.476	26.083	101.310	1.00	5.66	A	C
ATOM	5132	CA	PHE	A	687	51.101	22.447	100.320	1.00	5.37	A	C
ATOM	5143	CA	GLN	A	688	49.438	19.356	101.748	1.00	4.94	A	C
ATOM	5152	CA	VAL	A	689	51.517	16.390	102.936	1.00	5.79	A	C
ATOM	5159	CA	GLY	A	690	50.928	13.088	101.117	1.00	6.69	A	C
ATOM	5163	CA	SER	A	691	52.974	9.889	100.906	1.00	7.27	A	C
ATOM	5169	CA	PRO	A	692	56.528	10.626	99.669	1.00	6.85	A	C
ATOM	5176	CA	PHE	A	693	57.581	7.765	97.347	1.00	6.34	A	C
ATOM	5187	CA	PHE	A	694	61.346	7.747	97.796	1.00	6.87	A	C
ATOM	5198	CA	ASP	A	695	63.891	7.202	100.575	1.00	7.56	A	C
ATOM	5206	CA	SER	A	696	65.365	10.632	99.830	1.00	6.91	A	C
ATOM	5212	CA	THR	A	697	64.278	13.400	97.424	1.00	7.09	A	C
ATOM	5219	CA	THR	A	698	66.465	16.572	97.123	1.00	7.46	A	C
ATOM	5226	CA	ILE	A	699	65.459	19.752	95.308	1.00	6.95	A	C
ATOM	5234	CA	THR	A	700	68.553	21.914	94.670	1.00	8.40	A	C
ATOM	5241	CA	TYR	A	701	67.913	25.630	94.091	1.00	9.41	A	C
ATOM	5253	CA	ASP	A	702	69.971	28.028	91.946	1.00	11.48	A	C
ATOM	5261	CA	ASP	A	703	72.068	29.199	94.915	1.00	13.97	A	C
ATOM	5269	CA	GLY	A	704	73.018	25.617	95.847	1.00	13.70	A	C
ATOM	5273	CA	SER	A	705	70.765	25.419	98.907	1.00	12.46	A	C
ATOM	5279	CA	ALA	A	706	68.419	22.383	98.854	1.00	10.18	A	C
ATOM	5284	CA	PHE	A	707	65.052	21.131	100.137	1.00	7.55	A	C
ATOM	5295	CA	THR	A	708	65.351	17.581	101.387	1.00	7.30	A	C
ATOM	5302	CA	VAL	A	709	62.397	15.352	102.091	1.00	7.65	A	C
ATOM	5309	CA	THR	A	710	63.206	11.874	103.424	1.00	8.06	A	C
ATOM	5316	CA	ALA	A	711	60.926	8.889	103.973	1.00	8.76	A	C
ATOM	5321	CA	ASP	A	712	62.785	6.541	106.270	1.00	10.03	A	C
ATOM	5329	CA	GLY	A	713	61.790	2.931	105.687	1.00	7.18	A	C
ATOM	5333	CA	VAL	A	714	59.420	3.754	102.770	1.00	5.21	A	C
ATOM	5340	CA	SER	A	715	58.461	0.754	100.621	1.00	5.75	A	C
ATOM	5346	CA	GLU	A	716	55.621	-0.434	98.399	1.00	7.40	A	C
ATOM	5355	CA	ASP	A	717	53.911	-1.492	101.619	1.00	7.77	A	C
ATOM	5363	CA	ALA	A	718	55.257	1.143	103.999	1.00	5.28	A	C
ATOM	5368	CA	PHE	A	719	53.472	4.224	102.665	1.00	3.86	A	C
ATOM	5379	CA	TYR	A	720	51.935	5.573	105.926	1.00	5.07	A	C
ATOM	5391	CA	VAL	A	721	53.647	8.305	107.943	1.00	6.16	A	C
ATOM	5398	CA	GLN	A	722	54.378	7.196	111.544	1.00	8.68	A	C
ATOM	5407	CA	SER	A	723	56.107	10.362	112.750	1.00	9.44	A	C
ATOM	5413	CA	ALA	A	724	57.936	13.385	111.311	1.00	8.65	A	C
ATOM	5418	CA	THR	A	725	60.561	16.054	112.006	1.00	8.30	A	C
ATOM	5425	CA	LEU	A	726	61.170	19.486	110.467	1.00	8.74	A	C
ATOM	5433	CA	ASP	A	727	64.804	20.662	110.723	1.00	9.93	A	C
ATOM	5441	CA	GLY	A	728	65.330	18.182	113.597	1.00	11.60	A	C

ATOM	5445	CA	ALA	A	729	62.241	19.122	115.635	1.00	11.25	A	C
ATOM	5450	CA	THR	A	730	58.993	17.157	116.102	1.00	10.67	A	C
ATOM	5457	CA	PHE	A	731	56.579	18.068	113.320	1.00	9.05	A	C
ATOM	5468	CA	GLY	A	732	52.846	17.319	113.474	1.00	8.76	A	C
ATOM	5472	CA	ASN	A	733	51.196	19.402	110.742	1.00	8.99	A	C
ATOM	5480	CA	THR	A	734	49.869	17.843	107.528	1.00	9.35	A	C
ATOM	5487	CA	TRP	A	735	50.725	20.969	105.477	1.00	8.91	A	C
ATOM	5501	CA	VAL	A	736	53.901	22.986	104.955	1.00	8.70	A	C
ATOM	5508	CA	ASP	A	737	54.483	26.555	103.781	1.00	8.20	A	C
ATOM	5516	CA	TYR	A	738	56.186	27.338	100.476	1.00	6.61	A	C
ATOM	5528	CA	ALA	A	739	58.753	29.427	102.391	1.00	6.41	A	C
ATOM	5533	CA	THR	A	740	59.787	26.356	104.396	1.00	7.06	A	C
ATOM	5540	CA	VAL	A	741	60.397	24.354	101.242	1.00	6.62	A	C
ATOM	5547	CA	VAL	A	742	62.422	26.857	99.172	1.00	7.73	A	C
ATOM	5554	CA	GLY	A	743	64.172	27.894	102.414	1.00	9.90	A	C
ATOM	5558	CA	GLY	A	744	65.997	24.543	102.207	1.00	9.66	A	C
ATOM	5562	CA	ALA	A	745	64.348	22.686	105.078	1.00	9.46	A	C
ATOM	5567	CA	ASP	A	746	64.950	19.052	106.107	1.00	9.46	A	C
ATOM	5575	CA	LEU	A	747	61.574	17.315	106.252	1.00	7.98	A	C
ATOM	5583	CA	ALA	A	748	62.092	13.775	107.535	1.00	8.59	A	C
ATOM	5588	CA	PHE	A	749	59.312	11.203	107.659	1.00	9.99	A	C
ATOM	5599	CA	ARG	A	750	59.298	7.807	109.398	1.00	11.09	A	C
ATOM	5610	CA	MET	A	751	57.231	5.392	107.265	1.00	8.36	A	C
ATOM	5618	CA	GLY	A	752	55.426	2.175	108.214	1.00	8.95	A	C
ATOM	5622	CA	GLU	A	753	53.025	-0.439	106.937	1.00	10.36	A	C
ATOM	5631	CA	GLN	A	754	50.077	0.533	109.170	1.00	10.20	A	C
ATOM	5640	CA	PRO	A	755	48.009	3.743	109.500	1.00	9.59	A	C
ATOM	5647	CA	SER	A	756	49.021	5.965	112.430	1.00	10.96	A	C
ATOM	5653	CA	ASP	A	757	47.455	8.970	114.180	1.00	12.99	A	C
ATOM	5661	CA	TRP	A	758	50.369	11.238	113.073	1.00	11.54	A	C
ATOM	5675	CA	GLY	A	759	49.073	14.673	112.067	1.00	12.17	A	C
ATOM	5679	CA	THR	A	760	45.608	14.275	113.614	1.00	12.83	A	C
ATOM	5686	CA	ASP	A	761	46.374	17.270	115.851	1.00	13.13	A	C
ATOM	5694	CA	THR	A	762	47.486	19.473	112.939	1.00	10.45	A	C
ATOM	5701	CA	ALA	A	763	47.395	23.279	113.167	1.00	9.30	A	C
ATOM	5706	CA	PRO	A	764	44.545	24.274	110.760	1.00	8.86	A	C
ATOM	5713	CA	ALA	A	765	45.404	24.788	107.092	1.00	8.11	A	C
ATOM	5718	CA	PHE	A	766	44.495	27.881	105.084	1.00	9.09	A	C
ATOM	5729	CA	SER	A	767	40.845	28.777	104.561	1.00	9.56	A	C
ATOM	5735	CA	MET	A	768	39.792	32.266	103.433	1.00	11.12	A	C
ATOM	5743	CA	SER	A	769	37.000	32.501	106.061	1.00	14.28	A	C
ATOM	5749	CA	THR	A	770	39.217	31.636	109.046	1.00	17.50	A	C
ATOM	5756	CA	ALA	A	771	42.527	33.224	107.955	1.00	19.68	A	C
ATOM	5761	CA	ASP	B	8	33.160	32.500	141.172	1.00	18.72	B	C
ATOM	5769	CA	TYR	B	9	29.570	31.506	140.304	1.00	14.20	B	C
ATOM	5781	CA	ALA	B	10	28.422	31.895	143.925	1.00	10.68	B	C
ATOM	5786	CA	SER	B	11	29.320	35.614	143.693	1.00	10.07	B	C
ATOM	5792	CA	LEU	B	12	26.696	36.062	140.938	1.00	8.36	B	C
ATOM	5800	CA	VAL	B	13	23.923	34.801	143.242	1.00	6.94	B	C
ATOM	5807	CA	ASP	B	14	21.880	37.475	145.012	1.00	6.81	B	C
ATOM	5815	CA	VAL	B	15	20.179	35.726	147.955	1.00	4.17	B	C
ATOM	5822	CA	PHE	B	16	18.230	38.889	148.802	1.00	3.40	B	C
ATOM	5833	CA	VAL	B	17	16.289	38.686	145.547	1.00	3.53	B	C
ATOM	5840	CA	GLY	B	18	12.666	38.026	146.520	1.00	4.03	B	C
ATOM	5844	CA	THR	B	19	13.196	38.689	150.262	1.00	5.26	B	C
ATOM	5851	CA	GLU	B	20	10.979	41.797	150.516	1.00	5.53	B	C
ATOM	5860	CA	GLY	B	21	7.349	41.901	151.577	1.00	6.87	B	C
ATOM	5864	CA	ASP	B	22	5.019	39.846	149.439	1.00	6.61	B	C
ATOM	5872	CA	PHE	B	23	7.350	39.730	146.400	1.00	5.51	B	C
ATOM	5883	CA	GLY	B	24	8.458	36.090	146.362	1.00	4.07	B	C
ATOM	5887	CA	ASN	B	25	8.571	34.746	149.915	1.00	2.81	B	C
ATOM	5895	CA	ASP	B	26	12.206	33.663	149.535	1.00	3.13	B	C
ATOM	5903	CA	MET	B	27	14.936	33.714	152.197	1.00	4.16	B	C
ATOM	5911	CA	PRO	B	28	18.521	35.051	152.473	1.00	3.52	B	C
ATOM	5918	CA	ALA	B	29	19.101	32.077	154.801	1.00	2.82	B	C
