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[Continued on next page]

(54) Title: ANTI-BACTERIAL DRUG TARGETING OF GENOME MAINTENANCE INTERFACES

FIGURE 25A

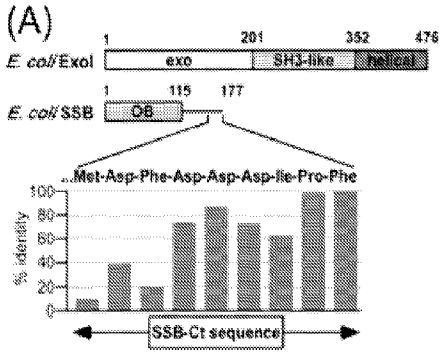
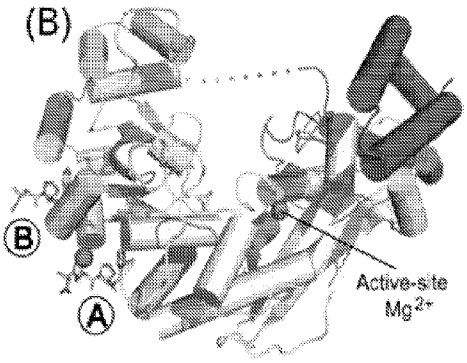


FIGURE 25B



(57) Abstract: Methods for the design and identification of novel antimicrobial compounds are provided, as well as antimicrobial compounds identified using these methods. Pharmaceutical compositions that include these antimicrobial compounds are provided as well. The antimicrobial compounds inhibit the binding of a prokaryotic single-stranded DNA binding protein to a polypeptide. In some examples, the prokaryotic single-stranded DNA binding protein is prokaryotic exonuclease I.

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ANTI-BACTERIAL DRUG TARGETING OF GENOME MAINTENANCE INTERFACES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This invention claims priority to U.S. Provisional Patent Application Serial No. 60/931,411, filed May 22, 2007, which is herein incorporated by reference.

GOVERNMENT INTERESTS

[0002] This invention was made with United States government support awarded by the National Institutes of Health, grant No. GM068061. The United States government has certain rights in this invention.

FIELD OF THE INVENTION

[0003] The present invention relates generally to the field of screening for novel antimicrobial compounds.

BACKGROUND

[0004] Antibiotic resistant strains of bacteria as well as emerging bacterial pathogens pose a growing threat to world health, and the development of antibiotics necessary to counter these threats has dramatically slowed over the previous decades, leaving the population more vulnerable to these risks (Katz *et al.*, 2006, *Nat. Biotech.* 24: 1529-1531; Payne *et al.*, 2007, *Nat. Rev. Drug Discovery* 6: 29-40). Most newly developed antibiotics merely target one of the proven vulnerable pathways previously exploited by prior generations of antibiotics. While these drugs are effective, resistance to them is rising at an alarming rate, suggesting the need for antibiotics that target additional bacterial molecules or cellular processes.

[0005] Single-stranded DNA-binding proteins (SSBs) in bacteria form essential intermolecular complexes with at least a dozen other DNA replication, DNA recombination, and DNA repair proteins (Molineux and Gefter, 1975, *J. Mol. Biol.* 98: 811-825; Butland *et al.*, 2005, *Nature* 433: 531-537). In addition, SSB proteins play important organizational roles through their interactions with many different genome maintenance proteins. Several, if not all, of these interactions are known to be mediated by the carboxy-terminal-most 8-10 residues from SSB, which form a peptide sequence that is highly conserved among bacterial SSBs but is not found in eukaryotic SSBs (Sandigursky *et al.*, 1996, *Radiation Res.* 145: 619-623; Curth *et al.*, 1996, *Nucleic Acids Res.* 24: 2706-2711; Genschel *et al.*, 2000, *Biol. Chem.* 381: 183-192). Previous studies have shown that mutations within, or deletions of, this interaction sequence from SSB, have drastic effects on bacterial viability, indicating that formation of proper protein interactions with this site is critical for bacterial growth.

[0006] SSBs are a conserved protein family found throughout all forms of life, playing a variety of essential roles in nearly all aspects of DNA metabolism. SSBs bind and protect sensitive single-stranded DNA (ssDNA) intermediates that occur during DNA replication, recombination, and repair. SSBs recruit genome maintenance proteins to ssDNA, and play instrumental regulatory roles in ssDNA degradation, replication initiation, initiation of homologous recombination, relaxation of supercoiled DNA, and numerous other genome maintenance processes. Deletions of SSBs have been shown to be lethal and since all known SSBs play similar roles in cells, finding compounds that inhibit bacterial SSBs could have similar effects on eukaryotic cells.

BRIEF SUMMARY

[0007] It has been discovered that interfaces involving SSBs may be used as targets to generate promising new classes of antimicrobial compounds. Methods are provided that include reacting polypeptides comprising prokaryotic single-stranded DNA binding proteins, polypeptides that bind to the prokaryotic single-stranded DNA binding proteins, and candidate compounds, and assaying for

binding of the polypeptides comprising the prokaryotic single-stranded DNA binding proteins to the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins, where a decrease in binding, relative to the binding of the polypeptides comprising the prokaryotic single-stranded DNA binding proteins to the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins in absence of the candidate compounds, identifies the candidate compounds as antimicrobial compounds. In the practice of the methods, the polypeptides comprising the prokaryotic single-stranded DNA binding proteins may include carboxy-tails that are at least 90% identical to the carboxy-tails of the polypeptides with an amino acid sequence of SEQ ID NO:2, or to the carboxy-tails of the polypeptides with an amino acid sequence of SEQ ID NO:2 having 1 to 4 conservative amino acid substitutions. The polypeptides comprising the prokaryotic single-stranded DNA binding proteins polypeptides may include carboxy-tails comprising the amino acid sequence Asp-Ile-Pro-Phe (SEQ ID NO:5), or the amino acid sequence Asp-Ile-Pro-Phe (SEQ ID NO:5) having 1 to 2 conservative amino acid substitutions.

[0008] In the practice of the methods, the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins may include exonucleases, DNA polymerase subunits, primases, helicases, topoisomerases, DNA repair enzymes, etc. In one example, the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins include Exonuclease I. The polypeptides that bind to the prokaryotic single-stranded DNA binding proteins may be at least 90% identical to the amino acid sequence of SEQ ID NO:4. The methods may include assaying that comprises measuring fluorescence polarization.

[0009] Methods of inhibiting the binding of SSB-binding proteins to the C-terminal tails of prokaryotic SSBs are provided. The methods include contacting the antimicrobial compounds identified as described above with the SSB-binding proteins and with the C-terminal tails of prokaryotic SSBs, where the antimicrobial compounds inhibit the binding of the prokaryotic SSBs to the SSB-binding proteins. The SSB-binding proteins may be exonucleases, and in some embodiments the SSB-binding proteins may be prokaryotic Exonuclease I.

[0010] Methods of inhibiting the growth of microorganisms are provided, which include contacting the antimicrobial compounds identified as described above with the microorganisms, thereby inhibiting the growth of the microorganisms.

[0011] Three-dimensional models of crystal structures of prokaryotic Exonucleases I bound to the C-terminal tails of prokaryotic SSBs are provided. In one embodiment, the models substantially represent the atomic coordinates specified in the Protein Data Bank under the accession code 3C94. Methods are provided, which include: a) identifying candidate compounds using three-dimensional models of crystal structures of Exonuclease I bound to C-terminal tails of prokaryotic single-stranded DNA binding proteins, where the models substantially represent the atomic coordinates specified in the Protein Data Bank under the accession code 3C94; b) contacting the candidate compounds with polypeptides comprising the prokaryotic single-stranded DNA binding proteins and with polypeptides that bind to the prokaryotic single-stranded DNA binding proteins; and c) assaying for binding of the polypeptides comprising the prokaryotic single-stranded DNA binding proteins to the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins; where a decrease in binding, relative to the binding of the polypeptides comprising the prokaryotic single-stranded DNA binding proteins to the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins in absence of the candidate compounds, identifies the candidate compounds as antimicrobial compounds. The contacting may be performed in solution. Alternatively, the contacting may be simulated *in silico*. The methods may also include the step (d) of administering the identified antimicrobial compounds to subjects to determine if the compounds reduce growth of microorganisms in the subjects. Compounds identified by these methods are provided. Antimicrobial pharmaceutical compositions that include as active agents the compounds identified by these methods are also provided.

[0012] Methods of inhibiting the binding of prokaryotic Exonucleases I to the C-terminal tails of prokaryotic SSBs are provided, which include: a) designing candidate compounds using three-dimensional models of crystal structures of the prokaryotic Exonucleases I bound to the C-terminal tails of the prokaryotic SSBs,

where the models substantially represent the atomic coordinates specified in the Protein Data Bank under the accession code 3C94; and b) contacting the candidate compounds with the Exonucleases I and with the prokaryotic SSBs, where the candidate compounds inhibit the binding of the prokaryotic Exonucleases I to the prokaryotic SSBs. The contacting may be performed in solution. Alternatively, the contacting may be simulated *in silico*.

[0013] Three-dimensional models of crystal structures of prokaryotic Exonuclease I bound to compounds identified according to the present invention are provided. For example, the three-dimensional model of crystal structure of prokaryotic Exonuclease I bound to compound 9 is provided, where the models substantially represent the atomic coordinates specified in Table 6. As well, the three-dimensional models of crystal structure of prokaryotic Exonuclease I bound to compound 10 is provided, where the models substantially represent the atomic coordinates specified in Table 7. Methods are provided, which include: a) identifying candidate compounds using three-dimensional models of crystal structures of Exonuclease I bound to compound 9 or compound 10, where the models substantially represent the atomic coordinates specified in Tables 7 and 8, respectively; b) contacting the candidate compounds with polypeptides comprising the prokaryotic single-stranded DNA binding proteins and with polypeptides that bind to the prokaryotic single-stranded DNA binding proteins; and c) assaying for binding of the polypeptides comprising the prokaryotic single-stranded DNA binding proteins to the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins; where a decrease in binding, relative to the binding of the polypeptides comprising the prokaryotic single-stranded DNA binding proteins to the polypeptides that bind to the prokaryotic single-stranded DNA binding proteins in absence of the candidate compounds, identifies the candidate compounds as antimicrobial compounds. The contacting may be performed in solution. Alternatively, the contacting may be simulated *in silico*. The methods may also include the step (d) of administering the identified antimicrobial compounds to subjects to determine if the compounds reduce growth of microorganisms in the subjects. Compounds identified by these

methods are provided. Antimicrobial pharmaceutical compositions that include as active agents the compounds identified by these methods are also provided.

[0014] Methods of inhibiting the growth of microorganisms are provided, which include contacting the antimicrobial compounds identified as described herein with the microorganisms, thereby inhibiting the growth of the microorganisms.

[0015] Antimicrobial pharmaceutical compositions comprising as the active agent the antimicrobial compounds identified as described herein are provided. Also provided are methods of treating subjects that have microbial infections, which include the step of administering to the subjects therapeutically effective amounts of these novel pharmaceutical compositions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] Figure 1 is a graph showing peptide binding inhibition by inhibitor 3.

[0017] Figure 2 is a graph showing peptide binding inhibition by inhibitor 9.

[0018] Figure 3 is a graph showing peptide binding inhibition by inhibitor 10.

[0019] Figure 4 is a graph showing peptide binding inhibition by inhibitor 32.

[0020] Figure 5 is a graph showing peptide binding inhibition by inhibitor 37.

[0021] Figure 6 is a graph showing peptide binding inhibition by inhibitor 46 *vs.* peptide binding inhibition by inhibitor 31.

[0022] Figure 7 is a graph showing peptide binding inhibition by the WT peptide.

[0023] Figure 8 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 3.

[0024] Figure 9 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 8.

[0025] Figure 10 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 9.

[0026] Figure 11 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 10.

[0027] Figure 12 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 28.

[0028] Figure 13 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 29.

[0029] Figure 14 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 31.

[0030] Figure 15 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 32.

[0031] Figure 16 is a graph showing the inhibition of *Escherichia coli* 4213 growth by inhibitor 37.

[0032] Figure 17 is a graph showing the inhibition of *Staphylococcus aureus* growth by inhibitor 3.

[0033] Figure 18 is a graph showing the inhibition of *Staphylococcus aureus* growth by inhibitor 8.

[0034] Figure 19 is a graph showing the inhibition of *Staphylococcus aureus* growth by inhibitor 9.

[0035] Figure 20 is a graph showing the inhibition of *Staphylococcus aureus* growth by inhibitor 10.

[0036] Figure 21 is a graph showing the inhibition of *Staphylococcus aureus* growth by inhibitor 32.

[0037] Figure 22 is a graph showing the inhibition of *Staphylococcus aureus* growth by inhibitor 37.

[0038] Figure 23 is a graph showing the inhibition of *Staphylococcus aureus* growth by inhibitor 42.

[0039] Figure 24 is a graph showing Topoisomerase III peptide binding in the absence and in the presence of various inhibitors.

[0040] Figure 25 illustrates the structure of the *E. coli* ExoI/SSB-Ct complex.

[0041] Figure 26 illustrates equilibrium binding highlights the roles of the peptide-A-binding site and the basic ridge in SSB-Ct binding.

[0042] Figure 27 illustrates how ExoI/SSB physical interaction is essential for SSB stimulation of ExoI activity.

[0043] Figure 28 is a stereo diagram displaying Fo-Fc omit electron-density map for SSB-Ct peptides A and B.

[0044] Figure 29 illustrates the crystallographic association of two glutamine residues from the ExoI helical domain associate with the SSB-Ct peptide A.

[0045] Figure 30 illustrates the similarity of the ExoI SSB-Ct binding site (A) and a site on the surface of the *E. coli* RecQ winged-helix domain (B).

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

[0046] Novel and selective targets for antibiotic development are provided. The compounds and assays of the present invention can be used for identification of molecules that selectively inhibit interaction between SSB and its target proteins. Such molecules may be used as novel, broad-spectrum antibiotics. Alternatively, such molecules may be chemically modified, i.e. they may be used as starting points for the development of novel, broad-spectrum antibiotics. The compositions of the present invention find use in methods to inhibit the growth of microorganisms. They find use as disinfectants. They find use as active agents that can be used in pharmaceutical compositions, and they also find use in methods of treating subjects with microbial infections. The term "subject" is intended to include patients, normal volunteers, non-human mammals such as primates, and also other animals.

[0047] In one aspect, the present invention relates to novel antimicrobial compounds and to methods of identifying same. An “antimicrobial” is a substance that kills or inhibits the growth of microbes such as bacteria (antibacterial activity), fungi (antifungal activity), viruses (antiviral activity), or parasites (anti-parasitic activity). “Antibiotic” is an antimicrobial substance that is generally used to treat bacterial infections.

[0048] The invention is particularly well-suited for the identification of antimicrobial compounds in the form of small molecules that can inhibit the growth of bacteria. In some examples, the bacteria whose growth is inhibited using the compounds of the present invention are Gram-negative bacteria, e.g. *Escherichia coli*. In other examples, the bacteria whose growth is inhibited using the compounds of the present invention are Gram-positive bacteria, e.g.

Staphylococcus aureus. The present invention may be practiced with bacteria that are not necessarily classified as Gram-positive or Gram-negative, e.g. *Deinococcus radiodurans* and *Mycobacteria* such as *Mycobacterium tuberculosis*, and also with any other bacteria that have conserved C-terminal residues as described herein.

[0049] In one embodiment, the present invention provides for the identification of compounds that inhibit protein complex formation mediated by the single-stranded DNA binding protein's highly conserved C-terminal tail, which could lead to a novel class of chemotherapeutics. The term "SSB" refers to a single-stranded DNA-binding protein. In some embodiments of the present invention, the *E. coli* SSB has the nucleotide sequence of SEQ ID NO:1, and has the amino acid sequence of SEQ ID NO:2.

[0050] Prokaryotic SSBs of the present invention include polypeptides that are polymorphic variants, mutants, and interspecies homologs of SEQ ID NO:2. Prokaryotic SSBs of the present invention also include functional equivalents or fragments of SEQ ID NO:2. A "functional fragment" or "functional equivalent" or "functional homolog" of a polypeptide of the present invention is a polypeptide that is homologous to the specified polypeptide but has one or more amino acid differences from the specified polypeptide. A functional fragment or equivalent of a polypeptide retains at least some, if not all, of the activity of the specified polypeptide.

[0051] The term "genome maintenance" as used herein refers to the maintenance of the structure and integrity of a genome. Proteins such as the single-stranded DNA-binding protein (SSB) may be involved in genome maintenance.

[0052] "Carboxy tail" (also known as the carboxy-tail, carboxyl-terminus, carboxy-terminus, C-terminal end, C-terminus, or COOH-terminus) of a protein or polypeptide is the end of the amino acid chain terminated by a free carboxyl group (-COOH). For purposes of the present invention, the C-terminus of a protein encompasses approximately 10-20 amino acids of the C-terminus of a protein. The SSB's C-terminus is herein also referred to as SSB-Ct.

[0053] The canonical prokaryotic SSBs are homotetramers composed of four identical subunits, with each monomeric unit consisting of an oligonucleotide/oligosaccharide binding (OB)-fold followed by a disordered C-terminal tail. The final ten amino acids of the C-terminal tail are very highly conserved among bacteria, and are essential for viability in *E. coli*, yet they are notably absent from both eukaryotic and mitochondrial SSBs. The C-terminal tail of *E. coli* SSB is the primary interaction site between SSB and many, if not all, of its functional partners including Topoisomerase III, PriA DNA helicase, Chi subunit of DNA polymerase III, RecQ DNA helicase, and *Exonuclease I*. Removal of the C-terminal tail of SSB has little effect on SSB's DNA binding capabilities, but it is nonetheless lethal to *E. coli*.

[0054] Methods are provided for the identification of compounds that inhibit protein-protein interactions mediated by the C-terminal tail of SSB. The present invention also provides compounds that are identified using these methods, which compounds can inhibit protein-protein interactions mediated by the C-terminal tail of SSB. These compounds can serve as broad-spectrum antibiotics by disrupting the formation of genome maintenance protein complexes in prokaryotes, and in particular in bacteria. These compounds are not detrimental to eukaryotic genome maintenance complexes since eukaryotic RPA (Replication Protein A) does not contain a similar C-terminal tail, and likely uses a distinct method to recruit binding partners.

Alignment of SSB Tails From Different Prokaryotic Organisms

[0055] The alignment of the carboxy-tails of approximately 280 prokaryotic SSBs is shown in Table 1, which shows the conservation of the approximately ten amino acid residues that comprise the carboxy-tails of prokaryotic SSBs. In particular, the alignment of the C-terminal 20 residues of approximately 280 prokaryotic SSBs shows that the four extreme C-terminal residues (DIPF, i.e. Asp-Ile-Pro-Phe; also shown in SEQ ID NO:5) are the most highly conserved residues in the carboxy-tail of these prokaryotic SSBs (Table 1). These final C-terminal residues from the carboxy-tail of prokaryotic SSBs appear to be the most important for binding of proteins.

[0056] The present invention contemplates the use of polypeptides with carboxy-tails as shown in Table 1. The present invention contemplates the use of polypeptides with carboxy-tails homologous to the carboxy-tails shown in Table 1. For example, other useful polypeptides may have carboxy-tails as indicated in Table 1 with amino acid sequences comprising one or more conservative amino acid substitutions.