ATOM	5923	CA	ALA	B	30	22.436	30.302	154.790	1.00	2.98	B	C

ATOM	5928	CA	GLN	B	31	21.896	26.852	153.161	1.00	4.61	B	C
ATOM	5937	CA	ALA	B	32	23.671	24.106	151.121	1.00	5.14	B	C
ATOM	5942	CA	PRO	B	33	22.280	22.821	147.805	1.00	6.54	B	C
ATOM	5949	CA	ASN	B	34	18.900	21.202	148.694	1.00	5.61	B	C
ATOM	5957	CA	GLY	B	35	19.876	21.616	152.349	1.00	4.62	B	C
ATOM	5961	CA	LEU	B	36	17.780	20.633	155.336	1.00	5.14	B	C
ATOM	5969	CA	ALA	B	37	19.361	23.299	157.533	1.00	3.87	B	C
ATOM	5974	CA	LYS	B	38	18.219	26.746	156.507	1.00	3.49	B	C
ATOM	5983	CA	VAL	B	39	19.767	29.259	158.889	1.00	3.32	B	C
ATOM	5990	CA	ASN	B	40	17.444	32.228	158.346	1.00	3.22	B	C
ATOM	5998	CA	PRO	B	41	17.676	35.552	160.107	1.00	3.73	B	C
ATOM	6005	CA	ARG	B	42	14.314	36.534	161.600	1.00	3.05	B	C
ATOM	6016	CA	THR	B	43	13.161	40.161	161.230	1.00	2.90	B	C
ATOM	6023	CA	THR	B	44	10.738	41.938	163.588	1.00	5.21	B	C
ATOM	6030	CA	PRO	B	45	8.030	43.161	163.977	1.00	6.45	B	C
ATOM	6037	CA	GLY	B	46	7.346	42.212	160.323	1.00	4.86	B	C
ATOM	6041	CA	ARG	B	47	8.581	39.247	158.248	1.00	4.58	B	C
ATOM	6052	CA	ASN	B	48	7.898	37.485	154.983	1.00	4.09	B	C
ATOM	6060	CA	ASN	B	49	6.685	33.858	155.217	1.00	4.78	B	C
ATOM	6068	CA	THR	B	50	10.246	32.518	155.744	1.00	4.39	B	C
ATOM	6075	CA	GLY	B	51	10.802	34.910	158.707	1.00	4.48	B	C
ATOM	6079	CA	TYR	B	52	12.692	37.754	157.012	1.00	5.15	B	C
ATOM	6091	CA	ASP	B	53	11.399	40.842	155.301	1.00	5.15	B	C
ATOM	6099	CA	TYR	B	54	14.064	43.028	153.656	1.00	5.43	B	C
ATOM	6111	CA	ALA	B	55	11.984	46.169	154.374	1.00	5.97	B	C
ATOM	6116	CA	GLN	B	56	12.446	45.769	158.155	1.00	6.73	B	C
ATOM	6125	CA	SER	B	57	15.268	47.086	160.349	1.00	7.18	B	C
ATOM	6131	CA	LYS	B	58	15.306	44.770	163.351	1.00	4.81	B	C
ATOM	6140	CA	ILE	B	59	16.408	41.138	163.680	1.00	4.41	B	C
ATOM	6148	CA	SER	B	60	15.847	38.827	166.673	1.00	4.63	B	C
ATOM	6154	CA	GLY	B	61	17.915	35.758	165.791	1.00	3.36	B	C
ATOM	6158	CA	PHE	B	62	18.275	32.810	163.426	1.00	3.48	B	C
ATOM	6169	CA	THR	B	63	15.870	29.935	162.748	1.00	3.46	B	C
ATOM	6176	CA	HIS	B	64	17.063	26.576	161.377	1.00	3.52	B	C
ATOM	6186	CA	THR	B	65	14.187	25.010	159.402	1.00	4.13	B	C
ATOM	6193	CA	ASN	B	66	12.141	26.467	156.576	1.00	4.29	B	C
ATOM	6201	CA	LEU	B	67	10.335	26.228	153.272	1.00	4.24	B	C
ATOM	6209	CA	ASP	B	68	11.312	28.351	150.252	1.00	4.81	B	C
ATOM	6217	CA	GLY	B	69	8.769	30.598	148.558	1.00	4.56	B	C
ATOM	6221	CA	VAL	B	70	5.589	29.149	150.102	1.00	3.51	B	C
ATOM	6228	CA	GLY	B	71	2.243	30.766	151.033	1.00	4.39	B	C
ATOM	6232	CA	GLY	B	72	0.165	30.889	154.256	1.00	5.93	B	C
ATOM	6236	CA	SER	B	73	2.360	32.159	157.086	1.00	5.71	B	C
ATOM	6242	CA	GLY	B	74	5.232	29.886	155.962	1.00	4.98	B	C
ATOM	6246	CA	GLY	B	75	6.527	26.565	157.216	1.00	4.40	B	C
ATOM	6250	CA	GLY	B	76	9.371	25.580	159.508	1.00	4.57	B	C
ATOM	6254	CA	GLY	B	77	10.953	28.443	161.386	1.00	3.39	B	C
ATOM	6258	CA	ASP	B	78	11.986	26.048	164.188	1.00	3.33	B	C
ATOM	6266	CA	LEU	B	79	14.888	26.547	166.612	1.00	5.32	B	C
ATOM	6274	CA	LEU	B	80	15.348	30.284	167.110	1.00	5.08	B	C
ATOM	6282	CA	VAL	B	81	18.851	31.213	168.309	1.00	4.86	B	C
ATOM	6289	CA	VAL	B	82	19.084	34.745	169.745	1.00	5.18	B	C
ATOM	6296	CA	PRO	B	83	22.375	36.414	170.798	1.00	5.18	B	C
ATOM	6303	CA	THR	B	84	22.055	38.823	173.750	1.00	4.92	B	C
ATOM	6310	CA	SER	B	85	24.059	40.445	176.538	1.00	3.51	B	C
ATOM	6316	CA	GLY	B	86	20.865	40.604	178.572	1.00	3.93	B	C
ATOM	6320	CA	SER	B	87	19.752	38.579	181.582	1.00	5.35	B	C
ATOM	6326	CA	TYR	B	88	16.498	36.652	182.221	1.00	5.05	B	C
ATOM	6338	CA	THR	B	89	14.650	35.335	185.336	1.00	5.80	B	C
ATOM	6345	CA	ALA	B	90	11.608	33.987	183.442	1.00	4.94	B	C
ATOM	6350	CA	ARG	B	91	10.687	32.820	179.933	1.00	5.95	B	C
ATOM	6361	CA	PRO	B	92	11.913	35.587	177.603	1.00	5.93	B	C
ATOM	6368	CA	GLY	B	93	9.414	38.047	176.166	1.00	5.97	B	C
ATOM	6372	CA	THR	B	94	9.767	37.813	172.371	1.00	6.48	B	C
ATOM	6379	CA	GLY	B	95	10.124	41.588	172.055	1.00	4.67	B	C
ATOM	6383	CA	THR	B	96	13.359	41.564	174.059	1.00	4.62	B	C

ATOM	6390	CA	TYR	B	97	15.098	39.627	171.228	1.00	4.32	B	C
ATOM	6402	CA	ALA	B	98	15.015	42.620	168.846	1.00	4.26	B	C
ATOM	6407	CA	HIS	B	99	18.311	44.130	167.648	1.00	4.45	B	C
ATOM	6417	CA	PRO	B	100	18.684	47.027	165.199	1.00	4.56	B	C
ATOM	6424	CA	PHE	B	101	20.304	46.145	161.878	1.00	5.62	B	C
ATOM	6435	CA	SER	B	102	21.236	47.834	158.588	1.00	6.73	B	C
ATOM	6441	CA	HIS	B	103	21.603	46.324	155.111	1.00	7.29	B	C
ATOM	6451	CA	ASP	B	104	24.879	48.336	155.037	1.00	9.91	B	C
ATOM	6459	CA	ASP	B	105	26.290	45.946	157.703	1.00	10.20	B	C
ATOM	6467	CA	GLU	B	106	24.917	42.703	156.229	1.00	9.23	B	C
ATOM	6476	CA	ASP	B	107	26.499	40.286	153.765	1.00	9.46	B	C
ATOM	6484	CA	ALA	B	108	25.242	36.970	152.370	1.00	6.84	B	C
ATOM	6489	CA	GLY	B	109	25.559	34.488	149.524	1.00	4.80	B	C
ATOM	6493	CA	PRO	B	110	25.491	30.714	148.861	1.00	4.09	B	C
ATOM	6500	CA	GLY	B	111	26.276	29.034	152.198	1.00	4.03	B	C
ATOM	6504	CA	PHE	B	112	26.451	32.010	154.507	1.00	4.63	B	C
ATOM	6515	CA	TYR	B	113	24.841	35.051	156.062	1.00	4.43	B	C
ATOM	6527	CA	SER	B	114	26.381	37.783	158.200	1.00	5.09	B	C
ATOM	6533	CA	VAL	B	115	24.962	40.865	159.954	1.00	4.89	B	C
ATOM	6540	CA	GLY	B	116	25.874	43.467	162.573	1.00	6.35	B	C
ATOM	6544	CA	LEU	B	117	23.215	43.427	165.294	1.00	6.43	B	C
ATOM	6552	CA	GLY	B	118	22.939	46.299	167.802	1.00	6.20	B	C
ATOM	6556	CA	ASN	B	119	23.960	44.928	171.238	1.00	5.86	B	C
ATOM	6564	CA	VAL	B	120	21.162	44.472	173.803	1.00	4.83	B	C
ATOM	6571	CA	ALA	B	121	21.260	44.132	177.613	1.00	4.23	B	C
ATOM	6576	CA	GLY	B	122	19.365	44.559	180.892	1.00	4.26	B	C
ATOM	6580	CA	THR	B	123	16.919	42.174	182.582	1.00	5.43	B	C
ATOM	6587	CA	ASP	B	124	13.711	40.546	181.298	1.00	5.91	B	C
ATOM	6595	CA	GLY	B	125	11.132	43.006	179.823	1.00	6.02	B	C
ATOM	6599	CA	ALA	B	126	13.463	45.973	180.415	1.00	5.90	B	C
ATOM	6604	CA	ILE	B	127	16.092	44.620	177.976	1.00	5.52	B	C
ATOM	6612	CA	THR	B	128	17.063	47.192	175.369	1.00	4.75	B	C
ATOM	6619	CA	GLY	B	129	19.991	48.703	173.407	1.00	4.79	B	C
ATOM	6623	CA	ALA	B	130	23.437	48.378	175.037	1.00	5.28	B	C
ATOM	6628	CA	PRO	B	131	26.932	49.536	173.894	1.00	5.84	B	C
ATOM	6635	CA	GLY	B	132	28.389	48.225	170.633	1.00	5.70	B	C
ATOM	6639	CA	THR	B	133	27.548	45.592	168.062	1.00	6.06	B	C
ATOM	6646	CA	ILE	B	134	27.013	41.848	168.174	1.00	7.11	B	C
ATOM	6654	CA	GLU	B	135	28.833	40.654	165.045	1.00	8.84	B	C
ATOM	6663	CA	ALA	B	136	26.820	37.651	163.802	1.00	6.10	B	C
ATOM	6668	CA	GLU	B	137	27.966	35.088	161.226	1.00	4.63	B	C