Table 1. Alignment of the carboxy-tails (C-termini) of known prokaryotic SSBs

```
Desulfovibrio_desulfuricans --------FDDLGPAFPSEVSGMDDVPF
Desulfovibrio_vulgaris -------------DDDLGPAFPSEASGMDDVPF
Lawsonia_intracellularis ----------GFEDISP-FPSEASGMDDVPF
Deinococcus_geothermalis -----------GLDIDQGLDDFPPEEEDLPF
Deinococcus_radiodurans ------------GLDIDQGLDDFPPEEDDLPF
Thermus_thermophilus --------------GGVDIDEGLEDFPPEE-DLPF
Streptococcus_pneumoniae -----------ENNAGQDLADLVLEEEELPF
Caldicellulosiruptor_saccharol -----DIGTSSKLDLDENPEDDLPF
Streptococcus_pyogenes -------------NTSSLADSMPDYGPEPDLPF
Bacteroides_thetaiotaomicron -------QAQPSQAQPIQDNPADDLPF
Bacteroides_fragilis ---------------SQQPQQPVSSQDNSADDLPF
Gramella_forsetii ------------------NFANKNEFYSQDEEEDDLPF
Escherichia_coli_K12 ------------SAPAAPSNEPPMD---FDDDIPF
Shigella_dysenteriae_Sd197 ------SAPAAPSNEPPMD---FDDDIPF
Shigella_flexneri ---------------SAPAAPSNEPPMD---FDDDIPF
Shigella_sonnei_Ss046 -----------SAPAAPSNEPPMD---FDDDIPF
Shigella_boydii_Sb227 -----------SAPAAPSNEPPMD---FDDDIPF
Haemophilus_influenzae -----------QQAAPQAEPPMDG--FDDDIPF
Pseudoalteromonas_atlantica -----QNKPAPMAEPDFD---FDDDIPF
Mannheimia_succiniciproducens ----TRPAPAAEPAMDN--FDDDIPF
Pasteurella_mult -------------------PAPQNEPPMDMGFEEDNIPF
Salmonella_enterica -------------QSAPAPSNEPPMD---FDDDIPF
Salmonella_typhimurium ----------QSAPAPSNEPPMD---FDDDIPF
Sodalis_glossinidius ------------NSAPAPSNEPPMD---FDDDIPF
Erwinia_carotovora --------------NNAPAQSNEPPMD---FDDDIPF
Aeromonas_hydrophila ------------QSAPPVYNEPPMD---FDDDIPF
Aeromonas_salmonicida -----------QSAPPVYNEPPMD---FDDDIPF
Vibrio_parahaemolyticus ---------QQPQQQYNEPPMD---FDDDIPF
Photobacterium_profundum --------QQPQQQYNEPPMD---FDDDIPF
Vibrio_cholerae -----------------QYSQPQYNEPPMD---FDDDIPF
Vibrio_vulnificus ---------------MQSQPQYNEPPMD---FDDDIPF
Vibrio_fischeri ----------------QAAQPQYNEPPMD---FDDDIPF
Psychromonas_ingrahamii ---------QPTQTQYNEPSMD---FDDDIPF
Yersinia_enterocolitica ---------AAQPQGGNEPPMD---FDDDIPF
Shewanella_oneidensis -------------QPQQNFTPDLDDG-WDDDIPF
Shewanella_loihica ----------------QPQQNFTPDLDDG-WDDDIPF
Shewanella_putrefaciens -----------QPQQNFTPDLDDG-WDDDIPF
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Shewanella_baltica ----------------QPQQNFTPDLDDG-WDDDIPF
Shewanella_amazonensis ------------PQQQNYTPDLDDG-WDDDIPF
Xanthomonas_campestris ------------PAQQQSAPPMDDF-ADDDIPF
Xanthomonas_axonopodis ------------PAQQQSAPPMDDF-ADDDIPF
Xanthomonas_oryzae ----------------PAQQQSVPPMDDF-ADDDIPF
Xylella_fastidiosa ----------------QSPQSSPPPMDDF-ADDDIPF
Hahella_chejuensis ----------------QQPKPPMPEPMDD-FDDDIPF
Marinobacter_aquaeolei ------------QQQGGGMPEPIDD-FDDDIPF
Alcanivorax_borkumensis ---------TNQGGGFSGPADD---FDDDIPF
Magnetococcus_MC-1 -------------FSSPADTFN-EGPD---FDDDIPF
Geobacter_metallireducens -------FGGGPAYDEPAFN---PDDDIPF
Geobacter_sulfurreducens -------GFGG-PSYDEPAFN---PDDDIPF
Pelobacter_carbinolicus ---------QPQQNQYEEPPFN---PDDDIPF
Syntrophobacter_fumaroxidans ----SRADELPPHPGGG---PDDDIPF
Leptospira_borgpetersenii -------SSSPESYNPPAPD---GDDDIPF
Buchnera_aphidicola ----------------PKKIEKIDSSEIDFDDEIPF
Coxiella_burnetii ------------------QTPTAGDDSSVADFDDDIPF
Photorhabdus_luminescens -----------SSVPPRGSEPPIDFDELIPF
Nitrosococcus_oceani -------------PRPSAPPSSSND--DFEDDIPF
Colwellia_psychrerythraea ----------QAPKVNPQEPSIDFDDDIPF
Pseudoalteromonas_haploplanktis -----QGGASNPMEPTIDFDDDIPF
Wigglesworthia_glossinidia ---------KESKKNKIEEEINFDDDIPF
Pseudomonas_entomophila ------------QQPAPQPAADFDSFDDDIPF
Pseudomonas_putida -----------------QQPAPQPAADFDSFDDDIPF
Pseudomonas_syringae ---------------QQQAPQPAADFDSFDDDIPF
Pseudomonas_fluorescens ------------QQAAPQPAPDFDSFDDDIPF
Pseudomonas_aeruginosa -------------QQPAPQPAQDYDSFDDDIPF
Pseudomonas_stutzeri ---------------PAARQQPAPDYDSFDDDIPF
Pseudomonas_mendocina --------------APQQAQPAPDYDSFDDDIPF
Saccharophagus_degradans -----------PAPAAPPAPDMDSFDDDIPF
Methylibium_petroleiphilum ---------RQQARQPATAGDGFDDEIPF
Thiomicrospira_crunogena -----------PAQQVPAYTANDFDDDDVPF
Solibacter_usitatus ----------------APAQHNDDFNQG-ITDDDVPF
Idiomarina_loihiensis -------------KPAEPAPFSPDNDF-DDDIPF
Burkholderia_383 -------------------SRPSAPAGGGFDEMDDDIPF
Burkholderia_cepacia ---------------SRPSAPAGGGFDEMDDDIPF
Burkholderia_pseudomallei ----------SRPSAPAGGGFDEMDDDIPF
Burkholderia_mallei ----------------SRPSAPAGGGFDEMDDDIPF
Burkholderia_cenocepacia -----------SRPSAPAGGGFDEMDDDIPF
Burkholderia_xenovorans ------------SRPSAPAGGGFDEMDDDIPF
Burkholderia_vietnamiensis ---------SRPSAPAGGGFDEMDDDIPF
Acidovorax_avenae ------------------AAQAPRAASGFDDMDDDIPF
Verminephrobacter_eiseniae ---------AAPGPRAASGFDDMDDDIPF
Polaromonas_JS666 ------------------APAPTKAASGFDDMDDDIPF
Rhodoferax_ferrireducens -----------APAQAKPSSGFDDMDDDIPF
Thiobacillus_denitrificans ---------AGSQRPASSGFDDMDDDIPF
Polaromonas_naphthalenivorans ------PAASRASPSGFDDMDDDIPF
Nitrosomonas_eutropha --------------KTGTTGSSTGFDDMEDDIPF
Nitrosomonas_europaea --------------STPPAKSNTGFDDMEDDIPF
Nitrosospira_multiformis -----------GRAPARSSTGFDDMDDDIPF
Azoarcus_EbN1 ----------------------KAPTKSSGAGFGDFDDDIPF
Methylobacillus_flagellatus --------AASKPAGGSNFDDFEDDIPF
Rhodospirillum_rubrum ------------TAPASGPAGGP--VDMDDDIPF
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Ralstonia_eutropha ----------------RRQQQAPSNGF-EDMDDDIPF
Ralstonia_solanacearum ------------ARRQQAPSNGF-EDMDDDIPF
Agrobacterium_tumefaciens ----------RGGGQPSGGFSNDMDDDIPF
Neisseria_gonorrhoeae --------------RRQPVPAAAPVEDIDDDIPF
Neisseria_meningitidis -------------RRQPVPAAAPVEDIDDDIPF
Herminiimonas_arsenicoxydans -------RPAAKPAASNFNDMDDDIPF
Nitrobacter_hamburgensis -----------PRRTVAAGARRSDMDDDIPF
Nitrobacter_winogradskyi -----------PRRAAPASSHRGDMDDDIPF
Bordetella_parapertussis -----------PAPQAAPAANLADMDDDIPF
Bordetella_pertussis ---------------PAPQAAPAANLADMDDDIPF
Bordetella_bronchiseptica ----------PAPQAAPAANLADMDDDIPF
Polynucleobacter_QLW-P1DMWA-1 ------SAPSASNAASLGAMDDDIPF
Acidobacteria_bacterium ------------NDFDSAPAASTGITDDDIPF
Candidatus_pelagibacter -----------ANNFEDSPQTSN-DMDDEIPF
Psychrobacter_arcticus -------------PAQSKPTAMLDGPVDDDIPF
Psychrobacter_cryohalolentis -------PAQSKPTAMPDGPVDDDIPF
Haemophilus_ducreyi ----------------NKSSKKSTTQQPEVDDDIPF
Dechloromonas_aromatica ------------APPKNKPKPSFDDLGDDIPF
Neorickettsia_sennetsu -----------DLGTPTNHVNDTLDD--DDIPF
Baumannia_cicadellinicola ----------NKIQDMGNEQPIEFDDEIPF
Bdellovibrio_bacteriovorus ---------FNFQDFGPEPSFNSNDEIPF
Chromohalobacter_salexigens --------DNYGAPNPGNFDDFDDEIPF
Dichelobacter_nodosus ------------SSPDYGP--DGAFDDPDDEIPF
Aquifex_aeolicus -------------------EKLGKEEEKPFTDEEDEIPF
Hyphomonas_neptunium --------------QQMSGPKESFS-QDLDDEIPF
Caulobacter_crescentus ------------SQPSGPRESFS-ADLDDEIPF
Maricaulis_maris -------------------SMDGPKEDFRNADLDDEIPF
Rickettsia_felis -------------------HPEAKNHSFDHSDLDDEIPF
Rickettsia_conorii -----------------HPETKNHSFDHSDLDDEIPF
Rickettsia_typhi -------------------YPEIKNHSFDHSDLDDEIPF
Rickettsia_prowazekii --------------YPETKNHSFDHSDLDDEIPF
Rickettsia_bellii ------------------EYKHSKPSFDHSDLDDEIPF
Halorhodospira_halophila -----------GSGGGGMQEAPADFDDDIPF
Paracoccus_denitrificans -----------SGGGGGQSQSRPDFDDDIPF
Rhodopseudomonas_palustris ---------RPMPASSGGGRSDMDDDIPF
Bradyrhizobium_japonicum -----------RAVAAGGGGRNSDMDDDIPF
Granulibacter_bethesdensis --------SGGSGWEPSHGG-DLDDEIPF
Rhodobacter_sphaeroides -----------RGNAPSGGGRRS-DLDDEIPF
Silicibacter_pomeroyi -------------GGGRGRGPASGG-IDDDEIPF
Roseobacter_denitrificans ---------GGGNAPSPAPSR-DLDDEIPF
Magnetospirillum_magneticum -------GGGGGQSWEPPA-DLDDEIPF
Mesorhizobium_BNC1 ----------------PAESGGGGGHSR-DLDDEIPF
Mesorhizobium_loti ----------------APRGGGGGGSSR-ELDDEIPF
Brucella_melitensis ---------------GPSSGSSGGFSR-DLDDEIPF
Brucella_suis ---------------------GPSSGSSGGFSR-DLDDEIPF
Brucella_abortus ------------------GPSSGSSGGFSR-DLDDEIPF
Jannaschia_CCS1 -------------------SGGGYGGGGGSSDLDDEIPF
Silicibacter_TM1040 ---------------NRGGGYGSGSQSID-DDEIPF
Novosphingobium_aromaticivoran ----NQGGGSGGGFGD-DLDDDIPF
Myxococcus_xanthus -------------PPDDMGGGHGGGNGD----DDIPF
Erythrobacter_litoralis -----------GGSGGGGGSNYD-DLDDDIPF
Anaeromyxobacter_dehalogenans -----GPGFGSGGGAGG-GGPDDIPF
Desulfotomaculum_reducens --------SGSGSGFGSEISF-NG-DDIPF
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Sphingopyxis_alaskensis ----------GAPGGGR--PPFDDDLDDDVPF
Pelobacter_propionicus ----------AGTSGGGYEPPPFQD---DDIPF
Gluconobacter_oxydans -------------GSNGGWDAPPDND-LDDEIPF
Bartonella_quintana ----------------QNNSQSEESFSHKLDDDVPF
Bartonella_henselae ----------------SNNSQLGESFSHKLDDDVPF
Bartonella_bacilliformis -----------QNNNQSGGSFSHQLDDDVPF
Rhizobium_etli ---------------------SSNRGGGGNFSRDLDDDIPF
Rhizobium_leguminosarum ------------SRGGGGGGNFSRDLDDDIPF
Sinorhizobium_meliloti -------------SNQPNQGGNFSRDLDDDIPF
Desulfitobacterium_hafniense -------HTASGEAYGHEMSLDDDIPF
Shewanella_denitrificans -----------KSHLVDSTSKIDFDDEDIPF
Candidatus_blochmannia -------------NNHELNSESIVNFNEDDIPF
Wolbachia_endosymbiont -------------QYENFDSEVKEELIDDEIPF
Tropheryma_whipplei ----------------KVLVGDNVSYEDFDSDEVPF
Ehrlichia_chaffeensis --------------KENSLNSSCDDIIIDDEIPF
Ehrlichia_canis --------------------KENFQDSSCDDIIIDDEIPF
Ehrlichia_ruminantium --------------NKMPFQNSCEDVIIDDEIPF
Helicobacter_acinonychis -----------PSKYQNSVPEINIDEEEIPF
Helicobacter_pylori ----------------PSKYQNSVPEINIDEEEIPF
Thiomicrospira_denitrificans -------QMPSNSSIPEIDIDEDEIPF
Wolinella_succinogenes -------------APYKEPQIPEINIDDDEIPF
Helicobacter_hepaticus -------------TGNYPQNIPEINIDDEDIPF
Campylobacter_fetus ----------------RQNKPKQNIDVNIDDEEIPF
Dehalococcoides_ethenogenes -----MDARDDDNGGGELEP---EDIPF
Dehalococcoides_CBDB1 -----------IDAREDDNGGGELEP---EDIPF
Symbiobacterium_thermophilum -------RREDGMGSELTLGDDEDVPF
Clostridium_novyi ------------------IFDQGYDEEITPIDDGDIPF
Clostridium_acetobutylicum ---------DFGVPVQEDITPVDNSDIPF
Clostridium_perfringens ------------DSSFNSNDDMTPIDDGDIPF
Clostridium_tetani -----------------NNEDNYNDDITPVDEGEVPF
Borrelia_afzelii -------------------EDVIKDIDIVDDKFNEDIPF
Borrelia_burgdorferi ---------------EDVVKDIDIVDDKFSEDIPF
Borrelia_garinii -------------------EDAIKNIDIVDDKFNEDIPF
Syntrophomonas_wolfei --------------EVNMDNIDLVDQHEDEDIPF
Anaplasma_marginale ----------------ENAIVEEVSFADEDMDEIPF
Anaplasma_phagocytophilum ----------AGSFGGGVDFLDPDVDEIPF
Treponema_pallidum -----------------ATSSLDEADFSSSDLDTVPF
Rubrobacter_xylanophilus -----------GRGAGDEVDINESDFDDIPF
Treponema_denticola ----------------PSYDDYQPDMGNSDLDNIPF
Mycoplasma_penetrans ---------------DDEDPDQVVSNLDWLDEFKE
Candidatus_ruthia ------------------PVLDPIAPVDNSEFDDDIPF
Acidovorax_JS42 --------------------PVLDPIAPVDNSEFDDDIPF
Francisella_tularensis -------------DNMPDFAEINSSNFDDDIPF
Porphyromonas_gingivalis -----------SSVRDTAKEESSEPPSDLPF
Acinetobacter_ADP1 ---------------YVPKAPQQP--APADLDDDLPF
Acinetobacter_baumannii ------------PKAPQQPASAPADLDDDLPF
Synechococcus_elongates ------------GSRRDQEGGMAPRDPDSDLF
Clostridium_thermocellum ----------EPENTDGEGFFPAE-DDELPF
Clostridium_difficile -------------EPQGLDPQGFQAID-DDDIPF
Thermoanaerobacter_tengcongens -----DIPDDFDGFTPIESEDDLPF
Streptococcus_sanguinis ----------DESPFGNSN--PMDISDDDLPF
Streptococcus_thermophilus -------DESPFGNSN--PMDISDDDLPF
Streptococcus_agalactiae ---------DESPFGNSN--PMDISDDDLPF
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Streptococcus_mutans -------------DESPFGDSN--PMDISDDDLPF
Streptococcus_suis ---------------EESPFGASN--PMDISDDDLPF
Lactococcus_lactis --------------QNNDSFG-SD--PMEISDDDLPF
Zymomonas_mobilis ----------------SSNTNHDPF--GMDDLDDDVPF
Oenococcus_oeni ------------------PFNTDTGND--SLDISDDDLPF
Carboxydothermus_hydrogenoform ----DFDPSDFG-TEIEISDEDIPF
Moorella_thermoacetica ------------NQDFSDLG-TEVEIGEDDLPF
Geobacillus_kaustophilus ----------DDPFANDG-QPIDISDDDLPF
Geobacillus_thermodenitrifican ----EDPFANDG-QPIDISDDDLPF
Bacillus_licheniformis ------------DDPFANDG-KPIDISDDDLPF
Bacillus_subtilis -----------------DDPFANDG-KPIDISDDDLPF
Bacillus_halodurans ---------------EDPFANDG-KPIDISDDDLPF
Listeria_welshimeri ---------------NDPFASDG-KPIDISDDDLPF
Lactobacillus_casei ---------------PDPFANNG-KPIDISDDDLPF
Oceanobacillus_iheyensis ----------EDPFKNNG-EPIDISDDDLPF
Bacillus_thuringiensis ------------DDPFSNVG-QPIDISDDDLPF
Bacillus_anthracis ----------------DDPFSNVG-QPIDISDDDLPF
Bacillus_cereus -------------------DDPFSNVG-QPIDISDDDLPF
Bacillus_clausii ------------------DNDPFSNDG--SIDISDDDLPF
Pediococcus_pentosaceus -----------NDPFANSG-QSIDISDDDLPF
Lactobacillus_plantarum -----------ADPFANNG-DQIDISDDDLPF
Lactobacillus_brevis --------------ADPFANSG-DSIDISDDDLPF
Lactobacillus_sakei ---------------ADPFANNG-QAIDISDDDLPF
Lactobacillus_salivarius ----------ADPFADNG-QSIDISDDDLPF
Leuconostoc_mesenteroides ----------NPFAASGNTEIDISDDDLPF
Lactobacillus_gasseri -------------QDPFADSG-STIDISDDDLPF
Enterococcus_faecalis -------------SDPFGGSG-SSIDISDDDLPF
Staphylococcus_haemolyticus -------DNPFANAN-GPIDISDDDLPF
Staphylococcus_saprophyticus ------DNPFANAN-GPIDISDDDLPF
Staphylococcus_epidermidis --------DNPFANAN-GPIDISDDDLPF
Listeria_innocua ------------------SDSFANEG-KPIDINPDDLPF
Listeria_monocytogenes ------------SDSFASEG-KPIDINEDDLPF
Prosthecochloris_vibrioformis ------TSQPPSGPMIENNDKDDLPF
Pelodictyon_luteolum --------------PPQTAPSAPMIEN-DKDDLPF
Chlorobium_phaeobacteroides -------DYPQQSSGPMIES-EKDDLPF
Chlorobium_tepidum ----------------YGASPSSGGAQEFEKDDLPF
Chlorobium_chlorochromatii ---------PPATPTVPTMIDTDKDDLPF
Staphylococcus_aureus -------------TQTGNNPFDNTEEDFSDLPF
Lactobacillus_delbrueckii ----------TNPFDSSDDAINVSNDDLPF
Salinibacter_rubber ----------------GGDGQPGSDETFEPDDDLPF
Cytophaga_hutchinsonii -------------AMESAGSFEPQTSGADDLPF
Methylococcus_capsulatus -----------GGSGAGSSQFDEGFDDDVPF
Alkalilimnicola_ehrlichei ----------GGRQDNMGDDAGAFEDDIPF
Rhodopirellula_baltica -------------SSDSQPTGDGPGYDEPDIPF
Synechococcus_WH_8102 -------------DNQEAAGSFG-GQASDEEIPF
Synechococcus_CC9902 --------------DNQESGGNFG-GQASDEDIPF
Synechococcus_CC9311 ---------------SEAGSGGFGGGSPSDEEVPF
Prochlorococcus_marinus -----------ASNFGGGGFGDG-PSEEEVPF
Arthrobacter_aurescens -----------NPSANAGSSWGNS-P-DSEPPF
Arthrobacter_FB24 ----------------PGVSNAGGGWGNG-P-DSEPPF
Mycobacterium_tuberculosis ------PWGSAPASGSFGGG---DDEPPF
Mycobacterium_avium -------------PWGSAPASGSFGGG---DDEPPF
Mycobacterium_bovis -------------PWGSAPASGSFGGG---DDEPPF
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Mycobacterium_vanbaalenii -------PWGSAPASGSFGGA---DDEPPF
Mycobacterium_gilvum ------------PWGSAPASGSFGGA---DDEPPF
Mycobacterium_smegmatis ---------PWGSAPASGSFSGA---DDEPPF
Nocardia_farcinica ----------------GSAPAAGSFGGGRM-DDEPPF
Mycobacterium_ulcerans ---------DPWGSAPASGSFG-G---DDEPPF
Mycobacterium_leprae ------------PWGSAPTSGSFGVG---DEEPPF
Corynebacterium_jeikeium -------DPWNSAPQSG-FGDG---DDEPPF
Corynebacterium_diphtheriae -----PWSSAPQAGGFGGA---EQDPPF
Salinispora_tropica ---------------APAPSRGGSGGGNF-DEEPPF
Corynebacterium_efficiens ---------NSAPPAGSGGFGGA-DDEPPF
Corynebacterium_glutamicum --------NSAPPAGSGGFGGA-DDEPPF
Rhodococcus_RHA1 ----------------APQASGSFGGSGGG---SDEPPF
Streptomyces_avermitilis ---------GSSGGSSGGSGGG-Y-SDEPPF
Thermobifida_fusca --------------WATGGGGFGG-GGG-Y-SDEPPF
Frankia_CcI3 ---------------------APIDDPWSQPAGG--YSDEPPF
Nocardioides_JS614 --------------SAPANDPWGAPGVG---SDEPPF
Acidothermus_cellulolyticus --------AEDPWAAGSATGNFSDEPPF
Propionibacterium_acnes -------ANRGGGVDPWASAQT-----DEPPF
Leifsonia_xyli ------------------PSAGTDVWNTPGAYN---DETPF
Aster_yellows_witches_broom---NKTATKVIVQKVIFLDNKDK
Onion_yellows_2 --------------------VIVHKVIFLDNKSQTDNLPF
Anabaena_variabilis ----------------EESTSTSLPNETQAVANANF
Nostoc_PCC_7120 --------------------EESTSTSAPNETQAVANANF
Synechocystis_ ---------------------LLGSKRDNAEATMNNYPEEF
Trichodesmium_erythraeum -----------ELLGSKRDSEQAALASYNEF
Flavobacterium_johnsoniae ----------AKNTNFDAPSEGLPINDLPF
Thermotoga_maritime ----------------LEIPEEDFSSDTFSEDEPPF
Syntrophus_aciditrophicus ----------EGHFSPFNDLPPLPEDDVPF
Leptospira_interrogans -------------VVGQMIRFDGLPGKKEREVA
Desulfotalea_psychrophila ----------SFPEPTGPDAYGGTGNDVPF
Onion_yellows_phytoplasma_OY-M -----CNNVQFLESKKNPDNAYDNF
Campylobacter_jejuni ---------------EKLKEIDIDAYDSDDTNLPF
Thermosynechococcus_elongates -------LSSKRDTDPNAVPAGYVPEI
Shewanella_W3-18-1 -----------------PADDASSQANWAQTYPEPDF
Gloeobacter_violaceus --------------KVDQLELLGRAARPDEPESF
Shewanella_ANA-3 ---------------------AQPQGGHQQNTQQQAYNYHR
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[0057] In one aspect, the present invention relates to the determination of the previously unpublished high-resolution structure of the *E. coli* SSB bound to a target protein, Exonuclease I (Exo I) from *Escherichia coli*. The *E. coli* Exonuclease I was described by Lehman, 1960, *J. Biol. Chem.* 235: 1479-1487. Exonucleases, which can be found as individual enzymes, or as parts of larger enzyme complexes, are enzymes that cleave nucleotides one at a time from an end of a polynucleotide chain. The *E. coli* Exonuclease I has the nucleotide sequence of SEQ ID NO:3, and it has the amino acid sequence of SEQ ID NO:4.

The atomic coordinates of the crystal structure of the *E. coli* Exonuclease I have been deposited in the Protein Data Bank under the accession code 3C95. The present invention contemplates the use of other prokaryotic exonucleases, and in particular the use of other prokaryotic homologs of the *E. coli* Exonuclease I.

[0058] Prokaryotic exonucleases of the present invention include polypeptides that are polymorphic variants, mutants, and interspecies homologs of SEQ ID NO:4. Prokaryotic exonucleases of the present invention also include functional equivalents or fragments of SEQ ID NO:4.

[0059] Methods are provided for assaying binding of a prokaryotic SSB to a "SSB-binding protein" (also referred to herein as a "target protein"). An SSB-binding protein is a protein that binds to SSB. The SSB may be a prokaryotic SSB, for example the SSB may be an *E. coli* SSB. The SSB-binding protein may be a prokaryotic SSB-binding protein, for example the SSB-binding protein may be Exonuclease. The Exonuclease may be prokaryotic Exonuclease, and in particular it may be Exonuclease I. The Exonuclease I may be an *E. coli* Exonuclease I.

[0060] Also provided are rapid fluorescence polarization methods for measuring the binding of SSB to Exonuclease I in solution. Fluorescence polarization (FP) is a technique that can measure the binding of a tagged molecule to a target molecule using polarized light and a fluorescent tracer. When excited with polarized light, tracers attached to molecules emit high levels of polarized fluorescence. Tracers attached to larger molecules are slower in rotations compared to tracers attached to smaller molecules. For example, fluorescein-labeled peptides can be used to detect specific binding of the peptides to a variety of molecules, since the fluorescein-labeled peptides are depolarized more slowly when bound to targets due to their slower tumbling rates relative to their free tumbling rates. In chemistry, fluorescence anisotropy assays the rotational diffusion of a molecule from the decorrelation of polarization in fluorescence, i.e., between the exciting and emitted (fluorescent) photons. From the rotational diffusion constants, one can estimate the shape of a macromolecule and use that information to design other molecules that may be drug candidates.

[0061] Given (1) the importance of protein interactions with SSBs, (2) the broad conservation of SSB protein-binding sequences across bacterial species, and (3) the apparent absence of SSB protein-binding sequences from eukaryotic (human) systems, these assays can be specific for the identification of compounds that selectively inhibit prokaryotic growth. Small molecules that selectively inhibit interaction between SSB and its target proteins are thus attractive, novel, broad-spectrum antibiotics. The present invention contemplates the use of the methods described herein for a high-throughput screen for small-molecule inhibitors of this interaction. Such inhibitors can serve as lead compounds for future biochemical and anti-microbial studies.

[0062] The methods of the present invention may be practiced in solution, i.e., *in vitro*. Thus, by conducting *in vitro* assays, it is possible to identify novel antimicrobial compounds according to the present invention. In another example, the methods of the present invention may be practiced *in silico*, i.e. through simulations using computer programs. Thus, using information on the crystal structures of the present invention, it is possible to design and/or to identify structures of novel antimicrobial compounds that can then be chemically synthesized using methods known in the art.

[0063] Examples of libraries of compounds that can be screened used in the practice of this invention include a variety of screening libraries that can be obtained from Maybridge (e.g., the HitFinder collection of 14,400 compounds); the 16,000 compound DIVERSet library from ChemBridge; the Chemdiversity library, Chemical Diversity Labs, Inc., etc. Any other candidate compounds can be used in the assays according to this invention. Candidate compounds do not have to be obtained from libraries in order to be screened. Candidate compounds can be synthesized using methods known in the art, and can then be used in the assays of the present invention. For example, candidate compounds can be designed *in silico*, using data on the crystal structures of the interacting proteins (e.g. SSB and Exonuclease). Once candidate compounds are designed *in silico*, these candidate compounds can be synthesized using known methods of synthetic chemistry, and can then be tested for their efficacy to inhibit or

influence the interaction between the interacting proteins (e.g. SSB and Exonuclease).

[0064] In one example, the identification of compounds that inhibit SSB C-terminal tail mediated protein/protein interactions is assayed using a high throughput fluorescence polarization (FP) based screen. The inventors used an FP screen to identify compounds that inhibit binding of ExoI to the C-terminal tail of *E. coli* SSB. The use of ExoI-SSB C-terminal tail binding as a reporter for the high throughput screen has several advantages. First, binding between ExoI and SSB's C-terminal tail is quite strong in comparison to other known binding events allowing determination of an accurate K_d using FP and allowing screening of significant populations of ExoI-SSB-Ct complexes since complex formation can be saturated. Second, FP is very amenable to a high throughput platform, thus allowing for screening large numbers of compounds quickly. Third, the inventors' recent discovery of the crystal structures of Exonuclease I bound to the C-terminal tail of SSB has provided the first known high-resolution picture of the SSB C-terminal tail bound to a functional partner. The crystal structure suggests that the final amino acids of the C-terminal tail play vital roles in binding. These findings are supported by FP data indicating that mutation of the penultimate Pro residue of SSB to Ser eliminates the ability of the ExoI to bind the C-terminal tail of SSB. Not wanting to be bound by the following theory, it is possible that, given the extremely high conservation between the final four amino acids of SSB among disparate bacterial SSB homologs, this mode of protein binding may be a conserved mechanism of recruitment for proteins vital for genome maintenance.

[0065] By finding small molecules that inhibit these binding events, it is possible to disrupt the SSB-Exonuclease I interactions thus slowing bacterial growth or killing the bacteria. Furthermore, small molecules that inhibit binding may also inhibit binding between SSB C-terminal tail and other binding partners.

[0066] In one example, high throughput screens could be done looking for molecules that disrupt the interaction between SSB's C-terminal tail and other known SSB binding partners. For example, over a dozen SSB-interacting proteins have been already identified in *E. coli* (Butland *et al.*, 2005, *Nature* 433: 531-537). Many of these interactions are mediated by contacts between the C-

terminal tail of SSB and its heterotypic binding partners, e.g. ExoI (Sandigursky *et al.*, 1996, *Radiation Research* 145: 619-623; Genschel *et al.*, 2000, *Biol. Chem.* 381: 183-192), the χψ subunit of DNA polymerase III (Yuzhakov *et al.*, 1999, *Cell* 96: 153-163; Witte *et al.*, 2003, *Nucleic Acids Res.* 31: 4434-4440), uracil DNA glycosylase (Hanada *et al.,* 2001, *J. Biol. Chem.* 276: 16992-16997), PriA DNA helicase (Cadman and McGlynn, 2004, *Nucleic Acids Res.* 32:6378-6387), and RecQ DNA helicase (Shereda *et al.*, 2007, *J. Biol. Chem.* 282: 19247-19258). Since bacterial SSB proteins are predominantly homotetrameric (with four C-termini that can act as protein binding sites) and multiple SSB tetramers can bind to a single extended ssDNA region (Lohman and Ferrari, 1994, *Annu. Rev. Biochem.* 66: 527-570), utilization of SSB as a common target for many genome maintenance enzymes fosters efficient targeting and coordination of several DNA metabolic activities.

Order of Addition of Assay Components When Performing the Screen for Antimicrobial Compounds

[0067] The present invention contemplates variations of the screens for antimicrobial compounds described herein. As shown below, it is possible to screen libraries of compounds, to identify a number of hits that as candidate antimicrobial compounds. These candidate compounds can be mapped to a peptide-binding site in a crystal structure that represents the C-terminus of SSB bound to a SSB-binding protein (e.g. ExoI). In one example, it is possible to make a screen using a solution of fluorescently labeled C-terminal SSB peptide prebound to ExoI and titrate in compounds. Alternatively, it would be possible to conduct a screen by adding Exonuclease I (e.g. to 384 well plates), and then adding a single (e.g. different) candidate compound to each well. This would allow the compound some time to bind to the binding pocket/s of ExoI. Fluorescently labeled peptide of the present invention can then be added. This fluorescently labeled peptide would compete for any compounds that were bound to the pocket/s. Not wanting to be bound by the following theory, it is possible that the latter would be a more physiologically relevant screen, since a drug *in vivo* would likely see its target before the target saw the SSB tail. While in the

examples below the screen was conducted using ExoI and the peptide tail, there are numerous variations on this theme that could potentially be useful. The screen can also be performed using other targets from *E. coli*, e.g. Topoisomerase III, the Chi subunit of DNA polymerase, Gyrase, mixtures of these or other targets, etc. Furthermore, this screen could be done using proteins from another bacterium, including but not limited to *Staphylococcus*, *Bacillus*, *Enterococcus*, etc. These assays can be done using the entire protein or the C-terminal tail from the species that is being tested.

Using Docking Computer Programs to Identify and Improve Binding of Compounds

[0068] Computer modeling and docking procedures can be used to examine and improve the hits from small molecule screening libraries by analyzing the docking modes of known small molecules in the binding pocket. Docking starts with a crystal structure of the small molecule in the receptor pocket. It may happen that an initial hit from a database may not be an optimal structure for a drug. This can be tested by modeling the hit in the active site, then docking other molecules. A binding energy is calculated and compared to the known hits. Conformational fit is also an important part of the docking results and is usually examined by modeling.

[0069] After the initial crystal structure is determined for a bound small molecule, computational screening and docking programs such as AutoDock (Scripps research Institute, La Jolla, CA), FlexX (BioSolveIT GmbH, Sankt Augustin, Germany), and SLIDE (Michigan State University, East Lansing, MI) can be used to screen thousands of compounds from known databases. In this example, each molecule is allowed conformational flexibility to fit in the receptor site and scored on binding ability. In most cases, the receptor is also allowed flexibility. The top compounds from the databases are scored and ranked and the binding modes and binding energies are compared to actual hits from the small molecule assays. This ranks the reliability of both the chemical assay and the docking modes. This procedure leads to a group of molecules that can serve

as starting molecules for optimizing the binding pocket with atom by atom *de novo* or by similar drug binding computer programs.

[0070] The methods described herein are amenable to this type of procedure. Indeed, the inventors of the present application have solved a number of crystal structures in which inhibitors are bound to the binding pocket. Using these tools, it is possible to search *in silico* (i.e., using computer programs) for molecules that bind as well or perhaps even better than the ones that have already been identified herein. In essence, appropriate computer software might be used to help identify the structure of a compound that will optimally inhibit peptide binding. The advantage of using the *in silico* techniques is the rapidity with which the potential candidate compounds can be screened, since this is a much faster way than doing thousands of binding assays in solution, i.e. *in vitro*.

Pharmaceutical Compositions that Include Identified Compounds

[0071] Pharmaceutical compositions are also provided, which include as active agents the antimicrobial compounds that are identified according to the present invention. The pharmaceutical compositions may be liquid or solid. The liquid composition may, for example, be an aqueous solution comprising one or more antimicrobial compounds. The solid composition may, for example, be a solid preparation obtainable by freeze-drying or spray-drying the above aqueous solution. In one embodiment the solid preparation is a lyophilizate. The aqueous preparation mentioned above includes an aqueous solution of such solid preparation. Still, the above solid composition may be in the form of a kit wherein the solid preparation and an infusion are formulated into separate preparations.

[0072] An example of the technology for producing the pharmaceutical compositions of this invention is described below. An aqueous solution can be produced by dissolving the antimicrobial compound in a conventional manner, in a solvent of choice. This aqueous solution may be alkaline, neutral, or basic; it is just sufficient that the antimicrobial compound is dissolved in the aqueous solution. The concentration of the antimicrobial compound in such an aqueous solution may for example be at concentrations consistent with measured minimal inhibitory concentrations (Table 3). In some embodiments, the concentration is

chosen so that it permits successful lyophilization in a subsequent procedure. Referring to the manufacture of a solid pharmaceutical composition, a lyophilizate, for instance, can be produced by freeze-drying an aqueous solution that includes one or more antimicrobial compounds of the present invention. An exemplary procedure comprises freezing the aqueous solution at about -25°C and, with the internal negative pressure of the freeze-dryer being maintained at about 0.1 Torr or less, increasing the plate temperature at a rate of about 5°C to 20°C/hour to an ultimate temperature of about 25°C to 40°C. Where lyophilization is carried out, a form regulator may be added to an aqueous solution of the antimicrobial compound for the purpose of improving the morphology of the lyophilizate. The form regulator may include various sugars (e.g. sugar alcohols such as mannitol, xylitol, inositol, sorbitol, etc., hexose-based disaccharides such as maltose, sucrose, lactose, etc., and monosaccharides such as glucose), neutral amino acids (e.g. glycine, alanine, proline, valine, methionine, etc.) and alkali metal salts of succinic acid (e.g. sodium succinate, etc.). Where a spray-dried preparation is the desired product, the aqueous solution described above is spray-dried by a per se known technique. An exemplary procedure comprises ejecting the aqueous solution in mist form from a spray dryer nozzle (e.g. a twin nozzle, a pressure nozzle, etc.) or rotary disk into its drying chamber at a flow rate of about 5-20 ml/minute (e.g. drying chamber inlet and out temperatures: about 80°C to 120°C and about 30°C to 50°C, respectively; air flow rate about 70-100 kg/hour).

[0073] For insuring a further increase in drug absorption, a surfactant can be used concomitantly in the pharmaceutical compositions of this invention. Examples of suitable surfactants include nonionic surfactants such as sorbitan fatty acid esters (e.g. sorbitan monopalmitate, sorbitan sesquistearate, etc.), glycerin fatty acid esters (e.g. glyceryl monostearate, etc.), propylene glycol fatty acid esters (e.g. propylene glycol monostearate), polyoxyethylene glycerin fatty acid esters (e.g. polyoxyethylene glyceryl monostearate, etc.), polyethylene glycol fatty acid esters (e.g. polyoxyethylene monostearate, PEG distearate, etc.), polyoxyethylene alkyl ethers (e.g. polyoxyethylene lauryl ether, polyoxyethylene stearyl ether, etc.), polyoxyethylene hydrogenated castor oil, polyoxyethylene

sorbitol beeswax derivatives, polyoxyethylene lanolin alcohol, polyoxyethylene sorbitol fatty acid esters, Pluronic series surfactants, anionic surfactants such as alkali metal dodecyl sulfates, alkali metal stearates, alkali metal palmitates, and liquid surfactants such as Tween 20 and Tween 80, among others. These surfactants can be used singly or plurally in a suitable ratio.

[0074] For improving the solubility or stability of the antimicrobial compound, a variety of salts (e.g. salts of organic acids such as sodium citrate, sodium tartrate, sodium benzoate, etc.) and/or stabilizers (e.g. basic inorganic salts such as magnesium carbonate, calcium carbonate, magnesium hydrogen carbonate, calcium hydrogen carbonate, etc.) may be incorporated or added to the compositions of this invention. If necessary, an isotonizing agent (e.g. sodium chloride) for osmotic pressure adjustment and/or a soothing or local anesthetic agent (e.g. glucose, sorbitol, mannitol, benzyl alcohol, mepivacaine hydrochloride, xylocaine hydrochloride, etc.) can also be employed.

[0075] A preservative and a pH control agent can be added in small amounts as required. The preservative includes parabens such as methyl p-hydroxybenzoate, propyl p-hydroxybenzoates, etc., alcohols such as chlorobutanol, quaternary ammonium salts such as benzalkonium chloride, benzethonium chloride, cetrimide, etc., sorbic acid, chlorhexidines, thimerosal and so on. The pH control agent includes various acids, e.g. inorganic acids such as hydrochloric acid, boric acid, phosphoric acid, carbonic acid, hydrogen carbonic acid, etc., organic acids such as mono- or polycarboxylic acids, amino acids, etc., and various bases, e.g. alkali metal hydroxides such as sodium hydroxide, potassium hydroxide, etc. and alkali metal (hydrogen) carbonates such as sodium hydrogen carbonate, sodium carbonate and so on. These additives can be used alone or in combination and can be added in a proportion of about 0.001-10 mg, preferably about 0.01-5 mg, per milligram of the antimicrobial compound.

[0076] The pharmaceutical compositions of this invention are generally administered orally or parenterally in a dosage form manufactured by formulating such an active ingredient with a pharmacologically acceptable carrier or excipient. The pharmaceutical composition of this invention can be put to use in

the following manner. Taking a solid composition as an example, it can be extemporaneously dissolved in sterile distilled water or an infusion fluid (e.g. physiological saline, glucose infusion, etc.) and used as, for example, an intravenous, subcutaneous, intramuscular or intravenous drip injection or as an ophthalmic solution. Preparation of such an injection is preferably carried out by known aseptic procedures.

[0077] The dosage of the pharmaceutical composition of this invention is dependent on dosage form, therapeutic regimen, species of active compound and other factors. In some embodiments, the pharmaceutical composition may be administered once or divided into 2 to 3 times a day.

EXAMPLES

[0078] It is to be understood that this invention is not limited to the particular methodology, protocols, subjects, or reagents described, and as such may vary. It is also to be understood that the terminology used herein is for the purpose of describing particular embodiments only, and is not intended to limit the scope of the present invention, which is limited only by the claims. The following examples are offered to illustrate, but not to limit the claimed invention.

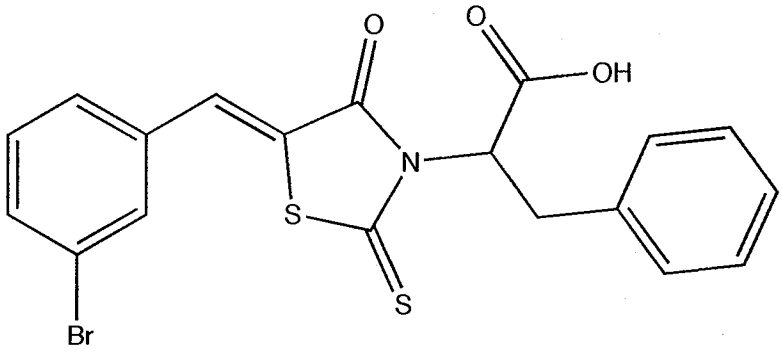
Structures of Compounds

[0079] Shown below are examples of compounds that were identified in the screens for compounds that inhibit SSB-Exonuclease I binding, according to this invention. For each of the compounds, the name of the compound, the chemical formula of the compound, the molecular weight of the compound (MW), and the chemical structure of the compound are shown. Also shown are the name of the company that provided the library from which the compound was identified, and the product code for the specific compound in the library. The K_i value is dissociation constant used to describe the affinity between a ligand (such as a drug, in the present case the tested inhibitory compound) and a peptide or a protein, i.e. how tightly a ligand (i.e., the tested inhibitory compound) binds to a particular peptide or protein. The IC_{50} value refers to the half maximal inhibitory concentration, i.e. the concentration of an inhibitory compound that is required for

50% inhibition of its target *in vitro*. It measures how much of a particular substance/molecule is needed to inhibit some biological process (e.g., bacterial growth in LB) by 50%.

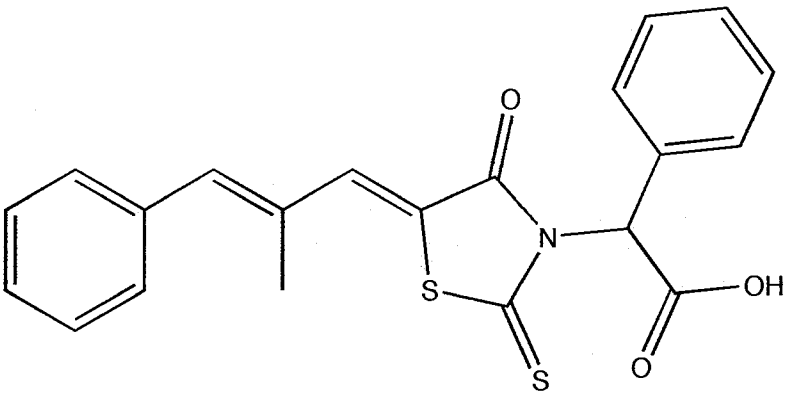
Compound 3

[0080] Name: 2-[5-(3-bromobenzylidene)-4-oxo-2-thioxo-1,3-thiazolidin-3-yl]-3-phenylpropanoic acid. Formula: $C_{19}H_{14}BrNO_3S_2$. MW: 448.36. Company: ChemBridge. Product Code: 6044448. K_i = ~ 2.5 μM. IC_{50} *E. coli* 4213 = 5.5 μM. IC_{50} *Staphylococcus aureus* = 10 μM.



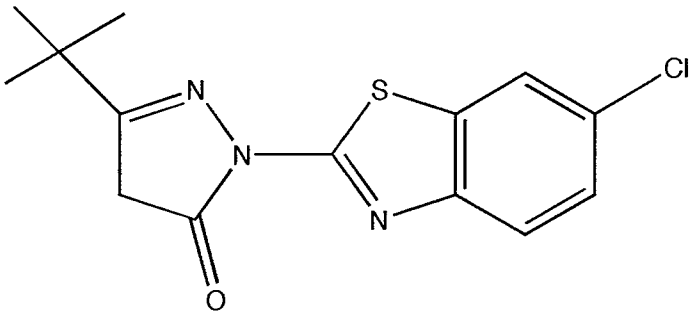
Compound 8

[0081] Name: [5-(2-methyl-3-phenyl-2-propen-1-ylidene)-4-oxo-2-thioxo-1,3-thiazolidin-3-yl](phenyl)acetic acid. Formula: $C_{21}H_{17}NO_3S_2$. MW: 395.5. Company: ChemBridge. Product Code: 5767720. K_i = ~ 4 μM. IC_{50} *E. coli* 4213 = 11 μM. IC_{50} *Staphylococcus aureus* = 29 μM.



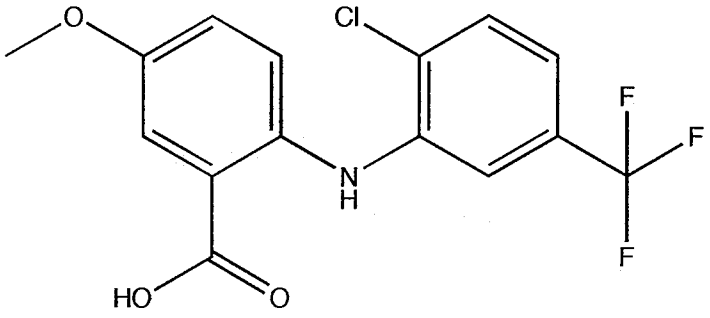
Compound 9

[0082] Name: 3-(tert-butyl)-1-(6-chloro-1,3-benzothiazol-2-yl)-4,5-dihydro-1H-pyrazol-5-one. Formula: $C_{14}H_{14}ClN_3OS$. MW: 307.79766. Company: Maybridge. Product Code: SEW01297. K_i = ~ 773 nM. IC_{50} *E. coli* 4213 = 6 μM. IC_{50} *Staphylococcus aureus* = 5.5 μM.



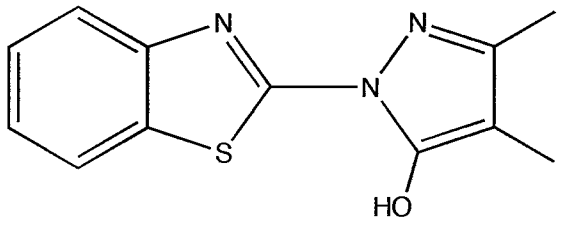
Compound 10

[0083] Name: 2-[2-chloro-5-(trifluoromethyl)anilino]-5-methoxybenzoic acid. ACD Code: MFCD00175807. Formula: $C_{15}H_{11}ClF_3NO_3$. MW: 345.705449. Company: Maybridge. Product Code: S07197. K_i = ~ 124.7 nM. IC_{50} *E. coli* 4213 = 30 μM. IC_{50} *Staphylococcus aureus* = 18 μM.



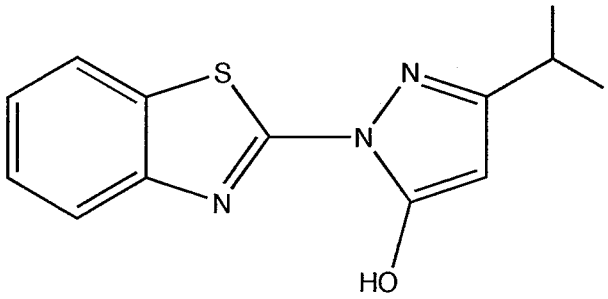
Compound 28

[0084] Name: 1-(1,3-benzothiazol-2-yl)-3,4-dimethyl-1H-pyrazol-5-ol. Formula: $C_{12}H_{11}N_3OS$. MW: 245.3. Company: Chembridge. Product Code: 9040944.



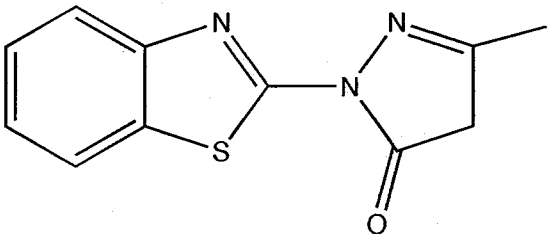
Compound 29

[0085] Name: 1-(1,3-benzothiazol-2-yl)-3-isopropyl-1H-pyrazol-5-ol. Formula: $C_{13}H_{13}N_3OS$. MW: 259.33. Company: ChemBridge. Product Code: 9036389.



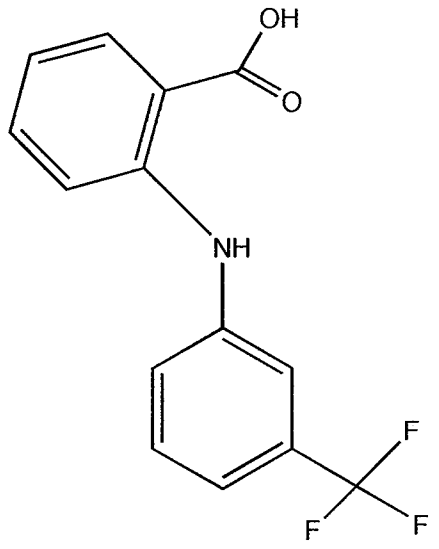
Compound 31

[0086] Name: 2-(1,3-benzothiazol-2-yl)-5-methyl-2,4-dihydro-3H-pyrazol-3-one. Formula: $C_{11}H_9N_3OS$. MW: 231.27. Company: Chembridge. Product Code: 5108305.



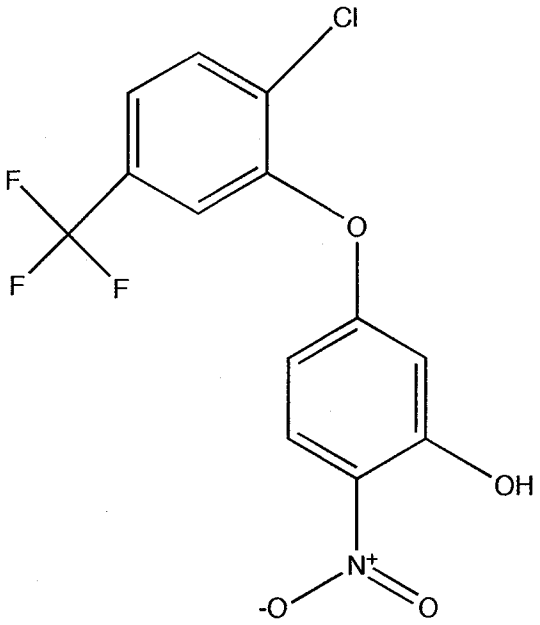
Compound 32

[0087] Name: 2-[3-(trifluoromethyl)anilino]benzoic acid. Formula: $C_{14}H_{10}F_3NO_2$. MW: 281.234109. Company: Maybridge. Product Code: RJC02179.



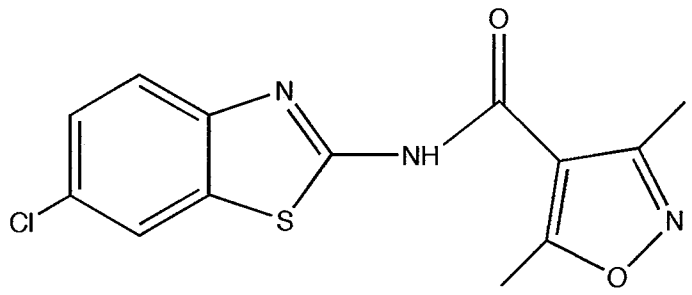
Compound 37

[0088] Name: 5-[2-chloro-5-(trifluoromethyl)phenoxy]-2-nitrophenol. Formula: $C_{13}H_7ClF_3NO_4$. MW: 333.64. Company: ChemBridge. Product Code: 5524827.



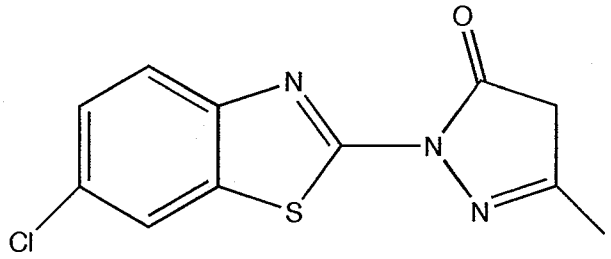
Compound 42

[0089] Name: N-(6-chloro-1,3-benzothiazol-2-yl)-3,5-dimethyl-4-isoxazolecarboxamide. Formula: $C_{13}H_{10}ClN_3OS$. MW: 307.7543. Company: Maybridge. Product Code: HTS08909.



Compound 46

[0090] Name: 1-(6-chloro-1,3-benzothiazol-2-yl)-3-methyl-4,5-dihydro-1H-pyrazol-5-one. Formula: $C_{11}H_8ClN_3OS$. MW: 265.71702. Company: Maybridge. Product Code: SEW01296.



Peptides Corresponding to the C-terminal Tail of SSB

[0091] Peptides corresponding to the C-terminal tail of SSB or variants thereof were synthesized and purified by the University of Wisconsin-Madison Biotechnology Center. "WT" peptide comprises an added N-terminal Trp (W) residue for quantification followed by the 9 C-terminal-most residues from *E. coli* SSB: Trp-Met-Asp-Phe-Asp-Asp-Asp-Ile-Pro-Phe (SEQ ID NO:6). Thus, the synthesized peptide was fluorescein-WMDFDDDIPF (i.e., fluorescein-SEQ ID NO:6). The Trp residue absorbs at 280 nm thus allowing accurate quantification of the peptide concentration. Alternatively, other residues or tags could be used for practicing the invention, so long as they can be used to accurately quantify the peptide concentration. In competitive binding experiments, the peptide WMDFDDDIPF (SEQ ID NO:6) was used without a fluorescent moiety.

[0092] A second peptide that was used, "F-WT", comprises the same sequence but adds an N-terminal fluorescein moiety. Two additional peptides that alter the F-WT sequence were also synthesized: the first, "F-P176S", substitutes a Ser residue for the penultimate Pro in the WT sequence, and the second, "F-mixed", is a randomly-chosen sequence of the SSB-derived portion of the F-WT peptide sequence Trp-Asp-Phe-Met-Asp-Asp-Pro-Phe-Ile-Asp (SEQ ID NO:8). Other peptides that were used in the experiments described below were WDDIPF (SEQ ID NO:7) and WMDFDDDIPF (SEQ ID NO:6). Neither of these peptides was fluorescently labeled.

Peptide Binding Assay

[0093] Peptide binding assays were performed in solution, using the peptides from above, and Exonuclease I, in the absence or presence of various compounds. Different amounts of Exonuclease I (ExoI) were used in the peptide binding assays. Typically, 0.1-10,000 nM *E. coli* ExoI (or a variant) was incubated with 10 nM F-WT, F-P176S, or F-mixed peptide in 20 mM Tris-HCl, pH 8.0, 100 mM NaCl, 1 mM $MgCl_2$, 4% (v/v) glycerol, 1 mM 2-mercaptoethanol, and 0.1 mg/ml bovine serum albumin (BSA) at room temperature for 10 minutes. Fluorescence polarization (FP) was measured at 25°C in triplicate; the average FP value was plotted with standard deviation of the mean shown as error.

[0094] The data in Table 2 summarize the values of the dissociation constants (K_i) for several candidate compounds tested. Graphs showing peptide binding data for individual compounds (i.e., inhibitors) are shown in Figures 1-6. The data for the WT peptide control are shown in Figure 7.

Table 2. Dissociation constant (K_i) estimates

Compound	**K_i estimates**
3	2.5 μM
8	4 μM

9	2.2 μM
10	350 nM
32	1.5 μM
37	700 nM
46	1.5 μM
WT peptide	53 nM

[0095] In one example, it was noteworthy that the only difference between compounds (inhibitors) 46 and 31 was the presence of a Cl atom in the former. To examine the significance of one atom substitution, the peptide binding inhibition values of inhibitor 46 were plotted against the peptide binding inhibition values of inhibitor 31 (Figure 6). Absence of the Cl atom resulted in much weaker binding (Table 3).

[0096] Figure 7 shows which portions of the C-terminal peptide are important for binding to Exonuclease I. The principle of the experiment shown in Figure 7 is very similar to the experiments performed with the inhibitors (Figures 1-6), but instead of titrating different inhibitors into a solution that has fluorescently tagged SSB C-terminal tail peptide bound to Exonuclease I, an unlabeled peptide, or an unlabeled peptide DDDIPF (SEQ ID NO:7) that has three amino acids residues (MDF) missing from the N-terminus was titrated. It should be again pointed out that the W is there only for quantitative purposes. If the missing residues play important roles in peptide binding then the truncated version of the peptide should compete more poorly than the full-length peptide. This is precisely what is seen in Figure 7; it takes ten-fold more of the truncated peptide than the full-length peptide to titrate away the fluorescent peptide already bound to the protein. The fact that it is possible to titrate away the protein suggests that while those N-terminal three residues play a role in binding they are not the vital for binding since the truncated peptide competes, but does so more poorly.

[0097] The compounds 28, 29, and 31 did not inhibit binding (Table 3).

High Throughput Screen to find Molecules that Inhibit SSB/Exonuclease I Interaction

[0098] Concentrated Exonuclease I was dialyzed overnight into 2 liters dilution buffer (DB) (20 mM Tris pH 8.0 HCl, 100 mM NaCl, 1 mM $MgCl_2$, and 1 mM Beta-Mercaptoethanol). After dialysis, Exonuclease I was mixed with fluorescently labeled SSB C-terminal peptide, amino acid sequence (N-terminus) Fluorescein-WMDFDDDIPF, i.e. fluorescein-SEQ ID NO:6 (C-terminus), also previously diluted in DB. The final concentrations of the components of the Exonuclease I/ SSB C-terminal peptide mixture after adjustment with DB were 1 μM Exonuclease I, 10 nM fluorescently labeled SSB C-terminal peptide with 20 mM Tris pH 8.0 HCl, 100 mM NaCl, 1 mM $MgCl_2$, and 1 mM Beta-Mercaptoethanol. After sitting at room temperature for 5 min, a liquid handling system was used to aliquot this solution into 384 well plates providing 30 microliters/well. One microliter of 1 mM compound was then added. The screened compounds were obtained from the ChemBridge DIVERSet library (ChemBridge Corporation, San Diego, CA), from the Maybridge HitFinder library (Thermo Fisher Scientific, Waltham, MA), from the ChemDiv library (Chemical Diversity Labs, San Diego, CA), or from the Known Bioactive Library - KBA01.

[0099] The FP (fluorescence polarization) values for each well were read using a (plate reader) 5 minutes after compound addition. Compounds that lowered the FP values were identified. This was typically done using three standard deviations. Compounds that were fluorescent or caused excessive precipitation were eliminated from consideration. Roughly 20 compounds that met these criteria were isolated and more stringently tested using a PanVera Beacon 2000 FP (PanVera Corp., Madison, WI). From these experiments 5 compounds were identified that were able to lower the FP values to a degree that suggested a complete inhibition of peptide binding thus allowing the determination of K_i.

[00100] To determine the K_i, a master mix was prepared similar to what was previously described above, using 1 μM Exonuclease I, 10 nM fluorescently labeled SSB C-terminal peptide with 20 mM Tris pH 8.0 HCl, 100 mM NaCl, 1 mM $MgCl_2$, and 1 mM Beta-Mercaptoethanol. Increasing amounts of compound

were titrated into peptide protein mixture until FP values were lowered to values given by only fluorescently labeled peptide alone. K_i values were determined using the K_i calculator for fluorescence-based competitive binding assays of Prof. Shaomeng Wang, University of Michigan (Nikolovska-Coleska *et al.*, 2004, *Anal. Biochem.* 332: 261-273).

Bacterial Growth Assays

[00101] The candidate compounds were tested for their ability to inhibit bacterial growth, as shown in Figures 8-23 and in Table 3. For example, in Figures 8-16, the growth curves for *E. coli* 4213, a Gram-negative bacterium that has a compromised cell wall, are shown. Figures 8-16 show how individual candidate inhibitory compounds inhibit the growth of *E. coli* 4213. The compromised cell wall allows the chemicals to pass through it more readily. As well, Figures 17-23 show how individual candidate inhibitory compounds inhibit the growth of *Staphylococcus aureus* 12598, a Gram-positive bacterium.

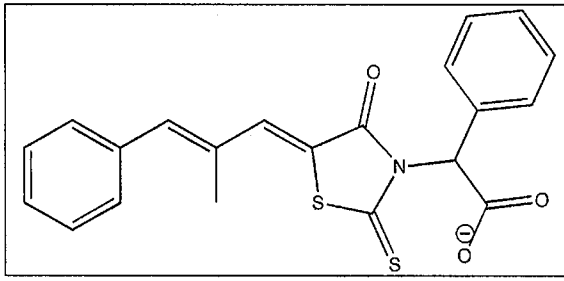
[00102] 100 μL of LB containing *E. coli* 1655, *E. coli* 4213, or *S. aureus* at A ~ 0.05 OD 600 was aliquoted in 96 well plates. One μL of compound in DMSO was added to final concentrations given. Plates were incubated at 37°C with shaking at 250 RPM. Rate of growth was calculated by determining the average change in OD/hour that took place between hours 3 and 7 (log growth phase). The graphs shown herein are plots of this bacterial growth rate (change in OD/h) against inhibitor concentration in μM.

[00103] The data in Table 3 summarize the concentrations of selected compounds according to the present invention, which are necessary to reduce bacterial growth by 50% in liquid media.

Table 3. Concentrations of selected compounds necessary to reduce bacterial growth 50% in liquid media

Compound structure	Ki[a] (μM)	*IC(50) E. coli* imp4213	*IC(50) S. aureus*	*IC(50)* Human cell line	Hemolysis [b](μM)	MIC[c] (μg/ml)	Compound name/info
	0.8	6	6	>100	>800	9.0 (*E. coli*) 6.2 (*B. subtilis*)	Compound 9; also called BCBP. Came from original Maybridge HTS collection.
	ND[d]	38	TBD[e]	TBD	>800	TBD	Compound 28. Derivative of compound 9.
	ND	88	TBD	TBD	>800	TBD	Compound 29. Derivative of compound 9.
	ND	50-100	TBD	TBD	>800	TBD	Compound 31. Derivative of compound 9.
	TBD	TBD	9	TBD	>800	TBD	Compound 42. Derivative of compound 9.

	1.5	TBD	TBD	TBD	>800	TBD	Compound 46. Derivative of compound 9.
	0.1	30	20	>100	~800	12.3 (*E. coli*) 11.1 (*B. subtilis*)	Compound 10; also called CFAM. Came from original Maybridge HTS collection.
	1.5	33	30	TBD	>800	TBD	Compound 32. Derivative of compound 10.
	0.7	33	2.5	TBD	>800	TBD	Compound 37. Derivative of compound 10.
	2.5	6	9	12	~100	3.6 (*E. coli*) 3.6 (*B. subtilis.*)	Compound 3; also called BOTP. Came from original Maybridge HTS collection. Bactericidal for *B. subtilis*

	4	11	29	>100	~200	4.0 (*E. coli*) 6.3 (*B. subtilis*)	Compound 8; also called MPTA. Came from original Maybridge HTS collection. Bactericidal for *B. subtilis*

[a] Ki is the amount of compound needed to dissociate 50% of Exonuclease I/SSB-Ct complexes *in vitro*.

[b] Hemolysis is the minimum concentration of compounded necessary to lyse red blood cells.

[c] MIC is the minimal concentration necessary to inhibit growth of *E. coli* (imp4213) or *B. subtilis* cells on solid media. Data are the same for either bacterial strain.

[d] Not detected; no dissociation of the Exonuclease I/SSB-Ct complex was observed even in the highest concentrations tested.

[e] To be determined.

[00104] Data from the *Escherichia coli* inhibition experiments are summarized in Table 4.

Table 4. Inhibition of *E. coli* growth

Inhibitor	IC_{50} μM inhibitor
3	6
8	11
9	6
10	30
32	33
37	33
28	38
29	88
31	50-100
46	

[00105] Data from the *Staphylococcus aureus* inhibition experiments are summarized in Table 5.

Table 5. Inhibition of *S. aureus* growth

Inhibitor	IC_{50} μM inhibitor
3	9
8	30
9	6
10	20
32	30
37	2.5
42	9

[00106] A number of the tested candidate compounds had profound inhibitory effects on bacterial growth. In addition, it was discovered that the identified drug compounds can slow the growth of a number of other Gram-positive bacterial species. For example, the growth of *Bacillus subtilis* and *Enterococcus faecalis* was inhibited when these bacteria were grown on agar plates containing 100 μM of either compound 9 or compound 10. Growth of *Deinococcus radiodurans* was also inhibited when tested in a similar manner.

Crystal Structures

[00107] Exonuclease I crystals were transferred to a soak solution containing 12% PEG 4000, 1 mM $MgCl_2$, 20 mM Tris pH 8.0, and 5 mM compound. These solutions were allowed to soak in watch glasses for 5 days at which point the crystals were transferred to a cryo solution containing 12% PEG 4000, 1 mM $MgCl_2$, 20 mM Tris pH 8.0, 5 mM compound, and 25% glycerol. Crystals were then flash frozen in liquid Nitrogen.

[00108] In spite of the noted importance of SSB interactions with heterologous proteins in cells, a structural and mechanistic understanding of interactions between SSB and its partner proteins has remained unclear. In one aspect, the present invention provides elucidation of the high-resolution structure of *E. coli* ExoI bound to the C-terminus of its cognate SSB. The crystal structures of apo and SSB peptide-bound forms of *E. coli* ExoI were determined, as were candidate compounds that bind in one of the binding pockets previously occupied by the C-terminal peptide tail of SSB in the crystal structure (Lu and Keck, 2008, *Proc. Natl. Acad. Sci. USA*, in press).

[00109] The crystal structure of *E. coli* ExoI bound to a peptide comprising the SSB-Ct element was determined. ExoI/SSB-Ct protein crystals diffracted to 2.7-Å resolution and the structure of the complex was determined by molecular replacement using the apo ExoI structure (Breyer and Matthews, 2000, *Nat. Struct. Biol.* 7: 1125-1128) as a search model (Table 9). In addition, the 1.7-Å-resolution structure of *E. coli* ExoI crystallized in the absence of the SSB-Ct peptide (but otherwise under the same crystallization conditions as the peptide-bound form) was determined, for comparative structural analysis. As was

described for the initial apo-ExoI structure, ExoI in both crystal forms is comprised of exonuclease (residues 1-201), SH3-like (residues 202-352), and helical (residues 360-476) domains (Figure 25A and 25B).

[00110] Inspection of difference electron-density maps from the SSB-Ct-bound ExoI crystals revealed features corresponding to the C-termini from two SSB-Ct peptides associated with the ExoI surface, as shown in Figure 25C, 25D, and Figure 28. Both peptides bind at sites that are >20 Å from the active site. The first peptide ("peptide A") binds between the exonuclease and SH3-like domains of ExoI (Figure 25C and 25E). Electron density is apparent for the C-terminal-most SSB residues of peptide A (174-177), but is missing for residues 169-173, consistent with the N-terminus being dynamic or disordered. The peptide-A binding site anchors the C-terminal-most SSB-Ct residue (Phe177) in a deep pocket comprised of evolutionarily conserved residues from ExoI. In this interaction, the hydrophobic Phe side chain is packed against Leu147, Leu204, and Tyr207 side chains from ExoI and its α-carboxyl oxygens form apparent ionic bonds with the Arg148 side chain. The more N-terminal region of peptide A packs against Ala310, Gln311, and Thr314 from ExoI with the exception of Asp174, which contacts ExoI residues Gln448 and Gln452 in an adjacent ExoI molecule within the crystal lattice (Figure 29). SSB-Ct binding to site A is coincident with rearrangement of the ExoI Arg316 side chain, which orients toward the path of peptide A (Figure 25E). This Arg316 rotamer position allows a non-active site Mg^{2+} ion to bind to an acidic pocket formed by Glu150, Glu318, and Asp319. In addition to these elements, a "basic ridge" formed by the Arg338 and Lys227 ExoI side chains presents a prominent electropositive patch near the N-terminus of peptide A (Figure 25D). Given the presence of additional unresolved Asp residues on the SSB-Ct, this ridge could play a role in SSB-Ct binding that is not accounted for in the structure. This possibility was also tested.

[00111] Electron density for the second peptide, "peptide B", includes SSB residues 175-177, which are bound entirely by the ExoI SH3-like domain (Figure 25F). As with the peptide-A site, the peptide-B site binds primarily to Phe177 from the SSB-Ct, anchoring its side chain in a hydrophobic pocket (comprised of residues Trp245, Leu264, and Cys330) and binding its α-carboxyl oxygens in

apparent ionic bonds formed with Arg327 from ExoI. ExoI residues Leu331, Leu334, and Pro338 contact more N-terminal regions of peptide B. Since prior solution studies indicated that ExoI/SSB complexes are stoichiometric (Genschel *et al.*, 2000, *Biol. Chem.* 381: 183-192), finding two peptides bound to the surface of a single ExoI monomer was unexpected. Moreover, since peptide A is positioned between symmetrically-related ExoI molecules in the crystal lattice, there was a strong possibility that crystal packing could have influenced the structure of the complex. This structure was therefore used as a starting point to design experiments that evaluated the roles of ExoI residues in each site for SSB binding and enzymatic stimulation.

Solution SSB-Ct Binding Studies Define Important Features Of The ExoI/SSB Complex

[00112] To examine ExoI/SSB-Ct complex formation in solution, an equilibrium fluorescence-anisotropy assay that measures ExoI binding to a fluorescein-labeled SSB-Ct peptide (F-SSB-Ct) was developed. ExoI binds F-SSB-Ct with an apparent equilibrium dissociation constant ($K_{d,\ app}$) of 136 +/- 11 nM in this assay (Figure 26A). This binding is higher affinity than that observed for SSB-Ct peptide binding by PriA and RecQ, which associate with respective $K_{d,\ app}$ values of 2 and 6 μM. To test whether this interaction was specific, ExoI binding to two control peptides was examined. The first, "F-P176S", changes the penultimate Pro residue in the F-SSB-Ct sequence to Ser, which mimics the well studied *ssb113* mutation that causes impaired cell growth due to defects in its interactions with cellular DNA replication machinery. The second control peptide, "F-mixed", randomly mixes the arrangement of the residues in F-SSB-Ct. ExoI binding to both control peptides was minimal relative to the F-SSB-Ct peptide (Figure 26A). Analogous specificities were observed for SSB-Ct peptide binding by PriA and RecQ. These results indicate that ExoI specifically interacts with the F-SSB-Ct peptide in solution, which is consistent with a previous study that examined ExoI binding to SSB-derived peptides in competition experiments (Lecointe *et al.*, 2007, *EMBO J.* 26: 4239-4251).

[00113] A panel of ExoI variants was created in which surface-exposed residues forming the peptide-A (Arg148, Tyr207, Gln311 and Arg316) or peptide-B (Arg327 and Leu331) binding sites were individually mutated to alanine to assess the contributions of the two sites to SSB-Ct binding. Additional Ala variants were made to test whether the prominent "basic ridge" on ExoI (Lys227 and Arg338) and ExoI residues that bind Mg^{2+} in the presence of the SSB-Ct peptide (Glu150, Glu318 and Asp319) have roles in F-SSB-Ct binding. Finally, Ala variants altering residues from the helical domain (Gln448 and Gln452) that mediate inter-protein contacts with peptide A in the crystal structure were also created. Each ExoI variant was purified and tested for binding to the F-SSB-Ct peptide. Far UV circular dichroic spectra of the variants were indistinguishable from wild type ExoI, indicating that the mutations did not alter the secondary structure of the variants significantly.

[00114] Three of the peptide-A-site variants displayed dramatically reduced F-SSB-Ct binding (Figure 26B and Table 10). Arg148, Tyr207, and Arg316 Ala variants bound the peptide ~10- to 100-fold more weakly than wild-type ExoI, with the Arg148 variant exhibiting the poorest binding. $K_{d,\ app}$ values could not be derived for these variants since peptide binding was not saturated at the highest enzyme concentrations tested (10 μM). The Gln311 variant led to a more modest 2-fold binding defect relative to wild-type ExoI. In contrast to the peptide-A-site variants, neither of the peptide-B-site variants had measurable F-SSB-Ct binding defects (Figure 26C). This was surprising given their direct contacts with Phe177 from peptide B and the strong defects displayed by analogous mutations in the peptide-A binding site.

[00115] Additional variants were used to test the roles of basic ridge, Mg^{2+}-binding and helical domain surfaces in binding the F-SSB-Ct peptide in solution (Figure 26D). The basic ridge variants had dramatic defects in peptide binding. ExoI Lys227 and Arg338 variants had 7- and 3-fold binding defects, respectively. These results indicate a significant role for the ExoI basic ridge in SSB-Ct binding. Two of the Mg^{2+}-binding variants had ~2-fold enhanced binding relative to wild-type ExoI (Glu150 and Glu318), whereas the Asp319 variant had a 2-fold binding defect. Not wanting to be bound by the following theory, these modest

effects suggested that Mg^{2+} binding observed in the crystal structure could be a consequence of the high concentration of the metal in the crystallization conditions rather than reflecting a major role for Mg^{2+} in SSB/ExoI complex formation. F-SSB-Ct binding by the Gln448 and Gln452 variants was indistinguishable from that of wild-type ExoI, suggesting that their association with the SSB-Ct peptide in the crystal structure was due to their proximity to the peptide through crystal packing but that they do not play a role in SSB-Ct binding in solution (Figure 29).

ExoI/SSB Complex Formation is Essential for SSB stimulation of ExoI Activity

[00116] Early studies showed that *E. coli* SSB stimulates ExoI nuclease activity and that the two proteins physically interact. However, whether ExoI/SSB complex formation is required for this stimulation has not been tested. To examine this, a nuclease assay in which hydrolysis of a radiolabeled ssDNA substrate is catalyzed by ExoI in a reaction that can be stimulated ~4-fold with the addition of SSB was developed (Figure 27A). SSB stimulation plateaus at 200 nM SSB, which is the concentration necessary to saturate the ssDNA with SSB.

[00117] To assess whether association with SSB is necessary for ExoI stimulation, two SSB variants wee substituted into the assay. The first, SSB113, is a well-characterized *E. coli* SSB variant with dramatically reduced ExoI binding affinity but wild type ssDNA binding attributes, and the second, SSB-mixed, is a variant with a mixed C-terminal sequence that matches the sequence used in the F-mixed peptide. SSB113 provided greatly reduced stimulation (<2-fold) compared to wild type SSB, whereas SSB-mixed entirely failed to stimulate ExoI activity (Figure 27A). These results support the idea that ExoI/SSB interaction is critical for SSB stimulation. To test whether binding to the SSB-Ct element alone is sufficient to stimulate ExoI activity, the SSB-Ct peptide was titrated into the ExoI assay. The peptide had no apparent effect on ExoI nuclease activity even at concentrations well above the $K_{d,\ app}$ for binding the enzyme (Figure 27A). Together, these data are consistent with SSB-Ct/ExoI complex formation being necessary, but not sufficient, for SSB stimulation of ExoI activity.

[00118] The effects of Ala substitutions on SSB-stimulated ExoI nuclease activity were also tested. If SSB stimulates ExoI by recruiting the enzyme to its substrate, then ExoI variants that are defective for binding the SSB-Ct peptide would have parallel defects in SSB-stimulated activity. The peptide-A- and peptide-B-site variants matched this prediction remarkably well. Two of the peptide-A-site variants (Arg148 and Tyr207) appeared to be unaffected by the addition of SSB, maintaining wild-type levels of nuclease activity at all SSB concentrations tested (Figure 27B); these variants also had the weakest F-SSB-Ct binding among the panel of ExoI mutant proteins (Figure 26B). A third peptide-A-site variant, Arg316, had dramatically reduced SSB-dependent activity (<2-fold enhancement by SSB) relative to wild-type ExoI. As with the Arg148 and Tyr207 variants, the Arg316 variant also had impaired F-SSB-Ct binding affinity, although it appeared to bind with higher affinity than the former variants (Figure 26B). Finally, the Gln311 variant had only a mildly reduced SSB-stimulation relative to wild-type ExoI, which paralleled its modest reduction in affinity for the F-SSB-Ct peptide. As would be predicted from these findings, the peptide-B-site and helical domain variants, which did not alter F-SSB-Ct binding in solution, also had wild-type SSB-dependent nuclease activity (Figure 27C and Figure 29).

[00119] The basic ridge and Mg^{2+}-binding ExoI variants were also tested for SSB-dependent nuclease activities. The basic ridge variants (Lys227 and Arg338), which had defects in F-SSB-Ct binding, similarly had reduced stimulation by SSB (Figure 27D). These results confirmed the importance of the basic ridge for coordinated activity with SSB. Two of the Mg^{2+}-binding variants (Glu318 and Asp319) had wild-type levels of SSB-stimulated nuclease activity whereas the third (Glu150) had moderately elevated levels of both intrinsic (SSB-*independent*) and SSB-dependent activity. Although the maximal SSB-stimulated activity of the Glu150 variant exceeded that of wild-type ExoI, the fold stimulation by SSB was the same as with the wild-type enzyme. Thus the ~2-fold higher F-SSB-Ct binding affinity of the Glu150 and Glu318 variants did not result in enhanced SSB-stimulation of nuclease activity.

[00120] The atomic coordinates of the crystal structure of *Escherichia coli* Exonuclease I bound to the C-terminal peptide from *E. coli* SSB have been

deposited in the Protein Data Bank under the accession code 3C94. Prokaryotic exonucleases that bind to SSBs and that upon binding have crystal structures whose models substantially represent the atomic coordinates specified in the model deposited in the Protein Data Bank under the accession code 3C94, can be used for practicing the present invention. As well, SSBs that bind to prokaryotic exonculeases and that upon binding have crystal structures whose models substantially represent the atomic coordinates specified in the model deposited in the Protein Data Bank under the accession code 3C94, can be used for practicing the present invention.

[00121] Figure 25 illustrates the structure of the *E. coli* ExoI/SSB-Ct complex. Figure 25(A): schematic diagram of *E. coli* ExoI and SSB's structural features (ExoI: Exonuclease domain; SH3-like domain, and helical domain; SSB: oligonucleotide-binding (OB) domain followed by ~60 disordered C-terminal residues). The bar graph depicts evolutionary conservation of the SSB C-terminus (SSB-Ct) sequence among 284 bacterial SSB proteins as percent identity. Figure25(B): ribbon diagram of ExoI bound to two SSB-Ct peptides. Dotted lines represent segments for which electron density was not observed. Figure25(C): surface representation depicting the binding sites for two SSB-Ct peptides (A and B) bound to ExoI. Selected ExoI residues are labeled. Figure 25(D): surface representation as in (C) that models electropositive and electronegative potential. Figure 25(E and F): detailed views of the peptide-A and peptide-B sites. The Arg316 side chain from apo ExoI is superimposed.

[00122] Figure 26 illustrates equilibrium binding highlights the roles of the peptide-A-binding site and the basic ridge in SSB-Ct binding. Figure 26(A-D): equilibrium binding isotherms of F-SSB-Ct (or peptide variant) association with ExoI (or Ala variant) as monitored by fluorescence anisotropy. All data points are the average of three experiments. Error bars are one standard deviation from the mean. Figure 26(A): F-SSB-Ct, F-P176S, and F-mixed ExoI binding isotherms. Figure 26(B): F-SSB-Ct binding by peptide-A-site ExoI variants (R148A, Y207A, Q311A, and R316A). Figure 26(C): F-SSB-Ct binding by peptide-B-site ExoI variants (L331A, R327A). Figure 26(D): F-SSB-Ct binding by basic ridge (K227A, R338A) and Mg2+ binding site (E150A, E318A, D319A) ExoI variants. (E)

Summary of ExoI variant F-SSB-Ct binding. The fold-change observed in F-SSB-Ct binding affinity relative to wild-type ExoI was: <1-fold binding changes (higher affinity), 1-2 fold, >2-5 fold, and >5 fold.

[00123] Figure 27 illustrates how ExoI/SSB physical interaction is essential for SSB stimulation of ExoI activity. Figure 27(A-D): ExoI specific activity is plotted as a function of SSB (or SSB variant). Data points are the mean of three experiments. Error bars are one standard deviation from the mean. Trend lines are shown for clarity. Figure 27(A): ExoI activity on ssDNA is stimulated ~4 fold by the addition of SSB but not the SSB-Ct peptide alone. SSB-Ct peptide variants modestly stimulate (SSB113) or have no effect on (SSB-mixed) ExoI activity. Figure 27(B): SSB-dependence of Peptide-A-site ExoI variant nuclease activities (R148A, Y207A, Q311A, and R316A). Figure 27(C): SSB-dependence of Peptide-B-site ExoI variant nuclease activities (L331A, R327A). Figure 27(D): SSB-dependence of basic ridge (K227A, R338A) and Mg2+-binding site (E150A, E318A, D319A) ExoI variants nuclease activity. Figure 27(E): summary of the SSB dependence of ExoI variants nuclease activity.

[00124] Figure 28 is a stereo diagram displaying Fo-Fc omit electron-density map (contoured at 2.8 σ) for SSB-Ct peptides A and B.

[00125] Figure 29 illustrates the crystallographic association of two glutamine residues from the ExoI helical domain associate with the SSB-Ct peptide A. Figure 29(A): SSB-Ct peptide A associates with a symmetrically-related ExoI molecule (shown in ribbon form) in the crystal lattice via two Gln residues from the ExoI helical domain (Gln448 and Gln452. Figure 29(B): close-up stereo diagram of the Gln-mediated interaction in the crystal lattice. Figure 29(C): Gln448 and Gln452 Ala variants have no apparent F-SSB-Ct binding defects (Q448A, Q452A). Figure 29(D): Gln448 and Gln452 Ala variants have wild-type SSB-dependent nuclease activities (Q448A, Q452A).

[00126] Figure 30 illustrates the similarity of the ExoI SSB-Ct binding site (A) and a site on the surface of the *E. coli* RecQ winged-helix domain (B). The RecQ winged-helix domain binds the SSB-Ct element but the binding site has not been described. Regions on the RecQ domain with similar electrostatic features to those involved in ExoI/SSB-Ct binding are highlighted in (B).

[00127] Table 6 shows the coordinates of the crystal structure of *E. coli* ExoI bound to compound 9 that was identified in a screen according to the present invention. Compounds that bind prokaryotic exonucleases and that have crystal structures whose models substantially represent the atomic coordinates specified in Table 6, can be used for practicing the present invention.

Table 6. Coordinates of the crystal structure of *E. coli* ExoI bound to compound 9

```
HEADER    ----                                    XX-XXX-XX   xxxx
COMPND    ---
REMARK   3
REMARK   3 REFINEMENT.
REMARK   3   PROGRAM     : REFMAC 5.2.0019
REMARK   3   AUTHORS     : MURSHUDOV,VAGIN,DODSON
REMARK   3
REMARK   3    REFINEMENT TARGET : MAXIMUM LIKELIHOOD
REMARK   3
REMARK   3  DATA USED IN REFINEMENT.
REMARK   3   RESOLUTION RANGE HIGH (ANGSTROMS) :   1.55
REMARK   3   RESOLUTION RANGE LOW  (ANGSTROMS) :  19.87
REMARK   3   DATA CUTOFF            (SIGMA(F)) : NONE
REMARK   3   COMPLETENESS FOR RANGE        (%) :  92.76
REMARK   3   NUMBER OF REFLECTIONS             :   68041
REMARK   3
REMARK   3  FIT TO DATA USED IN REFINEMENT.
REMARK   3   CROSS-VALIDATION METHOD          : THROUGHOUT
REMARK   3   FREE R VALUE TEST SET SELECTION  : RANDOM
REMARK   3   R VALUE     (WORKING + TEST SET) : 0.21370
REMARK   3   R VALUE            (WORKING SET) :  0.21267
REMARK   3   FREE R VALUE                     :  0.23374
REMARK   3   FREE R VALUE TEST SET SIZE   (%) :  5.0
REMARK   3   FREE R VALUE TEST SET COUNT      :  3592
REMARK   3
REMARK   3  FIT IN THE HIGHEST RESOLUTION BIN.
REMARK   3   TOTAL NUMBER OF BINS USED           :      20
REMARK   3   BIN RESOLUTION RANGE HIGH           :    1.550
REMARK   3   BIN RESOLUTION RANGE LOW            :    1.590
REMARK   3   REFLECTION IN BIN     (WORKING SET) :     4542
REMARK   3   BIN COMPLETENESS (WORKING+TEST) (%) :    85.08
REMARK   3   BIN R VALUE           (WORKING SET) :    0.268
REMARK   3   BIN FREE R VALUE SET COUNT          :      253
REMARK   3   BIN FREE R VALUE                    :    0.320
REMARK   3
REMARK   3  NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK   3   ALL ATOMS                :     4220
REMARK   3
REMARK   3  B VALUES.
REMARK   3   FROM WILSON PLOT           (A**2) : NULL
REMARK   3   MEAN B VALUE      (OVERALL, A**2) :  24.107
REMARK   3   OVERALL ANISOTROPIC B VALUE.
REMARK   3    B11 (A**2) :     0.01
REMARK   3    B22 (A**2) :     0.00
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REMARK   3    B33 (A**2) :      0.00
REMARK   3    B12 (A**2) :      0.00
REMARK   3    B13 (A**2) :      0.00
REMARK   3    B23 (A**2) :      0.00
REMARK   3
REMARK   3  ESTIMATED OVERALL COORDINATE ERROR.
REMARK   3   ESU BASED ON R VALUE                              (A):   0.099
REMARK   3   ESU BASED ON FREE R VALUE                         (A):   0.094
REMARK   3   ESU BASED ON MAXIMUM LIKELIHOOD                   (A):   0.059
REMARK   3   ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2):   3.239
REMARK   3
REMARK   3 CORRELATION COEFFICIENTS.
REMARK   3   CORRELATION COEFFICIENT FO-FC      :   0.954
REMARK   3   CORRELATION COEFFICIENT FO-FC FREE :   0.935
REMARK   3
REMARK   3  RMS DEVIATIONS FROM IDEAL VALUES        COUNT    RMS    WEIGHT
REMARK   3   BOND LENGTHS REFINED ATOMS        (A):  3737 ; 0.008 ; 0.022
REMARK   3   BOND ANGLES REFINED ATOMS   (DEGREES):  5084 ; 1.038 ; 1.951
REMARK   3   TORSION ANGLES, PERIOD 1    (DEGREES):   442 ; 5.149 ; 5.000
REMARK   3   TORSION ANGLES, PERIOD 2    (DEGREES):   197 ;32.714 ;23.858
REMARK   3   TORSION ANGLES, PERIOD 3    (DEGREES):   606 ;11.915 ;15.000
REMARK   3   TORSION ANGLES, PERIOD 4    (DEGREES):    30 ;12.440 ;15.000
REMARK   3   CHIRAL-CENTER RESTRAINTS       (A**3):   545 ; 0.057 ; 0.200
REMARK   3   GENERAL PLANES REFINED ATOMS      (A):  2920 ; 0.003 ; 0.020
REMARK   3   NON-BONDED CONTACTS REFINED ATOMS (A):  1836 ; 0.196 ; 0.200
REMARK   3   NON-BONDED TORSION REFINED ATOMS  (A):  2568 ; 0.303 ; 0.200
REMARK   3   H-BOND (X...Y) REFINED ATOMS      (A):   468 ; 0.136 ; 0.200
REMARK   3   POTENTIAL METAL-ION REFINED ATOMS (A):     2 ; 0.017 ; 0.200
REMARK   3   SYMMETRY VDW REFINED ATOMS        (A):    39 ; 0.225 ; 0.200
REMARK   3   SYMMETRY H-BOND REFINED ATOMS     (A):    27 ; 0.225 ; 0.200
REMARK   3
REMARK   3  ISOTROPIC THERMAL FACTOR RESTRAINTS.     COUNT   RMS    WEIGHT
REMARK   3   MAIN-CHAIN BOND REFINED ATOMS  (A**2):  2305 ; 0.433 ; 1.500
REMARK   3   MAIN-CHAIN ANGLE REFINED ATOMS (A**2):  3608 ; 0.664 ; 2.000
REMARK   3   SIDE-CHAIN BOND REFINED ATOMS  (A**2):  1709 ; 1.021 ; 3.000
REMARK   3   SIDE-CHAIN ANGLE REFINED ATOMS (A**2):  1476 ; 1.651 ; 4.500
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REMARK   3  NCS RESTRAINTS STATISTICS
REMARK   3   NUMBER OF NCS GROUPS : NULL
REMARK   3
REMARK   3
REMARK   3  TLS DETAILS
REMARK   3   NUMBER OF TLS GROUPS  :    3
REMARK   3   ATOM RECORD CONTAINS RESIDUAL B FACTORS ONLY
REMARK   3
REMARK   3   TLS GROUP :     1
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A     1        A   201
REMARK   3    ORIGIN FOR THE GROUP (A):  30.6117  26.4458  31.1155
REMARK   3    T TENSOR
REMARK   3      T11:  -0.0145 T22:  -0.0126
REMARK   3      T33:   0.0000 T12:  -0.0097
REMARK   3      T13:   0.0041 T23:  -0.0023
REMARK   3    L TENSOR
REMARK   3      L11:   0.1747 L22:   0.2763
REMARK   3      L33:   0.5243 L12:  -0.0803
REMARK   3      L13:   0.1528 L23:  -0.2242
REMARK   3    S TENSOR
REMARK   3      S11:   0.0196 S12:   0.0055 S13:   0.0154
REMARK   3      S21:  -0.0690 S22:   0.0139 S23:  -0.0222
REMARK   3      S31:  -0.0123 S32:   0.0319 S33:  -0.0335
REMARK   3
REMARK   3   TLS GROUP :     2
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REMARK   3      T11:  -0.0578 T22:  -0.0315
REMARK   3      T33:  -0.0114 T12:  -0.0002
REMARK   3      T13:   0.0088 T23:   0.0016
REMARK   3    L TENSOR
REMARK   3      L11:   0.6486 L22:   1.1345
REMARK   3      L33:   0.9027 L12:   0.2886
REMARK   3      L13:  -0.1969 L23:  -0.1079
REMARK   3    S TENSOR
REMARK   3      S11:  -0.0401 S12:   0.0041 S13:  -0.0065
REMARK   3      S21:  -0.0122 S22:   0.0400 S23:   0.1062
REMARK   3      S31:   0.0979 S32:  -0.0452 S33:   0.0001
REMARK   3
REMARK   3   TLS GROUP :     3
REMARK   3    NUMBER OF COMPONENTS GROUP :    1
REMARK   3    COMPONENTS        C SSSEQI   TO  C SSSEQI
REMARK   3    RESIDUE RANGE :   A   355        A   477
REMARK   3    ORIGIN FOR THE GROUP (A):  12.6823  27.6878  16.5653
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REMARK   3      T11:  -0.0330 T22:  -0.0129
REMARK   3      T33:  -0.0882 T12:  -0.0147
REMARK   3      T13:  -0.0325 T23:   0.0227
REMARK   3    L TENSOR
REMARK   3      L11:   0.5669 L22:   1.2815
REMARK   3      L33:   1.0851 L12:   0.0040
REMARK   3      L13:  -0.1252 L23:   0.5280
REMARK   3    S TENSOR
REMARK   3      S11:   0.0297 S12:   0.0777 S13:  -0.0305
REMARK   3      S21:  -0.1022 S22:  -0.0153 S23:   0.1608
REMARK   3      S31:  -0.0144 S32:  -0.1499 S33:  -0.0145
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REMARK   3
REMARK   3  BULK SOLVENT MODELLING.
REMARK   3   METHOD USED : BABINET MODEL WITH MASK
REMARK   3   PARAMETERS FOR MASK CALCULATION
REMARK   3   VDW PROBE RADIUS   :   1.20
REMARK   3   ION PROBE RADIUS   :   0.80
REMARK   3   SHRINKAGE RADIUS   :   0.80
REMARK   3
REMARK   3  OTHER REFINEMENT REMARKS: NULL
REMARK   3
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LINK             SER A 178                     ASP A 182                gap
LINK             ARG A 280                     ALA A 295                gap
LINK             GLU A 353                     SER A 360                gap
CRYST1   53.823   91.966  106.280  90.00  90.00  90.00 P 21 21 21
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SCALE2      0.000000  0.010874  0.000000        0.00000
SCALE3      0.000000  0.000000  0.009409        0.00000
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ATOM      3  CB  GLN A   7      48.092  15.990  20.489  1.00 27.52          C
ATOM      4  CG  GLN A   7      46.884  16.848  20.888  1.00 28.40          C
ATOM      5  CD  GLN A   7      46.601  17.984  19.911  1.00 29.59          C
ATOM      6  OE1 GLN A   7      47.389  18.258  19.002  1.00 30.56          O
ATOM      7  NE2 GLN A   7      45.467  18.649  20.098  1.00 29.83          N
ATOM      8  C   GLN A   7      49.558  16.553  22.448  1.00 26.84          C
ATOM      9  O   GLN A   7      49.743  15.503  23.070  1.00 27.02          O
ATOM     10  N   GLN A   8      49.450  17.739  23.041  1.00 26.18          N
ATOM     11  CA  GLN A   8      49.483  17.879  24.495  1.00 25.51          C
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ATOM	16	NE2	GLN	A	8	49.616	22.862	24.633	1.00	29.00	N
ATOM	17	C	GLN	A	8	48.076	17.845	25.081	1.00	24.47	C
ATOM	18	O	GLN	A	8	47.104	18.220	24.416	1.00	24.29	O
ATOM	19	N	SER	A	9	47.974	17.390	26.327	1.00	23.25	N
ATOM	20	CA	SER	A	9	46.708	17.409	27.051	1.00	22.05	C
ATOM	21	CB	SER	A	9	46.786	16.528	28.299	1.00	22.13	C
ATOM	22	OG	SER	A	9	47.031	15.175	27.953	1.00	22.89	O
ATOM	23	C	SER	A	9	46.355	18.841	27.436	1.00	21.07	C
ATOM	24	O	SER	A	9	47.194	19.580	27.961	1.00	20.89	O
ATOM	25	N	THR	A	10	45.118	19.238	27.151	1.00	19.73	N
ATOM	26	CA	THR	A	10	44.658	20.583	27.480	1.00	18.69	C
ATOM	27	CB	THR	A	10	44.569	21.493	26.224	1.00	18.74	C
ATOM	28	OG1	THR	A	10	43.608	20.962	25.305	1.00	18.51	O
ATOM	29	CG2	THR	A	10	45.929	21.613	25.533	1.00	18.94	C
ATOM	30	C	THR	A	10	43.300	20.557	28.168	1.00	17.97	C
ATOM	31	O	THR	A	10	42.583	19.557	28.111	1.00	17.87	O
ATOM	32	N	PHE	A	11	42.973	21.660	28.836	1.00	16.92	N
ATOM	33	CA	PHE	A	11	41.638	21.890	29.371	1.00	16.34	C
ATOM	34	CB	PHE	A	11	41.716	22.339	30.830	1.00	16.30	C
ATOM	35	CG	PHE	A	11	42.156	21.265	31.777	1.00	16.20	C
ATOM	36	CD1	PHE	A	11	41.221	20.426	32.376	1.00	16.26	C
ATOM	37	CE1	PHE	A	11	41.619	19.431	33.261	1.00	16.26	C
ATOM	38	CZ	PHE	A	11	42.965	19.266	33.561	1.00	17.12	C
ATOM	39	CE2	PHE	A	11	43.911	20.101	32.973	1.00	17.27	C
ATOM	40	CD2	PHE	A	11	43.503	21.097	32.088	1.00	17.00	C
ATOM	41	C	PHE	A	11	40.959	22.974	28.559	1.00	15.81	C
ATOM	42	O	PHE	A	11	41.581	23.978	28.209	1.00	15.67	O
ATOM	43	N	LEU	A	12	39.684	22.775	28.255	1.00	15.13	N
ATOM	44	CA	LEU	A	12	38.883	23.837	27.673	1.00	14.78	C
ATOM	45	CB	LEU	A	12	38.307	23.429	26.315	1.00	14.84	C
ATOM	46	CG	LEU	A	12	37.592	24.535	25.525	1.00	15.52	C
ATOM	47	CD1	LEU	A	12	38.567	25.629	25.082	1.00	16.05	C
ATOM	48	CD2	LEU	A	12	36.863	23.962	24.333	1.00	15.62	C
ATOM	49	C	LEU	A	12	37.778	24.221	28.637	1.00	14.29	C
ATOM	50	O	LEU	A	12	36.763	23.530	28.743	1.00	14.07	O
ATOM	51	N	PHE	A	13	38.013	25.304	29.369	1.00	14.01	N
ATOM	52	CA	PHE	A	13	37.022	25.869	30.270	1.00	13.80	C
ATOM	53	CB	PHE	A	13	37.694	26.807	31.274	1.00	13.63	C
ATOM	54	CG	PHE	A	13	38.570	26.104	32.283	1.00	13.27	C
ATOM	55	CD1	PHE	A	13	38.078	25.784	33.548	1.00	13.35	C
ATOM	56	CE1	PHE	A	13	38.885	25.144	34.489	1.00	12.71	C
ATOM	57	CZ	PHE	A	13	40.204	24.820	34.166	1.00	12.95	C
ATOM	58	CE2	PHE	A	13	40.708	25.140	32.911	1.00	12.37	C
ATOM	59	CD2	PHE	A	13	39.892	25.777	31.975	1.00	12.95	C
ATOM	60	C	PHE	A	13	36.013	26.644	29.443	1.00	13.88	C
ATOM	61	O	PHE	A	13	36.391	27.396	28.548	1.00	14.05	O
ATOM	62	N	HIS	A	14	34.729	26.456	29.734	1.00	13.87	N
ATOM	63	CA	HIS	A	14	33.678	27.117	28.965	1.00	13.75	C
ATOM	64	CB	HIS	A	14	33.269	26.257	27.767	1.00	14.02	C
ATOM	65	CG	HIS	A	14	32.455	25.062	28.145	1.00	14.10	C
ATOM	66	ND1	HIS	A	14	31.105	24.968	27.888	1.00	15.76	N
ATOM	67	CE1	HIS	A	14	30.651	23.818	28.350	1.00	14.67	C
ATOM	68	NE2	HIS	A	14	31.656	23.167	28.907	1.00	16.74	N
ATOM	69	CD2	HIS	A	14	32.795	23.926	28.796	1.00	14.51	C
ATOM	70	C	HIS	A	14	32.451	27.420	29.816	1.00	13.65	C
ATOM	71	O	HIS	A	14	32.282	26.866	30.908	1.00	13.85	O
ATOM	72	N	ASP	A	15	31.593	28.290	29.290	1.00	13.54	N
ATOM	73	CA	ASP	A	15	30.356	28.674	29.952	1.00	13.85	C
ATOM	74	CB	ASP	A	15	30.640	29.713	31.042	1.00	13.93	C
ATOM	75	CG	ASP	A	15	29.424	30.009	31.900	1.00	15.01	C

ATOM	76	OD1	ASP	A	15	28.825	29.055	32.454	1.00	15.75	O
ATOM	77	OD2	ASP	A	15	29.073	31.198	32.039	1.00	17.02	O
ATOM	78	C	ASP	A	15	29.382	29.250	28.932	1.00	13.67	C
ATOM	79	O	ASP	A	15	29.786	29.996	28.039	1.00	13.73	O
ATOM	80	N	TYR	A	16	28.107	28.891	29.062	1.00	14.02	N
ATOM	81	CA	TYR	A	16	27.046	29.511	28.272	1.00	14.37	C
ATOM	82	CB	TYR	A	16	26.015	28.476	27.820	1.00	14.27	C
ATOM	83	CG	TYR	A	16	26.457	27.486	26.771	1.00	14.10	C
ATOM	84	CD1	TYR	A	16	26.364	27.788	25.409	1.00	14.43	C
ATOM	85	CE1	TYR	A	16	26.736	26.857	24.439	1.00	14.31	C
ATOM	86	CZ	TYR	A	16	27.183	25.603	24.832	1.00	14.50	C
ATOM	87	OH	TYR	A	16	27.547	24.671	23.889	1.00	14.16	O
ATOM	88	CE2	TYR	A	16	27.261	25.277	26.175	1.00	13.93	C
ATOM	89	CD2	TYR	A	16	26.889	26.212	27.134	1.00	14.54	C
ATOM	90	C	TYR	A	16	26.291	30.548	29.085	1.00	14.77	C
ATOM	91	O	TYR	A	16	26.019	30.347	30.275	1.00	14.91	O
ATOM	92	N	GLU	A	17	25.928	31.644	28.430	1.00	15.18	N
ATOM	93	CA	GLU	A	17	24.799	32.445	28.872	1.00	15.82	C
ATOM	94	CB	GLU	A	17	25.115	33.944	28.803	1.00	16.31	C
ATOM	95	CG	GLU	A	17	26.328	34.386	29.633	1.00	18.97	C
ATOM	96	CD	GLU	A	17	26.115	34.275	31.147	1.00	22.44	C
ATOM	97	OE1	GLU	A	17	24.980	34.008	31.591	1.00	24.46	O
ATOM	98	OE2	GLU	A	17	27.096	34.461	31.898	1.00	25.38	O
ATOM	99	C	GLU	A	17	23.646	32.098	27.949	1.00	15.59	C
ATOM	100	O	GLU	A	17	23.821	32.041	26.731	1.00	15.67	O
ATOM	101	N	THR	A	18	22.482	31.813	28.526	1.00	15.43	N
ATOM	102	CA	THR	A	18	21.321	31.413	27.731	1.00	15.37	C
ATOM	103	CB	THR	A	18	20.904	29.946	27.999	1.00	15.55	C
ATOM	104	OG1	THR	A	18	20.307	29.844	29.295	1.00	16.45	O
ATOM	105	CG2	THR	A	18	22.107	29.007	27.908	1.00	15.79	C
ATOM	106	C	THR	A	18	20.125	32.326	27.978	1.00	15.23	C
ATOM	107	O	THR	A	18	20.159	33.187	28.861	1.00	15.56	O
ATOM	108	N	PHE	A	19	19.070	32.129	27.193	1.00	15.09	N
ATOM	109	CA	PHE	A	19	17.858	32.930	27.312	1.00	14.91	C
ATOM	110	CB	PHE	A	19	17.279	33.237	25.928	1.00	14.79	C
ATOM	111	CG	PHE	A	19	18.037	34.296	25.175	1.00	14.13	C
ATOM	112	CD1	PHE	A	19	18.182	35.577	25.705	1.00	14.77	C
ATOM	113	CE1	PHE	A	19	18.878	36.565	25.009	1.00	14.06	C
ATOM	114	CZ	PHE	A	19	19.429	36.278	23.770	1.00	14.30	C
ATOM	115	CE2	PHE	A	19	19.286	35.008	23.223	1.00	14.16	C
ATOM	116	CD2	PHE	A	19	18.588	34.021	23.929	1.00	14.19	C
ATOM	117	C	PHE	A	19	16.805	32.262	28.196	1.00	15.28	C
ATOM	118	O	PHE	A	19	15.666	32.721	28.271	1.00	15.20	O
ATOM	119	N	GLY	A	20	17.197	31.189	28.877	1.00	15.71	N
ATOM	120	CA	GLY	A	20	16.289	30.508	29.789	1.00	16.41	C
ATOM	121	C	GLY	A	20	16.873	29.276	30.441	1.00	16.87	C
ATOM	122	O	GLY	A	20	17.980	28.849	30.113	1.00	16.68	O
ATOM	123	N	THR	A	21	16.096	28.690	31.347	1.00	17.63	N
ATOM	124	CA	THR	A	21	16.571	27.616	32.219	1.00	18.54	C
ATOM	125	CB	THR	A	21	15.754	27.555	33.532	1.00	18.77	C
ATOM	126	OG1	THR	A	21	14.374	27.333	33.227	1.00	20.19	O
ATOM	127	CG2	THR	A	21	15.892	28.859	34.318	1.00	19.50	C
ATOM	128	C	THR	A	21	16.543	26.234	31.559	1.00	18.69	C
ATOM	129	O	THR	A	21	17.235	25.315	32.007	1.00	18.83	O
ATOM	130	N	HIS	A	22	15.736	26.084	30.510	1.00	18.75	N
ATOM	131	CA	HIS	A	22	15.606	24.792	29.837	1.00	19.27	C
ATOM	132	CB	HIS	A	22	14.208	24.621	29.241	1.00	19.39	C
ATOM	133	CG	HIS	A	22	13.843	23.195	28.974	1.00	20.16	C
ATOM	134	ND1	HIS	A	22	12.795	22.562	29.608	1.00	21.93	N
ATOM	135	CE1	HIS	A	22	12.721	21.312	29.187	1.00	21.83	C
ATOM	136	NE2	HIS	A	22	13.689	21.108	28.312	1.00	22.15	N
ATOM	137	CD2	HIS	A	22	14.408	22.269	28.164	1.00	20.52	C
ATOM	138	C	HIS	A	22	16.676	24.606	28.756	1.00	19.53	C
ATOM	139	O	HIS	A	22	16.705	25.354	27.777	1.00	19.17	O

ATOM	140	N	PRO	A	23	17.546	23.588	28.921	1.00	19.58	N
ATOM	141	CA	PRO	A	23	18.676	23.383	28.003	1.00	19.95	C
ATOM	142	CB	PRO	A	23	19.424	22.192	28.616	1.00	20.08	C
ATOM	143	CG	PRO	A	23	18.910	22.066	30.005	1.00	20.23	C
ATOM	144	CD	PRO	A	23	17.515	22.569	29.985	1.00	19.70	C
ATOM	145	C	PRO	A	23	18.257	23.052	26.569	1.00	19.96	C
ATOM	146	O	PRO	A	23	19.047	23.243	25.641	1.00	20.25	O
ATOM	147	N	ALA	A	24	17.027	22.567	26.396	1.00	19.92	N
ATOM	148	CA	ALA	A	24	16.505	22.202	25.079	1.00	19.89	C
ATOM	149	CB	ALA	A	24	15.819	20.842	25.137	1.00	20.01	C
ATOM	150	C	ALA	A	24	15.551	23.252	24.511	1.00	19.82	C
ATOM	151	O	ALA	A	24	15.642	23.607	23.333	1.00	20.09	O
ATOM	152	N	LEU	A	25	14.644	23.745	25.354	1.00	19.43	N
ATOM	153	CA	LEU	A	25	13.538	24.597	24.900	1.00	19.28	C
ATOM	154	CB	LEU	A	25	12.261	24.295	25.690	1.00	19.47	C
ATOM	155	CG	LEU	A	25	11.674	22.888	25.528	1.00	20.18	C
ATOM	156	CD1	LEU	A	25	10.377	22.760	26.309	1.00	20.77	C
ATOM	157	CD2	LEU	A	25	11.457	22.536	24.060	1.00	21.08	C
ATOM	158	C	LEU	A	25	13.850	26.089	24.944	1.00	18.94	C
ATOM	159	O	LEU	A	25	13.148	26.895	24.326	1.00	19.13	O
ATOM	160	N	ASP	A	26	14.896	26.456	25.677	1.00	18.37	N
ATOM	161	CA	ASP	A	26	15.397	27.823	25.650	1.00	17.98	C
ATOM	162	CB	ASP	A	26	15.625	28.343	27.071	1.00	17.69	C
ATOM	163	CG	ASP	A	26	14.321	28.595	27.815	1.00	18.14	C
ATOM	164	OD1	ASP	A	26	13.507	29.412	27.334	1.00	17.60	O
ATOM	165	OD2	ASP	A	26	14.115	27.987	28.888	1.00	18.41	O
ATOM	166	C	ASP	A	26	16.678	27.896	24.825	1.00	17.72	C
ATOM	167	O	ASP	A	26	17.450	26.938	24.775	1.00	18.49	O
ATOM	168	N	ARG	A	27	16.894	29.031	24.168	1.00	16.86	N
ATOM	169	CA	ARG	A	27	18.006	29.167	23.228	1.00	16.22	C
ATOM	170	CB	ARG	A	27	17.592	30.017	22.019	1.00	16.09	C
ATOM	171	CG	ARG	A	27	16.238	29.659	21.425	1.00	16.52	C
ATOM	172	CD	ARG	A	27	16.260	28.368	20.612	1.00	16.60	C
ATOM	173	NE	ARG	A	27	14.902	27.860	20.429	1.00	17.60	N
ATOM	174	CZ	ARG	A	27	14.077	28.230	19.452	1.00	17.84	C
ATOM	175	NH1	ARG	A	27	14.468	29.105	18.525	1.00	17.82	N
ATOM	176	NH2	ARG	A	27	12.856	27.715	19.395	1.00	18.04	N
ATOM	177	C	ARG	A	27	19.239	29.772	23.894	1.00	15.87	C
ATOM	178	O	ARG	A	27	19.115	30.575	24.826	1.00	15.56	O
ATOM	179	N	PRO	A	28	20.440	29.389	23.417	1.00	15.52	N
ATOM	180	CA	PRO	A	28	21.668	29.978	23.942	1.00	15.49	C
ATOM	181	CB	PRO	A	28	22.764	29.122	23.307	1.00	15.36	C
ATOM	182	CG	PRO	A	28	22.155	28.610	22.047	1.00	15.52	C
ATOM	183	CD	PRO	A	28	20.712	28.388	22.365	1.00	15.47	C
ATOM	184	C	PRO	A	28	21.803	31.429	23.494	1.00	15.32	C
ATOM	185	O	PRO	A	28	21.260	31.807	22.450	1.00	15.54	O
ATOM	186	N	ALA	A	29	22.508	32.230	24.285	1.00	14.92	N
ATOM	187	CA	ALA	A	29	22.746	33.633	23.952	1.00	15.06	C
ATOM	188	CB	ALA	A	29	22.303	34.528	25.094	1.00	14.98	C
ATOM	189	C	ALA	A	29	24.215	33.876	23.634	1.00	14.92	C
ATOM	190	O	ALA	A	29	24.547	34.556	22.658	1.00	14.81	O
ATOM	191	N	GLN	A	30	25.093	33.312	24.462	1.00	14.93	N
ATOM	192	CA	GLN	A	30	26.525	33.567	24.368	1.00	15.30	C
ATOM	193	CB	GLN	A	30	26.892	34.783	25.227	1.00	15.18	C
ATOM	194	CG	GLN	A	30	28.320	35.283	25.073	1.00	16.92	C
ATOM	195	CD	GLN	A	30	28.708	36.258	26.167	1.00	17.27	C
ATOM	196	OE1	GLN	A	30	28.784	35.893	27.343	1.00	21.13	O
ATOM	197	NE2	GLN	A	30	28.960	37.508	25.787	1.00	20.44	N
ATOM	198	C	GLN	A	30	27.324	32.349	24.820	1.00	14.87	C
ATOM	199	O	GLN	A	30	26.937	31.660	25.763	1.00	15.19	O
ATOM	200	N	PHE	A	31	28.433	32.093	24.130	1.00	14.51	N
ATOM	201	CA	PHE	A	31	29.388	31.056	24.513	1.00	14.29	C
ATOM	202	CB	PHE	A	31	29.530	30.030	23.383	1.00	14.25	C
ATOM	203	CG	PHE	A	31	30.586	28.974	23.625	1.00	14.20	C

ATOM	204	CD1	PHE	A	31	30.260	27.765	24.239	1.00	14.04	C
ATOM	205	CE1	PHE	A	31	31.232	26.779	24.438	1.00	13.99	C
ATOM	206	CZ	PHE	A	31	32.537	26.995	24.002	1.00	13.88	C
ATOM	207	CE2	PHE	A	31	32.868	28.190	23.376	1.00	14.18	C
ATOM	208	CD2	PHE	A	31	31.895	29.169	23.188	1.00	13.96	C
ATOM	209	C	PHE	A	31	30.729	31.719	24.804	1.00	14.32	C
ATOM	210	O	PHE	A	31	31.167	32.598	24.064	1.00	14.16	O
ATOM	211	N	ALA	A	32	31.363	31.306	25.897	1.00	14.37	N
ATOM	212	CA	ALA	A	32	32.673	31.822	26.271	1.00	14.83	C
ATOM	213	CB	ALA	A	32	32.552	32.794	27.429	1.00	14.68	C
ATOM	214	C	ALA	A	32	33.569	30.661	26.645	1.00	14.99	C
ATOM	215	O	ALA	A	32	33.130	29.733	27.322	1.00	15.38	O
ATOM	216	N	ALA	A	33	34.819	30.705	26.194	1.00	15.45	N
ATOM	217	CA	ALA	A	33	35.768	29.635	26.482	1.00	15.71	C
ATOM	218	CB	ALA	A	33	35.554	28.458	25.536	1.00	15.98	C
ATOM	219	C	ALA	A	33	37.206	30.109	26.411	1.00	16.12	C
ATOM	220	O	ALA	A	33	37.517	31.089	25.730	1.00	16.43	O
ATOM	221	N	ILE	A	34	38.079	29.410	27.128	1.00	16.39	N
ATOM	222	CA	ILE	A	34	39.519	29.580	26.971	1.00	16.74	C
ATOM	223	CB	ILE	A	34	40.071	30.740	27.850	1.00	17.07	C
ATOM	224	CG1	ILE	A	34	41.369	31.304	27.257	1.00	17.60	C
ATOM	225	CD1	ILE	A	34	41.647	32.748	27.650	1.00	18.75	C
ATOM	226	CG2	ILE	A	34	40.241	30.302	29.298	1.00	16.97	C
ATOM	227	C	ILE	A	34	40.236	28.261	27.254	1.00	16.68	C
ATOM	228	O	ILE	A	34	39.808	27.477	28.108	1.00	16.42	O
ATOM	229	N	ARG	A	35	41.306	28.013	26.507	1.00	16.69	N
ATOM	230	CA	ARG	A	35	42.080	26.789	26.647	1.00	16.85	C
ATOM	231	CB	ARG	A	35	42.550	26.303	25.271	1.00	16.75	C
ATOM	232	CG	ARG	A	35	43.051	24.867	25.249	1.00	17.00	C
ATOM	233	CD	ARG	A	35	43.346	24.394	23.830	1.00	17.03	C
ATOM	234	NE	ARG	A	35	42.146	24.346	22.992	1.00	17.29	N
ATOM	235	CZ	ARG	A	35	41.310	23.311	22.921	1.00	17.56	C
ATOM	236	NH1	ARG	A	35	41.523	22.219	23.646	1.00	17.86	N
ATOM	237	NH2	ARG	A	35	40.255	23.370	22.121	1.00	17.90	N
ATOM	238	C	ARG	A	35	43.272	27.017	27.573	1.00	17.06	C
ATOM	239	O	ARG	A	35	43.894	28.085	27.546	1.00	17.08	O
ATOM	240	N	THR	A	36	43.564	26.022	28.413	1.00	17.31	N
ATOM	241	CA	THR	A	36	44.743	26.052	29.282	1.00	17.83	C
ATOM	242	CB	THR	A	36	44.370	26.175	30.793	1.00	18.01	C
ATOM	243	OG1	THR	A	36	43.932	24.906	31.296	1.00	18.26	O
ATOM	244	CG2	THR	A	36	43.289	27.226	31.025	1.00	17.90	C
ATOM	245	C	THR	A	36	45.570	24.783	29.100	1.00	18.08	C
ATOM	246	O	THR	A	36	45.066	23.775	28.599	1.00	17.81	O
ATOM	247	N	ASP	A	37	46.834	24.830	29.517	1.00	18.48	N
ATOM	248	CA	ASP	A	37	47.650	23.621	29.582	1.00	19.18	C
ATOM	249	CB	ASP	A	37	49.158	23.952	29.575	1.00	19.15	C
ATOM	250	CG	ASP	A	37	49.610	24.746	30.798	1.00	19.92	C
ATOM	251	OD1	ASP	A	37	48.833	24.894	31.765	1.00	20.67	O
ATOM	252	OD2	ASP	A	37	50.771	25.219	30.787	1.00	20.60	O
ATOM	253	C	ASP	A	37	47.257	22.774	30.797	1.00	19.55	C
ATOM	254	O	ASP	A	37	46.341	23.136	31.547	1.00	19.64	O
ATOM	255	N	SER	A	38	47.947	21.653	30.988	1.00	20.21	N
ATOM	256	CA	SER	A	38	47.623	20.716	32.066	1.00	20.94	C
ATOM	257	CB	SER	A	38	48.441	19.432	31.917	1.00	20.98	C
ATOM	258	OG	SER	A	38	49.829	19.713	31.908	1.00	21.79	O
ATOM	259	C	SER	A	38	47.824	21.313	33.462	1.00	21.25	C
ATOM	260	O	SER	A	38	47.371	20.741	34.457	1.00	21.58	O
ATOM	261	N	GLU	A	39	48.494	22.466	33.522	1.00	21.48	N
ATOM	262	CA	GLU	A	39	48.767	23.153	34.789	1.00	21.82	C
ATOM	263	CB	GLU	A	39	50.256	23.507	34.896	1.00	22.13	C
ATOM	264	CG	GLU	A	39	51.180	22.296	35.015	1.00	23.91	C
ATOM	265	CD	GLU	A	39	50.916	21.476	36.267	1.00	26.19	C
ATOM	266	OE1	GLU	A	39	50.905	22.057	37.373	1.00	27.78	O
ATOM	267	OE2	GLU	A	39	50.718	20.248	36.143	1.00	27.92	O