ATOM	6677	CA	VAL	B	138	26.200	31.897	160.196	1.00	3.25	B	C
ATOM	6684	CA	ALA	B	139	26.905	29.212	157.622	1.00	3.25	B	C
ATOM	6689	CA	ALA	B	140	25.244	25.933	156.657	1.00	4.37	B	C
ATOM	6694	CA	ALA	B	141	26.177	22.444	155.558	1.00	5.98	B	C
ATOM	6699	CA	THR	B	142	23.483	19.964	154.381	1.00	4.34	B	C
ATOM	6706	CA	ARG	B	143	22.140	19.123	157.865	1.00	4.38	B	C
ATOM	6717	CA	SER	B	144	23.954	21.728	159.957	1.00	4.49	B	C
ATOM	6723	CA	GLY	B	145	23.839	25.419	160.895	1.00	5.05	B	C
ATOM	6727	CA	VAL	B	146	26.994	26.868	162.414	1.00	4.62	B	C
ATOM	6734	CA	HIS	B	147	27.242	30.186	164.272	1.00	4.38	B	C
ATOM	6744	CA	ARG	B	148	30.103	32.540	165.208	1.00	4.25	B	C
ATOM	6755	CA	TYR	B	149	29.335	35.704	167.264	1.00	4.46	B	C
ATOM	6767	CA	ALA	B	150	31.522	38.561	168.553	1.00	5.60	B	C
ATOM	6772	CA	PHE	B	151	30.094	40.472	171.553	1.00	6.42	B	C
ATOM	6783	CA	PRO	B	152	31.380	43.820	172.738	1.00	8.35	B	C
ATOM	6790	CA	ALA	B	153	34.133	43.586	175.369	1.00	8.99	B	C
ATOM	6795	CA	GLY	B	154	32.667	43.385	178.865	1.00	8.42	B	C
ATOM	6799	CA	SER	B	155	29.390	41.759	177.743	1.00	8.54	B	C
ATOM	6805	CA	THR	B	156	28.171	38.643	179.484	1.00	7.06	B	C
ATOM	6812	CA	PRO	B	157	27.319	36.804	176.247	1.00	7.08	B	C
ATOM	6819	CA	SER	B	158	24.232	34.650	176.044	1.00	6.71	B	C
ATOM	6825	CA	LEU	B	159	22.370	32.582	173.502	1.00	4.87	B	C
ATOM	6833	CA	VAL	B	160	18.646	31.941	173.847	1.00	3.09	B	C
ATOM	6840	CA	VAL	B	161	17.419	28.777	172.147	1.00	3.34	B	C
ATOM	6847	CA	ASP	B	162	13.682	29.337	171.720	1.00	4.07	B	C

ATOM	6855	CA	LEU	B	163	11.876	26.065	170.870	1.00	3.79	B	C
ATOM	6863	CA	GLU	B	164	8.402	27.636	170.688	1.00	4.18	B	C
ATOM	6872	CA	THR	B	165	9.046	29.648	167.474	1.00	2.64	B	C
ATOM	6879	CA	ASN	B	166	7.417	28.351	164.312	1.00	2.42	B	C
ATOM	6887	CA	ASN	B	167	6.159	30.090	161.193	1.00	2.44	B	C
ATOM	6895	CA	THR	B	168	2.700	28.469	161.520	1.00	2.77	B	C
ATOM	6902	CA	SER	B	169	2.191	26.088	164.470	1.00	3.44	B	C
ATOM	6908	CA	ARG	B	170	4.367	24.663	167.209	1.00	3.61	B	C
ATOM	6919	CA	ARG	B	171	2.777	21.329	168.092	1.00	4.09	B	C
ATOM	6930	CA	SER	B	172	5.367	20.136	170.618	1.00	3.92	B	C
ATOM	6936	CA	SER	B	173	9.026	20.436	171.605	1.00	4.52	B	C
ATOM	6942	CA	SER	B	174	11.644	19.095	174.010	1.00	5.26	B	C
ATOM	6948	CA	VAL	B	175	15.144	19.964	175.194	1.00	7.61	B	C
ATOM	6955	CA	GLN	B	176	17.707	17.942	177.116	1.00	9.87	B	C
ATOM	6964	CA	VAL	B	177	20.827	19.575	178.479	1.00	10.75	B	C
ATOM	6971	CA	GLU	B	178	24.266	17.972	178.853	1.00	11.75	B	C
ATOM	6980	CA	THR	B	179	27.408	19.621	180.271	1.00	10.76	B	C
ATOM	6987	CA	ARG	B	180	30.637	17.869	179.161	1.00	11.07	B	C
ATOM	6998	CA	ALA	B	181	34.052	17.533	180.867	1.00	12.22	B	C
ATOM	7003	CA	ASP	B	182	35.476	20.584	179.033	1.00	11.74	B	C
ATOM	7011	CA	GLY	B	183	32.508	22.707	180.228	1.00	9.15	B	C
ATOM	7015	CA	THR	B	184	30.755	22.961	176.837	1.00	5.80	B	C
ATOM	7022	CA	VAL	B	185	27.013	22.306	176.541	1.00	5.32	B	C
ATOM	7029	CA	GLU	B	186	24.991	20.053	174.245	1.00	6.37	B	C
ATOM	7038	CA	LEU	B	187	21.225	20.551	173.801	1.00	5.44	B	C
ATOM	7046	CA	SER	B	188	19.138	17.900	172.108	1.00	4.09	B	C
ATOM	7052	CA	GLY	B	189	15.468	17.073	171.486	1.00	3.12	B	C
ATOM	7056	CA	GLN	B	190	12.682	17.282	168.938	1.00	2.37	B	C
ATOM	7065	CA	VAL	B	191	10.502	19.973	167.357	1.00	2.26	B	C
ATOM	7072	CA	THR	B	192	7.128	19.112	165.863	1.00	2.53	B	C
ATOM	7079	CA	GLY	B	193	5.491	21.715	163.683	1.00	2.57	B	C
ATOM	7083	CA	TYR	B	194	2.613	21.951	161.250	1.00	3.30	B	C
ATOM	7095	CA	PHE	B	195	2.176	23.583	157.852	1.00	4.28	B	C
ATOM	7106	CA	TYR	B	196	-0.598	23.421	155.296	1.00	7.19	B	C
ATOM	7118	CA	ASN	B	197	-1.557	19.737	155.149	1.00	7.00	B	C
ATOM	7126	CA	ALA	B	198	0.738	17.907	157.606	1.00	5.17	B	C
ATOM	7131	CA	ALA	B	199	2.648	17.834	160.876	1.00	4.90	B	C
ATOM	7136	CA	TYR	B	200	6.409	17.069	160.789	1.00	4.22	B	C
ATOM	7148	CA	THR	B	201	9.101	16.185	163.362	1.00	5.31	B	C
ATOM	7155	CA	LEU	B	202	12.799	16.977	163.328	1.00	3.48	B	C
ATOM	7163	CA	TYR	B	203	15.415	15.973	165.896	1.00	3.48	B	C
ATOM	7175	CA	TYR	B	204	18.277	18.294	166.724	1.00	4.54	B	C
ATOM	7187	CA	THR	B	205	21.584	18.490	168.504	1.00	5.64	B	C
ATOM	7194	CA	ALA	B	206	23.308	21.765	169.341	1.00	5.72	B	C
ATOM	7199	CA	ARG	B	207	26.654	22.253	170.998	1.00	5.49	B	C
ATOM	7210	CA	THR	B	208	28.601	25.232	172.226	1.00	4.80	B	C
ATOM	7217	CA	LEU	B	209	32.264	25.598	171.305	1.00	4.71	B	C
ATOM	7225	CA	GLN	B	210	33.041	27.516	174.554	1.00	6.35	B	C
ATOM	7234	CA	PRO	B	211	32.110	26.663	178.148	1.00	7.67	B	C
ATOM	7241	CA	ALA	B	212	28.543	27.611	179.143	1.00	7.25	B	C
ATOM	7246	CA	THR	B	213	26.099	27.434	182.004	1.00	7.17	B	C
ATOM	7253	CA	VAL	B	214	22.470	26.720	181.121	1.00	6.69	B	C
ATOM	7260	CA	GLN	B	215	18.911	27.268	182.283	1.00	6.38	B	C
ATOM	7269	CA	THR	B	216	15.794	25.836	180.631	1.00	4.98	B	C
ATOM	7276	CA	TRP	B	217	12.111	26.702	180.466	1.00	3.64	B	C
ATOM	7290	CA	GLY	B	218	8.884	24.866	180.016	1.00	5.63	B	C
ATOM	7294	CA	ASP	B	219	5.244	25.649	179.622	1.00	8.12	B	C
ATOM	7302	CA	ASP	B	220	4.977	27.146	183.127	1.00	12.50	B	C
ATOM	7310	CA	ASP	B	221	7.168	30.093	181.953	1.00	12.91	B	C
ATOM	7318	CA	ARG	B	222	9.634	29.500	184.787	1.00	11.75	B	C
ATOM	7329	CA	LEU	B	223	13.374	29.633	184.047	1.00	9.26	B	C
ATOM	7337	CA	VAL	B	224	15.093	26.886	186.002	1.00	9.70	B	C
ATOM	7344	CA	ASP	B	225	18.254	24.870	186.542	1.00	9.71	B	C
ATOM	7352	CA	ALA	B	226	16.446	21.645	185.479	1.00	8.94	B	C
ATOM	7357	CA	THR	B	227	18.172	19.922	182.585	1.00	8.94	B	C
ATOM	7364	CA	ALA	B	228	15.027	18.498	180.872	1.00	8.41	B	C

ATOM	7369	CA	GLN	B	229	11.887	19.991	179.343	1.00	7.11	B	C
ATOM	7378	CA	ASP	B	230	9.154	18.361	177.262	1.00	7.62	B	C
ATOM	7386	CA	GLY	B	231	5.982	20.180	176.272	1.00	5.49	B	C
ATOM	7390	CA	VAL	B	232	5.019	22.814	173.687	1.00	3.91	B	C
ATOM	7397	CA	ASP	B	233	6.717	26.124	174.666	1.00	3.59	B	C
ATOM	7405	CA	THR	B	234	10.207	25.219	175.870	1.00	3.22	B	C
ATOM	7412	CA	GLY	B	235	13.760	26.456	175.485	1.00	2.52	B	C
ATOM	7416	CA	ALA	B	236	17.165	27.054	176.932	1.00	2.01	B	C
ATOM	7421	CA	ILE	B	237	19.409	30.014	177.730	1.00	2.62	B	C
ATOM	7429	CA	LEU	B	238	23.188	29.544	177.393	1.00	3.80	B	C
ATOM	7437	CA	THR	B	239	25.439	31.941	179.352	1.00	5.81	B	C
ATOM	7444	CA	PHE	B	240	29.137	32.391	178.663	1.00	7.71	B	C
ATOM	7455	CA	ASP	B	241	32.053	34.026	180.461	1.00	10.49	B	C
ATOM	7463	CA	PRO	B	242	32.976	37.585	179.419	1.00	10.21	B	C
ATOM	7470	CA	ALA	B	243	36.482	36.270	178.652	1.00	10.56	B	C
ATOM	7475	CA	ASP	B	244	34.898	34.545	175.608	1.00	10.22	B	C
ATOM	7483	CA	ALA	B	245	32.993	37.584	174.265	1.00	9.19	B	C
ATOM	7488	CA	GLY	B	246	35.260	37.861	171.199	1.00	9.07	B	C
ATOM	7492	CA	GLU	B	247	34.117	34.471	169.883	1.00	8.40	B	C
ATOM	7501	CA	ILE	B	248	30.976	32.504	170.743	1.00	6.26	B	C
ATOM	7509	CA	GLY	B	249	30.419	29.317	168.700	1.00	5.26	B	C
ATOM	7513	CA	LEU	B	250	27.365	27.148	168.128	1.00	4.75	B	C
ATOM	7521	CA	GLN	B	251	26.729	24.080	165.940	1.00	4.54	B	C
ATOM	7530	CA	VAL	B	252	23.221	22.815	165.229	1.00	4.09	B	C
ATOM	7537	CA	THR	B	253	22.517	19.573	163.382	1.00	3.14	B	C
ATOM	7544	CA	LEU	B	254	19.085	18.325	162.254	1.00	3.66	B	C
ATOM	7552	CA	SER	B	255	17.710	14.818	161.568	1.00	3.72	B	C
ATOM	7558	CA	PRO	B	256	14.350	13.322	160.581	1.00	3.90	B	C
ATOM	7565	CA	VAL	B	257	15.675	10.122	162.247	1.00	4.49	B	C
ATOM	7572	CA	SER	B	258	16.553	10.685	165.919	1.00	5.09	B	C
ATOM	7578	CA	VAL	B	259	18.811	12.681	168.270	1.00	6.85	B	C
ATOM	7585	CA	GLU	B	260	21.309	9.841	168.225	1.00	8.56	B	C
ATOM	7594	CA	GLN	B	261	21.425	10.162	164.416	1.00	7.14	B	C
ATOM	7603	CA	ALA	B	262	21.764	13.965	164.573	1.00	6.00	B	C
ATOM	7608	CA	ARG	B	263	24.840	13.567	166.780	1.00	6.59	B	C
ATOM	7619	CA	ILE	B	264	26.315	11.008	164.363	1.00	7.36	B	C
ATOM	7627	CA	ASP	B	265	25.571	13.292	161.370	1.00	6.50	B	C
ATOM	7635	CA	GLN	B	266	27.201	16.188	163.205	1.00	7.37	B	C
ATOM	7644	CA	GLN	B	267	30.403	14.178	163.786	1.00	11.20	B	C
ATOM	7653	CA	VAL	B	268	30.481	13.075	160.124	1.00	10.88	B	C
ATOM	7660	CA	GLU	B	269	29.430	16.369	158.505	1.00	11.16	B	C
ATOM	7669	CA	LEU	B	270	31.314	18.882	160.704	1.00	10.96	B	C
ATOM	7677	CA	GLY	B	271	33.869	16.943	162.740	1.00	11.80	B	C
ATOM	7681	CA	ASP	B	272	36.639	19.186	164.002	1.00	11.87	B	C
ATOM	7689	CA	LEU	B	273	36.374	21.606	161.059	1.00	9.30	B	C
ATOM	7697	CA	SER	B	274	36.585	25.316	161.684	1.00	8.10	B	C
ATOM	7703	CA	PHE	B	275	33.692	27.729	161.001	1.00	7.57	B	C
ATOM	7714	CA	ASP	B	276	35.633	29.179	158.049	1.00	9.11	B	C
ATOM	7722	CA	ALA	B	277	36.288	25.679	156.588	1.00	8.17	B	C
ATOM	7727	CA	ILE	B	278	32.607	24.690	156.805	1.00	6.31	B	C
ATOM	7735	CA	ARG	B	279	31.510	27.935	155.180	1.00	7.50	B	C
ATOM	7746	CA	ASP	B	280	34.193	27.585	152.447	1.00	8.14	B	C
ATOM	7754	CA	ARG	B	281	33.248	23.952	151.718	1.00	7.53	B	C
ATOM	7765	CA	THR	B	282	29.590	24.914	151.207	1.00	7.03	B	C
ATOM	7772	CA	ARG	B	283	30.749	27.741	148.908	1.00	8.06	B	C
ATOM	7783	CA	ALA	B	284	32.685	25.192	146.809	1.00	7.18	B	C
ATOM	7788	CA	GLU	B	285	29.647	22.838	146.826	1.00	8.04	B	C
ATOM	7797	CA	TRP	B	286	27.513	25.684	145.409	1.00	6.44	B	C
ATOM	7811	CA	ASN	B	287	30.194	26.541	142.822	1.00	7.77	B	C
ATOM	7819	CA	ALA	B	288	30.163	22.844	141.765	1.00	8.01	B	C
ATOM	7824	CA	THR	B	289	26.340	22.924	141.481	1.00	7.57	B	C
ATOM	7831	CA	LEU	B	290	25.928	26.258	139.687	1.00	6.68	B	C
ATOM	7839	CA	GLY	B	291	28.902	25.412	137.486	1.00	8.30	B	C
ATOM	7843	CA	ARG	B	292	26.832	22.721	135.807	1.00	8.97	B	C
ATOM	7854	CA	VAL	B	293	25.594	25.636	133.725	1.00	10.54	B	C
ATOM	7861	CA	ALA	B	294	28.121	27.918	132.046	1.00	12.46	B	C

ATOM	7866	CA	ILE	B	295	26.911	31.025	130.202	1.00	15.01	B	C
ATOM	7874	CA	ASP	B	296	28.503	33.444	127.742	1.00	16.68	B	C
ATOM	7882	CA	ALA	B	297	26.492	36.686	127.506	1.00	16.02	B	C
ATOM	7887	CA	SER	B	298	27.400	39.653	125.271	1.00	15.25	B	C
ATOM	7893	CA	THR	B	299	26.635	43.276	126.121	1.00	14.42	B	C
ATOM	7900	CA	ALA	B	300	24.046	43.110	123.326	1.00	11.48	B	C
ATOM	7905	CA	THR	B	301	21.783	40.582	125.103	1.00	9.84	B	C
ATOM	7912	CA	ASP	B	302	22.704	41.528	128.706	1.00	9.77	B	C
ATOM	7920	CA	PRO	B	303	23.868	45.197	128.715	1.00	10.54	B	C
ATOM	7927	CA	THR	B	304	23.489	45.589	132.512	1.00	11.07	B	C
ATOM	7934	CA	GLY	B	305	24.761	42.154	133.524	1.00	11.11	B	C
ATOM	7938	CA	GLU	B	306	21.483	41.714	135.432	1.00	10.64	B	C
ATOM	7947	CA	LEU	B	307	20.268	38.736	133.293	1.00	10.30	B	C
ATOM	7955	CA	GLN	B	308	23.365	36.685	134.127	1.00	10.19	B	C
ATOM	7964	CA	ARG	B	309	22.914	37.468	137.835	1.00	8.46	B	C
ATOM	7975	CA	LEU	B	310	19.207	36.600	137.644	1.00	6.90	B	C
ATOM	7983	CA	PHE	B	311	20.109	33.341	135.894	1.00	5.42	B	C
ATOM	7994	CA	TYR	B	312	22.509	32.208	138.679	1.00	4.65	B	C
ATOM	8006	CA	THR	B	313	20.288	33.567	141.446	1.00	3.72	B	C
ATOM	8013	CA	HIS	B	314	17.411	31.465	140.078	1.00	3.77	B	C
ATOM	8023	CA	LEU	B	315	19.597	28.424	139.419	1.00	4.98	B	C
ATOM	8031	CA	TYR	B	316	20.467	28.753	143.144	1.00	4.55	B	C
ATOM	8043	CA	ARG	B	317	16.731	28.839	144.007	1.00	5.20	B	C
ATOM	8054	CA	MET	B	318	16.085	25.817	141.789	1.00	7.54	B	C
ATOM	8062	CA	PHE	B	319	18.175	23.558	144.063	1.00	8.02	B	C
ATOM	8073	CA	ALA	B	320	16.316	24.249	147.345	1.00	7.25	B	C
ATOM	8078	CA	MET	B	321	13.403	21.781	147.467	1.00	5.88	B	C
ATOM	8086	CA	PRO	B	322	12.863	18.952	147.903	1.00	4.25	B	C
ATOM	8093	CA	MET	B	323	15.380	18.850	150.760	1.00	3.69	B	C
ATOM	8101	CA	ASN	B	324	17.944	16.177	151.447	1.00	3.38	B	C
ATOM	8109	CA	ALA	B	325	16.107	14.123	154.077	1.00	3.72	B	C
ATOM	8114	CA	THR	B	326	18.714	11.357	154.443	1.00	3.39	B	C
ATOM	8121	CA	SER	B	327	21.071	10.805	157.383	1.00	4.75	B	C
ATOM	8127	CA	THR	B	328	24.861	10.478	156.953	1.00	5.56	B	C
ATOM	8134	CA	SER	B	329	24.175	6.783	157.673	1.00	5.03	B	C
ATOM	8140	CA	GLY	B	330	21.990	6.586	154.509	1.00	5.56	B	C
ATOM	8144	CA	THR	B	331	18.681	6.308	156.385	1.00	4.67	B	C
ATOM	8151	CA	TYR	B	332	15.380	8.194	156.221	1.00	4.08	B	C
ATOM	8163	CA	ARG	B	333	12.110	8.234	158.156	1.00	5.90	B	C
ATOM	8174	CA	GLY	B	334	8.940	7.045	156.393	1.00	7.33	B	C
ATOM	8178	CA	VAL	B	335	5.362	8.276	156.776	1.00	9.86	B	C
ATOM	8185	CA	ASP	B	336	4.715	4.745	158.108	1.00	11.83	B	C
ATOM	8193	CA	GLY	B	337	6.472	5.889	161.292	1.00	12.67	B	C
ATOM	8197	CA	ALA	B	338	9.546	3.712	160.784	1.00	10.29	B	C
ATOM	8202	CA	VAL	B	339	13.181	4.400	159.827	1.00	8.36	B	C
ATOM	8209	CA	HIS	B	340	14.277	2.783	156.523	1.00	8.22	B	C
ATOM	8219	CA	ALA	B	341	17.345	2.468	154.295	1.00	9.30	B	C
ATOM	8224	CA	ALA	B	342	17.738	4.699	151.232	1.00	10.96	B	C
ATOM	8229	CA	GLN	B	343	19.736	1.973	149.549	1.00	14.92	B	C
ATOM	8238	CA	GLY	B	344	22.061	3.243	146.798	1.00	14.18	B	C
ATOM	8242	CA	PHE	B	345	20.330	6.658	146.470	1.00	9.94	B	C
ATOM	8253	CA	THR	B	346	19.663	9.851	148.454	1.00	5.70	B	C
ATOM	8260	CA	TYR	B	347	16.132	10.341	149.769	1.00	3.08	B	C
ATOM	8272	CA	TYR	B	348	14.568	13.786	149.336	1.00	2.49	B	C
ATOM	8284	CA	ASP	B	349	11.394	15.091	150.938	1.00	2.40	B	C
ATOM	8292	CA	SER	B	350	9.337	18.340	151.066	1.00	3.13	B	C
ATOM	8298	CA	TRP	B	351	6.904	18.658	148.223	1.00	3.44	B	C