ATOM	268	C	GLU	A	39	47.901	24.405	34.972	1.00	21.65	C
ATOM	269	O	GLU	A	39	48.106	25.183	35.909	1.00	21.67	O
ATOM	270	N	PHE	A	40	46.930	24.576	34.072	1.00	21.49	N
ATOM	271	CA	PHE	A	40	45.956	25.683	34.112	1.00	21.58	C
ATOM	272	CB	PHE	A	40	45.230	25.759	35.469	1.00	21.41	C
ATOM	273	CG	PHE	A	40	44.506	24.493	35.841	1.00	21.31	C
ATOM	274	CD1	PHE	A	40	43.623	23.889	34.948	1.00	21.03	C
ATOM	275	CE1	PHE	A	40	42.954	22.716	35.289	1.00	20.68	C
ATOM	276	CZ	PHE	A	40	43.160	22.140	36.536	1.00	21.44	C
ATOM	277	CE2	PHE	A	40	44.032	22.736	37.438	1.00	21.87	C
ATOM	278	CD2	PHE	A	40	44.701	23.908	37.089	1.00	21.78	C
ATOM	279	C	PHE	A	40	46.511	27.052	33.698	1.00	21.77	C
ATOM	280	O	PHE	A	40	45.916	28.089	34.008	1.00	21.87	O
ATOM	281	N	ASN	A	41	47.641	27.045	32.992	1.00	22.05	N
ATOM	282	CA	ASN	A	41	48.137	28.245	32.320	1.00	22.27	C
ATOM	283	CB	ASN	A	41	49.645	28.150	32.056	1.00	22.41	C
ATOM	284	CG	ASN	A	41	50.438	27.769	33.292	1.00	22.55	C
ATOM	285	OD1	ASN	A	41	51.112	26.738	33.314	1.00	23.79	O
ATOM	286	ND2	ASN	A	41	50.363	28.596	34.327	1.00	23.32	N
ATOM	287	C	ASN	A	41	47.401	28.432	31.003	1.00	22.47	C
ATOM	288	O	ASN	A	41	47.337	27.510	30.188	1.00	22.33	O
ATOM	289	N	VAL	A	42	46.845	29.625	30.802	1.00	22.96	N
ATOM	290	CA	VAL	A	42	46.115	29.951	29.574	1.00	23.38	C
ATOM	291	CB	VAL	A	42	45.518	31.385	29.639	1.00	23.30	C
ATOM	292	CG1	VAL	A	42	44.983	31.817	28.284	1.00	23.40	C
ATOM	293	CG2	VAL	A	42	44.424	31.462	30.698	1.00	23.15	C
ATOM	294	C	VAL	A	42	47.030	29.815	28.356	1.00	23.84	C
ATOM	295	O	VAL	A	42	48.157	30.317	28.362	1.00	23.83	O
ATOM	296	N	ILE	A	43	46.556	29.115	27.326	1.00	24.38	N
ATOM	297	CA	ILE	A	43	47.357	28.921	26.108	1.00	25.12	C
ATOM	298	CB	ILE	A	43	47.824	27.443	25.918	1.00	25.11	C
ATOM	299	CG1	ILE	A	43	46.631	26.485	25.871	1.00	25.16	C
ATOM	300	CD1	ILE	A	43	47.007	25.063	25.503	1.00	25.21	C
ATOM	301	CG2	ILE	A	43	48.812	27.044	27.017	1.00	25.45	C
ATOM	302	C	ILE	A	43	46.712	29.462	24.825	1.00	25.54	C
ATOM	303	O	ILE	A	43	47.378	29.587	23.795	1.00	25.90	O
ATOM	304	N	GLY	A	44	45.425	29.786	24.889	1.00	25.87	N
ATOM	305	CA	GLY	A	44	44.735	30.348	23.733	1.00	26.38	C
ATOM	306	C	GLY	A	44	44.261	31.774	23.945	1.00	26.59	C
ATOM	307	O	GLY	A	44	44.393	32.332	25.039	1.00	26.91	O
ATOM	308	N	GLU	A	45	43.730	32.372	22.882	1.00	26.48	N
ATOM	309	CA	GLU	A	45	42.979	33.615	22.993	1.00	26.37	C
ATOM	310	CB	GLU	A	45	42.892	34.320	21.633	1.00	26.59	C
ATOM	311	CG	GLU	A	45	44.230	34.835	21.095	1.00	27.78	C
ATOM	312	CD	GLU	A	45	44.871	35.883	21.994	1.00	29.22	C
ATOM	313	OE1	GLU	A	45	44.152	36.792	22.468	1.00	30.39	O
ATOM	314	OE2	GLU	A	45	46.097	35.799	22.219	1.00	30.40	O
ATOM	315	C	GLU	A	45	41.577	33.286	23.501	1.00	25.89	C
ATOM	316	O	GLU	A	45	41.081	32.181	23.260	1.00	25.87	O
ATOM	317	N	PRO	A	46	40.936	34.235	24.216	1.00	25.47	N
ATOM	318	CA	PRO	A	46	39.554	34.018	24.645	1.00	25.05	C
ATOM	319	CB	PRO	A	46	39.207	35.315	25.390	1.00	25.19	C
ATOM	320	CG	PRO	A	46	40.521	35.900	25.775	1.00	25.39	C
ATOM	321	CD	PRO	A	46	41.454	35.537	24.673	1.00	25.43	C
ATOM	322	C	PRO	A	46	38.619	33.829	23.452	1.00	24.60	C
ATOM	323	O	PRO	A	46	38.751	34.527	22.440	1.00	24.34	O
ATOM	324	N	GLU	A	47	37.705	32.871	23.567	1.00	23.93	N
ATOM	325	CA	GLU	A	47	36.691	32.636	22.546	1.00	23.56	C
ATOM	326	CB	GLU	A	47	36.653	31.152	22.154	1.00	23.73	C
ATOM	327	CG	GLU	A	47	37.983	30.581	21.659	1.00	25.05	C
ATOM	328	CD	GLU	A	47	38.238	30.848	20.184	1.00	26.33	C
ATOM	329	OE1	GLU	A	47	37.274	31.162	19.448	1.00	27.07	O
ATOM	330	OE2	GLU	A	47	39.407	30.731	19.758	1.00	27.50	O
ATOM	331	C	GLU	A	47	35.331	33.059	23.086	1.00	22.90	C

ATOM	332	O	GLU	A	47	34.768	32.393	23.951	1.00	22.80	O
ATOM	333	N	VAL	A	48	34.818	34.183	22.590	1.00	22.04	N
ATOM	334	CA	VAL	A	48	33.505	34.686	23.005	1.00	21.35	C
ATOM	335	CB	VAL	A	48	33.618	35.928	23.945	1.00	21.57	C
ATOM	336	CG1	VAL	A	48	32.234	36.405	24.380	1.00	21.71	C
ATOM	337	CG2	VAL	A	48	34.471	35.613	25.167	1.00	21.88	C
ATOM	338	C	VAL	A	48	32.676	35.054	21.780	1.00	20.67	C
ATOM	339	O	VAL	A	48	33.097	35.879	20.964	1.00	20.73	O
ATOM	340	N	PHE	A	49	31.501	34.440	21.653	1.00	19.66	N
ATOM	341	CA	PHE	A	49	30.592	34.741	20.540	1.00	18.82	C
ATOM	342	CB	PHE	A	49	30.970	33.953	19.274	1.00	18.80	C
ATOM	343	CG	PHE	A	49	31.245	32.492	19.515	1.00	18.76	C
ATOM	344	CD1	PHE	A	49	30.229	31.553	19.400	1.00	18.52	C
ATOM	345	CE1	PHE	A	49	30.482	30.198	19.615	1.00	18.18	C
ATOM	346	CZ	PHE	A	49	31.769	29.776	19.935	1.00	18.18	C
ATOM	347	CE2	PHE	A	49	32.794	30.705	20.046	1.00	18.51	C
ATOM	348	CD2	PHE	A	49	32.531	32.056	19.834	1.00	19.00	C
ATOM	349	C	PHE	A	49	29.117	34.544	20.892	1.00	18.46	C
ATOM	350	O	PHE	A	49	28.780	33.815	21.828	1.00	17.58	O
ATOM	351	N	TYR	A	50	28.250	35.212	20.135	1.00	18.22	N
ATOM	352	CA	TYR	A	50	26.816	35.216	20.398	1.00	18.09	C
ATOM	353	CB	TYR	A	50	26.254	36.637	20.273	1.00	18.60	C
ATOM	354	CG	TYR	A	50	26.723	37.606	21.337	1.00	19.37	C
ATOM	355	CD1	TYR	A	50	26.026	37.742	22.536	1.00	20.46	C
ATOM	356	CE1	TYR	A	50	26.444	38.637	23.515	1.00	21.26	C
ATOM	357	CZ	TYR	A	50	27.567	39.415	23.296	1.00	21.36	C
ATOM	358	OH	TYR	A	50	27.978	40.303	24.269	1.00	22.46	O
ATOM	359	CE2	TYR	A	50	28.276	39.306	22.110	1.00	21.29	C
ATOM	360	CD2	TYR	A	50	27.849	38.405	21.135	1.00	20.77	C
ATOM	361	C	TYR	A	50	26.063	34.294	19.444	1.00	17.58	C
ATOM	362	O	TYR	A	50	26.562	33.948	18.364	1.00	17.36	O
ATOM	363	N	CYS	A	51	24.856	33.904	19.849	1.00	17.04	N
ATOM	364	CA	CYS	A	51	23.968	33.130	18.995	1.00	16.99	C
ATOM	365	CB	CYS	A	51	23.567	31.818	19.673	1.00	16.78	C
ATOM	366	SG	CYS	A	51	22.709	30.666	18.576	1.00	16.89	S
ATOM	367	C	CYS	A	51	22.722	33.933	18.664	1.00	17.11	C
ATOM	368	O	CYS	A	51	22.016	34.396	19.563	1.00	16.98	O
ATOM	369	N	LYS	A	52	22.463	34.103	17.370	1.00	17.43	N
ATOM	370	CA	LYS	A	52	21.241	34.744	16.906	1.00	18.04	C
ATOM	371	CB	LYS	A	52	21.341	35.057	15.409	1.00	18.17	C
ATOM	372	CG	LYS	A	52	20.124	35.756	14.829	1.00	19.34	C
ATOM	373	CD	LYS	A	52	20.271	35.964	13.328	1.00	20.17	C
ATOM	374	CE	LYS	A	52	19.036	36.630	12.746	1.00	22.70	C
ATOM	375	NZ	LYS	A	52	19.139	36.808	11.270	1.00	24.68	N
ATOM	376	C	LYS	A	52	20.040	33.836	17.189	1.00	17.92	C
ATOM	377	O	LYS	A	52	20.015	32.684	16.745	1.00	18.27	O
ATOM	378	N	PRO	A	53	19.055	34.341	17.956	1.00	18.06	N
ATOM	379	CA	PRO	A	53	17.838	33.564	18.180	1.00	18.09	C
ATOM	380	CB	PRO	A	53	17.218	34.233	19.408	1.00	18.04	C
ATOM	381	CG	PRO	A	53	17.685	35.652	19.343	1.00	18.12	C
ATOM	382	CD	PRO	A	53	19.032	35.636	18.667	1.00	18.06	C
ATOM	383	C	PRO	A	53	16.887	33.637	16.986	1.00	18.25	C
ATOM	384	O	PRO	A	53	16.646	34.723	16.450	1.00	18.68	O
ATOM	385	N	ALA	A	54	16.357	32.484	16.579	1.00	18.31	N
ATOM	386	CA	ALA	A	54	15.371	32.417	15.501	1.00	18.29	C
ATOM	387	CB	ALA	A	54	15.082	30.978	15.145	1.00	18.39	C
ATOM	388	C	ALA	A	54	14.078	33.142	15.882	1.00	18.36	C
ATOM	389	O	ALA	A	54	13.818	33.383	17.062	1.00	18.35	O
ATOM	390	N	ASP	A	55	13.265	33.475	14.882	1.00	18.43	N
ATOM	391	CA	ASP	A	55	12.073	34.295	15.110	1.00	18.66	C
ATOM	392	CB	ASP	A	55	11.730	35.128	13.861	1.00	19.05	C
ATOM	393	CG	ASP	A	55	11.266	34.278	12.683	1.00	20.25	C
ATOM	394	OD1	ASP	A	55	11.256	33.029	12.783	1.00	21.62	O
ATOM	395	OD2	ASP	A	55	10.908	34.873	11.646	1.00	22.14	O

ATOM	396	C	ASP	A	55	10.840	33.525	15.620	1.00	18.39	C
ATOM	397	O	ASP	A	55	9.716	34.029	15.555	1.00	18.35	O
ATOM	398	N	ASP	A	56	11.060	32.317	16.139	1.00	18.02	N
ATOM	399	CA	ASP	A	56	9.980	31.526	16.731	1.00	17.85	C
ATOM	400	CB	ASP	A	56	9.946	30.112	16.127	1.00	17.87	C
ATOM	401	CG	ASP	A	56	11.154	29.263	16.527	1.00	18.36	C
ATOM	402	OD1	ASP	A	56	12.229	29.830	16.825	1.00	18.82	O
ATOM	403	OD2	ASP	A	56	11.024	28.021	16.537	1.00	19.81	O
ATOM	404	C	ASP	A	56	10.100	31.458	18.256	1.00	17.49	C
ATOM	405	O	ASP	A	56	9.523	30.577	18.894	1.00	17.77	O
ATOM	406	N	TYR	A	57	10.831	32.407	18.834	1.00	17.09	N
ATOM	407	CA	TYR	A	57	11.226	32.310	20.234	1.00	16.68	C
ATOM	408	CB	TYR	A	57	12.593	31.619	20.334	1.00	16.45	C
ATOM	409	CG	TYR	A	57	13.141	31.500	21.741	1.00	16.16	C
ATOM	410	CD1	TYR	A	57	12.652	30.533	22.623	1.00	15.88	C
ATOM	411	CE1	TYR	A	57	13.156	30.419	23.916	1.00	16.09	C
ATOM	412	CZ	TYR	A	57	14.166	31.272	24.335	1.00	16.18	C
ATOM	413	OH	TYR	A	57	14.666	31.160	25.611	1.00	16.26	O
ATOM	414	CE2	TYR	A	57	14.673	32.236	23.475	1.00	15.81	C
ATOM	415	CD2	TYR	A	57	14.158	32.346	22.186	1.00	15.91	C
ATOM	416	C	TYR	A	57	11.273	33.658	20.939	1.00	16.54	C
ATOM	417	O	TYR	A	57	11.759	34.645	20.383	1.00	16.53	O
ATOM	418	N	LEU	A	58	10.761	33.686	22.169	1.00	16.33	N
ATOM	419	CA	LEU	A	58	10.957	34.815	23.072	1.00	16.43	C
ATOM	420	CB	LEU	A	58	9.616	35.427	23.489	1.00	16.46	C
ATOM	421	CG	LEU	A	58	8.817	36.202	22.440	1.00	16.58	C
ATOM	422	CD1	LEU	A	58	7.510	36.695	23.041	1.00	17.29	C
ATOM	423	CD2	LEU	A	58	9.622	37.367	21.896	1.00	17.31	C
ATOM	424	C	LEU	A	58	11.725	34.358	24.308	1.00	16.45	C
ATOM	425	O	LEU	A	58	11.401	33.318	24.890	1.00	16.17	O
ATOM	426	N	PRO	A	59	12.759	35.123	24.705	1.00	16.50	N
ATOM	427	CA	PRO	A	59	13.555	34.769	25.886	1.00	16.57	C
ATOM	428	CB	PRO	A	59	14.676	35.815	25.881	1.00	16.63	C
ATOM	429	CG	PRO	A	59	14.144	36.948	25.089	1.00	16.92	C
ATOM	430	CD	PRO	A	59	13.250	36.352	24.056	1.00	16.58	C
ATOM	431	C	PRO	A	59	12.768	34.872	27.186	1.00	16.86	C
ATOM	432	O	PRO	A	59	11.827	35.660	27.281	1.00	16.89	O
ATOM	433	N	GLN	A	60	13.153	34.074	28.178	1.00	16.97	N
ATOM	434	CA	GLN	A	60	12.611	34.229	29.523	1.00	17.66	C
ATOM	435	CB	GLN	A	60	13.008	33.048	30.410	1.00	17.54	C
ATOM	436	CG	GLN	A	60	12.432	31.705	29.978	1.00	18.84	C
ATOM	437	CD	GLN	A	60	12.727	30.588	30.973	1.00	19.43	C
ATOM	438	OE1	GLN	A	60	13.691	30.656	31.742	1.00	21.53	O
ATOM	439	NE2	GLN	A	60	11.897	29.549	30.957	1.00	21.90	N
ATOM	440	C	GLN	A	60	13.150	35.528	30.116	1.00	17.55	C
ATOM	441	O	GLN	A	60	14.365	35.718	30.178	1.00	17.29	O
ATOM	442	N	PRO	A	61	12.247	36.437	30.537	1.00	17.70	N
ATOM	443	CA	PRO	A	61	12.679	37.711	31.118	1.00	17.82	C
ATOM	444	CB	PRO	A	61	11.366	38.338	31.598	1.00	17.83	C
ATOM	445	CG	PRO	A	61	10.328	37.751	30.706	1.00	17.88	C
ATOM	446	CD	PRO	A	61	10.776	36.337	30.469	1.00	17.59	C
ATOM	447	C	PRO	A	61	13.670	37.547	32.281	1.00	17.86	C
ATOM	448	O	PRO	A	61	14.646	38.295	32.369	1.00	18.00	O
ATOM	449	N	GLY	A	62	13.434	36.562	33.147	1.00	18.02	N
ATOM	450	CA	GLY	A	62	14.322	36.305	34.282	1.00	18.01	C
ATOM	451	C	GLY	A	62	15.761	36.037	33.878	1.00	18.02	C
ATOM	452	O	GLY	A	62	16.700	36.513	34.528	1.00	18.40	O
ATOM	453	N	ALA	A	63	15.936	35.281	32.796	1.00	17.90	N
ATOM	454	CA	ALA	A	63	17.265	34.950	32.289	1.00	17.51	C
ATOM	455	CB	ALA	A	63	17.169	33.921	31.177	1.00	17.69	C
ATOM	456	C	ALA	A	63	18.011	36.190	31.808	1.00	17.37	C
ATOM	457	O	ALA	A	63	19.200	36.348	32.079	1.00	17.33	O
ATOM	458	N	VAL	A	64	17.301	37.064	31.097	1.00	17.23	N
ATOM	459	CA	VAL	A	64	17.880	38.305	30.577	1.00	17.18	C

ATOM	460	CB	VAL	A	64	16.917	39.010	29.582	1.00	17.00	C
ATOM	461	CG1	VAL	A	64	17.491	40.346	29.104	1.00	17.01	C
ATOM	462	CG2	VAL	A	64	16.627	38.096	28.394	1.00	17.42	C
ATOM	463	C	VAL	A	64	18.282	39.249	31.714	1.00	17.28	C
ATOM	464	O	VAL	A	64	19.290	39.942	31.621	1.00	17.15	O
ATOM	465	N	LEU	A	65	17.505	39.251	32.796	1.00	17.61	N
ATOM	466	CA	LEU	A	65	17.850	40.051	33.973	1.00	18.18	C
ATOM	467	CB	LEU	A	65	16.699	40.071	34.984	1.00	18.22	C
ATOM	468	CG	LEU	A	65	15.440	40.838	34.569	1.00	18.35	C
ATOM	469	CD1	LEU	A	65	14.403	40.795	35.680	1.00	19.16	C
ATOM	470	CD2	LEU	A	65	15.769	42.282	34.197	1.00	19.05	C
ATOM	471	C	LEU	A	65	19.141	39.570	34.638	1.00	18.47	C
ATOM	472	O	LEU	A	65	19.884	40.366	35.216	1.00	18.98	O
ATOM	473	N	ILE	A	66	19.399	38.268	34.547	1.00	18.79	N
ATOM	474	CA	ILE	A	66	20.634	37.682	35.064	1.00	19.06	C
ATOM	475	CB	ILE	A	66	20.492	36.143	35.271	1.00	19.18	C
ATOM	476	CG1	ILE	A	66	19.574	35.852	36.463	1.00	19.58	C
ATOM	477	CD1	ILE	A	66	19.065	34.424	36.520	1.00	20.67	C
ATOM	478	CG2	ILE	A	66	21.859	35.487	35.478	1.00	19.53	C
ATOM	479	C	ILE	A	66	21.832	37.997	34.158	1.00	19.02	C
ATOM	480	O	ILE	A	66	22.865	38.473	34.633	1.00	19.54	O
ATOM	481	N	THR	A	67	21.674	37.753	32.855	1.00	18.77	N
ATOM	482	CA	THR	A	67	22.793	37.823	31.905	1.00	18.49	C
ATOM	483	CB	THR	A	67	22.530	36.957	30.655	1.00	18.46	C
ATOM	484	OG1	THR	A	67	21.456	37.528	29.899	1.00	18.33	O
ATOM	485	CG2	THR	A	67	22.173	35.529	31.045	1.00	18.45	C
ATOM	486	C	THR	A	67	23.083	39.242	31.427	1.00	18.41	C
ATOM	487	O	THR	A	67	24.235	39.584	31.137	1.00	18.90	O
ATOM	488	N	GLY	A	68	22.034	40.053	31.314	1.00	18.06	N
ATOM	489	CA	GLY	A	68	22.158	41.394	30.748	1.00	17.48	C
ATOM	490	C	GLY	A	68	22.275	41.401	29.230	1.00	17.28	C
ATOM	491	O	GLY	A	68	22.572	42.438	28.630	1.00	17.58	O
ATOM	492	N	ILE	A	69	22.044	40.244	28.609	1.00	16.85	N
ATOM	493	CA	ILE	A	69	22.078	40.125	27.150	1.00	16.50	C
ATOM	494	CB	ILE	A	69	22.809	38.837	26.680	1.00	16.56	C
ATOM	495	CG1	ILE	A	69	24.216	38.750	27.280	1.00	16.54	C
ATOM	496	CD1	ILE	A	69	24.861	37.363	27.157	1.00	17.06	C
ATOM	497	CG2	ILE	A	69	22.872	38.785	25.145	1.00	16.48	C
ATOM	498	C	ILE	A	69	20.660	40.120	26.590	1.00	16.10	C
ATOM	499	O	ILE	A	69	19.892	39.184	26.826	1.00	16.02	O
ATOM	500	N	THR	A	70	20.321	41.173	25.853	1.00	15.70	N
ATOM	501	CA	THR	A	70	19.012	41.286	25.215	1.00	15.32	C
ATOM	502	CB	THR	A	70	18.698	42.744	24.825	1.00	15.31	C
ATOM	503	OG1	THR	A	70	19.668	43.208	23.876	1.00	15.64	O
ATOM	504	CG2	THR	A	70	18.711	43.648	26.050	1.00	15.43	C
ATOM	505	C	THR	A	70	18.971	40.425	23.954	1.00	15.06	C
ATOM	506	O	THR	A	70	20.015	40.135	23.371	1.00	14.70	O
ATOM	507	N	PRO	A	71	17.761	40.007	23.529	1.00	14.88	N
ATOM	508	CA	PRO	A	71	17.639	39.311	22.246	1.00	14.75	C
ATOM	509	CB	PRO	A	71	16.137	39.025	22.136	1.00	14.86	C
ATOM	510	CG	PRO	A	71	15.486	39.960	23.119	1.00	14.89	C
ATOM	511	CD	PRO	A	71	16.464	40.138	24.217	1.00	14.80	C
ATOM	512	C	PRO	A	71	18.119	40.173	21.070	1.00	14.66	C
ATOM	513	O	PRO	A	71	18.645	39.638	20.094	1.00	14.71	O
ATOM	514	N	GLN	A	72	17.956	41.493	21.182	1.00	14.69	N
ATOM	515	CA	GLN	A	72	18.452	42.428	20.165	1.00	14.86	C
ATOM	516	CB	GLN	A	72	18.028	43.867	20.479	1.00	14.82	C
ATOM	517	CG	GLN	A	72	16.529	44.127	20.387	1.00	14.90	C
ATOM	518	CD	GLN	A	72	15.826	44.050	21.731	1.00	15.27	C
ATOM	519	OE1	GLN	A	72	16.242	43.314	22.625	1.00	15.46	O
ATOM	520	NE2	GLN	A	72	14.752	44.818	21.877	1.00	15.57	N
ATOM	521	C	GLN	A	72	19.973	42.359	20.013	1.00	14.93	C
ATOM	522	O	GLN	A	72	20.492	42.350	18.892	1.00	14.77	O
ATOM	523	N	GLU	A	73	20.682	42.327	21.140	1.00	15.09	N

ATOM	524	CA	GLU	A	73	22.139	42.233	21.113	1.00	15.36	C
ATOM	525	CB	GLU	A	73	22.739	42.416	22.508	1.00	15.71	C
ATOM	526	CG	GLU	A	73	24.267	42.367	22.512	1.00	17.54	C
ATOM	527	CD	GLU	A	73	24.883	42.870	23.799	1.00	20.20	C
ATOM	528	OE1	GLU	A	73	24.331	42.579	24.883	1.00	21.84	O
ATOM	529	OE2	GLU	A	73	25.933	43.545	23.724	1.00	21.38	O
ATOM	530	C	GLU	A	73	22.607	40.915	20.496	1.00	15.01	C
ATOM	531	O	GLU	A	73	23.488	40.910	19.636	1.00	14.92	O
ATOM	532	N	ALA	A	74	22.011	39.803	20.927	1.00	14.76	N
ATOM	533	CA	ALA	A	74	22.388	38.488	20.400	1.00	14.83	C
ATOM	534	CB	ALA	A	74	21.705	37.381	21.180	1.00	14.82	C
ATOM	535	C	ALA	A	74	22.073	38.377	18.908	1.00	14.98	C
ATOM	536	O	ALA	A	74	22.842	37.791	18.145	1.00	14.87	O
ATOM	537	N	ARG	A	75	20.946	38.957	18.498	1.00	15.07	N
ATOM	538	CA	ARG	A	75	20.556	38.966	17.091	1.00	15.58	C
ATOM	539	CB	ARG	A	75	19.128	39.494	16.930	1.00	15.60	C
ATOM	540	CG	ARG	A	75	18.630	39.522	15.492	1.00	17.28	C
ATOM	541	CD	ARG	A	75	17.152	39.856	15.424	1.00	18.48	C
ATOM	542	NE	ARG	A	75	16.876	41.253	15.761	1.00	19.56	N
ATOM	543	CZ	ARG	A	75	15.672	41.818	15.690	1.00	20.65	C
ATOM	544	NH1	ARG	A	75	14.619	41.110	15.292	1.00	20.90	N
ATOM	545	NH2	ARG	A	75	15.518	43.095	16.015	1.00	21.36	N
ATOM	546	C	ARG	A	75	21.523	39.791	16.243	1.00	15.50	C
ATOM	547	O	ARG	A	75	21.913	39.372	15.152	1.00	15.79	O
ATOM	548	N	ALA	A	76	21.907	40.959	16.754	1.00	15.45	N
ATOM	549	CA	ALA	A	76	22.773	41.881	16.014	1.00	15.48	C
ATOM	550	CB	ALA	A	76	22.683	43.280	16.607	1.00	15.48	C
ATOM	551	C	ALA	A	76	24.229	41.417	15.961	1.00	15.72	C
ATOM	552	O	ALA	A	76	24.929	41.673	14.982	1.00	15.53	O
ATOM	553	N	LYS	A	77	24.678	40.733	17.011	1.00	16.04	N
ATOM	554	CA	LYS	A	77	26.091	40.375	17.147	1.00	16.47	C
ATOM	555	CB	LYS	A	77	26.616	40.787	18.521	1.00	16.57	C
ATOM	556	CG	LYS	A	77	26.624	42.278	18.746	1.00	17.11	C
ATOM	557	CD	LYS	A	77	27.172	42.613	20.106	1.00	18.65	C
ATOM	558	CE	LYS	A	77	27.189	44.108	20.327	1.00	19.06	C
ATOM	559	NZ	LYS	A	77	27.605	44.437	21.711	1.00	20.55	N
ATOM	560	C	LYS	A	77	26.391	38.902	16.905	1.00	16.78	C
ATOM	561	O	LYS	A	77	27.555	38.514	16.794	1.00	17.20	O
ATOM	562	N	GLY	A	78	25.348	38.084	16.825	1.00	16.93	N
ATOM	563	CA	GLY	A	78	25.529	36.645	16.717	1.00	17.28	C
ATOM	564	C	GLY	A	78	25.499	36.118	15.302	1.00	17.69	C
ATOM	565	O	GLY	A	78	25.157	36.834	14.361	1.00	17.94	O
ATOM	566	N	GLU	A	79	25.890	34.860	15.157	1.00	17.81	N
ATOM	567	CA	GLU	A	79	25.646	34.114	13.935	1.00	18.20	C
ATOM	568	CB	GLU	A	79	26.906	33.356	13.516	1.00	18.44	C
ATOM	569	CG	GLU	A	79	28.098	34.270	13.222	1.00	20.04	C
ATOM	570	CD	GLU	A	79	29.401	33.516	13.049	1.00	20.79	C
ATOM	571	OE1	GLU	A	79	29.618	32.516	13.770	1.00	24.47	O
ATOM	572	OE2	GLU	A	79	30.222	33.938	12.207	1.00	24.43	O
ATOM	573	C	GLU	A	79	24.502	33.152	14.215	1.00	17.52	C
ATOM	574	O	GLU	A	79	24.133	32.952	15.379	1.00	17.07	O
ATOM	575	N	ASN	A	80	23.920	32.573	13.167	1.00	16.85	N
ATOM	576	CA	ASN	A	80	22.838	31.612	13.367	1.00	16.48	C
ATOM	577	CB	ASN	A	80	22.139	31.235	12.040	1.00	16.69	C
ATOM	578	CG	ASN	A	80	23.062	30.534	11.041	1.00	17.13	C
ATOM	579	OD1	ASN	A	80	24.055	29.907	11.409	1.00	18.22	O
ATOM	580	ND2	ASN	A	80	22.710	30.623	9.762	1.00	17.57	N
ATOM	581	C	ASN	A	80	23.317	30.388	14.152	1.00	16.15	C
ATOM	582	O	ASN	A	80	24.523	30.170	14.296	1.00	15.83	O
ATOM	583	N	GLU	A	81	22.379	29.612	14.686	1.00	15.75	N
ATOM	584	CA	GLU	A	81	22.740	28.501	15.571	1.00	15.64	C
ATOM	585	CB	GLU	A	81	21.499	27.873	16.201	1.00	15.52	C
ATOM	586	CG	GLU	A	81	21.777	27.155	17.520	1.00	16.22	C
ATOM	587	CD	GLU	A	81	20.525	26.599	18.155	1.00	17.76	C

ATOM	588	OE1	GLU	A	81	19.950	25.640	17.595	1.00	18.33	O
ATOM	589	OE2	GLU	A	81	20.121	27.113	19.221	1.00	18.67	O
ATOM	590	C	GLU	A	81	23.602	27.441	14.876	1.00	15.66	C
ATOM	591	O	GLU	A	81	24.438	26.806	15.513	1.00	15.63	O
ATOM	592	N	ALA	A	82	23.408	27.274	13.567	1.00	15.63	N
ATOM	593	CA	ALA	A	82	24.240	26.370	12.771	1.00	15.67	C
ATOM	594	CB	ALA	A	82	23.764	26.343	11.314	1.00	15.81	C
ATOM	595	C	ALA	A	82	25.721	26.749	12.846	1.00	15.71	C
ATOM	596	O	ALA	A	82	26.580	25.891	13.062	1.00	15.65	O
ATOM	597	N	ALA	A	83	26.010	28.039	12.675	1.00	15.61	N
ATOM	598	CA	ALA	A	83	27.381	28.544	12.743	1.00	15.64	C
ATOM	599	CB	ALA	A	83	27.468	29.925	12.116	1.00	15.69	C
ATOM	600	C	ALA	A	83	27.898	28.569	14.182	1.00	15.62	C
ATOM	601	O	ALA	A	83	29.073	28.289	14.436	1.00	15.68	O
ATOM	602	N	PHE	A	84	27.005	28.915	15.109	1.00	15.41	N
ATOM	603	CA	PHE	A	84	27.264	28.854	16.548	1.00	15.46	C
ATOM	604	CB	PHE	A	84	25.981	29.252	17.298	1.00	15.20	C
ATOM	605	CG	PHE	A	84	26.163	29.489	18.777	1.00	14.93	C
ATOM	606	CD1	PHE	A	84	26.849	30.611	19.247	1.00	14.78	C
ATOM	607	CE1	PHE	A	84	26.986	30.842	20.619	1.00	14.63	C
ATOM	608	CZ	PHE	A	84	26.419	29.955	21.529	1.00	14.87	C
ATOM	609	CE2	PHE	A	84	25.718	28.843	21.071	1.00	14.51	C
ATOM	610	CD2	PHE	A	84	25.589	28.619	19.702	1.00	14.96	C
ATOM	611	C	PHE	A	84	27.712	27.433	16.932	1.00	15.58	C
ATOM	612	O	PHE	A	84	28.769	27.249	17.540	1.00	15.73	O
ATOM	613	N	ALA	A	85	26.917	26.439	16.532	1.00	15.68	N
ATOM	614	CA	ALA	A	85	27.236	25.025	16.760	1.00	15.90	C
ATOM	615	CB	ALA	A	85	26.117	24.137	16.228	1.00	15.88	C
ATOM	616	C	ALA	A	85	28.578	24.611	16.146	1.00	15.99	C
ATOM	617	O	ALA	A	85	29.346	23.871	16.764	1.00	16.13	O
ATOM	618	N	ALA	A	86	28.845	25.085	14.928	1.00	16.07	N
ATOM	619	CA	ALA	A	86	30.085	24.762	14.219	1.00	16.15	C
ATOM	620	CB	ALA	A	86	30.079	25.377	12.820	1.00	16.23	C
ATOM	621	C	ALA	A	86	31.329	25.202	14.988	1.00	16.20	C
ATOM	622	O	ALA	A	86	32.297	24.444	15.104	1.00	16.18	O
ATOM	623	N	ARG	A	87	31.294	26.426	15.513	1.00	16.27	N
ATOM	624	CA	ARG	A	87	32.424	26.986	16.250	1.00	16.59	C
ATOM	625	CB	ARG	A	87	32.181	28.460	16.578	1.00	16.76	C
ATOM	626	CG	ARG	A	87	32.208	29.388	15.378	1.00	18.66	C
ATOM	627	CD	ARG	A	87	32.229	30.846	15.817	1.00	21.18	C
ATOM	628	NE	ARG	A	87	33.477	31.203	16.493	1.00	23.62	N
ATOM	629	CZ	ARG	A	87	33.784	32.427	16.922	1.00	24.97	C
ATOM	630	NH1	ARG	A	87	32.934	33.431	16.757	1.00	26.02	N
ATOM	631	NH2	ARG	A	87	34.943	32.646	17.527	1.00	25.78	N
ATOM	632	C	ARG	A	87	32.695	26.210	17.533	1.00	16.14	C
ATOM	633	O	ARG	A	87	33.846	25.925	17.862	1.00	16.38	O
ATOM	634	N	ILE	A	88	31.629	25.879	18.256	1.00	15.87	N
ATOM	635	CA	ILE	A	88	31.746	25.122	19.501	1.00	15.59	C
ATOM	636	CB	ILE	A	88	30.402	25.109	20.285	1.00	15.46	C
ATOM	637	CG1	ILE	A	88	30.001	26.546	20.656	1.00	15.32	C
ATOM	638	CD1	ILE	A	88	28.570	26.697	21.133	1.00	15.40	C
ATOM	639	CG2	ILE	A	88	30.503	24.230	21.538	1.00	15.30	C
ATOM	640	C	ILE	A	88	32.256	23.701	19.234	1.00	15.79	C
ATOM	641	O	ILE	A	88	33.183	23.231	19.902	1.00	15.48	O
ATOM	642	N	HIS	A	89	31.674	23.042	18.232	1.00	16.14	N
ATOM	643	CA	HIS	A	89	32.102	21.700	17.837	1.00	16.63	C
ATOM	644	CB	HIS	A	89	31.258	21.181	16.667	1.00	16.67	C
ATOM	645	CG	HIS	A	89	31.509	19.745	16.332	1.00	17.60	C
ATOM	646	ND1	HIS	A	89	32.333	19.356	15.298	1.00	18.72	N
ATOM	647	CE1	HIS	A	89	32.367	18.037	15.237	1.00	18.96	C
ATOM	648	NE2	HIS	A	89	31.596	17.555	16.195	1.00	18.90	N
ATOM	649	CD2	HIS	A	89	31.048	18.602	16.895	1.00	18.05	C
ATOM	650	C	HIS	A	89	33.588	21.651	17.477	1.00	16.83	C
ATOM	651	O	HIS	A	89	34.284	20.703	17.840	1.00	16.85	O

ATOM	652	N	SER	A	90	34.071	22.679	16.777	1.00	17.23	N
ATOM	653	CA	SER	A	90	35.478	22.745	16.383	1.00	17.67	C
ATOM	654	CB	SER	A	90	35.727	23.927	15.442	1.00	17.88	C
ATOM	655	OG	SER	A	90	35.515	25.162	16.103	1.00	20.31	O
ATOM	656	C	SER	A	90	36.400	22.830	17.602	1.00	17.56	C
ATOM	657	O	SER	A	90	37.474	22.234	17.620	1.00	17.93	O
ATOM	658	N	LEU	A	91	35.967	23.571	18.620	1.00	17.26	N
ATOM	659	CA	LEU	A	91	36.736	23.710	19.854	1.00	17.08	C
ATOM	660	CB	LEU	A	91	36.204	24.883	20.684	1.00	17.15	C
ATOM	661	CG	LEU	A	91	36.336	26.291	20.095	1.00	17.75	C
ATOM	662	CD1	LEU	A	91	35.471	27.272	20.872	1.00	18.55	C
ATOM	663	CD2	LEU	A	91	37.793	26.750	20.075	1.00	18.09	C
ATOM	664	C	LEU	A	91	36.714	22.428	20.686	1.00	16.87	C
ATOM	665	O	LEU	A	91	37.739	22.015	21.238	1.00	16.55	O
ATOM	666	N	PHE	A	92	35.542	21.803	20.760	1.00	16.59	N
ATOM	667	CA	PHE	A	92	35.324	20.638	21.622	1.00	16.54	C
ATOM	668	CB	PHE	A	92	33.818	20.399	21.821	1.00	16.11	C
ATOM	669	CG	PHE	A	92	33.177	21.289	22.872	1.00	15.40	C
ATOM	670	CD1	PHE	A	92	33.810	22.446	23.330	1.00	15.34	C
ATOM	671	CE1	PHE	A	92	33.206	23.260	24.293	1.00	15.03	C
ATOM	672	CZ	PHE	A	92	31.955	22.928	24.795	1.00	15.29	C
ATOM	673	CE2	PHE	A	92	31.307	21.786	24.338	1.00	15.17	C
ATOM	674	CD2	PHE	A	92	31.917	20.975	23.378	1.00	14.73	C
ATOM	675	C	PHE	A	92	35.983	19.360	21.088	1.00	16.84	C
ATOM	676	O	PHE	A	92	36.227	18.421	21.851	1.00	17.26	O
ATOM	677	N	THR	A	93	36.258	19.322	19.783	1.00	16.91	N
ATOM	678	CA	THR	A	93	36.775	18.103	19.143	1.00	17.06	C
ATOM	679	CB	THR	A	93	36.017	17.764	17.833	1.00	16.85	C
ATOM	680	OG1	THR	A	93	36.057	18.885	16.946	1.00	17.15	O
ATOM	681	CG2	THR	A	93	34.565	17.401	18.127	1.00	17.01	C
ATOM	682	C	THR	A	93	38.287	18.128	18.887	1.00	17.14	C
ATOM	683	O	THR	A	93	38.833	17.217	18.249	1.00	17.47	O
ATOM	684	N	VAL	A	94	38.957	19.171	19.377	1.00	17.23	N
ATOM	685	CA	VAL	A	94	40.419	19.189	19.420	1.00	17.22	C
ATOM	686	CB	VAL	A	94	40.962	20.533	19.984	1.00	17.18	C
ATOM	687	CG1	VAL	A	94	42.476	20.470	20.210	1.00	17.25	C
ATOM	688	CG2	VAL	A	94	40.605	21.691	19.053	1.00	17.24	C
ATOM	689	C	VAL	A	94	40.880	18.017	20.294	1.00	17.23	C
ATOM	690	O	VAL	A	94	40.401	17.860	21.417	1.00	17.19	O
ATOM	691	N	PRO	A	95	41.773	17.160	19.760	1.00	17.25	N
ATOM	692	CA	PRO	A	95	42.222	15.975	20.497	1.00	17.20	C
ATOM	693	CB	PRO	A	95	43.290	15.376	19.576	1.00	17.22	C
ATOM	694	CG	PRO	A	95	42.906	15.838	18.221	1.00	17.29	C
ATOM	695	CD	PRO	A	95	42.381	17.227	18.418	1.00	17.27	C
ATOM	696	C	PRO	A	95	42.825	16.286	21.864	1.00	17.13	C
ATOM	697	O	PRO	A	95	43.418	17.353	22.057	1.00	17.08	O
ATOM	698	N	LYS	A	96	42.657	15.345	22.796	1.00	17.07	N
ATOM	699	CA	LYS	A	96	43.241	15.413	24.143	1.00	17.36	C
ATOM	700	CB	LYS	A	96	44.775	15.388	24.081	1.00	17.39	C
ATOM	701	CG	LYS	A	96	45.343	14.098	23.498	1.00	18.57	C
ATOM	702	CD	LYS	A	96	46.865	14.097	23.506	1.00	19.11	C
ATOM	703	CE	LYS	A	96	47.430	13.683	24.861	1.00	21.71	C
ATOM	704	NZ	LYS	A	96	47.230	12.228	25.141	1.00	23.87	N
ATOM	705	C	LYS	A	96	42.736	16.599	24.966	1.00	16.80	C
ATOM	706	O	LYS	A	96	43.462	17.148	25.800	1.00	17.10	O
ATOM	707	N	THR	A	97	41.482	16.976	24.728	1.00	16.26	N
ATOM	708	CA	THR	A	97	40.844	18.070	25.454	1.00	15.70	C
ATOM	709	CB	THR	A	97	39.980	18.941	24.507	1.00	15.74	C
ATOM	710	OG1	THR	A	97	40.801	19.500	23.476	1.00	16.12	O
ATOM	711	CG2	THR	A	97	39.297	20.072	25.273	1.00	15.72	C
ATOM	712	C	THR	A	97	39.949	17.535	26.570	1.00	15.33	C
ATOM	713	O	THR	A	97	39.110	16.664	26.340	1.00	15.17	O
ATOM	714	N	CYS	A	98	40.135	18.065	27.777	1.00	14.66	N
ATOM	715	CA	CYS	A	98	39.153	17.901	28.842	1.00	14.18	C

ATOM	716	CB	CYS	A	98	39.840	17.730	30.198	1.00	14.26	C
ATOM	717	SG	CYS	A	98	38.690	17.667	31.598	1.00	14.39	S
ATOM	718	C	CYS	A	98	38.244	19.124	28.852	1.00	13.77	C
ATOM	719	O	CYS	A	98	38.679	20.227	29.197	1.00	13.75	O
ATOM	720	N	ILE	A	99	36.994	18.934	28.430	1.00	13.80	N
ATOM	721	CA	ILE	A	99	36.020	20.022	28.392	1.00	13.84	C
ATOM	722	CB	ILE	A	99	34.928	19.802	27.299	1.00	13.91	C
ATOM	723	CG1	ILE	A	99	35.551	19.716	25.897	1.00	15.01	C
ATOM	724	CD1	ILE	A	99	35.910	18.306	25.454	1.00	15.61	C
ATOM	725	CG2	ILE	A	99	33.891	20.923	27.337	1.00	14.48	C
ATOM	726	C	ILE	A	99	35.354	20.140	29.753	1.00	13.65	C
ATOM	727	O	ILE	A	99	34.733	19.193	30.231	1.00	14.01	O
ATOM	728	N	LEU	A	100	35.491	21.299	30.384	1.00	13.55	N
ATOM	729	CA	LEU	A	100	34.952	21.477	31.729	1.00	13.40	C
ATOM	730	CB	LEU	A	100	36.007	21.129	32.792	1.00	13.38	C
ATOM	731	CG	LEU	A	100	37.158	22.096	33.102	1.00	13.15	C
ATOM	732	CD1	LEU	A	100	38.076	21.464	34.131	1.00	13.55	C
ATOM	733	CD2	LEU	A	100	37.954	22.486	31.850	1.00	12.90	C
ATOM	734	C	LEU	A	100	34.388	22.862	31.969	1.00	13.55	C
ATOM	735	O	LEU	A	100	34.626	23.792	31.198	1.00	13.66	O
ATOM	736	N	GLY	A	101	33.630	22.988	33.049	1.00	13.29	N
ATOM	737	CA	GLY	A	101	33.082	24.266	33.452	1.00	13.04	C
ATOM	738	C	GLY	A	101	32.659	24.216	34.894	1.00	12.69	C
ATOM	739	O	GLY	A	101	33.262	23.504	35.707	1.00	12.81	O
ATOM	740	N	TYR	A	102	31.619	24.978	35.212	1.00	12.78	N
ATOM	741	CA	TYR	A	102	31.070	25.006	36.552	1.00	12.71	C
ATOM	742	CB	TYR	A	102	31.383	26.341	37.239	1.00	12.74	C
ATOM	743	CG	TYR	A	102	31.322	26.247	38.739	1.00	12.16	C
ATOM	744	CD1	TYR	A	102	32.384	25.708	39.463	1.00	11.94	C
ATOM	745	CE1	TYR	A	102	32.332	25.601	40.850	1.00	11.78	C
ATOM	746	CZ	TYR	A	102	31.206	26.031	41.525	1.00	12.47	C
ATOM	747	OH	TYR	A	102	31.161	25.919	42.893	1.00	12.70	O
ATOM	748	CE2	TYR	A	102	30.131	26.572	40.829	1.00	12.43	C
ATOM	749	CD2	TYR	A	102	30.194	26.673	39.438	1.00	12.41	C
ATOM	750	C	TYR	A	102	29.570	24.773	36.470	1.00	13.14	C
ATOM	751	O	TYR	A	102	28.823	25.648	36.030	1.00	13.68	O
ATOM	752	N	ASN	A	103	29.150	23.580	36.891	1.00	13.63	N
ATOM	753	CA	ASN	A	103	27.786	23.075	36.677	1.00	13.94	C
ATOM	754	CB	ASN	A	103	26.720	24.047	37.212	1.00	14.21	C
ATOM	755	CG	ASN	A	103	25.376	23.369	37.445	1.00	14.49	C
ATOM	756	OD1	ASN	A	103	25.316	22.188	37.794	1.00	15.72	O
ATOM	757	ND2	ASN	A	103	24.291	24.110	37.234	1.00	16.28	N
ATOM	758	C	ASN	A	103	27.510	22.692	35.213	1.00	14.23	C
ATOM	759	O	ASN	A	103	26.349	22.617	34.784	1.00	14.23	O
ATOM	760	N	ASN	A	104	28.571	22.429	34.455	1.00	14.30	N
ATOM	761	CA	ASN	A	104	28.410	22.044	33.052	1.00	14.80	C
ATOM	762	CB	ASN	A	104	29.736	22.111	32.287	1.00	14.66	C
ATOM	763	CG	ASN	A	104	30.822	21.269	32.921	1.00	14.18	C
ATOM	764	OD1	ASN	A	104	31.268	21.551	34.029	1.00	13.93	O
ATOM	765	ND2	ASN	A	104	31.259	20.230	32.213	1.00	15.36	N
ATOM	766	C	ASN	A	104	27.747	20.687	32.859	1.00	15.56	C
ATOM	767	O	ASN	A	104	26.975	20.509	31.931	1.00	15.61	O
ATOM	768	N	VAL	A	105	28.034	19.736	33.744	1.00	16.33	N
ATOM	769	CA	VAL	A	105	27.477	18.388	33.598	1.00	17.10	C
ATOM	770	CB	VAL	A	105	28.037	17.411	34.666	1.00	17.09	C
ATOM	771	CG1	VAL	A	105	27.206	16.134	34.730	1.00	18.11	C
ATOM	772	CG2	VAL	A	105	29.482	17.077	34.354	1.00	17.71	C
ATOM	773	C	VAL	A	105	25.942	18.398	33.600	1.00	17.34	C
ATOM	774	O	VAL	A	105	25.310	17.712	32.787	1.00	17.57	O
ATOM	775	N	ARG	A	106	25.351	19.203	34.480	1.00	17.58	N
ATOM	776	CA	ARG	A	106	23.892	19.264	34.594	1.00	18.16	C
ATOM	777	CB	ARG	A	106	23.459	19.472	36.052	1.00	18.90	C
ATOM	778	CG	ARG	A	106	23.844	18.333	37.005	1.00	21.54	C
ATOM	779	CD	ARG	A	106	23.032	17.072	36.757	1.00	25.71	C

ATOM	780	NE	ARG	A	106	23.392	16.007	37.690	1.00	28.42	N
ATOM	781	CZ	ARG	A	106	22.921	14.762	37.635	1.00	30.09	C
ATOM	782	NH1	ARG	A	106	22.062	14.407	36.687	1.00	31.00	N
ATOM	783	NH2	ARG	A	106	23.316	13.868	38.534	1.00	30.81	N
ATOM	784	C	ARG	A	106	23.251	20.323	33.697	1.00	17.67	C
ATOM	785	O	ARG	A	106	22.075	20.203	33.343	1.00	17.93	O
ATOM	786	N	PHE	A	107	24.014	21.351	33.326	1.00	16.77	N
ATOM	787	CA	PHE	A	107	23.470	22.431	32.500	1.00	16.20	C
ATOM	788	CB	PHE	A	107	23.423	23.761	33.266	1.00	16.14	C
ATOM	789	CG	PHE	A	107	22.750	24.871	32.501	1.00	16.18	C
ATOM	790	CD1	PHE	A	107	21.374	24.845	32.280	1.00	16.71	C
ATOM	791	CE1	PHE	A	107	20.746	25.866	31.561	1.00	16.35	C
ATOM	792	CZ	PHE	A	107	21.499	26.926	31.064	1.00	16.54	C
ATOM	793	CE2	PHE	A	107	22.875	26.961	31.284	1.00	16.03	C
ATOM	794	CD2	PHE	A	107	23.492	25.934	31.997	1.00	16.50	C
ATOM	795	C	PHE	A	107	24.146	22.608	31.136	1.00	15.99	C
ATOM	796	O	PHE	A	107	23.547	22.303	30.109	1.00	16.02	O
ATOM	797	N	ASP	A	108	25.380	23.113	31.126	1.00	15.37	N
ATOM	798	CA	ASP	A	108	26.031	23.500	29.869	1.00	15.64	C
ATOM	799	CB	ASP	A	108	27.380	24.175	30.131	1.00	15.39	C
ATOM	800	CG	ASP	A	108	27.262	25.356	31.076	1.00	15.55	C
ATOM	801	OD1	ASP	A	108	27.311	26.515	30.604	1.00	14.99	O
ATOM	802	OD2	ASP	A	108	27.094	25.125	32.295	1.00	15.85	O
ATOM	803	C	ASP	A	108	26.180	22.338	28.884	1.00	15.81	C
ATOM	804	O	ASP	A	108	25.989	22.515	27.681	1.00	15.93	O
ATOM	805	N	ASP	A	109	26.505	21.153	29.397	1.00	16.16	N
ATOM	806	CA	ASP	A	109	26.644	19.971	28.545	1.00	16.50	C
ATOM	807	CB	ASP	A	109	27.241	18.793	29.322	1.00	17.00	C
ATOM	808	CG	ASP	A	109	28.701	19.018	29.711	1.00	18.58	C
ATOM	809	OD1	ASP	A	109	29.306	20.032	29.294	1.00	21.14	O
ATOM	810	OD2	ASP	A	109	29.245	18.170	30.448	1.00	21.53	O
ATOM	811	C	ASP	A	109	25.315	19.565	27.914	1.00	16.46	C
ATOM	812	O	ASP	A	109	25.291	19.043	26.802	1.00	16.35	O
ATOM	813	N	GLU	A	110	24.216	19.805	28.628	1.00	16.19	N
ATOM	814	CA	GLU	A	110	22.880	19.560	28.080	1.00	16.39	C
ATOM	815	CB	GLU	A	110	21.820	19.573	29.185	1.00	16.49	C
ATOM	816	CG	GLU	A	110	21.933	18.413	30.176	1.00	18.63	C
ATOM	817	CD	GLU	A	110	21.863	17.046	29.505	1.00	20.67	C
ATOM	818	OE1	GLU	A	110	20.972	16.839	28.653	1.00	22.32	O
ATOM	819	OE2	GLU	A	110	22.702	16.179	29.835	1.00	23.12	O
ATOM	820	C	GLU	A	110	22.536	20.572	26.987	1.00	15.99	C
ATOM	821	O	GLU	A	110	21.935	20.217	25.972	1.00	15.80	O
ATOM	822	N	VAL	A	111	22.934	21.826	27.192	1.00	15.23	N
ATOM	823	CA	VAL	A	111	22.814	22.855	26.156	1.00	14.93	C
ATOM	824	CB	VAL	A	111	23.297	24.244	26.668	1.00	14.62	C
ATOM	825	CG1	VAL	A	111	23.269	25.272	25.551	1.00	14.55	C
ATOM	826	CG2	VAL	A	111	22.433	24.710	27.835	1.00	15.01	C
ATOM	827	C	VAL	A	111	23.591	22.437	24.899	1.00	14.95	C
ATOM	828	O	VAL	A	111	23.049	22.465	23.788	1.00	15.06	O
ATOM	829	N	THR	A	112	24.847	22.026	25.092	1.00	14.81	N
ATOM	830	CA	THR	A	112	25.710	21.546	24.003	1.00	14.98	C
ATOM	831	CB	THR	A	112	27.100	21.109	24.540	1.00	14.98	C
ATOM	832	OG1	THR	A	112	27.763	22.234	25.132	1.00	14.96	O
ATOM	833	CG2	THR	A	112	27.973	20.546	23.421	1.00	15.49	C
ATOM	834	C	THR	A	112	25.077	20.382	23.239	1.00	15.13	C
ATOM	835	O	THR	A	112	25.028	20.394	22.006	1.00	14.99	O
ATOM	836	N	ARG	A	113	24.594	19.381	23.975	1.00	15.15	N
ATOM	837	CA	ARG	A	113	23.950	18.219	23.359	1.00	15.42	C
ATOM	838	CB	ARG	A	113	23.494	17.219	24.422	1.00	15.69	C
ATOM	839	CG	ARG	A	113	24.631	16.460	25.071	1.00	17.33	C
ATOM	840	CD	ARG	A	113	24.121	15.427	26.053	1.00	21.07	C
ATOM	841	NE	ARG	A	113	25.214	14.812	26.801	1.00	24.39	N
ATOM	842	CZ	ARG	A	113	25.055	13.882	27.739	1.00	25.95	C
ATOM	843	NH1	ARG	A	113	23.840	13.447	28.055	1.00	26.90	N

ATOM	844	NH2	ARG	A	113	26.115	13.385	28.361	1.00	27.24	N
ATOM	845	C	ARG	A	113	22.771	18.639	22.496	1.00	15.07	C
ATOM	846	O	ARG	A	113	22.596	18.134	21.383	1.00	15.01	O
ATOM	847	N	ASN	A	114	21.977	19.574	23.007	1.00	14.95	N
ATOM	848	CA	ASN	A	114	20.795	20.050	22.296	1.00	15.03	C
ATOM	849	CB	ASN	A	114	19.845	20.762	23.251	1.00	14.99	C
ATOM	850	CG	ASN	A	114	18.980	19.793	24.026	1.00	15.70	C
ATOM	851	OD1	ASN	A	114	19.190	19.563	25.221	1.00	17.72	O
ATOM	852	ND2	ASN	A	114	18.017	19.196	23.343	1.00	15.14	N
ATOM	853	C	ASN	A	114	21.111	20.916	21.079	1.00	15.03	C
ATOM	854	O	ASN	A	114	20.445	20.810	20.052	1.00	14.98	O
ATOM	855	N	ILE	A	115	22.132	21.763	21.198	1.00	15.18	N
ATOM	856	CA	ILE	A	115	22.614	22.559	20.064	1.00	15.62	C
ATOM	857	CB	ILE	A	115	23.729	23.557	20.494	1.00	15.76	C
ATOM	858	CG1	ILE	A	115	23.169	24.613	21.454	1.00	15.99	C
ATOM	859	CD1	ILE	A	115	24.231	25.510	22.069	1.00	16.53	C
ATOM	860	CG2	ILE	A	115	24.355	24.233	19.278	1.00	16.50	C
ATOM	861	C	ILE	A	115	23.127	21.648	18.940	1.00	15.53	C
ATOM	862	O	ILE	A	115	22.801	21.848	17.769	1.00	15.53	O
ATOM	863	N	PHE	A	116	23.915	20.640	19.308	1.00	15.29	N
ATOM	864	CA	PHE	A	116	24.461	19.691	18.337	1.00	15.31	C
ATOM	865	CB	PHE	A	116	25.482	18.770	19.012	1.00	15.21	C
ATOM	866	CG	PHE	A	116	26.809	19.439	19.317	1.00	15.36	C
ATOM	867	CD1	PHE	A	116	27.034	20.780	18.994	1.00	15.37	C
ATOM	868	CE1	PHE	A	116	28.256	21.394	19.285	1.00	15.42	C
ATOM	869	CZ	PHE	A	116	29.264	20.671	19.915	1.00	15.69	C
ATOM	870	CE2	PHE	A	116	29.051	19.339	20.248	1.00	15.68	C
ATOM	871	CD2	PHE	A	116	27.826	18.730	19.952	1.00	15.54	C
ATOM	872	C	PHE	A	116	23.336	18.880	17.687	1.00	15.22	C
ATOM	873	O	PHE	A	116	23.307	18.706	16.466	1.00	15.41	O
ATOM	874	N	TYR	A	117	22.405	18.418	18.521	1.00	15.26	N
ATOM	875	CA	TYR	A	117	21.207	17.687	18.093	1.00	15.33	C
ATOM	876	CB	TYR	A	117	20.373	17.345	19.337	1.00	15.37	C
ATOM	877	CG	TYR	A	117	18.947	16.891	19.109	1.00	15.35	C
ATOM	878	CD1	TYR	A	117	18.664	15.604	18.641	1.00	15.45	C
ATOM	879	CE1	TYR	A	117	17.349	15.177	18.468	1.00	15.76	C
ATOM	880	CZ	TYR	A	117	16.303	16.033	18.786	1.00	15.83	C
ATOM	881	OH	TYR	A	117	15.001	15.618	18.621	1.00	16.23	O
ATOM	882	CE2	TYR	A	117	16.560	17.306	19.274	1.00	15.24	C
ATOM	883	CD2	TYR	A	117	17.876	17.721	19.444	1.00	15.21	C
ATOM	884	C	TYR	A	117	20.379	18.463	17.060	1.00	15.39	C
ATOM	885	O	TYR	A	117	20.011	17.919	16.013	1.00	15.53	O
ATOM	886	N	ARG	A	118	20.111	19.736	17.345	1.00	15.21	N
ATOM	887	CA	ARG	A	118	19.320	20.583	16.443	1.00	15.27	C
ATOM	888	CB	ARG	A	118	18.921	21.890	17.131	1.00	15.22	C
ATOM	889	CG	ARG	A	118	17.867	21.730	18.209	1.00	15.72	C
ATOM	890	CD	ARG	A	118	17.214	23.058	18.554	1.00	16.48	C
ATOM	891	NE	ARG	A	118	18.135	24.014	19.176	1.00	16.31	N
ATOM	892	CZ	ARG	A	118	18.316	24.146	20.489	1.00	16.23	C
ATOM	893	NH1	ARG	A	118	17.664	23.363	21.341	1.00	16.71	N
ATOM	894	NH2	ARG	A	118	19.163	25.057	20.954	1.00	17.02	N
ATOM	895	C	ARG	A	118	20.029	20.898	15.127	1.00	15.44	C
ATOM	896	O	ARG	A	118	19.378	21.164	14.115	1.00	15.21	O
ATOM	897	N	ASN	A	119	21.358	20.870	15.141	1.00	15.55	N
ATOM	898	CA	ASN	A	119	22.140	21.345	13.997	1.00	15.92	C
ATOM	899	CB	ASN	A	119	22.957	22.572	14.395	1.00	15.86	C
ATOM	900	CG	ASN	A	119	22.080	23.719	14.834	1.00	15.91	C
ATOM	901	OD1	ASN	A	119	21.464	24.395	14.008	1.00	16.05	O
ATOM	902	ND2	ASN	A	119	21.986	23.925	16.143	1.00	15.71	N
ATOM	903	C	ASN	A	119	23.003	20.275	13.323	1.00	16.10	C
ATOM	904	O	ASN	A	119	24.002	20.585	12.656	1.00	16.16	O
ATOM	905	N	PHE	A	120	22.592	19.019	13.499	1.00	16.42	N
ATOM	906	CA	PHE	A	120	23.129	17.875	12.744	1.00	16.83	C
ATOM	907	CB	PHE	A	120	22.908	18.058	11.231	1.00	16.95	C

ATOM	908	CG	PHE	A	120	21.468	17.968	10.827	1.00	17.27	C
ATOM	909	CD1	PHE	A	120	20.961	16.793	10.285	1.00	17.40	C
ATOM	910	CE1	PHE	A	120	19.619	16.695	9.925	1.00	18.11	C
ATOM	911	CZ	PHE	A	120	18.770	17.775	10.115	1.00	18.05	C
ATOM	912	CE2	PHE	A	120	19.260	18.952	10.661	1.00	18.03	C
ATOM	913	CD2	PHE	A	120	20.605	19.045	11.016	1.00	17.09	C
ATOM	914	C	PHE	A	120	24.578	17.516	13.082	1.00	17.08	C
ATOM	915	O	PHE	A	120	25.327	17.000	12.239	1.00	17.37	O
ATOM	916	N	TYR	A	121	24.954	17.782	14.331	1.00	17.18	N
ATOM	917	CA	TYR	A	121	26.191	17.268	14.894	1.00	17.43	C
ATOM	918	CB	TYR	A	121	26.953	18.371	15.633	1.00	17.20	C
ATOM	919	CG	TYR	A	121	27.571	19.403	14.725	1.00	17.07	C
ATOM	920	CD1	TYR	A	121	28.815	19.181	14.133	1.00	16.79	C
ATOM	921	CE1	TYR	A	121	29.392	20.129	13.294	1.00	17.16	C
ATOM	922	CZ	TYR	A	121	28.723	21.315	13.042	1.00	16.99	C
ATOM	923	OH	TYR	A	121	29.289	22.253	12.206	1.00	17.30	O
ATOM	924	CE2	TYR	A	121	27.484	21.562	13.621	1.00	16.88	C
ATOM	925	CD2	TYR	A	121	26.918	20.606	14.461	1.00	16.73	C
ATOM	926	C	TYR	A	121	25.886	16.129	15.854	1.00	17.80	C
ATOM	927	O	TYR	A	121	24.825	16.107	16.488	1.00	17.95	O
ATOM	928	N	ASP	A	122	26.813	15.181	15.951	1.00	17.97	N
ATOM	929	CA	ASP	A	122	26.726	14.121	16.945	1.00	18.33	C
ATOM	930	CB	ASP	A	122	27.917	13.170	16.807	1.00	18.50	C
ATOM	931	CG	ASP	A	122	27.710	11.865	17.545	1.00	19.19	C
ATOM	932	OD1	ASP	A	122	27.535	11.891	18.784	1.00	19.38	O
ATOM	933	OD2	ASP	A	122	27.734	10.806	16.886	1.00	21.11	O
ATOM	934	C	ASP	A	122	26.699	14.752	18.340	1.00	18.48	C
ATOM	935	O	ASP	A	122	27.630	15.464	18.710	1.00	18.47	O
ATOM	936	N	PRO	A	123	25.610	14.519	19.105	1.00	18.60	N
ATOM	937	CA	PRO	A	123	25.468	15.160	20.418	1.00	18.98	C
ATOM	938	CB	PRO	A	123	24.016	14.837	20.816	1.00	18.96	C
ATOM	939	CG	PRO	A	123	23.350	14.360	19.550	1.00	18.81	C
ATOM	940	CD	PRO	A	123	24.437	13.692	18.779	1.00	18.92	C
ATOM	941	C	PRO	A	123	26.432	14.639	21.488	1.00	19.31	C
ATOM	942	O	PRO	A	123	26.592	15.287	22.526	1.00	19.38	O
ATOM	943	N	TYR	A	124	27.071	13.495	21.233	1.00	19.63	N
ATOM	944	CA	TYR	A	124	27.844	12.795	22.272	1.00	20.03	C
ATOM	945	CB	TYR	A	124	27.228	11.424	22.566	1.00	20.41	C
ATOM	946	CG	TYR	A	124	25.769	11.469	22.953	1.00	20.97	C
ATOM	947	CD1	TYR	A	124	25.380	11.821	24.249	1.00	21.42	C
ATOM	948	CE1	TYR	A	124	24.036	11.862	24.610	1.00	22.00	C
ATOM	949	CZ	TYR	A	124	23.066	11.547	23.669	1.00	21.78	C
ATOM	950	OH	TYR	A	124	21.737	11.584	24.019	1.00	22.38	O
ATOM	951	CE2	TYR	A	124	23.427	11.192	22.377	1.00	21.45	C
ATOM	952	CD2	TYR	A	124	24.774	11.153	22.028	1.00	21.08	C
ATOM	953	C	TYR	A	124	29.336	12.623	21.972	1.00	20.06	C
ATOM	954	O	TYR	A	124	30.164	12.689	22.885	1.00	20.26	O
ATOM	955	N	ALA	A	125	29.670	12.394	20.702	1.00	19.90	N
ATOM	956	CA	ALA	A	125	31.029	11.993	20.304	1.00	19.83	C
ATOM	957	CB	ALA	A	125	31.114	11.831	18.791	1.00	19.95	C
ATOM	958	C	ALA	A	125	32.136	12.925	20.804	1.00	19.78	C
ATOM	959	O	ALA	A	125	33.220	12.468	21.168	1.00	19.65	O
ATOM	960	N	TRP	A	126	31.849	14.226	20.828	1.00	19.70	N
ATOM	961	CA	TRP	A	126	32.829	15.250	21.210	1.00	19.77	C
ATOM	962	CB	TRP	A	126	32.169	16.634	21.238	1.00	19.66	C
ATOM	963	CG	TRP	A	126	31.005	16.736	22.195	1.00	19.81	C
ATOM	964	CD1	TRP	A	126	29.701	16.421	21.937	1.00	19.67	C
ATOM	965	NE1	TRP	A	126	28.928	16.644	23.051	1.00	19.31	N
ATOM	966	CE2	TRP	A	126	29.728	17.109	24.062	1.00	19.57	C
ATOM	967	CD2	TRP	A	126	31.047	17.180	23.559	1.00	19.35	C
ATOM	968	CE3	TRP	A	126	32.071	17.632	24.405	1.00	20.15	C
ATOM	969	CZ3	TRP	A	126	31.747	17.992	25.711	1.00	19.88	C
ATOM	970	CH2	TRP	A	126	30.423	17.910	26.182	1.00	19.60	C
ATOM	971	CZ2	TRP	A	126	29.403	17.473	25.375	1.00	19.46	C

ATOM	972	C	TRP	A	126	33.524	14.982	22.552	1.00	19.88	C
ATOM	973	O	TRP	A	126	34.700	15.320	22.725	1.00	19.92	O
ATOM	974	N	SER	A	127	32.799	14.364	23.485	1.00	19.81	N
ATOM	975	CA	SER	A	127	33.263	14.246	24.868	1.00	19.97	C
ATOM	976	CB	SER	A	127	32.073	14.181	25.834	1.00	20.00	C
ATOM	977	OG	SER	A	127	31.327	12.993	25.648	1.00	21.41	O
ATOM	978	C	SER	A	127	34.212	13.077	25.121	1.00	19.75	C
ATOM	979	O	SER	A	127	34.825	13.002	26.185	1.00	19.96	O
ATOM	980	N	TRP	A	128	34.334	12.164	24.156	1.00	19.47	N
ATOM	981	CA	TRP	A	128	35.167	10.972	24.356	1.00	19.35	C
ATOM	982	CB	TRP	A	128	34.308	9.748	24.711	1.00	19.21	C
ATOM	983	CG	TRP	A	128	33.365	9.314	23.628	1.00	19.16	C
ATOM	984	CD1	TRP	A	128	32.055	9.666	23.496	1.00	19.24	C
ATOM	985	NE1	TRP	A	128	31.512	9.065	22.386	1.00	19.59	N
ATOM	986	CE2	TRP	A	128	32.474	8.304	21.775	1.00	19.07	C
ATOM	987	CD2	TRP	A	128	33.658	8.432	22.533	1.00	19.12	C
ATOM	988	CE3	TRP	A	128	34.806	7.740	22.119	1.00	19.01	C
ATOM	989	CZ3	TRP	A	128	34.735	6.953	20.970	1.00	19.33	C
ATOM	990	CH2	TRP	A	128	33.541	6.847	20.238	1.00	19.10	C
ATOM	991	CZ2	TRP	A	128	32.403	7.512	20.622	1.00	19.29	C
ATOM	992	C	TRP	A	128	36.121	10.650	23.204	1.00	19.50	C
ATOM	993	O	TRP	A	128	37.146	9.998	23.412	1.00	19.27	O
ATOM	994	N	GLN	A	129	35.784	11.096	21.997	1.00	19.58	N
ATOM	995	CA	GLN	A	129	36.633	10.837	20.831	1.00	20.12	C
ATOM	996	CB	GLN	A	129	35.897	11.173	19.534	1.00	20.10	C
ATOM	997	CG	GLN	A	129	34.776	10.203	19.195	1.00	20.80	C
ATOM	998	CD	GLN	A	129	34.276	10.349	17.768	1.00	21.42	C
ATOM	999	OE1	GLN	A	129	34.455	11.392	17.131	1.00	21.82	O
ATOM	1000	NE2	GLN	A	129	33.638	9.301	17.261	1.00	21.57	N
ATOM	1001	C	GLN	A	129	37.941	11.615	20.915	1.00	20.31	C
ATOM	1002	O	GLN	A	129	37.989	12.694	21.504	1.00	20.52	O
ATOM	1003	N	HIS	A	130	38.997	11.053	20.322	1.00	20.55	N
ATOM	1004	CA	HIS	A	130	40.331	11.676	20.300	1.00	20.90	C
ATOM	1005	CB	HIS	A	130	40.314	13.008	19.527	1.00	21.05	C
ATOM	1006	CG	HIS	A	130	39.495	12.977	18.274	1.00	22.25	C
ATOM	1007	ND1	HIS	A	130	39.876	12.275	17.151	1.00	23.43	N
ATOM	1008	CE1	HIS	A	130	38.968	12.435	16.205	1.00	23.56	C
ATOM	1009	NE2	HIS	A	130	38.015	13.222	16.671	1.00	23.82	N
ATOM	1010	CD2	HIS	A	130	38.321	13.577	17.962	1.00	23.28	C
ATOM	1011	C	HIS	A	130	40.906	11.879	21.711	1.00	20.64	C
ATOM	1012	O	HIS	A	130	41.578	12.879	21.978	1.00	20.82	O
ATOM	1013	N	ASP	A	131	40.636	10.919	22.599	1.00	20.55	N
ATOM	1014	CA	ASP	A	131	41.098	10.949	24.000	1.00	20.38	C
ATOM	1015	CB	ASP	A	131	42.634	10.926	24.085	1.00	20.89	C
ATOM	1016	CG	ASP	A	131	43.219	9.581	23.704	1.00	22.29	C
ATOM	1017	OD1	ASP	A	131	42.707	8.546	24.183	1.00	24.53	O
ATOM	1018	OD2	ASP	A	131	44.200	9.560	22.930	1.00	24.56	O
ATOM	1019	C	ASP	A	131	40.526	12.110	24.819	1.00	19.67	C
ATOM	1020	O	ASP	A	131	41.102	12.514	25.835	1.00	19.86	O
ATOM	1021	N	ASN	A	132	39.385	12.635	24.386	1.00	18.50	N
ATOM	1022	CA	ASN	A	132	38.737	13.716	25.113	1.00	17.51	C
ATOM	1023	CB	ASN	A	132	37.792	14.506	24.196	1.00	17.56	C
ATOM	1024	CG	ASN	A	132	38.542	15.427	23.244	1.00	17.41	C
ATOM	1025	OD1	ASN	A	132	39.764	15.349	23.120	1.00	17.71	O
ATOM	1026	ND2	ASN	A	132	37.810	16.308	22.573	1.00	17.89	N
ATOM	1027	C	ASN	A	132	38.013	13.223	26.357	1.00	16.95	C
ATOM	1028	O	ASN	A	132	37.799	12.023	26.534	1.00	16.55	O
ATOM	1029	N	SER	A	133	37.665	14.158	27.233	1.00	16.16	N
ATOM	1030	CA	SER	A	133	36.934	13.843	28.451	1.00	15.87	C
ATOM	1031	CB	SER	A	133	37.890	13.362	29.550	1.00	15.85	C
ATOM	1032	OG	SER	A	133	38.746	14.409	29.982	1.00	15.85	O
ATOM	1033	C	SER	A	133	36.188	15.080	28.903	1.00	15.63	C
ATOM	1034	O	SER	A	133	36.307	16.146	28.293	1.00	15.32	O
ATOM	1035	N	ARG	A	134	35.402	14.935	29.960	1.00	15.54	N

ATOM	1036	CA	ARG	A	134	34.783	16.088	30.586	1.00	15.77	C
ATOM	1037	CB	ARG	A	134	33.298	16.205	30.209	1.00	16.43	C
ATOM	1038	CG	ARG	A	134	32.408	15.083	30.703	1.00	18.91	C
ATOM	1039	CD	ARG	A	134	30.954	15.464	30.493	1.00	22.85	C
ATOM	1040	NE	ARG	A	134	30.038	14.349	30.692	1.00	25.21	N
ATOM	1041	CZ	ARG	A	134	28.712	14.457	30.661	1.00	26.15	C
ATOM	1042	NH1	ARG	A	134	28.140	15.635	30.441	1.00	26.76	N
ATOM	1043	NH2	ARG	A	134	27.954	13.386	30.850	1.00	26.51	N
ATOM	1044	C	ARG	A	134	34.982	16.087	32.095	1.00	14.98	C
ATOM	1045	O	ARG	A	134	35.337	15.069	32.684	1.00	14.98	O
ATOM	1046	N	TRP	A	135	34.773	17.248	32.703	1.00	14.31	N
ATOM	1047	CA	TRP	A	135	34.861	17.401	34.144	1.00	13.77	C
ATOM	1048	CB	TRP	A	135	36.321	17.620	34.566	1.00	13.68	C
ATOM	1049	CG	TRP	A	135	36.644	17.220	35.998	1.00	13.12	C
ATOM	1050	CD1	TRP	A	135	35.948	16.345	36.795	1.00	12.79	C
ATOM	1051	NE1	TRP	A	135	36.560	16.230	38.021	1.00	13.20	N
ATOM	1052	CE2	TRP	A	135	37.683	17.017	38.032	1.00	13.03	C
ATOM	1053	CD2	TRP	A	135	37.770	17.650	36.768	1.00	13.01	C
ATOM	1054	CE3	TRP	A	135	38.842	18.521	36.520	1.00	13.64	C
ATOM	1055	CZ3	TRP	A	135	39.782	18.727	37.525	1.00	13.26	C
ATOM	1056	CH2	TRP	A	135	39.666	18.083	38.772	1.00	13.14	C
ATOM	1057	CZ2	TRP	A	135	38.629	17.228	39.043	1.00	13.19	C
ATOM	1058	C	TRP	A	135	33.986	18.580	34.551	1.00	13.57	C
ATOM	1059	O	TRP	A	135	33.445	19.284	33.697	1.00	13.88	O
ATOM	1060	N	ASP	A	136	33.829	18.783	35.851	1.00	13.21	N
ATOM	1061	CA	ASP	A	136	32.950	19.823	36.363	1.00	12.93	C
ATOM	1062	CB	ASP	A	136	31.514	19.290	36.458	1.00	13.00	C
ATOM	1063	CG	ASP	A	136	30.491	20.374	36.776	1.00	13.03	C
ATOM	1064	OD1	ASP	A	136	30.856	21.429	37.347	1.00	12.52	O
ATOM	1065	OD2	ASP	A	136	29.305	20.147	36.460	1.00	13.16	O
ATOM	1066	C	ASP	A	136	33.450	20.240	37.726	1.00	12.96	C
ATOM	1067	O	ASP	A	136	33.517	19.424	38.643	1.00	13.44	O
ATOM	1068	N	LEU	A	137	33.811	21.511	37.856	1.00	12.52	N
ATOM	1069	CA	LEU	A	137	34.396	22.004	39.100	1.00	12.63	C
ATOM	1070	CB	LEU	A	137	35.151	23.323	38.877	1.00	12.90	C
ATOM	1071	CG	LEU	A	137	36.644	23.259	38.514	1.00	14.10	C
ATOM	1072	CD1	LEU	A	137	37.468	22.555	39.600	1.00	14.95	C
ATOM	1073	CD2	LEU	A	137	36.854	22.598	37.169	1.00	15.29	C
ATOM	1074	C	LEU	A	137	33.388	22.158	40.230	1.00	12.44	C
ATOM	1075	O	LEU	A	137	33.778	22.284	41.390	1.00	12.54	O
ATOM	1076	N	LEU	A	138	32.096	22.141	39.906	1.00	12.19	N
ATOM	1077	CA	LEU	A	138	31.072	22.276	40.948	1.00	12.28	C
ATOM	1078	CB	LEU	A	138	29.664	22.381	40.349	1.00	12.13	C
ATOM	1079	CG	LEU	A	138	28.495	22.312	41.350	1.00	12.30	C
ATOM	1080	CD1	LEU	A	138	28.574	23.424	42.411	1.00	12.88	C
ATOM	1081	CD2	LEU	A	138	27.154	22.352	40.623	1.00	12.55	C
ATOM	1082	C	LEU	A	138	31.141	21.146	41.974	1.00	12.43	C
ATOM	1083	O	LEU	A	138	31.223	21.399	43.175	1.00	12.66	O
ATOM	1084	N	ASP	A	139	31.109	19.899	41.508	1.00	13.18	N
ATOM	1085	CA	ASP	A	139	31.163	18.776	42.440	1.00	13.57	C
ATOM	1086	CB	ASP	A	139	30.648	17.477	41.799	1.00	14.45	C
ATOM	1087	CG	ASP	A	139	29.116	17.383	41.805	1.00	16.60	C
ATOM	1088	OD1	ASP	A	139	28.452	18.247	42.419	1.00	17.94	O
ATOM	1089	OD2	ASP	A	139	28.574	16.435	41.194	1.00	19.38	O
ATOM	1090	C	ASP	A	139	32.560	18.604	43.051	1.00	13.11	C
ATOM	1091	O	ASP	A	139	32.698	18.002	44.112	1.00	13.17	O
ATOM	1092	N	VAL	A	140	33.580	19.156	42.390	1.00	12.51	N
ATOM	1093	CA	VAL	A	140	34.915	19.255	42.988	1.00	12.14	C
ATOM	1094	CB	VAL	A	140	35.972	19.774	41.980	1.00	12.06	C
ATOM	1095	CG1	VAL	A	140	37.318	19.996	42.673	1.00	12.35	C
ATOM	1096	CG2	VAL	A	140	36.119	18.793	40.816	1.00	12.44	C
ATOM	1097	C	VAL	A	140	34.880	20.141	44.236	1.00	12.04	C
ATOM	1098	O	VAL	A	140	35.380	19.748	45.294	1.00	11.91	O
ATOM	1099	N	MET	A	141	34.273	21.324	44.117	1.00	11.56	N

ATOM	1100	CA	MET	A	141	34.141	22.222	45.263	1.00	11.62	C
ATOM	1101	CB	MET	A	141	33.517	23.562	44.859	1.00	11.79	C
ATOM	1102	CG	MET	A	141	34.314	24.368	43.826	1.00	13.16	C
ATOM	1103	SD	MET	A	141	36.091	24.433	44.145	1.00	15.72	S
ATOM	1104	CE	MET	A	141	36.152	25.429	45.636	1.00	16.58	C
ATOM	1105	C	MET	A	141	33.313	21.573	46.364	1.00	11.24	C
ATOM	1106	O	MET	A	141	33.659	21.654	47.537	1.00	10.96	O
ATOM	1107	N	ARG	A	142	32.223	20.918	45.977	1.00	11.10	N
ATOM	1108	CA	ARG	A	142	31.383	20.214	46.944	1.00	11.33	C
ATOM	1109	CB	ARG	A	142	30.146	19.639	46.261	1.00	11.37	C
ATOM	1110	CG	ARG	A	142	29.109	20.676	45.894	1.00	11.94	C
ATOM	1111	CD	ARG	A	142	27.941	20.018	45.198	1.00	13.07	C
ATOM	1112	NE	ARG	A	142	26.823	20.935	45.001	1.00	15.27	N
ATOM	1113	CZ	ARG	A	142	25.991	20.880	43.965	1.00	15.36	C
ATOM	1114	NH1	ARG	A	142	26.170	19.973	43.012	1.00	15.39	N
ATOM	1115	NH2	ARG	A	142	24.988	21.740	43.873	1.00	17.10	N
ATOM	1116	C	ARG	A	142	32.146	19.105	47.661	1.00	11.50	C
ATOM	1117	O	ARG	A	142	32.022	18.947	48.883	1.00	11.32	O
ATOM	1118	N	ALA	A	143	32.941	18.350	46.901	1.00	11.95	N
ATOM	1119	CA	ALA	A	143	33.734	17.256	47.457	1.00	12.40	C
ATOM	1120	CB	ALA	A	143	34.379	16.440	46.345	1.00	12.65	C
ATOM	1121	C	ALA	A	143	34.792	17.781	48.421	1.00	12.80	C
ATOM	1122	O	ALA	A	143	35.046	17.180	49.466	1.00	12.91	O
ATOM	1123	N	CYS	A	144	35.397	18.912	48.067	1.00	13.36	N
ATOM	1124	CA	CYS	A	144	36.400	19.543	48.917	1.00	13.71	C
ATOM	1125	CB	CYS	A	144	37.023	20.748	48.216	1.00	13.89	C
ATOM	1126	SG	CYS	A	144	38.648	21.205	48.871	1.00	17.63	S
ATOM	1127	C	CYS	A	144	35.789	19.964	50.248	1.00	13.15	C
ATOM	1128	O	CYS	A	144	36.337	19.680	51.306	1.00	13.26	O
ATOM	1129	N	TYR	A	145	34.639	20.628	50.193	1.00	12.80	N
ATOM	1130	CA	TYR	A	145	33.959	21.037	51.417	1.00	12.99	C
ATOM	1131	CB	TYR	A	145	32.681	21.806	51.095	1.00	13.37	C
ATOM	1132	CG	TYR	A	145	31.838	22.082	52.318	1.00	13.87	C
ATOM	1133	CD1	TYR	A	145	32.068	23.212	53.108	1.00	16.64	C
ATOM	1134	CE1	TYR	A	145	31.302	23.456	54.248	1.00	14.79	C
ATOM	1135	CZ	TYR	A	145	30.296	22.563	54.598	1.00	15.17	C
ATOM	1136	OH	TYR	A	145	29.528	22.788	55.719	1.00	16.31	O
ATOM	1137	CE2	TYR	A	145	30.060	21.435	53.834	1.00	14.86	C
ATOM	1138	CD2	TYR	A	145	30.826	21.199	52.703	1.00	14.64	C
ATOM	1139	C	TYR	A	145	33.635	19.831	52.297	1.00	13.03	C
ATOM	1140	O	TYR	A	145	33.856	19.857	53.510	1.00	12.68	O
ATOM	1141	N	ALA	A	146	33.113	18.779	51.676	1.00	13.12	N
ATOM	1142	CA	ALA	A	146	32.661	17.602	52.406	1.00	13.42	C
ATOM	1143	CB	ALA	A	146	31.823	16.723	51.504	1.00	13.40	C
ATOM	1144	C	ALA	A	146	33.814	16.799	53.006	1.00	13.87	C
ATOM	1145	O	ALA	A	146	33.752	16.381	54.165	1.00	14.10	O
ATOM	1146	N	LEU	A	147	34.862	16.586	52.212	1.00	14.03	N
ATOM	1147	CA	LEU	A	147	35.916	15.630	52.567	1.00	14.65	C
ATOM	1148	CB	LEU	A	147	36.277	14.751	51.361	1.00	14.66	C
ATOM	1149	CG	LEU	A	147	35.145	13.997	50.651	1.00	15.56	C
ATOM	1150	CD1	LEU	A	147	35.665	13.307	49.401	1.00	16.43	C
ATOM	1151	CD2	LEU	A	147	34.482	12.991	51.584	1.00	16.71	C
ATOM	1152	C	LEU	A	147	37.182	16.266	53.146	1.00	14.97	C
ATOM	1153	O	LEU	A	147	37.757	15.738	54.099	1.00	15.49	O
ATOM	1154	N	ARG	A	148	37.622	17.380	52.557	1.00	14.86	N
ATOM	1155	CA	ARG	A	148	38.887	18.026	52.944	1.00	15.33	C
ATOM	1156	CB	ARG	A	148	40.035	17.566	52.025	1.00	15.51	C
ATOM	1157	CG	ARG	A	148	40.272	16.060	51.962	1.00	17.75	C
ATOM	1158	CD	ARG	A	148	40.914	15.529	53.236	1.00	20.53	C
ATOM	1159	NE	ARG	A	148	41.300	14.123	53.108	1.00	22.94	N
ATOM	1160	CZ	ARG	A	148	40.481	13.090	53.303	1.00	23.76	C
ATOM	1161	NH1	ARG	A	148	39.214	13.288	53.646	1.00	23.96	N
ATOM	1162	NH2	ARG	A	148	40.934	11.851	53.162	1.00	25.04	N
ATOM	1163	C	ARG	A	148	38.770	19.559	52.900	1.00	15.14	C

ATOM	1164	O	ARG	A	148	39.365	20.202	52.036	1.00	14.77	O
ATOM	1165	N	PRO	A	149	37.991	20.146	53.830	1.00	15.28	N
ATOM	1166	CA	PRO	A	149	37.684	21.584	53.790	1.00	15.60	C
ATOM	1167	CB	PRO	A	149	36.543	21.720	54.798	1.00	15.72	C
ATOM	1168	CG	PRO	A	149	36.776	20.609	55.772	1.00	15.40	C
ATOM	1169	CD	PRO	A	149	37.320	19.471	54.962	1.00	15.43	C
ATOM	1170	C	PRO	A	149	38.837	22.510	54.189	1.00	15.79	C
ATOM	1171	O	PRO	A	149	38.791	23.706	53.897	1.00	15.37	O
ATOM	1172	N	GLU	A	150	39.852	21.960	54.847	1.00	16.45	N
ATOM	1173	CA	GLU	A	150	40.928	22.762	55.427	1.00	17.32	C
ATOM	1174	CB	GLU	A	150	41.921	21.852	56.169	1.00	17.80	C
ATOM	1175	CG	GLU	A	150	41.278	20.923	57.233	1.00	20.75	C
ATOM	1176	CD	GLU	A	150	40.737	19.591	56.666	1.00	23.67	C
ATOM	1177	OE1	GLU	A	150	40.847	19.342	55.442	1.00	23.65	O
ATOM	1178	OE2	GLU	A	150	40.200	18.783	57.462	1.00	27.09	O
ATOM	1179	C	GLU	A	150	41.655	23.596	54.362	1.00	16.95	C
ATOM	1180	O	GLU	A	150	42.038	23.077	53.318	1.00	18.07	O
ATOM	1181	N	GLY	A	151	41.818	24.893	54.622	1.00	16.58	N
ATOM	1182	CA	GLY	A	151	42.584	25.766	53.725	1.00	16.00	C
ATOM	1183	C	GLY	A	151	41.763	26.676	52.826	1.00	15.79	C
ATOM	1184	O	GLY	A	151	42.275	27.665	52.305	1.00	15.47	O
ATOM	1185	N	ILE	A	152	40.491	26.333	52.630	1.00	15.42	N
ATOM	1186	CA	ILE	A	152	39.581	27.139	51.815	1.00	15.31	C
ATOM	1187	CB	ILE	A	152	38.966	26.301	50.651	1.00	15.16	C
ATOM	1188	CG1	ILE	A	152	40.059	25.904	49.652	1.00	15.23	C
ATOM	1189	CD1	ILE	A	152	39.622	24.895	48.608	1.00	15.70	C
ATOM	1190	CG2	ILE	A	152	37.843	27.076	49.936	1.00	14.93	C
ATOM	1191	C	ILE	A	152	38.482	27.728	52.698	1.00	15.20	C
ATOM	1192	O	ILE	A	152	38.013	27.074	53.629	1.00	15.54	O
ATOM	1193	N	ASN	A	153	38.100	28.971	52.417	1.00	15.16	N
ATOM	1194	CA	ASN	A	153	36.988	29.617	53.112	1.00	15.40	C
ATOM	1195	CB	ASN	A	153	37.163	31.134	53.115	1.00	15.88	C
ATOM	1196	CG	ASN	A	153	38.372	31.585	53.916	1.00	17.59	C
ATOM	1197	OD1	ASN	A	153	39.108	32.478	53.492	1.00	20.14	O
ATOM	1198	ND2	ASN	A	153	38.580	30.974	55.078	1.00	19.62	N
ATOM	1199	C	ASN	A	153	35.667	29.250	52.455	1.00	15.02	C
ATOM	1200	O	ASN	A	153	35.488	29.440	51.251	1.00	15.24	O
ATOM	1201	N	TRP	A	154	34.745	28.724	53.254	1.00	14.59	N
ATOM	1202	CA	TRP	A	154	33.486	28.207	52.731	1.00	14.62	C
ATOM	1203	CB	TRP	A	154	33.253	26.778	53.227	1.00	14.06	C
ATOM	1204	CG	TRP	A	154	34.336	25.853	52.791	1.00	13.57	C
ATOM	1205	CD1	TRP	A	154	35.358	25.368	53.556	1.00	13.37	C
ATOM	1206	NE1	TRP	A	154	36.180	24.567	52.797	1.00	14.01	N
ATOM	1207	CE2	TRP	A	154	35.701	24.530	51.513	1.00	12.87	C
ATOM	1208	CD2	TRP	A	154	34.540	25.335	51.471	1.00	13.08	C
ATOM	1209	CE3	TRP	A	154	33.851	25.465	50.257	1.00	12.93	C
ATOM	1210	CZ3	TRP	A	154	34.336	24.794	49.138	1.00	13.25	C
ATOM	1211	CH2	TRP	A	154	35.494	23.999	49.213	1.00	13.53	C
ATOM	1212	CZ2	TRP	A	154	36.188	23.856	50.388	1.00	13.49	C
ATOM	1213	C	TRP	A	154	32.323	29.117	53.100	1.00	14.88	C
ATOM	1214	O	TRP	A	154	31.899	29.146	54.260	1.00	15.50	O
ATOM	1215	N	PRO	A	155	31.802	29.869	52.108	1.00	15.42	N
ATOM	1216	CA	PRO	A	155	30.760	30.856	52.371	1.00	15.76	C
ATOM	1217	CB	PRO	A	155	30.678	31.637	51.054	1.00	15.95	C
ATOM	1218	CG	PRO	A	155	31.111	30.678	50.020	1.00	15.67	C
ATOM	1219	CD	PRO	A	155	32.164	29.819	50.678	1.00	15.41	C
ATOM	1220	C	PRO	A	155	29.418	30.209	52.679	1.00	16.21	C
ATOM	1221	O	PRO	A	155	29.143	29.100	52.218	1.00	15.87	O
ATOM	1222	N	GLU	A	156	28.608	30.900	53.476	1.00	17.18	N
ATOM	1223	CA	GLU	A	156	27.227	30.506	53.717	1.00	18.23	C
ATOM	1224	CB	GLU	A	156	26.864	30.676	55.196	1.00	18.44	C
ATOM	1225	CG	GLU	A	156	27.301	29.525	56.100	1.00	20.25	C
ATOM	1226	CD	GLU	A	156	26.828	29.690	57.544	1.00	20.90	C
ATOM	1227	OE1	GLU	A	156	26.141	30.693	57.851	1.00	24.13	O