ATOM	8312	CA	ALA	B	352	4.594	21.317	146.769	1.00	6.09	B	C
ATOM	8317	CA	THR	B	353	3.818	19.352	143.690	1.00	7.57	B	C
ATOM	8324	CA	TRP	B	354	0.511	21.060	142.861	1.00	10.28	B	C
ATOM	8338	CA	ASP	B	355	2.607	24.171	142.126	1.00	9.25	B	C
ATOM	8346	CA	ASP	B	356	6.027	22.821	141.162	1.00	7.97	B	C
ATOM	8354	CA	PHE	B	357	5.476	19.675	139.069	1.00	5.45	B	C
ATOM	8365	CA	ARG	B	358	7.086	21.219	135.922	1.00	4.54	B	C
ATOM	8376	CA	LYS	B	359	10.204	22.174	137.907	1.00	3.86	B	C
ATOM	8385	CA	PHE	B	360	11.251	18.513	137.948	1.00	3.85	B	C

ATOM	8396	CA	SER	B	361	11.230	18.254	134.132	1.00	4.19	B	C
ATOM	8402	CA	VAL	B	362	13.848	21.051	134.057	1.00	4.66	B	C
ATOM	8409	CA	ILE	B	363	15.981	19.656	136.859	1.00	3.60	B	C
ATOM	8417	CA	ALA	B	364	15.986	16.487	134.724	1.00	4.12	B	C
ATOM	8422	CA	TYR	B	365	18.152	18.190	132.040	1.00	5.46	B	C
ATOM	8434	CA	ILE	B	366	20.412	20.182	134.397	1.00	6.51	B	C
ATOM	8442	CA	ASP	B	367	21.232	17.592	137.055	1.00	6.76	B	C
ATOM	8450	CA	PRO	B	368	19.936	14.178	135.858	1.00	6.15	B	C
ATOM	8457	CA	ALA	B	369	21.272	12.238	138.895	1.00	5.16	B	C
ATOM	8462	CA	LEU	B	370	19.595	14.581	141.391	1.00	5.66	B	C
ATOM	8470	CA	TYR	B	371	16.368	14.351	139.411	1.00	5.00	B	C
ATOM	8482	CA	ARG	B	372	16.537	10.538	139.507	1.00	6.13	B	C
ATOM	8493	CA	ASP	B	373	16.991	10.482	143.321	1.00	4.65	B	C
ATOM	8501	CA	MET	B	374	14.069	12.884	143.690	1.00	3.74	B	C
ATOM	8509	CA	VAL	B	375	11.706	10.681	141.648	1.00	3.94	B	C
ATOM	8516	CA	GLN	B	376	12.853	7.548	143.481	1.00	3.66	B	C
ATOM	8525	CA	SER	B	377	12.139	9.421	146.732	1.00	3.93	B	C
ATOM	8531	CA	LEU	B	378	8.564	10.288	145.559	1.00	4.51	B	C
ATOM	8539	CA	VAL	B	379	8.064	6.634	144.704	1.00	3.56	B	C
ATOM	8546	CA	TYR	B	380	9.204	5.663	148.259	1.00	4.32	B	C
ATOM	8558	CA	LEU	B	381	6.959	8.247	149.897	1.00	3.49	B	C
ATOM	8566	CA	PHE	B	382	3.838	6.774	148.265	1.00	3.82	B	C
ATOM	8577	CA	ALA	B	383	5.141	3.221	148.777	1.00	4.94	B	C
ATOM	8582	CA	ASP	B	384	5.471	3.995	152.503	1.00	6.79	B	C
ATOM	8590	CA	ALA	B	385	1.923	5.413	152.611	1.00	9.08	B	C
ATOM	8595	CA	GLU	B	386	0.765	2.141	150.976	1.00	10.89	B	C
ATOM	8604	CA	ALA	B	387	2.810	0.119	153.498	1.00	13.19	B	C
ATOM	8609	CA	THR	B	388	0.740	1.552	156.445	1.00	15.38	B	C
ATOM	8616	CA	GLY	B	389	-2.271	-0.495	155.224	1.00	15.84	B	C
ATOM	8620	CA	THR	B	390	-4.587	2.321	156.337	1.00	14.91	B	C
ATOM	8627	CA	GLY	B	391	-5.415	3.542	152.829	1.00	12.96	B	C
ATOM	8631	CA	GLY	B	392	-5.069	7.090	154.245	1.00	10.55	B	C
ATOM	8635	CA	GLY	B	393	-3.986	10.168	152.254	1.00	8.29	B	C
ATOM	8639	CA	LEU	B	394	-0.516	11.679	152.818	1.00	6.39	B	C
ATOM	8647	CA	GLY	B	395	-1.926	14.514	154.938	1.00	6.61	B	C
ATOM	8651	CA	GLY	B	396	-2.978	12.076	157.705	1.00	7.77	B	C
ATOM	8655	CA	PHE	B	397	0.603	11.030	158.585	1.00	7.05	B	C
ATOM	8666	CA	VAL	B	398	3.457	12.825	160.317	1.00	6.28	B	C
ATOM	8673	CA	HIS	B	399	6.082	13.832	157.779	1.00	4.37	B	C
ATOM	8683	CA	SER	B	400	9.868	13.714	158.080	1.00	4.62	B	C
ATOM	8689	CA	VAL	B	401	10.519	17.328	157.074	1.00	3.81	B	C
ATOM	8696	CA	PRO	B	402	8.279	20.398	156.732	1.00	2.81	B	C
ATOM	8703	CA	THR	B	403	6.223	19.841	153.605	1.00	2.00	B	C
ATOM	8710	CA	VAL	B	404	3.295	21.247	151.582	1.00	2.02	B	C
ATOM	8717	CA	ARG	B	405	1.236	19.105	149.134	1.00	3.66	B	C
ATOM	8728	CA	TRP	B	406	1.343	16.193	146.726	1.00	4.40	B	C
ATOM	8742	CA	GLU	B	407	-1.154	16.632	143.859	1.00	4.95	B	C
ATOM	8751	CA	ARG	B	408	0.354	16.056	140.358	1.00	4.63	B	C
ATOM	8762	CA	SER	B	409	2.805	13.445	141.798	1.00	4.41	B	C
ATOM	8768	CA	SER	B	410	1.577	10.955	139.158	1.00	5.65	B	C
ATOM	8774	CA	VAL	B	411	2.871	13.412	136.534	1.00	4.55	B	C
ATOM	8781	CA	VAL	B	412	6.352	13.733	138.090	1.00	3.62	B	C
ATOM	8788	CA	VAL	B	413	6.857	9.945	138.202	1.00	3.87	B	C
ATOM	8795	CA	ALA	B	414	5.438	9.658	134.653	1.00	5.13	B	C
ATOM	8800	CA	ASP	B	415	7.928	12.368	133.664	1.00	4.82	B	C
ATOM	8808	CA	ALA	B	416	10.908	10.154	134.619	1.00	4.44	B	C
ATOM	8813	CA	ILE	B	417	9.427	7.020	132.987	1.00	5.16	B	C
ATOM	8821	CA	ALA	B	418	8.712	8.909	129.732	1.00	6.23	B	C
ATOM	8826	CA	LYS	B	419	12.303	10.194	129.851	1.00	8.29	B	C
ATOM	8835	CA	GLY	B	420	13.794	6.686	129.922	1.00	10.82	B	C
ATOM	8839	CA	PHE	B	421	14.569	6.285	133.624	1.00	11.95	B	C
ATOM	8850	CA	ASP	B	422	13.949	2.885	135.136	1.00	14.48	B	C
ATOM	8858	CA	GLY	B	423	14.815	0.654	138.084	1.00	14.15	B	C
ATOM	8862	CA	PHE	B	424	12.489	2.574	140.366	1.00	12.52	B	C
ATOM	8873	CA	ASP	B	425	12.381	0.289	143.387	1.00	12.13	B	C
ATOM	8881	CA	ARG	B	426	8.874	-0.058	144.898	1.00	9.62	B	C

ATOM	8892	CA	LEU	B	427	6.950	1.477	141.964	1.00	9.74	B	C
ATOM	8900	CA	ASP	B	428	4.503	-1.436	142.300	1.00	11.74	B	C
ATOM	8908	CA	GLU	B	429	3.837	-0.485	145.942	1.00	10.85	B	C
ATOM	8917	CA	ALA	B	430	3.557	3.228	145.139	1.00	9.56	B	C
ATOM	8922	CA	TYR	B	431	0.970	2.649	142.393	1.00	9.69	B	C
ATOM	8934	CA	PRO	B	432	-2.178	2.019	144.553	1.00	8.88	B	C
ATOM	8941	CA	ALA	B	433	-1.368	5.086	146.736	1.00	7.60	B	C
ATOM	8946	CA	LEU	B	434	-0.914	7.129	143.566	1.00	7.98	B	C
ATOM	8954	CA	GLN	B	435	-4.332	5.893	142.378	1.00	9.79	B	C
ATOM	8963	CA	ARG	B	436	-5.876	6.985	145.714	1.00	8.63	B	C
ATOM	8974	CA	LEU	B	437	-4.175	10.398	145.345	1.00	8.82	B	C
ATOM	8982	CA	VAL	B	438	-5.651	10.832	141.863	1.00	10.72	B	C
ATOM	8989	CA	GLY	B	439	-9.074	9.520	142.973	1.00	11.53	B	C
ATOM	8993	CA	GLN	B	440	-11.952	7.945	141.034	1.00	13.71	B	C
ATOM	9002	CA	TYR	B	441	-14.865	9.454	139.124	1.00	12.01	B	C
ATOM	9014	CA	SER	B	442	-18.189	8.549	140.760	1.00	12.74	B	C
ATOM	9020	CA	ALA	B	443	-20.666	6.339	138.839	1.00	12.68	B	C
ATOM	9025	CA	ASP	B	444	-22.553	9.434	137.687	1.00	12.69	B	C
ATOM	9033	CA	GLU	B	445	-19.307	11.199	136.788	1.00	10.37	B	C
ATOM	9042	CA	LEU	B	446	-18.282	8.164	134.766	1.00	10.75	B	C
ATOM	9050	CA	ARG	B	447	-21.517	8.211	132.730	1.00	12.18	B	C
ATOM	9061	CA	ARG	B	448	-21.331	11.954	131.904	1.00	11.28	B	C
ATOM	9072	CA	GLY	B	449	-17.521	12.199	131.769	1.00	9.56	B	C
ATOM	9076	CA	TYR	B	450	-16.840	15.171	134.104	1.00	8.69	B	C
ATOM	9088	CA	VAL	B	451	-17.362	16.664	137.586	1.00	8.42	B	C
ATOM	9095	CA	ALA	B	452	-20.609	18.655	137.398	1.00	9.63	B	C
ATOM	9100	CA	GLY	B	453	-19.943	22.350	137.910	1.00	9.76	B	C
ATOM	9104	CA	ASN	B	454	-16.242	21.775	138.624	1.00	8.50	B	C
ATOM	9112	CA	PRO	B	455	-14.156	22.194	135.439	1.00	8.32	B	C
ATOM	9119	CA	GLY	B	456	-11.107	22.756	137.692	1.00	8.02	B	C
ATOM	9123	CA	ALA	B	457	-11.159	19.292	139.280	1.00	6.90	B	C
ATOM	9128	CA	SER	B	458	-11.963	17.688	135.889	1.00	6.05	B	C