ATOM	1228	OE2	GLU	A	156	27.140	28.811	58.374	1.00	24.81	O
ATOM	1229	C	GLU	A	156	26.303	31.366	52.869	1.00	18.22	C
ATOM	1230	O	GLU	A	156	26.566	32.553	52.664	1.00	18.66	O
ATOM	1231	N	ASN	A	157	25.223	30.772	52.371	1.00	17.87	N
ATOM	1232	CA	ASN	A	157	24.185	31.550	51.697	1.00	17.84	C
ATOM	1233	CB	ASN	A	157	23.411	30.694	50.682	1.00	17.67	C
ATOM	1234	CG	ASN	A	157	22.704	29.503	51.321	1.00	17.25	C
ATOM	1235	OD1	ASN	A	157	22.250	29.566	52.464	1.00	16.01	O
ATOM	1236	ND2	ASN	A	157	22.594	28.415	50.569	1.00	17.91	N
ATOM	1237	C	ASN	A	157	23.250	32.207	52.720	1.00	17.99	C
ATOM	1238	O	ASN	A	157	23.451	32.066	53.928	1.00	17.66	O
ATOM	1239	N	ASP	A	158	22.237	32.921	52.233	1.00	18.57	N
ATOM	1240	CA	ASP	A	158	21.319	33.659	53.109	1.00	19.21	C
ATOM	1241	CB	ASP	A	158	20.445	34.617	52.295	1.00	19.80	C
ATOM	1242	CG	ASP	A	158	21.207	35.839	51.816	1.00	22.26	C
ATOM	1243	OD1	ASP	A	158	22.238	36.190	52.433	1.00	24.52	O
ATOM	1244	OD2	ASP	A	158	20.768	36.452	50.821	1.00	25.31	O
ATOM	1245	C	ASP	A	158	20.444	32.764	53.992	1.00	18.79	C
ATOM	1246	O	ASP	A	158	19.833	33.238	54.955	1.00	19.15	O
ATOM	1247	N	ASP	A	159	20.390	31.475	53.669	1.00	18.01	N
ATOM	1248	CA	ASP	A	159	19.648	30.521	54.490	1.00	17.50	C
ATOM	1249	CB	ASP	A	159	18.976	29.454	53.616	1.00	17.76	C
ATOM	1250	CG	ASP	A	159	17.894	30.034	52.712	1.00	18.58	C
ATOM	1251	OD1	ASP	A	159	17.319	31.091	53.059	1.00	20.34	O
ATOM	1252	OD2	ASP	A	159	17.621	29.437	51.651	1.00	21.00	O
ATOM	1253	C	ASP	A	159	20.526	29.881	55.573	1.00	16.64	C
ATOM	1254	O	ASP	A	159	20.024	29.178	56.453	1.00	16.38	O
ATOM	1255	N	GLY	A	160	21.834	30.149	55.511	1.00	16.05	N
ATOM	1256	CA	GLY	A	160	22.780	29.689	56.534	1.00	15.43	C
ATOM	1257	C	GLY	A	160	23.413	28.348	56.220	1.00	15.36	C
ATOM	1258	O	GLY	A	160	23.950	27.679	57.107	1.00	15.56	O
ATOM	1259	N	LEU	A	161	23.353	27.967	54.948	1.00	15.03	N
ATOM	1260	CA	LEU	A	161	23.889	26.699	54.482	1.00	15.00	C
ATOM	1261	CB	LEU	A	161	22.816	25.938	53.694	1.00	15.45	C
ATOM	1262	CG	LEU	A	161	21.535	25.575	54.454	1.00	16.60	C
ATOM	1263	CD1	LEU	A	161	20.364	25.424	53.500	1.00	18.75	C
ATOM	1264	CD2	LEU	A	161	21.727	24.324	55.291	1.00	18.16	C
ATOM	1265	C	LEU	A	161	25.099	26.966	53.596	1.00	14.52	C
ATOM	1266	O	LEU	A	161	25.221	28.051	53.041	1.00	14.06	O
ATOM	1267	N	PRO	A	162	26.001	25.973	53.460	1.00	14.21	N
ATOM	1268	CA	PRO	A	162	27.166	26.179	52.598	1.00	14.32	C
ATOM	1269	CB	PRO	A	162	27.914	24.840	52.681	1.00	14.58	C
ATOM	1270	CG	PRO	A	162	26.929	23.867	53.205	1.00	15.14	C
ATOM	1271	CD	PRO	A	162	25.998	24.636	54.077	1.00	14.33	C
ATOM	1272	C	PRO	A	162	26.751	26.477	51.161	1.00	14.27	C
ATOM	1273	O	PRO	A	162	25.892	25.786	50.602	1.00	14.48	O
ATOM	1274	N	SER	A	163	27.337	27.525	50.593	1.00	14.20	N
ATOM	1275	CA	SER	A	163	27.048	27.935	49.230	1.00	14.41	C
ATOM	1276	CB	SER	A	163	26.849	29.445	49.159	1.00	14.49	C
ATOM	1277	OG	SER	A	163	26.619	29.860	47.824	1.00	15.65	O
ATOM	1278	C	SER	A	163	28.167	27.534	48.291	1.00	14.45	C
ATOM	1279	O	SER	A	163	29.350	27.640	48.632	1.00	14.57	O
ATOM	1280	N	PHE	A	164	27.787	27.094	47.097	1.00	14.45	N
ATOM	1281	CA	PHE	A	164	28.752	26.719	46.073	1.00	14.94	C
ATOM	1282	CB	PHE	A	164	28.697	25.212	45.826	1.00	14.65	C
ATOM	1283	CG	PHE	A	164	29.047	24.414	47.039	1.00	13.63	C
ATOM	1284	CD1	PHE	A	164	30.375	24.163	47.360	1.00	12.83	C
ATOM	1285	CE1	PHE	A	164	30.707	23.459	48.507	1.00	12.89	C
ATOM	1286	CZ	PHE	A	164	29.702	23.012	49.364	1.00	13.46	C
ATOM	1287	CE2	PHE	A	164	28.375	23.277	49.065	1.00	13.92	C
ATOM	1288	CD2	PHE	A	164	28.053	23.983	47.914	1.00	13.57	C
ATOM	1289	C	PHE	A	164	28.539	27.528	44.808	1.00	15.50	C
ATOM	1290	O	PHE	A	164	28.995	27.156	43.731	1.00	16.05	O
ATOM	1291	N	ARG	A	165	27.860	28.659	44.961	1.00	15.92	N

ATOM	1292	CA	ARG	A	165	27.745	29.631	43.888	1.00	16.71	C
ATOM	1293	CB	ARG	A	165	26.738	30.720	44.251	1.00	17.04	C
ATOM	1294	CG	ARG	A	165	25.309	30.216	44.320	1.00	19.09	C
ATOM	1295	CD	ARG	A	165	24.369	31.278	44.841	1.00	23.00	C
ATOM	1296	NE	ARG	A	165	24.014	32.257	43.818	1.00	26.05	N
ATOM	1297	CZ	ARG	A	165	23.240	33.321	44.032	1.00	27.94	C
ATOM	1298	NH1	ARG	A	165	22.737	33.557	45.240	1.00	28.81	N
ATOM	1299	NH2	ARG	A	165	22.970	34.153	43.034	1.00	29.25	N
ATOM	1300	C	ARG	A	165	29.111	30.230	43.618	1.00	16.87	C
ATOM	1301	O	ARG	A	165	29.832	30.614	44.545	1.00	16.55	O
ATOM	1302	N	LEU	A	166	29.464	30.287	42.340	1.00	17.35	N
ATOM	1303	CA	LEU	A	166	30.783	30.719	41.906	1.00	18.02	C
ATOM	1304	CB	LEU	A	166	30.850	30.695	40.376	1.00	18.00	C
ATOM	1305	CG	LEU	A	166	32.209	30.730	39.680	1.00	18.31	C
ATOM	1306	CD1	LEU	A	166	33.115	29.605	40.159	1.00	17.97	C
ATOM	1307	CD2	LEU	A	166	32.012	30.656	38.174	1.00	18.48	C
ATOM	1308	C	LEU	A	166	31.145	32.106	42.442	1.00	18.36	C
ATOM	1309	O	LEU	A	166	32.273	32.331	42.884	1.00	18.87	O
ATOM	1310	N	GLU	A	167	30.175	33.020	42.422	1.00	18.91	N
ATOM	1311	CA	GLU	A	167	30.379	34.383	42.919	1.00	19.19	C
ATOM	1312	CB	GLU	A	167	29.210	35.300	42.521	1.00	19.83	C
ATOM	1313	CG	GLU	A	167	27.842	34.875	43.061	1.00	21.88	C
ATOM	1314	CD	GLU	A	167	27.043	34.025	42.078	1.00	24.40	C
ATOM	1315	OE1	GLU	A	167	27.652	33.280	41.276	1.00	25.54	O
ATOM	1316	OE2	GLU	A	167	25.794	34.102	42.113	1.00	26.68	O
ATOM	1317	C	GLU	A	167	30.624	34.450	44.434	1.00	18.64	C
ATOM	1318	O	GLU	A	167	31.309	35.351	44.914	1.00	18.90	O
ATOM	1319	N	HIS	A	168	30.060	33.498	45.178	1.00	17.92	N
ATOM	1320	CA	HIS	A	168	30.275	33.437	46.623	1.00	17.49	C
ATOM	1321	CB	HIS	A	168	29.190	32.603	47.309	1.00	17.52	C
ATOM	1322	CG	HIS	A	168	27.830	33.231	47.280	1.00	18.42	C
ATOM	1323	ND1	HIS	A	168	26.679	32.524	47.554	1.00	18.79	N
ATOM	1324	CE1	HIS	A	168	25.635	33.328	47.452	1.00	19.62	C
ATOM	1325	NE2	HIS	A	168	26.067	34.530	47.116	1.00	19.64	N
ATOM	1326	CD2	HIS	A	168	27.436	34.497	47.002	1.00	19.62	C
ATOM	1327	C	HIS	A	168	31.646	32.871	46.957	1.00	16.82	C
ATOM	1328	O	HIS	A	168	32.319	33.354	47.870	1.00	17.05	O
ATOM	1329	N	LEU	A	169	32.053	31.844	46.216	1.00	16.25	N
ATOM	1330	CA	LEU	A	169	33.329	31.168	46.470	1.00	15.90	C
ATOM	1331	CB	LEU	A	169	33.408	29.849	45.700	1.00	15.86	C
ATOM	1332	CG	LEU	A	169	32.510	28.717	46.207	1.00	15.38	C
ATOM	1333	CD1	LEU	A	169	32.431	27.620	45.169	1.00	16.14	C
ATOM	1334	CD2	LEU	A	169	33.002	28.160	47.534	1.00	16.14	C
ATOM	1335	C	LEU	A	169	34.524	32.045	46.131	1.00	16.11	C
ATOM	1336	O	LEU	A	169	35.533	32.020	46.834	1.00	15.79	O
ATOM	1337	N	THR	A	170	34.413	32.806	45.045	1.00	16.60	N
ATOM	1338	CA	THR	A	170	35.469	33.746	44.667	1.00	17.15	C
ATOM	1339	CB	THR	A	170	35.226	34.372	43.271	1.00	17.17	C
ATOM	1340	OG1	THR	A	170	33.912	34.939	43.221	1.00	17.26	O
ATOM	1341	CG2	THR	A	170	35.370	33.325	42.175	1.00	17.25	C
ATOM	1342	C	THR	A	170	35.622	34.848	45.718	1.00	17.59	C
ATOM	1343	O	THR	A	170	36.724	35.089	46.218	1.00	17.52	O
ATOM	1344	N	LYS	A	171	34.507	35.488	46.073	1.00	18.04	N
ATOM	1345	CA	LYS	A	171	34.510	36.555	47.079	1.00	18.75	C
ATOM	1346	CB	LYS	A	171	33.093	37.113	47.275	1.00	19.02	C
ATOM	1347	CG	LYS	A	171	33.020	38.386	48.124	1.00	20.90	C
ATOM	1348	CD	LYS	A	171	33.512	39.597	47.345	1.00	23.93	C
ATOM	1349	CE	LYS	A	171	33.163	40.895	48.049	1.00	25.78	C
ATOM	1350	NZ	LYS	A	171	33.372	42.069	47.156	1.00	27.44	N
ATOM	1351	C	LYS	A	171	35.088	36.085	48.417	1.00	18.65	C
ATOM	1352	O	LYS	A	171	35.912	36.775	49.026	1.00	18.96	O
ATOM	1353	N	ALA	A	172	34.670	34.900	48.858	1.00	18.51	N
ATOM	1354	CA	ALA	A	172	35.088	34.367	50.156	1.00	18.61	C
ATOM	1355	CB	ALA	A	172	34.268	33.139	50.515	1.00	18.48	C

ATOM	1356	C	ALA	A	172	36.580	34.043	50.211	1.00	18.66	C
ATOM	1357	O	ALA	A	172	37.160	33.945	51.297	1.00	18.46	O
ATOM	1358	N	ASN	A	173	37.194	33.884	49.040	1.00	19.01	N
ATOM	1359	CA	ASN	A	173	38.591	33.465	48.953	1.00	19.64	C
ATOM	1360	CB	ASN	A	173	38.691	32.101	48.264	1.00	19.21	C
ATOM	1361	CG	ASN	A	173	38.117	30.987	49.112	1.00	18.39	C
ATOM	1362	OD1	ASN	A	173	36.981	30.543	48.899	1.00	18.47	O
ATOM	1363	ND2	ASN	A	173	38.882	30.549	50.103	1.00	15.58	N
ATOM	1364	C	ASN	A	173	39.516	34.494	48.293	1.00	20.56	C
ATOM	1365	O	ASN	A	173	40.628	34.165	47.879	1.00	20.71	O
ATOM	1366	N	GLY	A	174	39.047	35.737	48.207	1.00	21.57	N
ATOM	1367	CA	GLY	A	174	39.877	36.856	47.744	1.00	22.98	C
ATOM	1368	C	GLY	A	174	40.171	36.846	46.255	1.00	24.05	C
ATOM	1369	O	GLY	A	174	41.061	37.558	45.785	1.00	23.97	O
ATOM	1370	N	ILE	A	175	39.421	36.037	45.514	1.00	25.09	N
ATOM	1371	CA	ILE	A	175	39.580	35.944	44.070	1.00	26.48	C
ATOM	1372	CB	ILE	A	175	39.225	34.529	43.558	1.00	26.28	C
ATOM	1373	CG1	ILE	A	175	40.236	33.511	44.095	1.00	26.32	C
ATOM	1374	CD1	ILE	A	175	39.730	32.087	44.126	1.00	26.16	C
ATOM	1375	CG2	ILE	A	175	39.181	34.498	42.026	1.00	26.36	C
ATOM	1376	C	ILE	A	175	38.702	36.989	43.401	1.00	27.60	C
ATOM	1377	O	ILE	A	175	37.510	37.097	43.704	1.00	27.64	O
ATOM	1378	N	GLU	A	176	39.397	37.862	42.287	1.00	29.15	N
ATOM	1379	CA	GLU	A	176	38.476	38.953	41.895	1.00	30.68	C
ATOM	1380	CB	GLU	A	176	39.215	40.293	41.691	1.00	30.87	C
ATOM	1381	CG	GLU	A	176	38.779	41.134	40.550	1.00	32.20	C
ATOM	1382	CD	GLU	A	176	38.556	42.478	41.248	1.00	33.78	C
ATOM	1383	OE1	GLU	A	176	38.910	42.595	42.451	1.00	34.69	O
ATOM	1384	OE2	GLU	A	176	38.016	43.409	40.607	1.00	34.97	O
ATOM	1385	C	GLU	A	176	37.596	38.571	40.703	1.00	31.35	C
ATOM	1386	O	GLU	A	176	38.115	38.207	39.640	1.00	31.77	O
ATOM	1387	N	HIS	A	177	36.287	38.658	40.904	1.00	32.22	N
ATOM	1388	CA	HIS	A	177	35.315	38.246	39.895	1.00	33.00	C
ATOM	1389	CB	HIS	A	177	34.908	36.786	40.195	1.00	32.93	C
ATOM	1390	CG	HIS	A	177	33.778	36.229	39.513	1.00	33.16	C
ATOM	1391	ND1	HIS	A	177	32.675	35.626	40.082	1.00	33.42	N
ATOM	1392	CE1	HIS	A	177	31.884	35.168	39.127	1.00	33.35	C
ATOM	1393	NE2	HIS	A	177	32.436	35.447	37.960	1.00	33.29	N
ATOM	1394	CD2	HIS	A	177	33.626	36.105	38.173	1.00	33.10	C
ATOM	1395	C	HIS	A	177	34.114	39.189	39.917	1.00	33.51	C
ATOM	1396	O	HIS	A	177	33.329	39.184	40.876	1.00	33.83	O
ATOM	1397	N	SER	A	178	33.945	40.014	38.881	1.00	34.07	N
ATOM	1398	CA	SER	A	178	34.891	40.153	37.766	1.00	34.50	C
ATOM	1399	CB	SER	A	178	34.173	40.915	36.639	1.00	34.57	C
ATOM	1400	OG	SER	A	178	34.771	40.576	35.349	1.00	35.10	O
ATOM	1401	C	SER	A	178	36.178	40.871	38.165	1.00	34.67	C
ATOM	1402	O	SER	A	178	36.201	41.617	39.159	1.00	34.97	O
ATOM	1403	N	ASP	A	182	34.971	40.128	31.700	0.50	19.78	N
ATOM	1404	CA	ASP	A	182	33.575	40.540	31.602	0.50	19.66	C
ATOM	1405	CB	ASP	A	182	33.433	41.725	30.642	0.50	19.93	C
ATOM	1406	CG	ASP	A	182	32.169	42.540	30.893	0.50	20.54	C
ATOM	1407	OD1	ASP	A	182	31.159	41.971	31.364	0.50	21.52	O
ATOM	1408	OD2	ASP	A	182	32.186	43.757	30.611	0.50	21.53	O
ATOM	1409	C	ASP	A	182	32.701	39.375	31.141	0.50	19.23	C
ATOM	1410	O	ASP	A	182	32.099	38.679	31.958	0.50	19.38	O
ATOM	1411	N	ALA	A	183	32.625	39.176	29.829	0.50	18.71	N
ATOM	1412	CA	ALA	A	183	31.960	38.003	29.280	0.50	17.98	C
ATOM	1413	CB	ALA	A	183	31.836	38.121	27.771	0.50	18.08	C
ATOM	1414	C	ALA	A	183	32.758	36.761	29.656	0.50	17.41	C
ATOM	1415	O	ALA	A	183	32.250	35.640	29.618	0.50	17.33	O
ATOM	1416	N	MET	A	184	34.013	36.978	30.031	0.50	16.71	N
ATOM	1417	CA	MET	A	184	34.914	35.895	30.398	0.50	16.03	C
ATOM	1418	CB	MET	A	184	36.326	36.197	29.894	0.50	15.98	C
ATOM	1419	CG	MET	A	184	36.524	35.986	28.403	0.50	15.42	C

ATOM	1420	SD	MET	A	184	36.354	34.259	27.917	0.50	15.06	S
ATOM	1421	CE	MET	A	184	37.746	33.519	28.762	0.50	15.02	C
ATOM	1422	C	MET	A	184	34.941	35.669	31.908	0.50	15.85	C
ATOM	1423	O	MET	A	184	35.606	34.754	32.396	0.50	15.18	O
ATOM	1424	N	ALA	A	185	34.209	36.500	32.640	0.50	15.71	N
ATOM	1425	CA	ALA	A	185	34.250	36.487	34.103	0.50	16.04	C
ATOM	1426	CB	ALA	A	185	33.205	37.441	34.674	0.50	16.01	C
ATOM	1427	C	ALA	A	185	34.090	35.093	34.708	0.50	16.19	C
ATOM	1428	O	ALA	A	185	34.898	34.679	35.543	0.50	15.99	O
ATOM	1429	N	ASP	A	186	33.047	34.376	34.295	1.00	16.76	N
ATOM	1430	CA	ASP	A	186	32.747	33.065	34.871	1.00	17.17	C
ATOM	1431	CB	ASP	A	186	31.333	32.617	34.495	1.00	18.01	C
ATOM	1432	CG	ASP	A	186	30.253	33.385	35.250	1.00	20.53	C
ATOM	1433	OD1	ASP	A	186	29.093	33.383	34.788	1.00	24.87	O
ATOM	1434	OD2	ASP	A	186	30.558	33.984	36.304	1.00	22.76	O
ATOM	1435	C	ASP	A	186	33.776	31.999	34.489	1.00	16.71	C
ATOM	1436	O	ASP	A	186	34.112	31.135	35.300	1.00	16.63	O
ATOM	1437	N	VAL	A	187	34.277	32.069	33.258	1.00	16.07	N
ATOM	1438	CA	VAL	A	187	35.321	31.155	32.801	1.00	15.75	C
ATOM	1439	CB	VAL	A	187	35.603	31.314	31.281	1.00	15.57	C
ATOM	1440	CG1	VAL	A	187	36.850	30.536	30.876	1.00	15.34	C
ATOM	1441	CG2	VAL	A	187	34.399	30.850	30.466	1.00	16.27	C
ATOM	1442	C	VAL	A	187	36.607	31.338	33.620	1.00	15.65	C
ATOM	1443	O	VAL	A	187	37.185	30.361	34.109	1.00	15.26	O
ATOM	1444	N	TYR	A	188	37.039	32.588	33.782	1.00	15.72	N
ATOM	1445	CA	TYR	A	188	38.225	32.880	34.592	1.00	15.94	C
ATOM	1446	CB	TYR	A	188	38.624	34.355	34.486	1.00	16.66	C
ATOM	1447	CG	TYR	A	188	39.255	34.736	33.161	1.00	17.87	C
ATOM	1448	CD1	TYR	A	188	40.247	33.941	32.578	1.00	19.04	C
ATOM	1449	CE1	TYR	A	188	40.832	34.295	31.361	1.00	19.69	C
ATOM	1450	CZ	TYR	A	188	40.431	35.462	30.724	1.00	19.07	C
ATOM	1451	OH	TYR	A	188	41.004	35.821	29.528	1.00	19.55	O
ATOM	1452	CE2	TYR	A	188	39.463	36.273	31.291	1.00	19.42	C
ATOM	1453	CD2	TYR	A	188	38.879	35.907	32.503	1.00	18.86	C
ATOM	1454	C	TYR	A	188	38.043	32.478	36.055	1.00	15.58	C
ATOM	1455	O	TYR	A	188	38.977	31.979	36.684	1.00	15.53	O
ATOM	1456	N	ALA	A	189	36.840	32.684	36.588	1.00	15.26	N
ATOM	1457	CA	ALA	A	189	36.532	32.286	37.966	1.00	15.06	C
ATOM	1458	CB	ALA	A	189	35.171	32.818	38.389	1.00	15.29	C
ATOM	1459	C	ALA	A	189	36.597	30.770	38.149	1.00	15.16	C
ATOM	1460	O	ALA	A	189	37.005	30.284	39.203	1.00	15.23	O
ATOM	1461	N	THR	A	190	36.192	30.032	37.118	1.00	14.75	N
ATOM	1462	CA	THR	A	190	36.226	28.572	37.156	1.00	14.73	C
ATOM	1463	CB	THR	A	190	35.431	27.959	35.974	1.00	14.76	C
ATOM	1464	OG1	THR	A	190	34.093	28.472	35.985	1.00	15.21	O
ATOM	1465	CG2	THR	A	190	35.382	26.447	36.076	1.00	14.43	C
ATOM	1466	C	THR	A	190	37.671	28.064	37.173	1.00	14.68	C
ATOM	1467	O	THR	A	190	38.000	27.133	37.913	1.00	14.85	O
ATOM	1468	N	ILE	A	191	38.529	28.692	36.367	1.00	14.61	N
ATOM	1469	CA	ILE	A	191	39.963	28.389	36.376	1.00	14.67	C
ATOM	1470	CB	ILE	A	191	40.730	29.209	35.304	1.00	14.63	C
ATOM	1471	CG1	ILE	A	191	40.224	28.860	33.900	1.00	14.62	C
ATOM	1472	CD1	ILE	A	191	40.755	29.772	32.801	1.00	14.39	C
ATOM	1473	CG2	ILE	A	191	42.247	28.965	35.409	1.00	14.95	C
ATOM	1474	C	ILE	A	191	40.552	28.650	37.771	1.00	14.94	C
ATOM	1475	O	ILE	A	191	41.341	27.844	38.282	1.00	14.89	O
ATOM	1476	N	ALA	A	192	40.143	29.762	38.384	1.00	15.33	N
ATOM	1477	CA	ALA	A	192	40.577	30.112	39.740	1.00	15.80	C
ATOM	1478	CB	ALA	A	192	40.033	31.480	40.139	1.00	15.69	C
ATOM	1479	C	ALA	A	192	40.169	29.053	40.764	1.00	15.95	C
ATOM	1480	O	ALA	A	192	40.933	28.743	41.679	1.00	16.20	O
ATOM	1481	N	MET	A	193	38.968	28.498	40.607	1.00	15.93	N
ATOM	1482	CA	MET	A	193	38.505	27.406	41.471	1.00	16.48	C
ATOM	1483	CB	MET	A	193	37.054	27.034	41.155	1.00	16.66	C

ATOM	1484	CG	MET	A	193	36.047	28.132	41.420	1.00	19.01	C
ATOM	1485	SD	MET	A	193	35.912	28.590	43.159	1.00	23.55	S
ATOM	1486	CE	MET	A	193	37.193	29.824	43.319	1.00	22.77	C
ATOM	1487	C	MET	A	193	39.389	26.177	41.331	1.00	16.02	C
ATOM	1488	O	MET	A	193	39.757	25.552	42.326	1.00	15.82	O
ATOM	1489	N	ALA	A	194	39.727	25.836	40.089	1.00	15.74	N
ATOM	1490	CA	ALA	A	194	40.583	24.690	39.815	1.00	15.59	C
ATOM	1491	CB	ALA	A	194	40.731	24.480	38.310	1.00	15.59	C
ATOM	1492	C	ALA	A	194	41.948	24.851	40.479	1.00	15.77	C
ATOM	1493	O	ALA	A	194	42.438	23.928	41.130	1.00	15.72	O
ATOM	1494	N	LYS	A	195	42.545	26.032	40.324	1.00	15.85	N
ATOM	1495	CA	LYS	A	195	43.837	26.332	40.940	1.00	16.01	C
ATOM	1496	CB	LYS	A	195	44.345	27.700	40.487	1.00	16.03	C
ATOM	1497	CG	LYS	A	195	44.771	27.760	39.038	1.00	17.42	C
ATOM	1498	CD	LYS	A	195	45.332	29.132	38.706	1.00	19.39	C
ATOM	1499	CE	LYS	A	195	45.617	29.280	37.228	1.00	20.86	C
ATOM	1500	NZ	LYS	A	195	46.055	30.666	36.909	1.00	22.55	N
ATOM	1501	C	LYS	A	195	43.746	26.291	42.461	1.00	15.97	C
ATOM	1502	O	LYS	A	195	44.650	25.789	43.131	1.00	16.10	O
ATOM	1503	N	LEU	A	196	42.645	26.815	42.996	1.00	15.90	N
ATOM	1504	CA	LEU	A	196	42.406	26.842	44.437	1.00	15.96	C
ATOM	1505	CB	LEU	A	196	41.049	27.494	44.731	1.00	16.10	C
ATOM	1506	CG	LEU	A	196	40.684	27.857	46.170	1.00	16.88	C
ATOM	1507	CD1	LEU	A	196	41.606	28.941	46.710	1.00	17.76	C
ATOM	1508	CD2	LEU	A	196	39.243	28.314	46.223	1.00	16.73	C
ATOM	1509	C	LEU	A	196	42.476	25.440	45.045	1.00	15.73	C
ATOM	1510	O	LEU	A	196	43.244	25.198	45.973	1.00	15.76	O
ATOM	1511	N	VAL	A	197	41.692	24.514	44.502	1.00	15.45	N
ATOM	1512	CA	VAL	A	197	41.652	23.152	45.030	1.00	15.55	C
ATOM	1513	CB	VAL	A	197	40.411	22.373	44.524	1.00	15.51	C
ATOM	1514	CG1	VAL	A	197	40.378	20.971	45.110	1.00	16.33	C
ATOM	1515	CG2	VAL	A	197	39.141	23.114	44.899	1.00	16.27	C
ATOM	1516	C	VAL	A	197	42.950	22.383	44.746	1.00	15.19	C
ATOM	1517	O	VAL	A	197	43.438	21.648	45.606	1.00	14.93	O
ATOM	1518	N	LYS	A	198	43.515	22.566	43.553	1.00	15.09	N
ATOM	1519	CA	LYS	A	198	44.767	21.893	43.197	1.00	15.16	C
ATOM	1520	CB	LYS	A	198	45.174	22.220	41.757	1.00	15.27	C
ATOM	1521	CG	LYS	A	198	46.399	21.453	41.257	1.00	16.41	C
ATOM	1522	CD	LYS	A	198	46.867	21.994	39.921	1.00	18.29	C
ATOM	1523	CE	LYS	A	198	48.222	21.425	39.524	1.00	20.44	C
ATOM	1524	NZ	LYS	A	198	48.095	20.129	38.812	1.00	21.73	N
ATOM	1525	C	LYS	A	198	45.887	22.275	44.163	1.00	15.12	C
ATOM	1526	O	LYS	A	198	46.683	21.427	44.567	1.00	15.32	O
ATOM	1527	N	THR	A	199	45.928	23.551	44.535	1.00	15.06	N
ATOM	1528	CA	THR	A	199	46.977	24.077	45.414	1.00	15.20	C
ATOM	1529	CB	THR	A	199	47.052	25.628	45.323	1.00	15.37	C
ATOM	1530	OG1	THR	A	199	47.456	26.006	44.004	1.00	16.96	O
ATOM	1531	CG2	THR	A	199	48.045	26.197	46.330	1.00	16.37	C
ATOM	1532	C	THR	A	199	46.775	23.653	46.868	1.00	14.86	C
ATOM	1533	O	THR	A	199	47.733	23.306	47.562	1.00	14.71	O
ATOM	1534	N	ARG	A	200	45.528	23.679	47.324	1.00	14.28	N
ATOM	1535	CA	ARG	A	200	45.245	23.538	48.748	1.00	13.96	C
ATOM	1536	CB	ARG	A	200	44.224	24.592	49.191	1.00	14.35	C
ATOM	1537	CG	ARG	A	200	44.701	26.007	48.849	1.00	15.23	C
ATOM	1538	CD	ARG	A	200	43.936	27.087	49.560	1.00	16.46	C
ATOM	1539	NE	ARG	A	200	44.247	28.395	48.988	1.00	16.30	N
ATOM	1540	CZ	ARG	A	200	43.671	29.538	49.352	1.00	16.74	C
ATOM	1541	NH1	ARG	A	200	42.748	29.555	50.307	1.00	16.92	N
ATOM	1542	NH2	ARG	A	200	44.017	30.666	48.751	1.00	16.62	N
ATOM	1543	C	ARG	A	200	44.847	22.131	49.164	1.00	13.42	C
ATOM	1544	O	ARG	A	200	45.007	21.751	50.326	1.00	13.05	O
ATOM	1545	N	GLN	A	201	44.353	21.345	48.208	1.00	12.67	N
ATOM	1546	CA	GLN	A	201	44.092	19.924	48.447	1.00	12.15	C
ATOM	1547	CB	GLN	A	201	42.595	19.676	48.711	1.00	12.05	C

ATOM	1548	CG	GLN	A	201	42.079	20.263	50.033	1.00	12.51	C
ATOM	1549	CD	GLN	A	201	42.724	19.632	51.272	1.00	12.82	C
ATOM	1550	OE1	GLN	A	201	43.303	18.548	51.203	1.00	12.32	O
ATOM	1551	NE2	GLN	A	201	42.595	20.303	52.415	1.00	13.25	N
ATOM	1552	C	GLN	A	201	44.600	19.071	47.279	1.00	12.14	C
ATOM	1553	O	GLN	A	201	43.805	18.482	46.544	1.00	11.55	O
ATOM	1554	N	PRO	A	202	45.938	19.003	47.109	1.00	11.99	N
ATOM	1555	CA	PRO	A	202	46.554	18.376	45.931	1.00	12.33	C
ATOM	1556	CB	PRO	A	202	48.054	18.436	46.240	1.00	12.38	C
ATOM	1557	CG	PRO	A	202	48.201	19.521	47.228	1.00	12.21	C
ATOM	1558	CD	PRO	A	202	46.955	19.536	48.039	1.00	12.19	C
ATOM	1559	C	PRO	A	202	46.130	16.930	45.685	1.00	12.58	C
ATOM	1560	O	PRO	A	202	45.815	16.572	44.549	1.00	12.77	O
ATOM	1561	N	ARG	A	203	46.136	16.107	46.731	1.00	12.83	N
ATOM	1562	CA	ARG	A	203	45.833	14.681	46.579	1.00	13.37	C
ATOM	1563	CB	ARG	A	203	46.199	13.898	47.842	1.00	13.92	C
ATOM	1564	CG	ARG	A	203	47.676	13.923	48.189	1.00	17.16	C
ATOM	1565	CD	ARG	A	203	48.511	13.059	47.262	1.00	21.11	C
ATOM	1566	NE	ARG	A	203	49.938	13.210	47.546	1.00	23.96	N
ATOM	1567	CZ	ARG	A	203	50.915	12.664	46.827	1.00	25.59	C
ATOM	1568	NH1	ARG	A	203	50.630	11.920	45.764	1.00	26.84	N
ATOM	1569	NH2	ARG	A	203	52.180	12.865	47.171	1.00	26.99	N
ATOM	1570	C	ARG	A	203	44.368	14.452	46.221	1.00	13.27	C
ATOM	1571	O	ARG	A	203	44.057	13.613	45.379	1.00	13.36	O
ATOM	1572	N	LEU	A	204	43.474	15.200	46.863	1.00	12.94	N
ATOM	1573	CA	LEU	A	204	42.053	15.104	46.545	1.00	13.16	C
ATOM	1574	CB	LEU	A	204	41.206	15.907	47.539	1.00	13.02	C
ATOM	1575	CG	LEU	A	204	39.684	15.861	47.322	1.00	13.22	C
ATOM	1576	CD1	LEU	A	204	39.150	14.431	47.418	1.00	14.13	C
ATOM	1577	CD2	LEU	A	204	38.967	16.775	48.301	1.00	13.97	C
ATOM	1578	C	LEU	A	204	41.780	15.558	45.114	1.00	13.30	C
ATOM	1579	O	LEU	A	204	41.032	14.907	44.387	1.00	13.36	O
ATOM	1580	N	PHE	A	205	42.398	16.667	44.712	1.00	13.44	N
ATOM	1581	CA	PHE	A	205	42.255	17.170	43.347	1.00	13.82	C
ATOM	1582	CB	PHE	A	205	43.074	18.448	43.147	1.00	14.20	C
ATOM	1583	CG	PHE	A	205	42.727	19.198	41.889	1.00	15.23	C
ATOM	1584	CD1	PHE	A	205	41.625	20.046	41.852	1.00	16.70	C
ATOM	1585	CE1	PHE	A	205	41.296	20.743	40.692	1.00	16.75	C
ATOM	1586	CZ	PHE	A	205	42.076	20.599	39.558	1.00	16.27	C
ATOM	1587	CE2	PHE	A	205	43.178	19.755	39.577	1.00	16.65	C
ATOM	1588	CD2	PHE	A	205	43.501	19.059	40.744	1.00	16.46	C
ATOM	1589	C	PHE	A	205	42.656	16.110	42.320	1.00	13.90	C
ATOM	1590	O	PHE	A	205	41.916	15.846	41.368	1.00	13.72	O
ATOM	1591	N	ASP	A	206	43.820	15.497	42.532	1.00	14.18	N
ATOM	1592	CA	ASP	A	206	44.323	14.446	41.649	1.00	14.63	C
ATOM	1593	CB	ASP	A	206	45.718	14.002	42.094	1.00	15.26	C
ATOM	1594	CG	ASP	A	206	46.789	15.031	41.776	1.00	18.22	C
ATOM	1595	OD1	ASP	A	206	46.544	15.915	40.924	1.00	21.73	O
ATOM	1596	OD2	ASP	A	206	47.885	14.954	42.374	1.00	21.57	O
ATOM	1597	C	ASP	A	206	43.379	13.251	41.618	1.00	14.13	C
ATOM	1598	O	ASP	A	206	43.085	12.708	40.548	1.00	13.94	O
ATOM	1599	N	TYR	A	207	42.901	12.847	42.792	1.00	13.73	N
ATOM	1600	CA	TYR	A	207	41.947	11.746	42.885	1.00	13.33	C
ATOM	1601	CB	TYR	A	207	41.555	11.457	44.343	1.00	13.56	C
ATOM	1602	CG	TYR	A	207	40.488	10.390	44.448	1.00	13.43	C
ATOM	1603	CD1	TYR	A	207	40.832	9.040	44.508	1.00	13.64	C
ATOM	1604	CE1	TYR	A	207	39.857	8.055	44.583	1.00	13.66	C
ATOM	1605	CZ	TYR	A	207	38.516	8.418	44.586	1.00	14.26	C
ATOM	1606	OH	TYR	A	207	37.547	7.444	44.649	1.00	14.50	O
ATOM	1607	CE2	TYR	A	207	38.147	9.748	44.520	1.00	14.19	C
ATOM	1608	CD2	TYR	A	207	39.131	10.727	44.448	1.00	13.84	C
ATOM	1609	C	TYR	A	207	40.696	12.032	42.055	1.00	13.31	C
ATOM	1610	O	TYR	A	207	40.268	11.200	41.249	1.00	13.40	O
ATOM	1611	N	LEU	A	208	40.117	13.211	42.253	1.00	13.17	N

ATOM	1612	CA	LEU	A	208	38.884	13.572	41.557	1.00	13.25	C
ATOM	1613	CB	LEU	A	208	38.303	14.876	42.113	1.00	13.08	C
ATOM	1614	CG	LEU	A	208	37.833	14.811	43.573	1.00	13.39	C
ATOM	1615	CD1	LEU	A	208	37.542	16.202	44.101	1.00	13.36	C
ATOM	1616	CD2	LEU	A	208	36.609	13.903	43.745	1.00	14.58	C
ATOM	1617	C	LEU	A	208	39.081	13.647	40.043	1.00	13.37	C
ATOM	1618	O	LEU	A	208	38.236	13.172	39.276	1.00	13.64	O
ATOM	1619	N	PHE	A	209	40.206	14.218	39.615	1.00	13.50	N
ATOM	1620	CA	PHE	A	209	40.514	14.309	38.193	1.00	13.83	C
ATOM	1621	CB	PHE	A	209	41.785	15.131	37.964	1.00	13.80	C
ATOM	1622	CG	PHE	A	209	42.194	15.220	36.520	1.00	14.14	C
ATOM	1623	CD1	PHE	A	209	41.404	15.907	35.598	1.00	15.00	C
ATOM	1624	CE1	PHE	A	209	41.774	15.987	34.259	1.00	14.80	C
ATOM	1625	CZ	PHE	A	209	42.953	15.382	33.829	1.00	14.59	C
ATOM	1626	CE2	PHE	A	209	43.750	14.691	34.740	1.00	14.91	C
ATOM	1627	CD2	PHE	A	209	43.367	14.615	36.078	1.00	15.39	C
ATOM	1628	C	PHE	A	209	40.652	12.923	37.573	1.00	14.10	C
ATOM	1629	O	PHE	A	209	40.062	12.641	36.533	1.00	14.03	O
ATOM	1630	N	THR	A	210	41.409	12.053	38.232	1.00	14.49	N
ATOM	1631	CA	THR	A	210	41.620	10.698	37.732	1.00	15.15	C
ATOM	1632	CB	THR	A	210	42.648	9.940	38.602	1.00	15.28	C
ATOM	1633	OG1	THR	A	210	43.931	10.570	38.471	1.00	17.01	O
ATOM	1634	CG2	THR	A	210	42.763	8.480	38.173	1.00	16.94	C
ATOM	1635	C	THR	A	210	40.296	9.930	37.641	1.00	14.95	C
ATOM	1636	O	THR	A	210	40.066	9.175	36.692	1.00	15.26	O
ATOM	1637	N	HIS	A	211	39.411	10.164	38.601	1.00	14.91	N
ATOM	1638	CA	HIS	A	211	38.152	9.430	38.653	1.00	15.03	C
ATOM	1639	CB	HIS	A	211	37.768	9.130	40.101	1.00	15.04	C
ATOM	1640	CG	HIS	A	211	38.663	8.123	40.743	1.00	15.65	C
ATOM	1641	ND1	HIS	A	211	38.294	6.807	40.926	1.00	17.36	N
ATOM	1642	CE1	HIS	A	211	39.297	6.146	41.478	1.00	16.04	C
ATOM	1643	NE2	HIS	A	211	40.308	6.980	41.637	1.00	17.36	N
ATOM	1644	CD2	HIS	A	211	39.941	8.220	41.177	1.00	15.45	C
ATOM	1645	C	HIS	A	211	37.004	10.059	37.861	1.00	15.16	C
ATOM	1646	O	HIS	A	211	35.855	9.646	37.995	1.00	15.16	O
ATOM	1647	N	ARG	A	212	37.325	11.029	37.004	1.00	15.47	N
ATOM	1648	CA	ARG	A	212	36.362	11.500	36.010	1.00	15.93	C
ATOM	1649	CB	ARG	A	212	36.861	12.781	35.318	1.00	15.83	C
ATOM	1650	CG	ARG	A	212	37.836	12.560	34.167	1.00	15.45	C
ATOM	1651	CD	ARG	A	212	38.585	13.851	33.815	1.00	15.16	C
ATOM	1652	NE	ARG	A	212	39.478	13.685	32.666	1.00	14.75	N
ATOM	1653	CZ	ARG	A	212	40.663	13.076	32.709	1.00	14.33	C
ATOM	1654	NH1	ARG	A	212	41.115	12.555	33.845	1.00	13.79	N
ATOM	1655	NH2	ARG	A	212	41.398	12.981	31.608	1.00	14.22	N
ATOM	1656	C	ARG	A	212	36.105	10.381	34.990	1.00	16.76	C
ATOM	1657	O	ARG	A	212	35.056	10.340	34.343	1.00	17.51	O
ATOM	1658	N	ASN	A	213	37.075	9.473	34.883	1.00	17.38	N
ATOM	1659	CA	ASN	A	213	37.057	8.362	33.930	1.00	17.71	C
ATOM	1660	CB	ASN	A	213	38.497	7.850	33.736	1.00	18.26	C
ATOM	1661	CG	ASN	A	213	38.573	6.562	32.938	1.00	19.19	C
ATOM	1662	OD1	ASN	A	213	38.395	5.475	33.482	1.00	21.02	O
ATOM	1663	ND2	ASN	A	213	38.886	6.678	31.651	1.00	21.22	N
ATOM	1664	C	ASN	A	213	36.120	7.252	34.416	1.00	17.64	C
ATOM	1665	O	ASN	A	213	36.207	6.821	35.568	1.00	17.23	O
ATOM	1666	N	LYS	A	214	35.220	6.804	33.538	1.00	17.63	N
ATOM	1667	CA	LYS	A	214	34.179	5.837	33.922	1.00	17.91	C
ATOM	1668	CB	LYS	A	214	33.157	5.628	32.791	1.00	17.94	C
ATOM	1669	CG	LYS	A	214	33.705	4.960	31.533	1.00	19.15	C
ATOM	1670	CD	LYS	A	214	32.607	4.750	30.501	1.00	19.48	C
ATOM	1671	CE	LYS	A	214	33.054	3.808	29.394	1.00	21.33	C
ATOM	1672	NZ	LYS	A	214	32.047	3.736	28.295	1.00	22.45	N
ATOM	1673	C	LYS	A	214	34.728	4.496	34.411	1.00	17.51	C
ATOM	1674	O	LYS	A	214	34.127	3.865	35.272	1.00	17.26	O
ATOM	1675	N	HIS	A	215	35.869	4.071	33.869	1.00	17.45	N

ATOM	1676	CA	HIS	A	215	36.464	2.785	34.256	1.00	17.45	C
ATOM	1677	CB	HIS	A	215	37.553	2.353	33.266	1.00	17.81	C
ATOM	1678	CG	HIS	A	215	37.045	2.105	31.881	1.00	18.53	C
ATOM	1679	ND1	HIS	A	215	35.844	1.476	31.629	1.00	19.42	N
ATOM	1680	CE1	HIS	A	215	35.661	1.391	30.323	1.00	19.31	C
ATOM	1681	NE2	HIS	A	215	36.700	1.938	29.720	1.00	19.79	N
ATOM	1682	CD2	HIS	A	215	37.582	2.388	30.672	1.00	18.99	C
ATOM	1683	C	HIS	A	215	37.013	2.810	35.675	1.00	17.43	C
ATOM	1684	O	HIS	A	215	36.917	1.819	36.403	1.00	17.34	O
ATOM	1685	N	LYS	A	216	37.586	3.947	36.064	1.00	17.36	N
ATOM	1686	CA	LYS	A	216	38.030	4.154	37.436	1.00	17.25	C
ATOM	1687	CB	LYS	A	216	38.781	5.484	37.568	1.00	17.50	C
ATOM	1688	CG	LYS	A	216	40.127	5.528	36.831	1.00	18.65	C
ATOM	1689	CD	LYS	A	216	41.132	4.512	37.383	1.00	21.49	C
ATOM	1690	CE	LYS	A	216	41.701	4.939	38.732	1.00	23.17	C
ATOM	1691	NZ	LYS	A	216	42.760	4.001	39.210	1.00	24.87	N
ATOM	1692	C	LYS	A	216	36.842	4.117	38.393	1.00	16.90	C
ATOM	1693	O	LYS	A	216	36.931	3.551	39.480	1.00	16.78	O
ATOM	1694	N	LEU	A	217	35.728	4.712	37.975	1.00	16.80	N
ATOM	1695	CA	LEU	A	217	34.510	4.706	38.783	1.00	16.79	C
ATOM	1696	CB	LEU	A	217	33.483	5.698	38.233	1.00	16.55	C
ATOM	1697	CG	LEU	A	217	33.850	7.182	38.326	1.00	16.10	C
ATOM	1698	CD1	LEU	A	217	32.929	8.007	37.441	1.00	16.48	C
ATOM	1699	CD2	LEU	A	217	33.820	7.691	39.773	1.00	14.81	C
ATOM	1700	C	LEU	A	217	33.899	3.314	38.890	1.00	17.13	C
ATOM	1701	O	LEU	A	217	33.500	2.894	39.973	1.00	17.09	O
ATOM	1702	N	MET	A	218	33.844	2.598	37.766	1.00	17.56	N
ATOM	1703	CA	MET	A	218	33.296	1.236	37.740	1.00	18.68	C
ATOM	1704	CB	MET	A	218	33.277	0.687	36.314	1.00	18.70	C
ATOM	1705	CG	MET	A	218	32.299	1.386	35.385	1.00	20.24	C
ATOM	1706	SD	MET	A	218	32.570	0.886	33.679	1.00	23.07	S
ATOM	1707	CE	MET	A	218	31.807	2.211	32.778	1.00	23.31	C
ATOM	1708	C	MET	A	218	34.065	0.282	38.655	1.00	18.02	C
ATOM	1709	O	MET	A	218	33.477	-0.620	39.253	1.00	17.65	O
ATOM	1710	N	ALA	A	219	35.376	0.492	38.764	1.00	17.87	N
ATOM	1711	CA	ALA	A	219	36.224	-0.330	39.630	1.00	17.92	C
ATOM	1712	CB	ALA	A	219	37.687	0.064	39.471	1.00	18.12	C
ATOM	1713	C	ALA	A	219	35.800	-0.247	41.099	1.00	18.18	C
ATOM	1714	O	ALA	A	219	36.009	-1.191	41.865	1.00	18.31	O
ATOM	1715	N	LEU	A	220	35.189	0.879	41.472	1.00	18.33	N
ATOM	1716	CA	LEU	A	220	34.705	1.098	42.842	1.00	18.72	C
ATOM	1717	CB	LEU	A	220	34.525	2.596	43.117	1.00	18.59	C
ATOM	1718	CG	LEU	A	220	35.749	3.514	43.031	1.00	18.98	C
ATOM	1719	CD1	LEU	A	220	35.319	4.975	43.049	1.00	19.06	C
ATOM	1720	CD2	LEU	A	220	36.728	3.229	44.160	1.00	20.15	C
ATOM	1721	C	LEU	A	220	33.384	0.391	43.107	1.00	18.96	C
ATOM	1722	O	LEU	A	220	32.982	0.228	44.260	1.00	18.98	O
ATOM	1723	N	ILE	A	221	32.705	-0.009	42.037	1.00	19.39	N
ATOM	1724	CA	ILE	A	221	31.353	-0.547	42.137	1.00	20.11	C
ATOM	1725	CB	ILE	A	221	30.476	-0.093	40.936	1.00	20.08	C
ATOM	1726	CG1	ILE	A	221	30.308	1.435	40.957	1.00	20.97	C
ATOM	1727	CD1	ILE	A	221	29.762	2.031	39.673	1.00	21.54	C
ATOM	1728	CG2	ILE	A	221	29.116	-0.807	40.952	1.00	20.68	C
ATOM	1729	C	ILE	A	221	31.370	-2.069	42.267	1.00	20.09	C
ATOM	1730	O	ILE	A	221	31.838	-2.776	41.369	1.00	20.23	O
ATOM	1731	N	ASP	A	222	30.878	-2.557	43.406	1.00	20.05	N
ATOM	1732	CA	ASP	A	222	30.749	-3.989	43.658	1.00	20.18	C
ATOM	1733	CB	ASP	A	222	31.731	-4.444	44.746	1.00	20.32	C
ATOM	1734	CG	ASP	A	222	31.927	-5.958	44.775	1.00	21.08	C
ATOM	1735	OD1	ASP	A	222	30.973	-6.705	44.465	1.00	21.43	O
ATOM	1736	OD2	ASP	A	222	33.042	-6.403	45.120	1.00	22.80	O
ATOM	1737	C	ASP	A	222	29.311	-4.309	44.058	1.00	19.87	C
ATOM	1738	O	ASP	A	222	28.956	-4.281	45.241	1.00	19.86	O
ATOM	1739	N	VAL	A	223	28.493	-4.608	43.055	1.00	19.69	N

ATOM	1740	CA	VAL	A	223	27.071	-4.882	43.244	1.00	19.55	C
ATOM	1741	CB	VAL	A	223	26.315	-4.935	41.877	1.00	19.60	C
ATOM	1742	CG1	VAL	A	223	24.889	-5.412	42.055	1.00	19.80	C
ATOM	1743	CG2	VAL	A	223	26.338	-3.565	41.200	1.00	20.04	C
ATOM	1744	C	VAL	A	223	26.795	-6.145	44.093	1.00	19.53	C
ATOM	1745	O	VAL	A	223	25.989	-6.090	45.025	1.00	19.19	O
ATOM	1746	N	PRO	A	224	27.456	-7.285	43.773	1.00	19.47	N
ATOM	1747	CA	PRO	A	224	27.243	-8.494	44.579	1.00	19.68	C
ATOM	1748	CB	PRO	A	224	28.238	-9.496	43.977	1.00	19.61	C
ATOM	1749	CG	PRO	A	224	28.419	-9.038	42.578	1.00	19.85	C
ATOM	1750	CD	PRO	A	224	28.388	-7.542	42.656	1.00	19.51	C
ATOM	1751	C	PRO	A	224	27.514	-8.307	46.078	1.00	19.80	C
ATOM	1752	O	PRO	A	224	26.817	-8.900	46.904	1.00	19.94	O
ATOM	1753	N	GLN	A	225	28.507	-7.485	46.419	1.00	20.05	N
ATOM	1754	CA	GLN	A	225	28.867	-7.249	47.822	1.00	20.44	C
ATOM	1755	CB	GLN	A	225	30.376	-7.006	47.964	1.00	20.89	C
ATOM	1756	CG	GLN	A	225	31.263	-8.152	47.475	1.00	22.94	C
ATOM	1757	CD	GLN	A	225	31.117	-9.417	48.299	1.00	25.44	C
ATOM	1758	OE1	GLN	A	225	31.025	-9.369	49.527	1.00	27.59	O
ATOM	1759	NE2	GLN	A	225	31.107	-10.560	47.625	1.00	26.94	N
ATOM	1760	C	GLN	A	225	28.102	-6.073	48.431	1.00	20.09	C
ATOM	1761	O	GLN	A	225	28.182	-5.836	49.641	1.00	20.00	O
ATOM	1762	N	MET	A	226	27.363	-5.341	47.591	1.00	19.78	N
ATOM	1763	CA	MET	A	226	26.747	-4.065	47.985	1.00	19.76	C
ATOM	1764	CB	MET	A	226	25.530	-4.287	48.901	1.00	19.68	C
ATOM	1765	CG	MET	A	226	24.396	-5.089	48.282	1.00	20.20	C
ATOM	1766	SD	MET	A	226	22.960	-5.112	49.374	1.00	20.94	S
ATOM	1767	CE	MET	A	226	21.951	-6.384	48.614	1.00	20.50	C
ATOM	1768	C	MET	A	226	27.778	-3.165	48.675	1.00	19.40	C
ATOM	1769	O	MET	A	226	27.476	-2.506	49.672	1.00	19.22	O
ATOM	1770	N	LYS	A	227	28.997	-3.151	48.138	1.00	18.93	N
ATOM	1771	CA	LYS	A	227	30.110	-2.439	48.762	1.00	18.82	C
ATOM	1772	CB	LYS	A	227	31.404	-2.649	47.971	1.00	18.94	C
ATOM	1773	CG	LYS	A	227	32.648	-2.094	48.662	1.00	20.38	C
ATOM	1774	CD	LYS	A	227	33.930	-2.458	47.921	1.00	21.14	C
ATOM	1775	CE	LYS	A	227	34.078	-1.661	46.636	1.00	23.75	C
ATOM	1776	NZ	LYS	A	227	35.444	-1.783	46.052	1.00	26.02	N
ATOM	1777	C	LYS	A	227	29.804	-0.948	48.910	1.00	17.87	C
ATOM	1778	O	LYS	A	227	29.510	-0.271	47.920	1.00	17.45	O
ATOM	1779	N	PRO	A	228	29.854	-0.436	50.155	1.00	17.28	N
ATOM	1780	CA	PRO	A	228	29.503	0.957	50.416	1.00	16.78	C
ATOM	1781	CB	PRO	A	228	29.447	1.025	51.946	1.00	16.72	C
ATOM	1782	CG	PRO	A	228	30.361	-0.052	52.400	1.00	17.10	C
ATOM	1783	CD	PRO	A	228	30.227	-1.152	51.392	1.00	17.20	C
ATOM	1784	C	PRO	A	228	30.537	1.942	49.879	1.00	16.33	C
ATOM	1785	O	PRO	A	228	31.733	1.643	49.853	1.00	16.46	O
ATOM	1786	N	LEU	A	229	30.059	3.103	49.446	1.00	16.00	N
ATOM	1787	CA	LEU	A	229	30.916	4.159	48.934	1.00	15.53	C
ATOM	1788	CB	LEU	A	229	30.811	4.231	47.406	1.00	15.51	C
ATOM	1789	CG	LEU	A	229	31.265	3.017	46.589	1.00	15.86	C
ATOM	1790	CD1	LEU	A	229	30.859	3.189	45.132	1.00	16.73	C
ATOM	1791	CD2	LEU	A	229	32.774	2.795	46.707	1.00	16.88	C
ATOM	1792	C	LEU	A	229	30.475	5.485	49.516	1.00	15.49	C
ATOM	1793	O	LEU	A	229	29.295	5.673	49.813	1.00	15.72	O
ATOM	1794	N	VAL	A	230	31.413	6.413	49.671	1.00	15.38	N
ATOM	1795	CA	VAL	A	230	31.034	7.805	49.887	1.00	15.35	C
ATOM	1796	CB	VAL	A	230	32.135	8.633	50.627	1.00	15.63	C
ATOM	1797	CG1	VAL	A	230	33.421	8.670	49.846	1.00	17.35	C
ATOM	1798	CG2	VAL	A	230	31.642	10.049	50.913	1.00	16.44	C
ATOM	1799	C	VAL	A	230	30.663	8.431	48.541	1.00	14.90	C
ATOM	1800	O	VAL	A	230	31.346	8.221	47.535	1.00	14.97	O
ATOM	1801	N	HIS	A	231	29.556	9.164	48.528	1.00	14.44	N
ATOM	1802	CA	HIS	A	231	29.072	9.820	47.328	1.00	14.40	C
ATOM	1803	CB	HIS	A	231	27.843	9.064	46.785	1.00	14.52	C

ATOM	1804	CG	HIS	A	231	27.247	9.652	45.538	1.00	14.60	C
ATOM	1805	ND1	HIS	A	231	28.008	10.151	44.501	1.00	15.15	N
ATOM	1806	CE1	HIS	A	231	27.209	10.578	43.537	1.00	16.20	C
ATOM	1807	NE2	HIS	A	231	25.960	10.352	43.900	1.00	15.71	N
ATOM	1808	CD2	HIS	A	231	25.955	9.766	45.142	1.00	15.21	C
ATOM	1809	C	HIS	A	231	28.731	11.259	47.671	1.00	14.29	C
ATOM	1810	O	HIS	A	231	27.999	11.521	48.625	1.00	14.26	O
ATOM	1811	N	VAL	A	232	29.310	12.190	46.920	1.00	14.20	N
ATOM	1812	CA	VAL	A	232	28.996	13.606	47.060	1.00	14.34	C
ATOM	1813	CB	VAL	A	232	30.282	14.474	47.166	1.00	14.14	C
ATOM	1814	CG1	VAL	A	232	29.929	15.952	47.329	1.00	15.14	C
ATOM	1815	CG2	VAL	A	232	31.150	14.000	48.332	1.00	13.76	C
ATOM	1816	C	VAL	A	232	28.171	14.037	45.862	1.00	14.70	C
ATOM	1817	O	VAL	A	232	28.595	13.880	44.716	1.00	14.68	O
ATOM	1818	N	SER	A	233	26.984	14.571	46.133	1.00	15.02	N
ATOM	1819	CA	SER	A	233	26.034	14.910	45.086	1.00	15.78	C
ATOM	1820	CB	SER	A	233	25.188	13.685	44.730	1.00	16.03	C
ATOM	1821	OG	SER	A	233	24.145	14.023	43.831	1.00	17.78	O
ATOM	1822	C	SER	A	233	25.132	16.042	45.541	1.00	15.96	C
ATOM	1823	O	SER	A	233	24.666	16.051	46.683	1.00	15.66	O
ATOM	1824	N	GLY	A	234	24.879	16.989	44.639	1.00	16.47	N
ATOM	1825	CA	GLY	A	234	23.979	18.109	44.920	1.00	17.13	C
ATOM	1826	C	GLY	A	234	22.589	17.671	45.352	1.00	17.83	C
ATOM	1827	O	GLY	A	234	21.904	18.394	46.076	1.00	17.68	O
ATOM	1828	N	MET	A	235	22.184	16.477	44.917	1.00	18.31	N
ATOM	1829	CA	MET	A	235	20.874	15.916	45.270	1.00	19.90	C
ATOM	1830	CB	MET	A	235	20.604	14.633	44.479	1.00	19.87	C
ATOM	1831	CG	MET	A	235	20.636	14.806	42.971	1.00	22.46	C
ATOM	1832	SD	MET	A	235	19.943	13.392	42.091	1.00	26.93	S
ATOM	1833	CE	MET	A	235	18.184	13.616	42.377	1.00	27.02	C
ATOM	1834	C	MET	A	235	20.729	15.626	46.767	1.00	18.55	C
ATOM	1835	O	MET	A	235	19.607	15.581	47.289	1.00	18.66	O
ATOM	1836	N	PHE	A	236	21.853	15.425	47.456	1.00	17.54	N
ATOM	1837	CA	PHE	A	236	21.819	15.129	48.888	1.00	16.56	C
ATOM	1838	CB	PHE	A	236	23.113	14.448	49.355	1.00	16.45	C
ATOM	1839	CG	PHE	A	236	23.252	13.015	48.900	1.00	16.34	C
ATOM	1840	CD1	PHE	A	236	22.138	12.181	48.799	1.00	16.76	C
ATOM	1841	CE1	PHE	A	236	22.271	10.851	48.382	1.00	17.06	C
ATOM	1842	CZ	PHE	A	236	23.530	10.341	48.084	1.00	16.76	C
ATOM	1843	CE2	PHE	A	236	24.645	11.158	48.191	1.00	16.13	C
ATOM	1844	CD2	PHE	A	236	24.505	12.488	48.605	1.00	15.86	C
ATOM	1845	C	PHE	A	236	21.511	16.358	49.743	1.00	16.31	C
ATOM	1846	O	PHE	A	236	20.946	16.232	50.830	1.00	16.55	O
ATOM	1847	N	GLY	A	237	21.877	17.539	49.248	1.00	15.77	N
ATOM	1848	CA	GLY	A	237	21.524	18.796	49.915	1.00	15.30	C
ATOM	1849	C	GLY	A	237	22.636	19.375	50.771	1.00	15.02	C
ATOM	1850	O	GLY	A	237	23.373	18.641	51.438	1.00	15.15	O
ATOM	1851	N	ALA	A	238	22.737	20.702	50.762	1.00	14.97	N
ATOM	1852	CA	ALA	A	238	23.798	21.415	51.475	1.00	14.74	C
ATOM	1853	CB	ALA	A	238	23.750	22.907	51.144	1.00	15.08	C
ATOM	1854	C	ALA	A	238	23.756	21.201	52.990	1.00	14.89	C
ATOM	1855	O	ALA	A	238	24.783	21.301	53.663	1.00	14.56	O
ATOM	1856	N	TRP	A	239	22.573	20.882	53.513	1.00	14.88	N
ATOM	1857	CA	TRP	A	239	22.390	20.696	54.952	1.00	15.05	C
ATOM	1858	CB	TRP	A	239	20.907	20.551	55.297	1.00	15.08	C
ATOM	1859	CG	TRP	A	239	20.225	19.398	54.617	1.00	15.39	C
ATOM	1860	CD1	TRP	A	239	19.536	19.433	53.439	1.00	15.59	C
ATOM	1861	NE1	TRP	A	239	19.039	18.190	53.141	1.00	16.02	N
ATOM	1862	CE2	TRP	A	239	19.400	17.316	54.133	1.00	15.28	C
ATOM	1863	CD2	TRP	A	239	20.145	18.045	55.086	1.00	15.37	C
ATOM	1864	CE3	TRP	A	239	20.638	17.375	56.216	1.00	15.47	C
ATOM	1865	CZ3	TRP	A	239	20.365	16.014	56.359	1.00	16.08	C
ATOM	1866	CH2	TRP	A	239	19.620	15.319	55.390	1.00	16.34	C
ATOM	1867	CZ2	TRP	A	239	19.128	15.950	54.275	1.00	16.37	C

ATOM	1868	C	TRP	A	239	23.190	19.524	55.517	1.00	15.04	C
ATOM	1869	O	TRP	A	239	23.469	19.481	56.721	1.00	15.45	O
ATOM	1870	N	ARG	A	240	23.543	18.575	54.649	1.00	14.96	N
ATOM	1871	CA	ARG	A	240	24.451	17.484	55.016	1.00	14.68	C
ATOM	1872	CB	ARG	A	240	23.758	16.113	54.916	1.00	14.96	C
ATOM	1873	CG	ARG	A	240	22.962	15.873	53.638	1.00	14.45	C
ATOM	1874	CD	ARG	A	240	22.520	14.422	53.553	1.00	15.27	C
ATOM	1875	NE	ARG	A	240	21.453	14.221	52.579	1.00	16.23	N
ATOM	1876	CZ	ARG	A	240	20.980	13.030	52.222	1.00	16.62	C
ATOM	1877	NH1	ARG	A	240	21.486	11.923	52.753	1.00	16.98	N
ATOM	1878	NH2	ARG	A	240	20.004	12.945	51.328	1.00	17.49	N
ATOM	1879	C	ARG	A	240	25.728	17.510	54.173	1.00	14.43	C
ATOM	1880	O	ARG	A	240	26.334	16.470	53.909	1.00	14.51	O
ATOM	1881	N	GLY	A	241	26.128	18.708	53.750	1.00	14.21	N
ATOM	1882	CA	GLY	A	241	27.324	18.872	52.928	1.00	14.05	C
ATOM	1883	C	GLY	A	241	27.291	18.029	51.666	1.00	14.02	C
ATOM	1884	O	GLY	A	241	28.332	17.576	51.188	1.00	14.10	O
ATOM	1885	N	ASN	A	242	26.085	17.809	51.134	1.00	13.71	N
ATOM	1886	CA	ASN	A	242	25.901	17.098	49.863	1.00	13.99	C
ATOM	1887	CB	ASN	A	242	26.517	17.905	48.710	1.00	13.75	C
ATOM	1888	CG	ASN	A	242	25.844	19.247	48.515	1.00	14.13	C
ATOM	1889	OD1	ASN	A	242	24.635	19.323	48.312	1.00	14.64	O
ATOM	1890	ND2	ASN	A	242	26.630	20.315	48.568	1.00	14.19	N
ATOM	1891	C	ASN	A	242	26.455	15.674	49.866	1.00	14.06	C
ATOM	1892	O	ASN	A	242	26.785	15.128	48.813	1.00	14.29	O
ATOM	1893	N	THR	A	243	26.518	15.062	51.045	1.00	14.19	N
ATOM	1894	CA	THR	A	243	27.267	13.822	51.217	1.00	14.72	C
ATOM	1895	CB	THR	A	243	28.577	14.090	51.989	1.00	14.75	C
ATOM	1896	OG1	THR	A	243	29.384	14.993	51.229	1.00	15.13	O
ATOM	1897	CG2	THR	A	243	29.361	12.801	52.229	1.00	15.83	C
ATOM	1898	C	THR	A	243	26.470	12.722	51.905	1.00	14.74	C
ATOM	1899	O	THR	A	243	25.675	12.984	52.812	1.00	14.79	O
ATOM	1900	N	SER	A	244	26.684	11.488	51.457	1.00	14.75	N
ATOM	1901	CA	SER	A	244	26.176	10.317	52.158	1.00	15.02	C
ATOM	1902	CB	SER	A	244	24.695	10.092	51.840	1.00	15.21	C
ATOM	1903	OG	SER	A	244	24.100	9.263	52.825	1.00	15.64	O
ATOM	1904	C	SER	A	244	26.977	9.076	51.801	1.00	15.30	C
ATOM	1905	O	SER	A	244	27.822	9.102	50.899	1.00	15.29	O
ATOM	1906	N	TRP	A	245	26.724	7.996	52.531	1.00	15.34	N
ATOM	1907	CA	TRP	A	245	27.194	6.682	52.135	1.00	15.69	C
ATOM	1908	CB	TRP	A	245	27.535	5.833	53.358	1.00	16.05	C
ATOM	1909	CG	TRP	A	245	28.886	6.120	53.943	1.00	16.43	C
ATOM	1910	CD1	TRP	A	245	30.100	5.796	53.402	1.00	17.01	C
ATOM	1911	NE1	TRP	A	245	31.113	6.212	54.229	1.00	17.52	N
ATOM	1912	CE2	TRP	A	245	30.566	6.812	55.334	1.00	17.00	C
ATOM	1913	CD2	TRP	A	245	29.162	6.771	55.186	1.00	16.88	C
ATOM	1914	CE3	TRP	A	245	28.359	7.325	56.193	1.00	17.00	C
ATOM	1915	CZ3	TRP	A	245	28.977	7.895	57.301	1.00	16.84	C
ATOM	1916	CH2	TRP	A	245	30.379	7.918	57.420	1.00	16.85	C
ATOM	1917	CZ2	TRP	A	245	31.188	7.385	56.451	1.00	16.77	C
ATOM	1918	C	TRP	A	245	26.113	6.002	51.309	1.00	15.83	C
ATOM	1919	O	TRP	A	245	24.929	6.039	51.666	1.00	16.01	O
ATOM	1920	N	VAL	A	246	26.522	5.404	50.194	1.00	15.86	N
ATOM	1921	CA	VAL	A	246	25.600	4.704	49.302	1.00	16.17	C
ATOM	1922	CB	VAL	A	246	25.447	5.433	47.936	1.00	16.13	C
ATOM	1923	CG1	VAL	A	246	24.817	6.804	48.123	1.00	15.98	C
ATOM	1924	CG2	VAL	A	246	26.798	5.546	47.215	1.00	15.47	C
ATOM	1925	C	VAL	A	246	26.046	3.263	49.059	1.00	16.48	C
ATOM	1926	O	VAL	A	246	27.220	2.930	49.232	1.00	16.67	O
ATOM	1927	N	ALA	A	247	25.101	2.414	48.665	1.00	16.71	N
ATOM	1928	CA	ALA	A	247	25.421	1.048	48.251	1.00	17.14	C
ATOM	1929	CB	ALA	A	247	25.017	0.049	49.329	1.00	17.29	C
ATOM	1930	C	ALA	A	247	24.733	0.722	46.930	1.00	17.43	C
ATOM	1931	O	ALA	A	247	23.554	1.041	46.752	1.00	17.42	O

ATOM	1932	N	PRO	A	248	25.475	0.103	45.987	1.00	17.73	N
ATOM	1933	CA	PRO	A	248	24.898	-0.307	44.708	1.00	18.09	C
ATOM	1934	CB	PRO	A	248	26.130	-0.540	43.828	1.00	18.22	C
ATOM	1935	CG	PRO	A	248	27.192	-0.942	44.776	1.00	17.84	C
ATOM	1936	CD	PRO	A	248	26.914	-0.217	46.071	1.00	17.92	C
ATOM	1937	C	PRO	A	248	24.073	-1.586	44.833	1.00	18.53	C
ATOM	1938	O	PRO	A	248	24.560	-2.594	45.357	1.00	18.97	O
ATOM	1939	N	LEU	A	249	22.830	-1.531	44.366	1.00	18.90	N
ATOM	1940	CA	LEU	A	249	21.934	-2.687	44.412	1.00	19.29	C
ATOM	1941	CB	LEU	A	249	20.519	-2.261	44.806	1.00	19.62	C
ATOM	1942	CG	LEU	A	249	20.209	-1.960	46.272	1.00	20.98	C
ATOM	1943	CD1	LEU	A	249	18.718	-1.733	46.428	1.00	22.37	C
ATOM	1944	CD2	LEU	A	249	20.668	-3.086	47.186	1.00	22.46	C
ATOM	1945	C	LEU	A	249	21.883	-3.426	43.082	1.00	19.13	C
ATOM	1946	O	LEU	A	249	21.780	-4.654	43.048	1.00	19.16	O
ATOM	1947	N	ALA	A	250	21.926	-2.666	41.990	1.00	19.03	N
ATOM	1948	CA	ALA	A	250	21.832	-3.222	40.643	1.00	18.99	C
ATOM	1949	CB	ALA	A	250	20.463	-3.856	40.423	1.00	19.20	C
ATOM	1950	C	ALA	A	250	22.073	-2.134	39.613	1.00	18.99	C
ATOM	1951	O	ALA	A	250	22.049	-0.949	39.935	1.00	19.17	O
ATOM	1952	N	TRP	A	251	22.300	-2.545	38.372	1.00	18.96	N
ATOM	1953	CA	TRP	A	251	22.410	-1.611	37.267	1.00	19.14	C
ATOM	1954	CB	TRP	A	251	23.402	-2.133	36.232	1.00	19.09	C
ATOM	1955	CG	TRP	A	251	24.804	-2.019	36.701	1.00	19.05	C
ATOM	1956	CD1	TRP	A	251	25.477	-2.896	37.504	1.00	18.96	C
ATOM	1957	NE1	TRP	A	251	26.754	-2.441	37.735	1.00	18.93	N
ATOM	1958	CE2	TRP	A	251	26.923	-1.246	37.085	1.00	19.18	C
ATOM	1959	CD2	TRP	A	251	25.710	-0.948	36.426	1.00	18.63	C
ATOM	1960	CE3	TRP	A	251	25.618	0.234	35.677	1.00	18.82	C
ATOM	1961	CZ3	TRP	A	251	26.727	1.071	35.616	1.00	19.08	C
ATOM	1962	CH2	TRP	A	251	27.919	0.747	36.282	1.00	19.76	C
ATOM	1963	CZ2	TRP	A	251	28.037	-0.403	37.021	1.00	19.19	C
ATOM	1964	C	TRP	A	251	21.051	-1.348	36.636	1.00	19.55	C
ATOM	1965	O	TRP	A	251	20.180	-2.223	36.630	1.00	19.41	O
ATOM	1966	N	HIS	A	252	20.872	-0.131	36.128	1.00	20.04	N
ATOM	1967	CA	HIS	A	252	19.635	0.275	35.463	1.00	20.98	C
ATOM	1968	CB	HIS	A	252	19.780	1.705	34.934	1.00	20.99	C
ATOM	1969	CG	HIS	A	252	18.480	2.369	34.601	1.00	21.68	C
ATOM	1970	ND1	HIS	A	252	17.736	2.037	33.489	1.00	22.07	N
ATOM	1971	CE1	HIS	A	252	16.654	2.793	33.444	1.00	22.45	C
ATOM	1972	NE2	HIS	A	252	16.672	3.609	34.482	1.00	22.56	N
ATOM	1973	CD2	HIS	A	252	17.806	3.367	35.220	1.00	22.29	C
ATOM	1974	C	HIS	A	252	19.309	-0.689	34.315	1.00	21.35	C
ATOM	1975	O	HIS	A	252	20.181	-0.999	33.501	1.00	21.32	O
ATOM	1976	N	PRO	A	253	18.052	-1.178	34.256	1.00	21.99	N
ATOM	1977	CA	PRO	A	253	17.661	-2.187	33.259	1.00	22.43	C
ATOM	1978	CB	PRO	A	253	16.200	-2.493	33.621	1.00	22.38	C
ATOM	1979	CG	PRO	A	253	15.736	-1.308	34.390	1.00	22.25	C
ATOM	1980	CD	PRO	A	253	16.930	-0.822	35.144	1.00	21.98	C
ATOM	1981	C	PRO	A	253	17.764	-1.720	31.801	1.00	22.95	C
ATOM	1982	O	PRO	A	253	17.895	-2.554	30.900	1.00	23.24	O
ATOM	1983	N	GLU	A	254	17.706	-0.408	31.575	1.00	23.34	N
ATOM	1984	CA	GLU	A	254	17.765	0.139	30.216	1.00	23.86	C
ATOM	1985	CB	GLU	A	254	16.459	0.862	29.855	1.00	24.08	C
ATOM	1986	CG	GLU	A	254	15.205	-0.028	29.874	1.00	25.50	C
ATOM	1987	CD	GLU	A	254	15.238	-1.156	28.844	1.00	27.12	C
ATOM	1988	OE1	GLU	A	254	15.884	-0.994	27.784	1.00	28.18	O
ATOM	1989	OE2	GLU	A	254	14.602	-2.204	29.092	1.00	28.43	O
ATOM	1990	C	GLU	A	254	18.970	1.050	29.985	1.00	23.73	C
ATOM	1991	O	GLU	A	254	19.635	0.958	28.949	1.00	24.16	O
ATOM	1992	N	ASN	A	255	19.245	1.929	30.948	1.00	23.41	N
ATOM	1993	CA	ASN	A	255	20.369	2.857	30.849	1.00	22.98	C
ATOM	1994	CB	ASN	A	255	20.151	4.075	31.760	1.00	23.09	C
ATOM	1995	CG	ASN	A	255	21.168	5.193	31.514	1.00	23.12	C

ATOM	1996	OD1	ASN	A	255	22.264	4.960	31.004	1.00	23.00	O
ATOM	1997	ND2	ASN	A	255	20.801	6.413	31.890	1.00	23.76	N
ATOM	1998	C	ASN	A	255	21.691	2.164	31.174	1.00	22.78	C
ATOM	1999	O	ASN	A	255	21.954	1.813	32.324	1.00	22.55	O
ATOM	2000	N	ARG	A	256	22.517	1.989	30.146	1.00	22.49	N
ATOM	2001	CA	ARG	A	256	23.775	1.244	30.245	1.00	22.40	C
ATOM	2002	CB	ARG	A	256	24.401	1.101	28.849	1.00	22.38	C
ATOM	2003	CG	ARG	A	256	25.431	-0.013	28.718	1.00	23.43	C
ATOM	2004	CD	ARG	A	256	25.793	-0.267	27.258	1.00	23.57	C
ATOM	2005	NE	ARG	A	256	26.850	-1.270	27.121	1.00	25.65	N
ATOM	2006	CZ	ARG	A	256	27.287	-1.755	25.960	1.00	26.46	C
ATOM	2007	NH1	ARG	A	256	26.761	-1.339	24.814	1.00	26.98	N
ATOM	2008	NH2	ARG	A	256	28.252	-2.666	25.945	1.00	27.03	N
ATOM	2009	C	ARG	A	256	24.780	1.883	31.214	1.00	21.84	C
ATOM	2010	O	ARG	A	256	25.665	1.204	31.739	1.00	21.63	O
ATOM	2011	N	ASN	A	257	24.632	3.185	31.452	1.00	21.28	N
ATOM	2012	CA	ASN	A	257	25.610	3.941	32.237	1.00	20.85	C
ATOM	2013	CB	ASN	A	257	26.105	5.155	31.439	1.00	21.32	C
ATOM	2014	CG	ASN	A	257	26.792	4.761	30.144	1.00	22.40	C
ATOM	2015	OD1	ASN	A	257	26.311	5.074	29.051	1.00	24.76	O
ATOM	2016	ND2	ASN	A	257	27.915	4.058	30.258	1.00	24.27	N
ATOM	2017	C	ASN	A	257	25.123	4.374	33.624	1.00	20.06	C
ATOM	2018	O	ASN	A	257	25.797	5.140	34.312	1.00	20.29	O
ATOM	2019	N	ALA	A	258	23.962	3.874	34.038	1.00	19.22	N
ATOM	2020	CA	ALA	A	258	23.401	4.233	35.338	1.00	18.54	C
ATOM	2021	CB	ALA	A	258	22.021	4.865	35.172	1.00	18.61	C
ATOM	2022	C	ALA	A	258	23.333	3.044	36.288	1.00	18.22	C
ATOM	2023	O	ALA	A	258	22.813	1.983	35.936	1.00	17.88	O
ATOM	2024	N	VAL	A	259	23.873	3.230	37.489	1.00	17.80	N
ATOM	2025	CA	VAL	A	259	23.763	2.235	38.551	1.00	18.02	C
ATOM	2026	CB	VAL	A	259	25.159	1.904	39.190	1.00	18.16	C
ATOM	2027	CG1	VAL	A	259	25.795	3.136	39.817	1.00	19.20	C
ATOM	2028	CG2	VAL	A	259	25.051	0.765	40.199	1.00	18.50	C
ATOM	2029	C	VAL	A	259	22.742	2.701	39.597	1.00	17.69	C
ATOM	2030	O	VAL	A	259	22.644	3.896	39.894	1.00	17.39	O
ATOM	2031	N	ILE	A	260	21.958	1.759	40.115	1.00	17.65	N
ATOM	2032	CA	ILE	A	260	20.954	2.071	41.124	1.00	17.83	C
ATOM	2033	CB	ILE	A	260	19.723	1.133	41.033	1.00	17.76	C
ATOM	2034	CG1	ILE	A	260	19.160	1.117	39.607	1.00	17.88	C
ATOM	2035	CD1	ILE	A	260	18.193	-0.030	39.331	1.00	17.61	C
ATOM	2036	CG2	ILE	A	260	18.659	1.560	42.039	1.00	17.70	C
ATOM	2037	C	ILE	A	260	21.567	1.974	42.514	1.00	18.01	C
ATOM	2038	O	ILE	A	260	21.998	0.897	42.942	1.00	18.20	O
ATOM	2039	N	MET	A	261	21.614	3.111	43.206	1.00	18.18	N
ATOM	2040	CA	MET	A	261	22.194	3.198	44.541	1.00	18.49	C
ATOM	2041	CB	MET	A	261	23.139	4.397	44.629	1.00	18.95	C
ATOM	2042	CG	MET	A	261	24.328	4.323	43.705	1.00	20.24	C
ATOM	2043	SD	MET	A	261	25.596	3.232	44.346	1.00	21.93	S
ATOM	2044	CE	MET	A	261	27.037	3.847	43.478	1.00	21.25	C
ATOM	2045	C	MET	A	261	21.114	3.355	45.594	1.00	18.31	C
ATOM	2046	O	MET	A	261	20.047	3.901	45.320	1.00	18.35	O
ATOM	2047	N	VAL	A	262	21.403	2.881	46.802	1.00	17.89	N
ATOM	2048	CA	VAL	A	262	20.582	3.200	47.962	1.00	17.97	C
ATOM	2049	CB	VAL	A	262	20.172	1.927	48.753	1.00	18.03	C
ATOM	2050	CG1	VAL	A	262	19.474	2.297	50.057	1.00	18.35	C
ATOM	2051	CG2	VAL	A	262	19.270	1.062	47.916	1.00	19.01	C
ATOM	2052	C	VAL	A	262	21.349	4.161	48.862	1.00	17.61	C
ATOM	2053	O	VAL	A	262	22.535	3.955	49.138	1.00	17.21	O
ATOM	2054	N	ASP	A	263	20.679	5.232	49.279	1.00	17.43	N
ATOM	2055	CA	ASP	A	263	21.227	6.142	50.271	1.00	17.72	C
ATOM	2056	CB	ASP	A	263	20.490	7.487	50.231	1.00	17.57	C
ATOM	2057	CG	ASP	A	263	21.002	8.471	51.272	1.00	18.01	C
ATOM	2058	OD1	ASP	A	263	21.948	8.134	52.014	1.00	16.76	O
ATOM	2059	OD2	ASP	A	263	20.446	9.586	51.355	1.00	19.03	O

ATOM	2060	C	ASP	A	263	21.107	5.492	51.643	1.00	17.65	C
ATOM	2061	O	ASP	A	263	20.004	5.350	52.185	1.00	17.86	O
ATOM	2062	N	LEU	A	264	22.248	5.093	52.199	1.00	17.66	N
ATOM	2063	CA	LEU	A	264	22.268	4.346	53.458	1.00	17.44	C
ATOM	2064	CB	LEU	A	264	23.637	3.693	53.687	1.00	17.50	C
ATOM	2065	CG	LEU	A	264	24.048	2.611	52.682	1.00	17.27	C
ATOM	2066	CD1	LEU	A	264	25.487	2.196	52.905	1.00	17.83	C
ATOM	2067	CD2	LEU	A	264	23.124	1.399	52.756	1.00	17.33	C
ATOM	2068	C	LEU	A	264	21.857	5.179	54.672	1.00	17.58	C
ATOM	2069	O	LEU	A	264	21.546	4.628	55.726	1.00	17.30	O
ATOM	2070	N	ALA	A	265	21.850	6.503	54.513	1.00	17.57	N
ATOM	2071	CA	ALA	A	265	21.405	7.407	55.578	1.00	17.94	C
ATOM	2072	CB	ALA	A	265	22.032	8.785	55.404	1.00	17.98	C
ATOM	2073	C	ALA	A	265	19.884	7.514	55.629	1.00	18.21	C
ATOM	2074	O	ALA	A	265	19.325	8.098	56.560	1.00	18.28	O
ATOM	2075	N	GLY	A	266	19.218	6.943	54.628	1.00	18.49	N
ATOM	2076	CA	GLY	A	266	17.768	7.041	54.522	1.00	19.08	C
ATOM	2077	C	GLY	A	266	17.018	5.995	55.324	1.00	19.56	C
ATOM	2078	O	GLY	A	266	17.594	5.298	56.167	1.00	19.16	O
ATOM	2079	N	ASP	A	267	15.718	5.906	55.061	1.00	20.17	N
ATOM	2080	CA	ASP	A	267	14.847	4.907	55.668	1.00	20.83	C
ATOM	2081	CB	ASP	A	267	13.535	5.568	56.130	1.00	21.05	C
ATOM	2082	CG	ASP	A	267	12.546	4.575	56.749	1.00	21.59	C
ATOM	2083	OD1	ASP	A	267	12.894	3.388	56.934	1.00	22.94	O
ATOM	2084	OD2	ASP	A	267	11.409	4.995	57.057	1.00	22.79	O
ATOM	2085	C	ASP	A	267	14.571	3.829	54.627	1.00	21.36	C
ATOM	2086	O	ASP	A	267	13.876	4.075	53.639	1.00	21.41	O
ATOM	2087	N	ILE	A	268	15.130	2.640	54.843	1.00	21.86	N
ATOM	2088	CA	ILE	A	268	15.031	1.559	53.855	1.00	22.65	C
ATOM	2089	CB	ILE	A	268	16.318	0.686	53.801	1.00	22.62	C
ATOM	2090	CG1	ILE	A	268	16.551	-0.033	55.135	1.00	23.00	C
ATOM	2091	CD1	ILE	A	268	17.500	-1.215	55.041	1.00	23.11	C
ATOM	2092	CG2	ILE	A	268	17.532	1.535	53.390	1.00	22.46	C
ATOM	2093	C	ILE	A	268	13.797	0.673	54.041	1.00	23.23	C
ATOM	2094	O	ILE	A	268	13.590	-0.274	53.281	1.00	23.41	O
ATOM	2095	N	SER	A	269	12.978	0.995	55.042	1.00	24.01	N
ATOM	2096	CA	SER	A	269	11.737	0.253	55.306	1.00	24.89	C
ATOM	2097	CB	SER	A	269	10.979	0.848	56.499	1.00	24.91	C
ATOM	2098	OG	SER	A	269	11.690	0.640	57.706	1.00	25.77	O
ATOM	2099	C	SER	A	269	10.813	0.131	54.079	1.00	25.39	C
ATOM	2100	O	SER	A	269	10.347	-0.968	53.779	1.00	25.49	O
ATOM	2101	N	PRO	A	270	10.549	1.255	53.364	1.00	25.94	N
ATOM	2102	CA	PRO	A	270	9.733	1.173	52.143	1.00	26.40	C
ATOM	2103	CB	PRO	A	270	9.838	2.585	51.556	1.00	26.42	C
ATOM	2104	CG	PRO	A	270	10.100	3.454	52.721	1.00	26.43	C
ATOM	2105	CD	PRO	A	270	10.957	2.647	53.649	1.00	26.03	C
ATOM	2106	C	PRO	A	270	10.259	0.146	51.136	1.00	26.83	C
ATOM	2107	O	PRO	A	270	9.468	-0.534	50.483	1.00	26.72	O
ATOM	2108	N	LEU	A	271	11.584	0.037	51.024	1.00	27.26	N
ATOM	2109	CA	LEU	A	271	12.214	-0.914	50.104	1.00	27.95	C
ATOM	2110	CB	LEU	A	271	13.722	-0.649	50.000	1.00	27.98	C
ATOM	2111	CG	LEU	A	271	14.191	0.629	49.299	1.00	28.13	C
ATOM	2112	CD1	LEU	A	271	15.702	0.766	49.423	1.00	28.43	C
ATOM	2113	CD2	LEU	A	271	13.770	0.639	47.833	1.00	28.30	C
ATOM	2114	C	LEU	A	271	11.972	-2.366	50.508	1.00	28.41	C
ATOM	2115	O	LEU	A	271	11.920	-3.253	49.656	1.00	28.42	O
ATOM	2116	N	LEU	A	272	11.826	-2.600	51.809	1.00	29.14	N
ATOM	2117	CA	LEU	A	272	11.621	-3.948	52.330	1.00	30.02	C
ATOM	2118	CB	LEU	A	272	12.144	-4.058	53.769	1.00	29.91	C
ATOM	2119	CG	LEU	A	272	13.614	-3.712	54.045	1.00	30.10	C
ATOM	2120	CD1	LEU	A	272	13.877	-3.670	55.543	1.00	30.43	C
ATOM	2121	CD2	LEU	A	272	14.559	-4.690	53.361	1.00	30.27	C
ATOM	2122	C	LEU	A	272	10.153	-4.382	52.269	1.00	30.64	C
ATOM	2123	O	LEU	A	272	9.851	-5.516	51.888	1.00	30.75	O

ATOM	2124	N	GLU	A	273	9.248	-3.473	52.628	1.00	31.44	N
ATOM	2125	CA	GLU	A	273	7.847	-3.834	52.879	1.00	32.20	C
ATOM	2126	CB	GLU	A	273	7.392	-3.290	54.243	1.00	32.28	C
ATOM	2127	CG	GLU	A	273	7.360	-1.766	54.343	1.00	32.84	C
ATOM	2128	CD	GLU	A	273	7.446	-1.263	55.777	1.00	33.54	C
ATOM	2129	OE1	GLU	A	273	6.807	-0.235	56.084	1.00	34.30	O
ATOM	2130	OE2	GLU	A	273	8.153	-1.891	56.595	1.00	33.75	O
ATOM	2131	C	GLU	A	273	6.855	-3.426	51.776	1.00	32.67	C
ATOM	2132	O	GLU	A	273	5.672	-3.775	51.844	1.00	32.65	O
ATOM	2133	N	LEU	A	274	7.333	-2.701	50.767	1.00	33.22	N
ATOM	2134	CA	LEU	A	274	6.458	-2.236	49.684	1.00	33.80	C
ATOM	2135	CB	LEU	A	274	6.450	-0.704	49.606	1.00	33.74	C
ATOM	2136	CG	LEU	A	274	6.027	0.069	50.860	1.00	33.91	C
ATOM	2137	CD1	LEU	A	274	6.216	1.564	50.664	1.00	33.94	C
ATOM	2138	CD2	LEU	A	274	4.591	-0.249	51.259	1.00	33.97	C
ATOM	2139	C	LEU	A	274	6.834	-2.835	48.328	1.00	34.16	C
ATOM	2140	O	LEU	A	274	8.009	-3.087	48.054	1.00	34.25	O
ATOM	2141	N	ASP	A	275	5.825	-3.056	47.486	1.00	34.65	N
ATOM	2142	CA	ASP	A	275	6.033	-3.615	46.148	1.00	35.13	C
ATOM	2143	CB	ASP	A	275	4.726	-4.203	45.588	1.00	35.16	C
ATOM	2144	CG	ASP	A	275	3.606	-3.175	45.493	1.00	35.50	C
ATOM	2145	OD1	ASP	A	275	2.593	-3.335	46.206	1.00	35.93	O
ATOM	2146	OD2	ASP	A	275	3.732	-2.213	44.703	1.00	35.74	O
ATOM	2147	C	ASP	A	275	6.622	-2.586	45.182	1.00	35.37	C
ATOM	2148	O	ASP	A	275	6.596	-1.381	45.450	1.00	35.41	O
ATOM	2149	N	SER	A	276	7.138	-3.072	44.054	1.00	35.74	N
ATOM	2150	CA	SER	A	276	7.849	-2.233	43.084	1.00	36.09	C
ATOM	2151	CB	SER	A	276	8.480	-3.098	41.991	1.00	36.12	C
ATOM	2152	OG	SER	A	276	7.507	-3.905	41.348	1.00	36.24	O
ATOM	2153	C	SER	A	276	6.981	-1.136	42.456	1.00	36.27	C
ATOM	2154	O	SER	A	276	7.476	-0.050	42.147	1.00	36.29	O
ATOM	2155	N	ASP	A	277	5.694	-1.427	42.271	1.00	36.57	N
ATOM	2156	CA	ASP	A	277	4.758	-0.464	41.685	1.00	36.83	C
ATOM	2157	CB	ASP	A	277	3.431	-1.144	41.325	1.00	36.90	C
ATOM	2158	CG	ASP	A	277	3.539	-2.030	40.089	1.00	37.18	C
ATOM	2159	OD1	ASP	A	277	4.198	-1.621	39.107	1.00	37.30	O
ATOM	2160	OD2	ASP	A	277	2.950	-3.132	40.095	1.00	37.67	O
ATOM	2161	C	ASP	A	277	4.509	0.738	42.600	1.00	36.93	C
ATOM	2162	O	ASP	A	277	4.449	1.878	42.133	1.00	36.95	O
ATOM	2163	N	THR	A	278	4.373	0.475	43.900	1.00	37.08	N
ATOM	2164	CA	THR	A	278	4.133	1.527	44.893	1.00	37.21	C
ATOM	2165	CB	THR	A	278	3.707	0.934	46.260	1.00	37.24	C
ATOM	2166	OG1	THR	A	278	2.723	-0.090	46.057	1.00	37.26	O
ATOM	2167	CG2	THR	A	278	3.123	2.017	47.164	1.00	37.32	C
ATOM	2168	C	THR	A	278	5.365	2.420	45.080	1.00	37.33	C
ATOM	2169	O	THR	A	278	5.240	3.638	45.234	1.00	37.33	O
ATOM	2170	N	LEU	A	279	6.548	1.805	45.056	1.00	37.41	N
ATOM	2171	CA	LEU	A	279	7.813	2.532	45.199	1.00	37.52	C
ATOM	2172	CB	LEU	A	279	8.986	1.552	45.327	1.00	37.54	C
ATOM	2173	CG	LEU	A	279	9.101	0.718	46.608	1.00	37.62	C
ATOM	2174	CD1	LEU	A	279	9.966	-0.510	46.371	1.00	37.83	C
ATOM	2175	CD2	LEU	A	279	9.646	1.548	47.764	1.00	37.83	C
ATOM	2176	C	LEU	A	279	8.058	3.492	44.033	1.00	37.57	C
ATOM	2177	O	LEU	A	279	8.646	4.561	44.213	1.00	37.61	O
ATOM	2178	N	ARG	A	280	7.602	3.099	42.845	1.00	37.64	N
ATOM	2179	CA	ARG	A	280	7.757	3.904	41.634	1.00	37.73	C
ATOM	2180	CB	ARG	A	280	7.426	3.064	40.400	1.00	37.74	C
ATOM	2181	CG	ARG	A	280	7.876	3.676	39.078	1.00	37.84	C
ATOM	2182	CD	ARG	A	280	7.328	2.898	37.883	1.00	37.88	C
ATOM	2183	NE	ARG	A	280	7.781	1.505	37.868	1.00	38.18	N
ATOM	2184	CZ	ARG	A	280	7.022	0.460	38.195	1.00	38.31	C
ATOM	2185	NH1	ARG	A	280	5.755	0.636	38.553	1.00	38.32	N
ATOM	2186	NH2	ARG	A	280	7.526	-0.765	38.146	1.00	38.33	N
ATOM	2187	C	ARG	A	280	6.867	5.143	41.671	1.00	37.74	C