ATOM	9134	CA	VAL	B	459	-8.939	18.989	133.896	1.00	5.70	B	C
ATOM	9141	CA	GLN	B	460	-6.681	18.365	136.882	1.00	5.79	B	C
ATOM	9150	CA	ARG	B	461	-7.804	14.732	137.121	1.00	6.42	B	C
ATOM	9161	CA	GLY	B	462	-7.221	14.406	133.370	1.00	5.35	B	C
ATOM	9165	CA	TYR	B	463	-3.539	15.278	133.771	1.00	5.04	B	C
ATOM	9177	CA	ASP	B	464	-3.270	13.035	136.851	1.00	5.57	B	C
ATOM	9185	CA	GLN	B	465	-4.804	10.198	134.841	1.00	5.78	B	C
ATOM	9194	CA	TYR	B	466	-2.483	10.769	131.919	1.00	6.49	B	C
ATOM	9206	CA	GLY	B	467	0.439	10.511	134.378	1.00	5.94	B	C
ATOM	9210	CA	LEU	B	468	-1.027	7.423	136.006	1.00	7.08	B	C
ATOM	9218	CA	SER	B	469	-1.447	5.806	132.563	1.00	7.35	B	C
ATOM	9224	CA	VAL	B	470	2.324	6.119	131.916	1.00	7.31	B	C
ATOM	9231	CA	ILE	B	471	3.054	4.452	135.299	1.00	7.55	B	C
ATOM	9239	CA	ALA	B	472	0.432	1.758	134.635	1.00	8.69	B	C
ATOM	9244	CA	ASP	B	473	2.077	0.765	131.318	1.00	10.11	B	C
ATOM	9252	CA	GLU	B	474	5.524	0.684	132.942	1.00	11.08	B	C
ATOM	9261	CA	LEU	B	475	4.081	-1.770	135.471	1.00	10.77	B	C
ATOM	9269	CA	GLY	B	476	2.557	-3.863	132.643	1.00	12.28	B	C
ATOM	9273	CA	LEU	B	477	-1.005	-2.946	133.703	1.00	14.48	B	C
ATOM	9281	CA	THR	B	478	-1.957	-2.607	130.034	1.00	17.13	B	C
ATOM	9288	CA	GLU	B	479	-5.736	-2.506	130.474	1.00	18.35	B	C
ATOM	9297	CA	GLU	B	480	-5.722	0.045	133.355	1.00	15.71	B	C
ATOM	9306	CA	ALA	B	481	-3.447	2.289	131.256	1.00	13.30	B	C
ATOM	9311	CA	GLU	B	482	-5.993	2.198	128.387	1.00	13.38	B	C
ATOM	9320	CA	THR	B	483	-8.838	3.007	130.776	1.00	11.91	B	C
ATOM	9327	CA	LEU	B	484	-6.802	5.857	132.279	1.00	9.11	B	C
ATOM	9335	CA	ARG	B	485	-6.030	7.235	128.765	1.00	8.25	B	C
ATOM	9346	CA	GLU	B	486	-9.735	7.030	127.831	1.00	8.59	B	C
ATOM	9355	CA	GLN	B	487	-10.721	8.982	130.961	1.00	7.84	B	C
ATOM	9364	CA	ALA	B	488	-7.917	11.568	130.491	1.00	6.89	B	C
ATOM	9369	CA	SER	B	489	-9.413	12.554	127.143	1.00	6.88	B	C
ATOM	9375	CA	TRP	B	490	-12.765	13.388	128.798	1.00	7.07	B	C
ATOM	9389	CA	PRO	B	491	-12.065	16.904	130.180	1.00	7.75	B	C
ATOM	9396	CA	ILE	B	492	-11.008	18.232	126.748	1.00	10.03	B	C

ATOM	9404	CA	GLU	B	493	-13.896	16.510	124.905	1.00	12.06	B	C
ATOM	9413	CA	LYS	B	494	-16.671	17.061	127.427	1.00	10.91	B	C
ATOM	9422	CA	LEU	B	495	-15.887	20.513	128.833	1.00	9.26	B	C
ATOM	9430	CA	THR	B	496	-14.827	22.544	125.800	1.00	9.84	B	C
ATOM	9437	CA	LYS	B	497	-17.972	24.524	124.878	1.00	10.36	B	C
ATOM	9446	CA	PRO	B	498	-18.062	25.503	121.171	1.00	10.16	B	C
ATOM	9453	CA	GLY	B	499	-18.441	29.251	120.587	1.00	11.73	B	C
ATOM	9457	CA	ALA	B	500	-17.533	30.238	124.169	1.00	12.89	B	C
ATOM	9462	CA	TRP	B	501	-15.579	33.120	122.622	1.00	13.32	B	C
ATOM	9476	CA	THR	B	502	-16.087	34.739	119.196	1.00	14.82	B	C
ATOM	9483	CA	ALA	B	503	-13.072	36.086	117.234	1.00	17.18	B	C
ATOM	9488	CA	ALA	B	504	-12.857	39.344	115.232	1.00	19.86	B	C
ATOM	9493	CA	ASP	B	505	-13.256	36.963	112.234	1.00	21.28	B	C
ATOM	9501	CA	GLY	B	506	-16.585	35.755	113.609	1.00	20.03	B	C
ATOM	9505	CA	THR	B	507	-14.731	32.439	114.087	1.00	18.03	B	C
ATOM	9512	CA	GLN	B	508	-16.251	30.532	117.010	1.00	15.34	B	C
ATOM	9521	CA	VAL	B	509	-13.708	29.336	119.570	1.00	11.34	B	C
ATOM	9528	CA	GLY	B	510	-14.366	26.537	122.049	1.00	9.07	B	C
ATOM	9532	CA	LEU	B	511	-13.197	27.026	125.631	1.00	7.86	B	C
ATOM	9540	CA	LEU	B	512	-13.219	25.124	128.921	1.00	7.01	B	C
ATOM	9548	CA	THR	B	513	-16.601	25.890	130.550	1.00	8.85	B	C
ATOM	9555	CA	PRO	B	514	-18.393	24.554	133.677	1.00	10.28	B	C
ATOM	9562	CA	ARG	B	515	-21.081	22.039	132.717	1.00	12.26	B	C
ATOM	9573	CA	ALA	B	516	-24.111	20.973	134.766	1.00	13.16	B	C
ATOM	9578	CA	ALA	B	517	-24.951	17.342	135.665	1.00	14.35	B	C
ATOM	9583	CA	ASP	B	518	-27.642	17.167	132.923	1.00	16.53	B	C
ATOM	9591	CA	GLY	B	519	-25.191	18.281	130.210	1.00	16.33	B	C
ATOM	9595	CA	SER	B	520	-26.240	21.945	129.971	1.00	15.96	B	C
ATOM	9601	CA	TRP	B	521	-23.559	24.648	130.008	1.00	15.21	B	C
ATOM	9615	CA	GLN	B	522	-23.432	26.929	133.060	1.00	15.39	B	C
ATOM	9624	CA	SER	B	523	-22.733	30.599	132.427	1.00	15.49	B	C
ATOM	9630	CA	ALA	B	524	-19.406	32.190	133.361	1.00	13.08	B	C
ATOM	9635	CA	ASP	B	525	-16.958	34.949	132.667	1.00	10.42	B	C
ATOM	9643	CA	HIS	B	526	-13.996	33.026	131.216	1.00	9.11	B	C
ATOM	9653	CA	ALA	B	527	-11.679	35.887	132.307	1.00	9.10	B	C
ATOM	9658	CA	LYS	B	528	-12.918	36.154	135.899	1.00	10.32	B	C
ATOM	9667	CA	PHE	B	529	-10.563	35.052	138.686	1.00	8.73	B	C
ATOM	9678	CA	GLU	B	530	-11.981	32.026	140.571	1.00	8.70	B	C
ATOM	9687	CA	ALA	B	531	-15.175	31.800	138.513	1.00	9.23	B	C
ATOM	9692	CA	ALA	B	532	-16.810	28.339	138.183	1.00	10.00	B	C
ATOM	9697	CA	GLY	B	533	-15.211	26.855	141.335	1.00	9.25	B	C
ATOM	9701	CA	LEU	B	534	-11.653	27.388	140.006	1.00	8.07	B	C
ATOM	9709	CA	TYR	B	535	-8.638	27.486	142.280	1.00	10.81	B	C
ATOM	9721	CA	GLN	B	536	-6.568	30.681	141.905	1.00	10.33	B	C
ATOM	9730	CA	GLY	B	537	-7.264	31.159	138.187	1.00	8.79	B	C
ATOM	9734	CA	THR	B	538	-9.626	31.771	135.278	1.00	7.44	B	C
ATOM	9741	CA	LEU	B	539	-11.154	29.505	132.643	1.00	8.31	B	C
ATOM	9749	CA	TRP	B	540	-8.976	31.006	129.900	1.00	6.79	B	C
ATOM	9763	CA	GLN	B	541	-6.001	30.062	132.087	1.00	5.72	B	C
ATOM	9772	CA	TYR	B	542	-7.247	26.567	133.014	1.00	6.07	B	C
ATOM	9784	CA	HIS	B	543	-8.336	25.987	129.378	1.00	6.44	B	C
ATOM	9794	CA	TRP	B	544	-4.804	24.912	128.489	1.00	5.93	B	C
ATOM	9808	CA	TYR	B	545	-4.279	22.715	131.546	1.00	4.79	B	C
ATOM	9820	CA	ASP	B	546	-4.407	19.324	129.817	1.00	4.56	B	C
ATOM	9828	CA	ALA	B	547	-0.984	19.835	128.277	1.00	5.44	B	C
ATOM	9833	CA	TYR	B	548	-0.609	16.142	127.393	1.00	6.08	B	C
ATOM	9845	CA	ASP	B	549	-3.092	16.487	124.510	1.00	5.83	B	C
ATOM	9853	CA	MET	B	550	-2.830	19.820	122.688	1.00	7.27	B	C
ATOM	9861	CA	ASP	B	551	-3.867	18.042	119.495	1.00	9.92	B	C
ATOM	9869	CA	ALA	B	552	-7.181	17.034	121.101	1.00	9.29	B	C
ATOM	9874	CA	LEU	B	553	-7.610	20.544	122.602	1.00	8.74	B	C
ATOM	9882	CA	VAL	B	554	-6.969	22.270	119.281	1.00	9.28	B	C
ATOM	9889	CA	GLU	B	555	-9.660	20.056	117.696	1.00	10.79	B	C
ATOM	9898	CA	ALA	B	556	-12.151	20.721	120.539	1.00	8.98	B	C
ATOM	9903	CA	MET	B	557	-11.629	24.480	120.201	1.00	9.27	B	C
ATOM	9911	CA	GLY	B	558	-12.831	24.096	116.592	1.00	11.18	B	C

ATOM	9915	CA	GLY	B	559	-9.648	23.449	114.651	1.00	12.57	B	C
ATOM	9919	CA	HIS	B	560	-6.240	24.925	113.907	1.00	13.76	B	C
ATOM	9929	CA	GLU	B	561	-7.665	28.397	113.047	1.00	13.40	B	C
ATOM	9938	CA	ALA	B	562	-9.852	28.561	116.156	1.00	11.93	B	C
ATOM	9943	CA	ALA	B	563	-6.829	27.744	118.342	1.00	11.17	B	C
ATOM	9948	CA	ARG	B	564	-4.548	30.202	116.523	1.00	10.14	B	C
ATOM	9959	CA	LEU	B	565	-6.933	33.107	117.193	1.00	9.78	B	C
ATOM	9967	CA	GLY	B	566	-7.517	31.781	120.725	1.00	8.93	B	C
ATOM	9971	CA	MET	B	567	-3.792	31.948	121.520	1.00	9.45	B	C
ATOM	9979	CA	ARG	B	568	-3.398	35.497	120.126	1.00	9.92	B	C
ATOM	9990	CA	HIS	B	569	-6.452	36.629	122.170	1.00	9.91	B	C
ATOM	10000	CA	MET	B	570	-4.961	34.969	125.270	1.00	10.22	B	C
ATOM	10008	CA	PHE	B	571	-1.992	37.376	124.985	1.00	9.43	B	C
ATOM	10019	CA	GLY	B	572	-3.956	40.469	123.877	1.00	11.08	B	C
ATOM	10023	CA	GLU	B	573	-2.195	40.540	120.475	1.00	13.30	B	C
ATOM	10032	CA	HIS	B	574	-5.029	42.598	118.931	1.00	14.86	B	C
ATOM	10042	CA	ALA	B	575	-4.622	45.304	121.645	1.00	15.90	B	C
ATOM	10047	CA	PRO	B	576	-0.972	45.390	122.696	1.00	17.21	B	C
ATOM	10054	CA	ASP	B	577	-1.328	48.595	124.695	1.00	18.80	B	C
ATOM	10062	CA	ASP	B	578	-4.343	47.440	126.680	1.00	16.37	B	C
ATOM	10070	CA	GLY	B	579	-3.447	45.773	129.999	1.00	14.31	B	C
ATOM	10074	CA	LYS	B	580	-6.893	44.273	130.536	1.00	14.35	B	C
ATOM	10083	CA	ALA	B	581	-6.401	42.289	127.289	1.00	11.55	B	C
ATOM	10088	CA	MET	B	582	-3.732	40.150	128.992	1.00	9.08	B	C
ATOM	10096	CA	LEU	B	583	-5.611	36.913	129.818	1.00	6.75	B	C
ATOM	10104	CA	HIS	B	584	-2.406	35.066	130.755	1.00	5.26	B	C
ATOM	10114	CA	SER	B	585	-1.183	35.314	134.331	1.00	5.08	B	C
ATOM	10120	CA	ASN	B	586	2.561	35.487	135.130	1.00	4.87	B	C
ATOM	10128	CA	ALA	B	587	1.917	35.442	138.923	1.00	6.16	B	C
ATOM	10133	CA	ASN	B	588	0.684	31.857	139.540	1.00	9.70	B	C
ATOM	10141	CA	GLU	B	589	1.574	28.445	138.079	1.00	11.52	B	C
ATOM	10150	CA	ILE	B	590	-1.724	27.523	136.394	1.00	11.76	B	C
ATOM	10158	CA	ASP	B	591	-0.787	28.589	132.835	1.00	11.65	B	C
ATOM	10166	CA	LEU	B	592	3.036	28.784	133.060	1.00	10.00	B	C
ATOM	10174	CA	GLN	B	593	3.220	26.855	129.797	1.00	7.99	B	C
ATOM	10183	CA	ALA	B	594	0.955	29.258	127.891	1.00	7.42	B	C
ATOM	10188	CA	PRO	B	595	3.697	31.434	126.264	1.00	6.47	B	C
ATOM	10195	CA	TYR	B	596	5.040	28.300	124.524	1.00	5.99	B	C
ATOM	10207	CA	LEU	B	597	1.684	27.269	123.043	1.00	5.41	B	C
ATOM	10215	CA	PHE	B	598	2.175	29.492	119.962	1.00	6.82	B	C
ATOM	10226	CA	ASN	B	599	4.570	26.728	118.788	1.00	7.99	B	C
ATOM	10234	CA	TYR	B	600	1.469	24.494	118.559	1.00	8.95	B	C
ATOM	10246	CA	THR	B	601	-0.592	27.029	116.565	1.00	9.34	B	C
ATOM	10253	CA	GLY	B	602	2.026	27.493	113.815	1.00	9.48	B	C
ATOM	10257	CA	GLU	B	603	3.299	30.812	115.139	1.00	9.51	B	C
ATOM	10266	CA	PRO	B	604	6.593	29.991	116.946	1.00	8.50	B	C
ATOM	10273	CA	SER	B	605	7.845	33.578	116.478	1.00	7.57	B	C
ATOM	10279	CA	LEU	B	606	5.226	34.638	119.060	1.00	7.18	B	C
ATOM	10287	CA	THR	B	607	6.464	32.030	121.578	1.00	5.66	B	C
ATOM	10294	CA	GLN	B	608	9.959	33.487	121.141	1.00	5.96	B	C
ATOM	10303	CA	LYS	B	609	8.701	37.059	121.593	1.00	6.51	B	C
ATOM	10312	CA	TRP	B	610	6.714	36.241	124.769	1.00	7.00	B	C
ATOM	10326	CA	ALA	B	611	9.360	33.957	126.314	1.00	7.18	B	C
ATOM	10331	CA	ARG	B	612	11.852	36.768	125.860	1.00	7.07	B	C
ATOM	10342	CA	ALA	B	613	9.502	39.547	127.021	1.00	7.16	B	C
ATOM	10347	CA	ILE	B	614	8.036	37.923	130.160	1.00	7.15	B	C
ATOM	10355	CA	TYR	B	615	11.442	37.037	131.623	1.00	8.13	B	C
ATOM	10367	CA	THR	B	616	13.573	39.966	130.409	1.00	8.81	B	C
ATOM	10374	CA	LYS	B	617	11.308	42.977	129.716	1.00	9.89	B	C
ATOM	10383	CA	GLU	B	618	8.250	44.801	130.976	1.00	10.62	B	C
ATOM	10392	CA	THR	B	619	4.925	43.183	130.129	1.00	10.85	B	C
ATOM	10399	CA	TRP	B	620	1.277	43.848	130.780	1.00	10.87	B	C
ATOM	10413	CA	ASN	B	621	0.104	42.242	133.955	1.00	8.54	B	C
ATOM	10421	CA	ARG	B	622	-3.614	41.858	134.675	1.00	6.42	B	C
ATOM	10432	CA	TYR	B	623	-3.638	39.092	137.312	1.00	6.84	B	C
ATOM	10444	CA	ILE	B	624	-2.166	38.601	140.777	1.00	6.95	B	C

ATOM	10452	CA	ALA	B	625	-2.036	35.146	142.429	1.00	9.17	B	C
ATOM	10457	CA	THR	B	626	-4.883	35.743	144.940	1.00	9.61	B	C
ATOM	10464	CA	GLY	B	627	-8.057	37.828	145.428	1.00	11.00	B	C
ATOM	10468	CA	SER	B	628	-6.410	40.988	146.753	1.00	14.00	B	C
ATOM	10474	CA	SER	B	629	-3.055	42.511	147.827	1.00	14.96	B	C
ATOM	10480	CA	SER	B	630	-2.186	45.392	150.152	1.00	15.87	B	C
ATOM	10486	CA	ALA	B	631	1.099	45.793	148.230	1.00	15.15	B	C
ATOM	10491	CA	VAL	B	632	-0.451	46.993	144.954	1.00	12.68	B	C
ATOM	10498	CA	PRO	B	633	-3.837	48.543	144.078	1.00	11.90	B	C
ATOM	10505	CA	SER	B	634	-5.790	45.403	143.232	1.00	10.24	B	C
ATOM	10511	CA	GLY	B	635	-9.047	43.424	143.655	1.00	10.87	B	C
ATOM	10515	CA	GLY	B	636	-10.965	40.434	142.243	1.00	11.37	B	C
ATOM	10519	CA	GLY	B	637	-7.618	38.717	141.514	1.00	10.74	B	C
ATOM	10523	CA	GLU	B	638	-6.354	41.552	139.331	1.00	10.06	B	C
ATOM	10532	CA	PHE	B	639	-4.034	44.542	139.288	1.00	10.96	B	C
ATOM	10543	CA	THR	B	640	-6.497	47.479	139.174	1.00	13.37	B	C
ATOM	10550	CA	PRO	B	641	-5.496	48.960	136.843	1.00	14.12	B	C
ATOM	10557	CA	PRO	B	642	-3.275	46.456	134.964	1.00	13.72	B	C
ATOM	10564	CA	LEU	B	643	0.396	47.404	135.238	1.00	14.65	B	C
ATOM	10572	CA	LYS	B	644	3.137	47.317	132.691	1.00	13.96	B	C
ATOM	10581	CA	THR	B	645	6.095	45.936	134.647	1.00	11.78	B	C
ATOM	10588	CA	LYS	B	646	8.969	43.450	134.688	1.00	11.14	B	C
ATOM	10597	CA	VAL	B	647	7.800	40.166	136.218	1.00	8.36	B	C
ATOM	10604	CA	TYR	B	648	11.303	39.198	137.406	1.00	7.74	B	C
ATOM	10616	CA	ARG	B	649	13.591	41.824	139.020	1.00	9.04	B	C
ATOM	10627	CA	LEU	B	650	17.093	41.707	140.433	1.00	7.53	B	C
ATOM	10635	CA	ASP	B	651	15.807	43.347	143.621	1.00	5.17	B	C
ATOM	10643	CA	PRO	B	652	14.545	42.350	147.055	1.00	5.40	B	C
ATOM	10650	CA	ARG	B	653	11.139	42.853	145.381	1.00	6.53	B	C
ATOM	10661	CA	GLY	B	654	12.108	40.059	142.996	1.00	6.41	B	C
ATOM	10665	CA	MET	B	655	8.705	38.795	141.823	1.00	6.72	B	C
ATOM	10673	CA	LEU	B	656	5.334	40.460	141.196	1.00	6.70	B	C
ATOM	10681	CA	PRO	B	657	3.402	41.236	144.385	1.00	6.71	B	C
ATOM	10688	CA	THR	B	658	1.659	37.972	145.528	1.00	7.41	B	C
ATOM	10695	CA	MET	B	659	3.892	35.925	143.184	1.00	5.95	B	C
ATOM	10703	CA	ASP	B	660	5.190	33.199	145.543	1.00	4.96	B	C
ATOM	10711	CA	ASN	B	661	8.255	31.368	144.118	1.00	5.08	B	C
ATOM	10719	CA	ASP	B	662	6.702	28.114	145.513	1.00	4.85	B	C
ATOM	10727	CA	ALA	B	663	9.647	25.783	146.215	1.00	5.19	B	C
ATOM	10732	CA	GLY	B	664	11.674	27.503	143.453	1.00	5.63	B	C
ATOM	10736	CA	THR	B	665	9.108	26.987	140.680	1.00	6.11	B	C
ATOM	10743	CA	MET	B	666	9.161	30.568	139.404	1.00	7.32	B	C
ATOM	10751	CA	SER	B	667	12.973	30.544	139.595	1.00	7.14	B	C
ATOM	10757	CA	THR	B	668	13.107	27.187	137.738	1.00	8.41	B	C
ATOM	10764	CA	MET	B	669	10.894	28.674	134.975	1.00	8.61	B	C
ATOM	10772	CA	PHE	B	670	13.293	31.613	134.474	1.00	5.87	B	C
ATOM	10783	CA	VAL	B	671	16.232	29.234	134.165	1.00	5.19	B	C
ATOM	10790	CA	ALA	B	672	14.275	27.232	131.532	1.00	5.77	B	C
ATOM	10795	CA	ALA	B	673	13.327	30.366	129.576	1.00	6.53	B	C
ATOM	10800	CA	ALA	B	674	17.004	31.392	129.591	1.00	6.52	B	C
ATOM	10805	CA	VAL	B	675	18.093	27.945	128.278	1.00	6.08	B	C
ATOM	10812	CA	GLY	B	676	15.236	28.143	125.757	1.00	5.59	B	C
ATOM	10816	CA	LEU	B	677	13.801	24.680	126.537	1.00	4.36	B	C
ATOM	10824	CA	PHE	B	678	10.456	24.513	128.310	1.00	4.27	B	C
ATOM	10835	CA	PRO	B	679	8.476	21.441	129.468	1.00	4.23	B	C
ATOM	10842	CA	VAL	B	680	4.935	22.169	128.193	1.00	4.71	B	C
ATOM	10849	CA	THR	B	681	4.133	18.524	128.725	1.00	4.02	B	C
ATOM	10856	CA	ALA	B	682	5.534	17.401	132.028	1.00	2.99	B	C
ATOM	10861	CA	GLY	B	683	5.162	13.611	132.013	1.00	4.05	B	C
ATOM	10865	CA	SER	B	684	6.552	13.443	128.463	1.00	5.13	B	C
ATOM	10871	CA	SER	B	685	10.143	13.369	127.150	1.00	6.66	B	C
ATOM	10877	CA	GLN	B	686	9.863	16.641	125.200	1.00	6.38	B	C
ATOM	10886	CA	PHE	B	687	10.738	20.344	125.639	1.00	5.59	B	C
ATOM	10897	CA	GLN	B	688	9.427	23.232	123.520	1.00	6.03	B	C
ATOM	10906	CA	VAL	B	689	11.793	25.796	122.043	1.00	6.55	B	C
ATOM	10913	CA	GLY	B	690	11.579	29.419	123.274	1.00	7.04	B	C

ATOM	10917	CA	SER	B	691	14.106	32.286	122.899	1.00	7.79	B	C
ATOM	10923	CA	PRO	B	692	17.484	31.426	124.521	1.00	7.84	B	C
ATOM	10930	CA	PHE	B	693	18.864	34.550	126.227	1.00	7.82	B	C
ATOM	10941	CA	PHE	B	694	22.594	34.064	125.890	1.00	7.33	B	C
ATOM	10952	CA	ASP	B	695	25.205	33.655	123.125	1.00	9.43	B	C
ATOM	10960	CA	SER	B	696	26.210	30.332	124.574	1.00	9.32	B	C
ATOM	10966	CA	THR	B	697	24.781	28.206	127.383	1.00	8.98	B	C
ATOM	10973	CA	THR	B	698	26.586	24.967	128.241	1.00	8.91	B	C
ATOM	10980	CA	ILE	B	699	25.297	22.278	130.616	1.00	9.45	B	C
ATOM	10988	CA	THR	B	700	28.086	19.908	131.647	1.00	10.12	B	C
ATOM	10995	CA	TYR	B	701	27.061	16.493	132.887	1.00	9.88	B	C
ATOM	11007	CA	ASP	B	702	28.712	14.246	135.442	1.00	11.45	B	C
ATOM	11015	CA	ASP	B	703	30.657	12.267	132.819	1.00	13.40	B	C
ATOM	11023	CA	GLY	B	704	32.161	15.461	131.345	1.00	11.98	B	C
ATOM	11027	CA	SER	B	705	29.921	15.485	128.268	1.00	10.92	B	C
ATOM	11033	CA	ALA	B	706	27.904	18.613	127.584	1.00	10.52	B	C
ATOM	11038	CA	PHE	B	707	24.798	20.036	125.938	1.00	9.26	B	C
ATOM	11049	CA	THR	B	708	25.464	23.375	124.241	1.00	8.88	B	C
ATOM	11056	CA	VAL	B	709	22.737	25.748	123.064	1.00	9.09	B	C
ATOM	11063	CA	THR	B	710	24.043	28.747	121.128	1.00	11.17	B	C
ATOM	11070	CA	ALA	B	711	22.134	31.834	120.050	1.00	12.24	B	C
ATOM	11075	CA	ASP	B	712	24.141	33.564	117.322	1.00	14.25	B	C
ATOM	11083	CA	GLY	B	713	23.722	37.334	117.271	1.00	12.57	B	C
ATOM	11087	CA	VAL	B	714	21.303	37.259	120.194	1.00	12.10	B	C
ATOM	11094	CA	SER	B	715	20.477	40.687	121.622	1.00	11.79	B	C
ATOM	11100	CA	GLU	B	716	17.633	42.447	123.438	1.00	13.43	B	C
ATOM	11109	CA	ASP	B	717	16.112	43.108	119.987	1.00	12.74	B	C
ATOM	11117	CA	ALA	B	718	17.337	39.953	118.227	1.00	11.10	B	C
ATOM	11122	CA	PHE	B	719	15.169	37.456	120.135	1.00	10.51	B	C
ATOM	11133	CA	TYR	B	720	13.602	35.772	117.045	1.00	10.60	B	C
ATOM	11145	CA	VAL	B	721	14.971	32.509	115.687	1.00	9.51	B	C
ATOM	11152	CA	GLN	B	722	15.866	32.757	111.949	1.00	9.69	B	C
ATOM	11161	CA	SER	B	723	17.260	29.236	111.377	1.00	10.67	B	C
ATOM	11167	CA	ALA	B	724	18.749	26.372	113.367	1.00	10.44	B	C
ATOM	11172	CA	THR	B	725	21.057	23.385	113.295	1.00	10.19	B	C
ATOM	11179	CA	LEU	B	726	21.285	20.299	115.497	1.00	9.79	B	C
ATOM	11187	CA	ASP	B	727	24.740	18.682	115.470	1.00	10.78	B	C
ATOM	11195	CA	GLY	B	728	25.486	20.479	112.168	1.00	9.59	B	C
ATOM	11199	CA	ALA	B	729	22.291	19.355	110.407	1.00	9.37	B	C
ATOM	11204	CA	THR	B	730	19.314	21.561	109.427	1.00	9.54	B	C
ATOM	11211	CA	PHE	B	731	16.911	21.620	112.380	1.00	9.46	B	C
ATOM	11222	CA	GLY	B	732	13.291	22.799	111.894	1.00	10.01	B	C
ATOM	11226	CA	ASN	B	733	11.327	21.345	114.825	1.00	10.28	B	C
ATOM	11234	CA	THR	B	734	9.967	23.567	117.612	1.00	10.95	B	C
ATOM	11241	CA	TRP	B	735	10.620	20.889	120.262	1.00	9.83	B	C
ATOM	11255	CA	VAL	B	736	13.510	18.634	121.295	1.00	9.57	B	C
ATOM	11262	CA	ASP	B	737	13.581	15.277	123.044	1.00	9.41	B	C
ATOM	11270	CA	TYR	B	738	15.214	14.889	126.458	1.00	7.09	B	C
ATOM	11282	CA	ALA	B	739	17.644	12.232	125.051	1.00	6.73	B	C
ATOM	11287	CA	THR	B	740	19.020	14.795	122.576	1.00	6.66	B	C
ATOM	11294	CA	VAL	B	741	19.805	17.297	125.352	1.00	6.54	B	C
ATOM	11301	CA	VAL	B	742	21.387	14.908	127.847	1.00	6.53	B	C
ATOM	11308	CA	GLY	B	743	23.160	13.136	124.956	1.00	8.60	B	C
ATOM	11312	CA	GLY	B	744	25.256	16.293	124.535	1.00	8.96	B	C
ATOM	11316	CA	ALA	B	745	23.948	17.869	121.301	1.00	8.77	B	C
ATOM	11321	CA	ASP	B	746	24.948	21.245	119.824	1.00	9.99	B	C
ATOM	11329	CA	LEU	B	747	21.727	23.156	119.256	1.00	9.20	B	C
ATOM	11337	CA	ALA	B	748	22.723	26.298	117.347	1.00	9.57	B	C
ATOM	11342	CA	PHE	B	749	20.245	29.087	116.636	1.00	9.42	B	C
ATOM	11353	CA	ARG	B	750	20.864	32.051	114.353	1.00	10.76	B	C
ATOM	11364	CA	MET	B	751	18.965	35.015	115.906	1.00	10.21	B	C
ATOM	11372	CA	GLY	B	752	17.572	38.240	114.387	1.00	12.06	B	C
ATOM	11376	CA	GLU	B	753	15.318	41.247	114.999	1.00	14.15	B	C
ATOM	11385	CA	GLN	B	754	12.309	40.094	112.922	1.00	15.06	B	C
ATOM	11394	CA	PRO	B	755	9.930	37.094	113.128	1.00	14.14	B	C
ATOM	11401	CA	SER	B	756	10.685	34.248	110.709	1.00	14.80	B	C

ATOM	11407	CA	ASP	B	757	8.804	31.176	109.465	1.00	14.96	B	C
ATOM	11415	CA	TRP	B	758	11.407	28.912	111.150	1.00	13.21	B	C
ATOM	11429	CA	GLY	B	759	9.689	25.918	112.773	1.00	13.37	B	C
ATOM	11433	CA	THR	B	760	6.357	26.434	111.014	1.00	13.94	B	C
ATOM	11440	CA	ASP	B	761	6.914	23.033	109.382	1.00	13.96	B	C
ATOM	11448	CA	THR	B	762	7.829	21.295	112.640	1.00	10.47	B	C
ATOM	11455	CA	ALA	B	763	7.173	17.563	113.052	1.00	9.77	B	C
ATOM	11460	CA	PRO	B	764	4.213	17.436	115.464	1.00	9.45	B	C
ATOM	11467	CA	ALA	B	765	4.950	17.568	119.216	1.00	7.60	B	C
ATOM	11472	CA	PHE	B	766	3.648	14.939	121.659	1.00	7.84	B	C
ATOM	11483	CA	SER	B	767	-0.100	14.561	122.179	1.00	8.05	B	C
ATOM	11489	CA	MET	B	768	-1.670	11.546	123.865	1.00	10.37	B	C
ATOM	11497	CA	SER	B	769	-4.411	11.138	121.212	1.00	13.56	B	C
ATOM	11503	CA	THR	B	770	-1.982	11.233	118.242	1.00	17.85	B	C
ATOM	11510	CA	ALA	B	771	0.792	9.094	119.762	1.00	20.44	B	C
ATOM	12382	CA	CA	C	1	41.425	16.915	81.268	1.00	30.05	C	CA
ATOM	12383	CA	CA	C	6	1.503	30.134	143.317	1.00	32.32	C	CA

END