ATOM	2188	O	ARG	A	280	7.336	6.246	41.971	1.00	37.72	O
ATOM	2189	N	ALA	A	295	9.877	8.433	52.274	1.00	25.76	N
ATOM	2190	CA	ALA	A	295	10.781	8.783	51.185	1.00	25.58	C
ATOM	2191	CB	ALA	A	295	11.658	9.962	51.581	1.00	25.68	C
ATOM	2192	C	ALA	A	295	11.638	7.584	50.782	1.00	25.50	C
ATOM	2193	O	ALA	A	295	12.276	6.951	51.629	1.00	25.66	O
ATOM	2194	N	VAL	A	296	11.640	7.274	49.486	1.00	25.14	N
ATOM	2195	CA	VAL	A	296	12.369	6.119	48.966	1.00	24.66	C
ATOM	2196	CB	VAL	A	296	11.730	5.567	47.661	1.00	24.71	C
ATOM	2197	CG1	VAL	A	296	12.414	4.275	47.230	1.00	24.78	C
ATOM	2198	CG2	VAL	A	296	10.232	5.334	47.851	1.00	24.58	C
ATOM	2199	C	VAL	A	296	13.836	6.491	48.722	1.00	24.36	C
ATOM	2200	O	VAL	A	296	14.134	7.288	47.829	1.00	24.46	O
ATOM	2201	N	PRO	A	297	14.756	5.908	49.516	1.00	23.99	N
ATOM	2202	CA	PRO	A	297	16.163	6.305	49.483	1.00	23.74	C
ATOM	2203	CB	PRO	A	297	16.692	5.798	50.824	1.00	23.69	C
ATOM	2204	CG	PRO	A	297	15.882	4.580	51.099	1.00	23.75	C
ATOM	2205	CD	PRO	A	297	14.515	4.822	50.488	1.00	23.89	C
ATOM	2206	C	PRO	A	297	16.920	5.658	48.320	1.00	23.66	C
ATOM	2207	O	PRO	A	297	17.931	4.981	48.528	1.00	23.48	O
ATOM	2208	N	VAL	A	298	16.421	5.873	47.108	1.00	23.57	N
ATOM	2209	CA	VAL	A	298	17.029	5.322	45.905	1.00	23.75	C
ATOM	2210	CB	VAL	A	298	16.066	4.327	45.196	1.00	23.90	C
ATOM	2211	CG1	VAL	A	298	16.452	4.122	43.731	1.00	24.23	C
ATOM	2212	CG2	VAL	A	298	16.040	2.996	45.937	1.00	24.33	C
ATOM	2213	C	VAL	A	298	17.419	6.453	44.960	1.00	23.70	C
ATOM	2214	O	VAL	A	298	16.653	7.396	44.757	1.00	23.73	O
ATOM	2215	N	LYS	A	299	18.622	6.363	44.402	1.00	23.47	N
ATOM	2216	CA	LYS	A	299	19.066	7.326	43.406	1.00	23.55	C
ATOM	2217	CB	LYS	A	299	19.792	8.504	44.067	1.00	24.04	C
ATOM	2218	CG	LYS	A	299	21.161	8.167	44.649	1.00	25.38	C
ATOM	2219	CD	LYS	A	299	22.096	9.375	44.600	1.00	27.13	C
ATOM	2220	CE	LYS	A	299	22.269	9.881	43.168	1.00	28.37	C
ATOM	2221	NZ	LYS	A	299	23.271	10.975	43.052	1.00	28.89	N
ATOM	2222	C	LYS	A	299	19.947	6.678	42.346	1.00	22.95	C
ATOM	2223	O	LYS	A	299	20.664	5.711	42.623	1.00	23.10	O
ATOM	2224	N	LEU	A	300	19.879	7.210	41.132	1.00	22.36	N
ATOM	2225	CA	LEU	A	300	20.734	6.753	40.051	1.00	21.72	C
ATOM	2226	CB	LEU	A	300	20.057	6.963	38.695	1.00	21.88	C
ATOM	2227	CG	LEU	A	300	18.787	6.160	38.393	1.00	22.24	C
ATOM	2228	CD1	LEU	A	300	18.215	6.566	37.046	1.00	22.48	C
ATOM	2229	CD2	LEU	A	300	19.056	4.657	38.431	1.00	22.49	C
ATOM	2230	C	LEU	A	300	22.058	7.494	40.085	1.00	21.20	C
ATOM	2231	O	LEU	A	300	22.100	8.703	40.311	1.00	21.28	O
ATOM	2232	N	VAL	A	301	23.138	6.753	39.876	1.00	20.12	N
ATOM	2233	CA	VAL	A	301	24.452	7.345	39.673	1.00	19.53	C
ATOM	2234	CB	VAL	A	301	25.492	6.776	40.664	1.00	19.49	C
ATOM	2235	CG1	VAL	A	301	26.910	7.165	40.255	1.00	20.01	C
ATOM	2236	CG2	VAL	A	301	25.190	7.266	42.074	1.00	19.25	C
ATOM	2237	C	VAL	A	301	24.868	7.082	38.236	1.00	19.22	C
ATOM	2238	O	VAL	A	301	24.911	5.933	37.794	1.00	18.96	O
ATOM	2239	N	HIS	A	302	25.143	8.158	37.505	1.00	18.78	N
ATOM	2240	CA	HIS	A	302	25.494	8.069	36.096	1.00	18.73	C
ATOM	2241	CB	HIS	A	302	24.820	9.192	35.309	1.00	19.01	C
ATOM	2242	CG	HIS	A	302	23.327	9.161	35.380	1.00	19.89	C
ATOM	2243	ND1	HIS	A	302	22.623	9.658	36.455	1.00	21.67	N
ATOM	2244	CE1	HIS	A	302	21.329	9.490	36.245	1.00	21.22	C
ATOM	2245	NE2	HIS	A	302	21.170	8.897	35.077	1.00	22.02	N
ATOM	2246	CD2	HIS	A	302	22.404	8.678	34.516	1.00	20.67	C
ATOM	2247	C	HIS	A	302	27.000	8.143	35.939	1.00	18.54	C
ATOM	2248	O	HIS	A	302	27.601	9.195	36.155	1.00	17.95	O
ATOM	2249	N	ILE	A	303	27.605	7.021	35.556	1.00	18.41	N
ATOM	2250	CA	ILE	A	303	29.068	6.897	35.544	1.00	18.75	C
ATOM	2251	CB	ILE	A	303	29.530	5.425	35.403	1.00	18.89	C

ATOM	2252	CG1	ILE	A	303	28.977	4.810	34.111	1.00	19.75	C
ATOM	2253	CD1	ILE	A	303	29.151	3.324	34.014	1.00	20.54	C
ATOM	2254	CG2	ILE	A	303	29.151	4.617	36.658	1.00	19.75	C
ATOM	2255	C	ILE	A	303	29.745	7.757	34.477	1.00	18.39	C
ATOM	2256	O	ILE	A	303	30.956	7.964	34.521	1.00	17.99	O
ATOM	2257	N	ASN	A	304	28.959	8.251	33.523	1.00	18.32	N
ATOM	2258	CA	ASN	A	304	29.475	9.162	32.501	1.00	18.64	C
ATOM	2259	CB	ASN	A	304	28.827	8.880	31.129	1.00	19.11	C
ATOM	2260	CG	ASN	A	304	27.296	8.814	31.186	1.00	20.53	C
ATOM	2261	OD1	ASN	A	304	26.697	8.625	32.246	1.00	22.87	O
ATOM	2262	ND2	ASN	A	304	26.665	8.954	30.026	1.00	22.68	N
ATOM	2263	C	ASN	A	304	29.335	10.641	32.872	1.00	18.43	C
ATOM	2264	O	ASN	A	304	29.711	11.517	32.095	1.00	18.48	O
ATOM	2265	N	LYS	A	305	28.819	10.909	34.070	1.00	17.99	N
ATOM	2266	CA	LYS	A	305	28.513	12.280	34.490	1.00	17.91	C
ATOM	2267	CB	LYS	A	305	27.030	12.405	34.858	1.00	18.35	C
ATOM	2268	CG	LYS	A	305	26.094	12.276	33.669	1.00	19.69	C
ATOM	2269	CD	LYS	A	305	24.672	12.655	34.031	1.00	22.17	C
ATOM	2270	CE	LYS	A	305	23.787	12.684	32.791	1.00	24.13	C
ATOM	2271	NZ	LYS	A	305	22.386	13.066	33.110	1.00	26.24	N
ATOM	2272	C	LYS	A	305	29.401	12.774	35.638	1.00	17.56	C
ATOM	2273	O	LYS	A	305	28.974	13.593	36.453	1.00	17.40	O
ATOM	2274	N	CYS	A	306	30.638	12.277	35.681	1.00	17.12	N
ATOM	2275	CA	CYS	A	306	31.616	12.647	36.721	1.00	16.92	C
ATOM	2276	CB	CYS	A	306	32.221	14.029	36.441	1.00	17.16	C
ATOM	2277	SG	CYS	A	306	32.868	14.228	34.799	1.00	19.64	S
ATOM	2278	C	CYS	A	306	31.050	12.618	38.144	1.00	16.23	C
ATOM	2279	O	CYS	A	306	31.200	13.589	38.891	1.00	16.57	O
ATOM	2280	N	PRO	A	307	30.407	11.503	38.536	1.00	15.55	N
ATOM	2281	CA	PRO	A	307	29.928	11.435	39.913	1.00	15.21	C
ATOM	2282	CB	PRO	A	307	29.089	10.156	39.929	1.00	15.16	C
ATOM	2283	CG	PRO	A	307	29.690	9.305	38.854	1.00	14.99	C
ATOM	2284	CD	PRO	A	307	30.122	10.266	37.785	1.00	15.31	C
ATOM	2285	C	PRO	A	307	31.101	11.315	40.875	1.00	14.94	C
ATOM	2286	O	PRO	A	307	32.095	10.653	40.558	1.00	14.73	O
ATOM	2287	N	VAL	A	308	31.007	11.987	42.020	1.00	14.58	N
ATOM	2288	CA	VAL	A	308	32.041	11.880	43.039	1.00	14.38	C
ATOM	2289	CB	VAL	A	308	32.095	13.128	43.950	1.00	14.27	C
ATOM	2290	CG1	VAL	A	308	33.123	12.930	45.059	1.00	14.53	C
ATOM	2291	CG2	VAL	A	308	32.424	14.374	43.129	1.00	15.01	C
ATOM	2292	C	VAL	A	308	31.799	10.629	43.866	1.00	14.31	C
ATOM	2293	O	VAL	A	308	30.786	10.524	44.565	1.00	14.45	O
ATOM	2294	N	LEU	A	309	32.721	9.675	43.760	1.00	14.25	N
ATOM	2295	CA	LEU	A	309	32.628	8.408	44.485	1.00	14.24	C
ATOM	2296	CB	LEU	A	309	32.162	7.282	43.556	1.00	14.13	C
ATOM	2297	CG	LEU	A	309	30.734	7.295	43.002	1.00	14.20	C
ATOM	2298	CD1	LEU	A	309	30.584	6.216	41.932	1.00	14.78	C
ATOM	2299	CD2	LEU	A	309	29.696	7.108	44.103	1.00	15.11	C
ATOM	2300	C	LEU	A	309	33.983	8.037	45.045	1.00	14.61	C
ATOM	2301	O	LEU	A	309	35.007	8.228	44.385	1.00	14.41	O
ATOM	2302	N	ALA	A	310	33.986	7.488	46.253	1.00	15.14	N
ATOM	2303	CA	ALA	A	310	35.217	6.987	46.865	1.00	15.91	C
ATOM	2304	CB	ALA	A	310	35.956	8.114	47.581	1.00	16.02	C
ATOM	2305	C	ALA	A	310	34.916	5.850	47.829	1.00	16.86	C
ATOM	2306	O	ALA	A	310	33.774	5.678	48.258	1.00	16.58	O
ATOM	2307	N	GLN	A	311	35.945	5.075	48.169	1.00	17.85	N
ATOM	2308	CA	GLN	A	311	35.812	4.009	49.164	1.00	19.42	C
ATOM	2309	CB	GLN	A	311	37.169	3.342	49.436	1.00	19.58	C
ATOM	2310	CG	GLN	A	311	38.293	4.306	49.805	1.00	21.33	C
ATOM	2311	CD	GLN	A	311	39.614	3.605	50.088	1.00	22.30	C
ATOM	2312	OE1	GLN	A	311	39.776	2.414	49.816	1.00	26.55	O
ATOM	2313	NE2	GLN	A	311	40.571	4.350	50.638	1.00	25.81	N
ATOM	2314	C	GLN	A	311	35.210	4.558	50.457	1.00	19.41	C
ATOM	2315	O	GLN	A	311	35.450	5.710	50.819	1.00	18.91	O

ATOM	2316	N	ALA	A	312	34.418	3.730	51.136	1.00	20.15	N
ATOM	2317	CA	ALA	A	312	33.643	4.165	52.305	1.00	20.85	C
ATOM	2318	CB	ALA	A	312	32.865	2.994	52.894	1.00	20.99	C
ATOM	2319	C	ALA	A	312	34.478	4.857	53.389	1.00	21.47	C
ATOM	2320	O	ALA	A	312	34.021	5.821	54.003	1.00	21.38	O
ATOM	2321	N	ASN	A	313	35.700	4.372	53.612	1.00	22.21	N
ATOM	2322	CA	ASN	A	313	36.552	4.913	54.678	1.00	22.99	C
ATOM	2323	CB	ASN	A	313	37.631	3.898	55.097	1.00	23.35	C
ATOM	2324	CG	ASN	A	313	38.760	3.767	54.077	1.00	24.25	C
ATOM	2325	OD1	ASN	A	313	38.743	4.394	53.018	1.00	25.71	O
ATOM	2326	ND2	ASN	A	313	39.754	2.946	54.406	1.00	26.19	N
ATOM	2327	C	ASN	A	313	37.165	6.295	54.397	1.00	23.17	C
ATOM	2328	O	ASN	A	313	37.811	6.879	55.273	1.00	23.31	O
ATOM	2329	N	THR	A	314	36.956	6.813	53.184	1.00	23.21	N
ATOM	2330	CA	THR	A	314	37.395	8.169	52.819	1.00	23.60	C
ATOM	2331	CB	THR	A	314	37.095	8.484	51.333	1.00	23.64	C
ATOM	2332	OG1	THR	A	314	37.724	7.506	50.501	1.00	24.38	O
ATOM	2333	CG2	THR	A	314	37.609	9.873	50.947	1.00	23.80	C
ATOM	2334	C	THR	A	314	36.729	9.223	53.708	1.00	23.64	C
ATOM	2335	O	THR	A	314	37.332	10.253	54.029	1.00	23.91	O
ATOM	2336	N	LEU	A	315	35.481	8.960	54.086	1.00	23.65	N
ATOM	2337	CA	LEU	A	315	34.779	9.782	55.056	1.00	23.66	C
ATOM	2338	CB	LEU	A	315	33.293	9.902	54.689	1.00	23.52	C
ATOM	2339	CG	LEU	A	315	32.476	11.001	55.375	1.00	23.24	C
ATOM	2340	CD1	LEU	A	315	32.862	12.374	54.850	1.00	23.13	C
ATOM	2341	CD2	LEU	A	315	30.993	10.754	55.170	1.00	23.20	C
ATOM	2342	C	LEU	A	315	34.953	9.160	56.438	1.00	23.89	C
ATOM	2343	O	LEU	A	315	34.350	8.133	56.753	1.00	23.82	O
ATOM	2344	N	ARG	A	316	35.805	9.780	57.246	1.00	24.44	N
ATOM	2345	CA	ARG	A	316	36.149	9.256	58.563	1.00	24.97	C
ATOM	2346	CB	ARG	A	316	37.540	9.749	58.974	1.00	25.29	C
ATOM	2347	CG	ARG	A	316	38.667	9.171	58.119	1.00	26.77	C
ATOM	2348	CD	ARG	A	316	39.928	10.021	58.179	1.00	29.89	C
ATOM	2349	NE	ARG	A	316	39.798	11.261	57.409	1.00	31.75	N
ATOM	2350	CZ	ARG	A	316	40.818	12.042	57.063	1.00	33.02	C
ATOM	2351	NH1	ARG	A	316	42.060	11.720	57.409	1.00	33.79	N
ATOM	2352	NH2	ARG	A	316	40.598	13.149	56.370	1.00	34.00	N
ATOM	2353	C	ARG	A	316	35.088	9.652	59.594	1.00	24.93	C
ATOM	2354	O	ARG	A	316	34.334	10.598	59.366	1.00	24.77	O
ATOM	2355	N	PRO	A	317	34.997	8.903	60.716	1.00	25.05	N
ATOM	2356	CA	PRO	A	317	34.018	9.216	61.766	1.00	24.98	C
ATOM	2357	CB	PRO	A	317	34.500	8.386	62.971	1.00	24.96	C
ATOM	2358	CG	PRO	A	317	35.734	7.656	62.514	1.00	25.21	C
ATOM	2359	CD	PRO	A	317	35.768	7.691	61.037	1.00	25.07	C
ATOM	2360	C	PRO	A	317	33.944	10.703	62.130	1.00	25.00	C
ATOM	2361	O	PRO	A	317	32.847	11.229	62.331	1.00	24.83	O
ATOM	2362	N	GLU	A	318	35.097	11.370	62.200	1.00	25.02	N
ATOM	2363	CA	GLU	A	318	35.146	12.800	62.528	1.00	25.13	C
ATOM	2364	CB	GLU	A	318	36.572	13.235	62.918	1.00	25.38	C
ATOM	2365	CG	GLU	A	318	37.633	13.054	61.823	1.00	26.70	C
ATOM	2366	CD	GLU	A	318	38.376	11.722	61.909	1.00	28.26	C
ATOM	2367	OE1	GLU	A	318	37.827	10.748	62.472	1.00	28.57	O
ATOM	2368	OE2	GLU	A	318	39.518	11.654	61.403	1.00	29.44	O
ATOM	2369	C	GLU	A	318	34.589	13.684	61.403	1.00	24.84	C
ATOM	2370	O	GLU	A	318	34.036	14.755	61.664	1.00	24.73	O
ATOM	2371	N	ASP	A	319	34.736	13.225	60.159	1.00	24.57	N
ATOM	2372	CA	ASP	A	319	34.174	13.920	58.998	1.00	24.36	C
ATOM	2373	CB	ASP	A	319	34.741	13.345	57.695	1.00	24.59	C
ATOM	2374	CG	ASP	A	319	36.246	13.517	57.575	1.00	25.22	C
ATOM	2375	OD1	ASP	A	319	36.766	14.586	57.963	1.00	26.23	O
ATOM	2376	OD2	ASP	A	319	36.909	12.584	57.068	1.00	26.18	O
ATOM	2377	C	ASP	A	319	32.650	13.809	58.989	1.00	23.92	C
ATOM	2378	O	ASP	A	319	31.948	14.788	58.725	1.00	23.64	O
ATOM	2379	N	ALA	A	320	32.150	12.608	59.279	1.00	23.57	N

ATOM	2380	CA	ALA	A	320	30.710	12.362	59.358	1.00	23.46	C
ATOM	2381	CB	ALA	A	320	30.436	10.881	59.579	1.00	23.46	C
ATOM	2382	C	ALA	A	320	30.060	13.201	60.459	1.00	23.35	C
ATOM	2383	O	ALA	A	320	28.975	13.752	60.268	1.00	23.22	O
ATOM	2384	N	ASP	A	321	30.739	13.301	61.604	1.00	23.33	N
ATOM	2385	CA	ASP	A	321	30.255	14.106	62.729	1.00	23.33	C
ATOM	2386	CB	ASP	A	321	31.190	13.966	63.938	1.00	23.72	C
ATOM	2387	CG	ASP	A	321	31.140	12.578	64.564	1.00	25.17	C
ATOM	2388	OD1	ASP	A	321	30.175	11.828	64.300	1.00	27.19	O
ATOM	2389	OD2	ASP	A	321	32.072	12.238	65.324	1.00	27.12	O
ATOM	2390	C	ASP	A	321	30.115	15.575	62.341	1.00	22.91	C
ATOM	2391	O	ASP	A	321	29.114	16.217	62.666	1.00	22.72	O
ATOM	2392	N	ARG	A	322	31.120	16.091	61.634	1.00	22.49	N
ATOM	2393	CA	ARG	A	322	31.113	17.471	61.143	1.00	22.19	C
ATOM	2394	CB	ARG	A	322	32.437	17.792	60.432	1.00	22.22	C
ATOM	2395	CG	ARG	A	322	32.479	19.161	59.769	1.00	22.55	C
ATOM	2396	CD	ARG	A	322	33.768	19.378	58.999	1.00	23.30	C
ATOM	2397	NE	ARG	A	322	33.646	20.499	58.069	1.00	24.98	N
ATOM	2398	CZ	ARG	A	322	33.445	20.373	56.759	1.00	24.81	C
ATOM	2399	NH1	ARG	A	322	33.359	19.168	56.206	1.00	24.90	N
ATOM	2400	NH2	ARG	A	322	33.341	21.454	55.997	1.00	25.12	N
ATOM	2401	C	ARG	A	322	29.926	17.737	60.210	1.00	21.78	C
ATOM	2402	O	ARG	A	322	29.302	18.798	60.276	1.00	21.78	O
ATOM	2403	N	LEU	A	323	29.617	16.766	59.353	1.00	21.10	N
ATOM	2404	CA	LEU	A	323	28.533	16.906	58.378	1.00	20.82	C
ATOM	2405	CB	LEU	A	323	28.845	16.102	57.110	1.00	20.56	C
ATOM	2406	CG	LEU	A	323	30.109	16.485	56.333	1.00	20.41	C
ATOM	2407	CD1	LEU	A	323	30.343	15.517	55.188	1.00	20.38	C
ATOM	2408	CD2	LEU	A	323	30.032	17.921	55.819	1.00	20.70	C
ATOM	2409	C	LEU	A	323	27.171	16.494	58.942	1.00	20.63	C
ATOM	2410	O	LEU	A	323	26.145	16.640	58.273	1.00	20.55	O
ATOM	2411	N	GLY	A	324	27.171	15.977	60.169	1.00	20.56	N
ATOM	2412	CA	GLY	A	324	25.936	15.567	60.844	1.00	20.54	C
ATOM	2413	C	GLY	A	324	25.360	14.254	60.341	1.00	20.62	C
ATOM	2414	O	GLY	A	324	24.167	13.989	60.507	1.00	20.98	O
ATOM	2415	N	ILE	A	325	26.213	13.429	59.737	1.00	20.56	N
ATOM	2416	CA	ILE	A	325	25.791	12.143	59.180	1.00	20.60	C
ATOM	2417	CB	ILE	A	325	26.606	11.784	57.904	1.00	20.53	C
ATOM	2418	CG1	ILE	A	325	26.419	12.867	56.836	1.00	20.70	C
ATOM	2419	CD1	ILE	A	325	27.453	12.836	55.723	1.00	20.37	C
ATOM	2420	CG2	ILE	A	325	26.202	10.401	57.362	1.00	21.15	C
ATOM	2421	C	ILE	A	325	25.919	11.033	60.226	1.00	20.62	C
ATOM	2422	O	ILE	A	325	26.963	10.888	60.863	1.00	20.83	O
ATOM	2423	N	ASN	A	326	24.844	10.263	60.395	1.00	20.58	N
ATOM	2424	CA	ASN	A	326	24.817	9.141	61.335	1.00	20.69	C
ATOM	2425	CB	ASN	A	326	23.369	8.831	61.745	1.00	20.79	C
ATOM	2426	CG	ASN	A	326	23.274	7.952	62.997	1.00	21.31	C
ATOM	2427	OD1	ASN	A	326	22.289	8.023	63.735	1.00	23.24	O
ATOM	2428	ND2	ASN	A	326	24.284	7.120	63.230	1.00	21.17	N
ATOM	2429	C	ASN	A	326	25.486	7.904	60.733	1.00	20.40	C
ATOM	2430	O	ASN	A	326	24.861	7.143	59.989	1.00	20.45	O
ATOM	2431	N	ARG	A	327	26.761	7.716	61.070	1.00	20.25	N
ATOM	2432	CA	ARG	A	327	27.580	6.629	60.530	1.00	20.22	C
ATOM	2433	CB	ARG	A	327	29.027	6.775	61.017	1.00	20.28	C
ATOM	2434	CG	ARG	A	327	30.025	5.801	60.404	1.00	20.65	C
ATOM	2435	CD	ARG	A	327	31.431	6.110	60.896	1.00	20.96	C
ATOM	2436	NE	ARG	A	327	32.417	5.128	60.449	1.00	22.26	N
ATOM	2437	CZ	ARG	A	327	32.745	4.028	61.125	1.00	23.08	C
ATOM	2438	NH1	ARG	A	327	32.159	3.753	62.283	1.00	23.38	N
ATOM	2439	NH2	ARG	A	327	33.661	3.200	60.638	1.00	23.92	N
ATOM	2440	C	ARG	A	327	27.029	5.237	60.875	1.00	19.92	C
ATOM	2441	O	ARG	A	327	26.925	4.374	60.001	1.00	20.03	O
ATOM	2442	N	GLN	A	328	26.673	5.029	62.143	1.00	19.65	N
ATOM	2443	CA	GLN	A	328	26.159	3.732	62.587	1.00	19.32	C

ATOM	2444	CB	GLN	A	328	26.042	3.677	64.117	1.00	19.35	C
ATOM	2445	CG	GLN	A	328	25.840	2.263	64.677	1.00	19.94	C
ATOM	2446	CD	GLN	A	328	26.906	1.281	64.201	1.00	20.35	C
ATOM	2447	OE1	GLN	A	328	28.099	1.478	64.435	1.00	21.19	O
ATOM	2448	NE2	GLN	A	328	26.475	0.219	63.528	1.00	21.05	N
ATOM	2449	C	GLN	A	328	24.824	3.370	61.928	1.00	18.99	C
ATOM	2450	O	GLN	A	328	24.573	2.202	61.633	1.00	19.16	O
ATOM	2451	N	HIS	A	329	23.974	4.371	61.698	1.00	18.85	N
ATOM	2452	CA	HIS	A	329	22.712	4.150	60.991	1.00	18.74	C
ATOM	2453	CB	HIS	A	329	21.884	5.436	60.942	1.00	18.98	C
ATOM	2454	CG	HIS	A	329	20.599	5.299	60.184	1.00	19.79	C
ATOM	2455	ND1	HIS	A	329	19.485	4.682	60.712	1.00	21.92	N
ATOM	2456	CE1	HIS	A	329	18.506	4.711	59.824	1.00	22.02	C
ATOM	2457	NE2	HIS	A	329	18.945	5.326	58.740	1.00	21.91	N
ATOM	2458	CD2	HIS	A	329	20.250	5.704	58.940	1.00	21.39	C
ATOM	2459	C	HIS	A	329	22.960	3.619	59.578	1.00	18.57	C
ATOM	2460	O	HIS	A	329	22.260	2.717	59.114	1.00	18.41	O
ATOM	2461	N	CYS	A	330	23.962	4.184	58.904	1.00	18.22	N
ATOM	2462	CA	CYS	A	330	24.350	3.734	57.567	1.00	18.07	C
ATOM	2463	CB	CYS	A	330	25.386	4.681	56.959	1.00	18.07	C
ATOM	2464	SG	CYS	A	330	24.742	6.328	56.591	1.00	18.74	S
ATOM	2465	C	CYS	A	330	24.875	2.299	57.585	1.00	18.02	C
ATOM	2466	O	CYS	A	330	24.528	1.495	56.716	1.00	17.98	O
ATOM	2467	N	LEU	A	331	25.707	1.986	58.580	1.00	17.89	N
ATOM	2468	CA	LEU	A	331	26.221	0.626	58.766	1.00	18.11	C
ATOM	2469	CB	LEU	A	331	27.266	0.590	59.885	1.00	18.15	C
ATOM	2470	CG	LEU	A	331	28.644	1.179	59.568	1.00	18.84	C
ATOM	2471	CD1	LEU	A	331	29.422	1.432	60.849	1.00	19.51	C
ATOM	2472	CD2	LEU	A	331	29.428	0.257	58.639	1.00	18.77	C
ATOM	2473	C	LEU	A	331	25.100	-0.370	59.060	1.00	18.08	C
ATOM	2474	O	LEU	A	331	25.104	-1.491	58.543	1.00	18.15	O
ATOM	2475	N	ASP	A	332	24.144	0.049	59.888	1.00	18.23	N
ATOM	2476	CA	ASP	A	332	22.983	-0.778	60.221	1.00	18.36	C
ATOM	2477	CB	ASP	A	332	22.136	-0.109	61.307	1.00	18.62	C
ATOM	2478	CG	ASP	A	332	22.808	-0.123	62.670	1.00	19.73	C
ATOM	2479	OD1	ASP	A	332	23.821	-0.840	62.842	1.00	21.29	O
ATOM	2480	OD2	ASP	A	332	22.318	0.584	63.576	1.00	21.64	O
ATOM	2481	C	ASP	A	332	22.131	-1.068	58.992	1.00	18.13	C
ATOM	2482	O	ASP	A	332	21.719	-2.207	58.772	1.00	18.22	O
ATOM	2483	N	ASN	A	333	21.875	-0.034	58.191	1.00	18.07	N
ATOM	2484	CA	ASN	A	333	21.117	-0.187	56.950	1.00	18.06	C
ATOM	2485	CB	ASN	A	333	20.853	1.176	56.302	1.00	17.93	C
ATOM	2486	CG	ASN	A	333	19.598	1.853	56.836	1.00	18.32	C
ATOM	2487	OD1	ASN	A	333	19.377	3.038	56.592	1.00	19.16	O
ATOM	2488	ND2	ASN	A	333	18.766	1.101	57.549	1.00	17.36	N
ATOM	2489	C	ASN	A	333	21.811	-1.104	55.951	1.00	17.99	C
ATOM	2490	O	ASN	A	333	21.160	-1.894	55.270	1.00	18.27	O
ATOM	2491	N	LEU	A	334	23.135	-0.989	55.864	1.00	17.99	N
ATOM	2492	CA	LEU	A	334	23.922	-1.826	54.961	1.00	18.04	C
ATOM	2493	CB	LEU	A	334	25.395	-1.400	54.971	1.00	17.91	C
ATOM	2494	CG	LEU	A	334	26.366	-2.220	54.112	1.00	17.45	C
ATOM	2495	CD1	LEU	A	334	26.037	-2.092	52.631	1.00	18.05	C
ATOM	2496	CD2	LEU	A	334	27.801	-1.805	54.389	1.00	17.93	C
ATOM	2497	C	LEU	A	334	23.787	-3.305	55.320	1.00	18.45	C
ATOM	2498	O	LEU	A	334	23.619	-4.148	54.436	1.00	18.51	O
ATOM	2499	N	LYS	A	335	23.854	-3.608	56.617	1.00	18.96	N
ATOM	2500	CA	LYS	A	335	23.696	-4.981	57.098	1.00	19.62	C
ATOM	2501	CB	LYS	A	335	23.904	-5.056	58.615	1.00	19.51	C
ATOM	2502	CG	LYS	A	335	23.936	-6.478	59.166	1.00	20.07	C
ATOM	2503	CD	LYS	A	335	24.222	-6.492	60.659	1.00	20.67	C
ATOM	2504	CE	LYS	A	335	24.105	-7.901	61.234	1.00	22.00	C
ATOM	2505	NZ	LYS	A	335	22.687	-8.367	61.300	1.00	23.40	N
ATOM	2506	C	LYS	A	335	22.328	-5.545	56.713	1.00	19.76	C
ATOM	2507	O	LYS	A	335	22.234	-6.662	56.204	1.00	20.11	O

ATOM	2508	N	ILE	A	336	21.275	-4.759	56.941	1.00	20.17	N
ATOM	2509	CA	ILE	A	336	19.912	-5.176	56.605	1.00	20.40	C
ATOM	2510	CB	ILE	A	336	18.852	-4.163	57.114	1.00	20.54	C
ATOM	2511	CG1	ILE	A	336	18.868	-4.102	58.645	1.00	20.57	C
ATOM	2512	CD1	ILE	A	336	18.142	-2.899	59.228	1.00	21.67	C
ATOM	2513	CG2	ILE	A	336	17.454	-4.540	56.609	1.00	20.44	C
ATOM	2514	C	ILE	A	336	19.750	-5.410	55.101	1.00	20.50	C
ATOM	2515	O	ILE	A	336	19.191	-6.425	54.685	1.00	20.70	O
ATOM	2516	N	LEU	A	337	20.259	-4.481	54.291	1.00	20.64	N
ATOM	2517	CA	LEU	A	337	20.169	-4.609	52.837	1.00	20.89	C
ATOM	2518	CB	LEU	A	337	20.764	-3.380	52.138	1.00	20.92	C
ATOM	2519	CG	LEU	A	337	19.896	-2.119	52.114	1.00	21.61	C
ATOM	2520	CD1	LEU	A	337	20.722	-0.928	51.680	1.00	22.45	C
ATOM	2521	CD2	LEU	A	337	18.680	-2.292	51.201	1.00	22.27	C
ATOM	2522	C	LEU	A	337	20.841	-5.885	52.338	1.00	20.93	C
ATOM	2523	O	LEU	A	337	20.287	-6.596	51.499	1.00	21.08	O
ATOM	2524	N	ARG	A	338	22.026	-6.176	52.875	1.00	21.06	N
ATOM	2525	CA	ARG	A	338	22.789	-7.369	52.498	1.00	21.19	C
ATOM	2526	CB	ARG	A	338	24.178	-7.334	53.132	1.00	20.97	C
ATOM	2527	CG	ARG	A	338	25.153	-6.431	52.402	1.00	20.33	C
ATOM	2528	CD	ARG	A	338	26.404	-6.179	53.220	1.00	19.44	C
ATOM	2529	NE	ARG	A	338	27.484	-5.639	52.395	1.00	18.52	N
ATOM	2530	CZ	ARG	A	338	28.638	-5.179	52.870	1.00	17.85	C
ATOM	2531	NH1	ARG	A	338	28.869	-5.173	54.179	1.00	18.83	N
ATOM	2532	NH2	ARG	A	338	29.562	-4.716	52.033	1.00	18.24	N
ATOM	2533	C	ARG	A	338	22.069	-8.663	52.868	1.00	21.66	C
ATOM	2534	O	ARG	A	338	22.253	-9.692	52.217	1.00	21.74	O
ATOM	2535	N	GLU	A	339	21.249	-8.600	53.912	1.00	22.15	N
ATOM	2536	CA	GLU	A	339	20.464	-9.750	54.352	1.00	22.84	C
ATOM	2537	CB	GLU	A	339	20.252	-9.699	55.868	1.00	22.87	C
ATOM	2538	CG	GLU	A	339	21.530	-9.890	56.681	1.00	23.77	C
ATOM	2539	CD	GLU	A	339	21.344	-9.598	58.163	1.00	24.29	C
ATOM	2540	OE1	GLU	A	339	20.214	-9.255	58.576	1.00	25.96	O
ATOM	2541	OE2	GLU	A	339	22.335	-9.711	58.916	1.00	26.34	O
ATOM	2542	C	GLU	A	339	19.121	-9.827	53.623	1.00	22.88	C
ATOM	2543	O	GLU	A	339	18.331	-10.747	53.853	1.00	22.86	O
ATOM	2544	N	ASN	A	340	18.874	-8.863	52.737	1.00	23.02	N
ATOM	2545	CA	ASN	A	340	17.625	-8.805	51.981	1.00	23.34	C
ATOM	2546	CB	ASN	A	340	16.726	-7.697	52.534	1.00	23.20	C
ATOM	2547	CG	ASN	A	340	16.119	-8.058	53.871	1.00	23.34	C
ATOM	2548	OD1	ASN	A	340	15.099	-8.743	53.937	1.00	23.26	O
ATOM	2549	ND2	ASN	A	340	16.740	-7.592	54.947	1.00	23.23	N
ATOM	2550	C	ASN	A	340	17.848	-8.609	50.476	1.00	23.61	C
ATOM	2551	O	ASN	A	340	17.505	-7.561	49.932	1.00	23.68	O
ATOM	2552	N	PRO	A	341	18.393	-9.638	49.793	1.00	23.96	N
ATOM	2553	CA	PRO	A	341	18.789	-9.499	48.385	1.00	24.26	C
ATOM	2554	CB	PRO	A	341	19.495	-10.831	48.079	1.00	24.37	C
ATOM	2555	CG	PRO	A	341	19.729	-11.481	49.405	1.00	24.14	C
ATOM	2556	CD	PRO	A	341	18.644	-11.000	50.293	1.00	24.07	C
ATOM	2557	C	PRO	A	341	17.606	-9.303	47.434	1.00	24.55	C
ATOM	2558	O	PRO	A	341	17.805	-8.904	46.285	1.00	24.53	O
ATOM	2559	N	GLN	A	342	16.391	-9.579	47.908	1.00	24.80	N
ATOM	2560	CA	GLN	A	342	15.183	-9.423	47.088	1.00	25.20	C
ATOM	2561	CB	GLN	A	342	13.965	-10.078	47.765	1.00	25.05	C
ATOM	2562	CG	GLN	A	342	13.384	-9.299	48.951	1.00	24.88	C
ATOM	2563	CD	GLN	A	342	14.148	-9.518	50.249	1.00	24.52	C
ATOM	2564	OE1	GLN	A	342	15.103	-10.293	50.303	1.00	24.25	O
ATOM	2565	NE2	GLN	A	342	13.721	-8.834	51.305	1.00	24.79	N
ATOM	2566	C	GLN	A	342	14.890	-7.956	46.744	1.00	25.48	C
ATOM	2567	O	GLN	A	342	14.076	-7.667	45.863	1.00	25.68	O
ATOM	2568	N	VAL	A	343	15.562	-7.041	47.443	1.00	25.92	N
ATOM	2569	CA	VAL	A	343	15.441	-5.609	47.168	1.00	26.34	C
ATOM	2570	CB	VAL	A	343	16.042	-4.745	48.326	1.00	26.42	C
ATOM	2571	CG1	VAL	A	343	17.565	-4.833	48.350	1.00	26.98	C

ATOM	2572	CG2	VAL	A	343	15.586	-3.295	48.215	1.00	27.06	C
ATOM	2573	C	VAL	A	343	16.067	-5.234	45.812	1.00	26.36	C
ATOM	2574	O	VAL	A	343	15.667	-4.247	45.190	1.00	26.27	O
ATOM	2575	N	ARG	A	344	17.033	-6.039	45.359	1.00	26.53	N
ATOM	2576	CA	ARG	A	344	17.685	-5.828	44.061	1.00	26.68	C
ATOM	2577	CB	ARG	A	344	18.747	-6.898	43.799	1.00	26.58	C
ATOM	2578	CG	ARG	A	344	19.907	-6.937	44.775	1.00	25.81	C
ATOM	2579	CD	ARG	A	344	20.955	-7.901	44.248	1.00	25.10	C
ATOM	2580	NE	ARG	A	344	22.003	-8.234	45.211	1.00	24.01	N
ATOM	2581	CZ	ARG	A	344	23.089	-7.498	45.430	1.00	23.61	C
ATOM	2582	NH1	ARG	A	344	23.266	-6.349	44.788	1.00	22.91	N
ATOM	2583	NH2	ARG	A	344	23.992	-7.903	46.309	1.00	23.37	N
ATOM	2584	C	ARG	A	344	16.669	-5.855	42.925	1.00	27.18	C
ATOM	2585	O	ARG	A	344	16.601	-4.925	42.124	1.00	27.16	O
ATOM	2586	N	GLU	A	345	15.885	-6.932	42.865	1.00	27.64	N
ATOM	2587	CA	GLU	A	345	14.881	-7.112	41.816	1.00	28.28	C
ATOM	2588	CB	GLU	A	345	14.278	-8.520	41.888	1.00	28.23	C
ATOM	2589	CG	GLU	A	345	13.704	-9.028	40.566	1.00	29.12	C
ATOM	2590	CD	GLU	A	345	13.217	-10.468	40.644	1.00	29.33	C
ATOM	2591	OE1	GLU	A	345	12.445	-10.795	41.572	1.00	30.44	O
ATOM	2592	OE2	GLU	A	345	13.597	-11.272	39.764	1.00	30.80	O
ATOM	2593	C	GLU	A	345	13.782	-6.053	41.912	1.00	28.27	C
ATOM	2594	O	GLU	A	345	13.224	-5.633	40.895	1.00	28.35	O
ATOM	2595	N	LYS	A	346	13.487	-5.625	43.139	1.00	28.49	N
ATOM	2596	CA	LYS	A	346	12.507	-4.567	43.389	1.00	28.78	C
ATOM	2597	CB	LYS	A	346	12.329	-4.339	44.889	1.00	28.82	C
ATOM	2598	CG	LYS	A	346	11.361	-5.282	45.567	1.00	29.10	C
ATOM	2599	CD	LYS	A	346	10.968	-4.726	46.923	1.00	29.38	C
ATOM	2600	CE	LYS	A	346	10.105	-5.689	47.705	1.00	29.35	C
ATOM	2601	NZ	LYS	A	346	9.740	-5.118	49.030	1.00	29.35	N
ATOM	2602	C	LYS	A	346	12.885	-3.248	42.714	1.00	28.92	C
ATOM	2603	O	LYS	A	346	12.077	-2.669	41.983	1.00	29.04	O
ATOM	2604	N	VAL	A	347	14.109	-2.777	42.963	1.00	29.06	N
ATOM	2605	CA	VAL	A	347	14.558	-1.482	42.429	1.00	29.09	C
ATOM	2606	CB	VAL	A	347	15.819	-0.919	43.164	1.00	29.02	C
ATOM	2607	CG1	VAL	A	347	15.500	-0.610	44.622	1.00	28.88	C
ATOM	2608	CG2	VAL	A	347	17.006	-1.876	43.051	1.00	28.85	C
ATOM	2609	C	VAL	A	347	14.777	-1.497	40.913	1.00	29.27	C
ATOM	2610	O	VAL	A	347	14.626	-0.468	40.254	1.00	29.25	O
ATOM	2611	N	VAL	A	348	15.125	-2.665	40.371	1.00	29.53	N
ATOM	2612	CA	VAL	A	348	15.235	-2.845	38.921	1.00	29.89	C
ATOM	2613	CB	VAL	A	348	15.838	-4.232	38.549	1.00	29.85	C
ATOM	2614	CG1	VAL	A	348	15.738	-4.489	37.046	1.00	29.65	C
ATOM	2615	CG2	VAL	A	348	17.282	-4.322	38.996	1.00	29.77	C
ATOM	2616	C	VAL	A	348	13.860	-2.688	38.277	1.00	30.26	C
ATOM	2617	O	VAL	A	348	13.722	-2.039	37.236	1.00	30.33	O
ATOM	2618	N	ALA	A	349	12.846	-3.266	38.921	1.00	30.72	N
ATOM	2619	CA	ALA	A	349	11.467	-3.192	38.442	1.00	31.16	C
ATOM	2620	CB	ALA	A	349	10.576	-4.123	39.247	1.00	31.09	C
ATOM	2621	C	ALA	A	349	10.915	-1.763	38.462	1.00	31.47	C
ATOM	2622	O	ALA	A	349	10.070	-1.413	37.637	1.00	31.59	O
ATOM	2623	N	ILE	A	350	11.398	-0.946	39.401	1.00	31.91	N
ATOM	2624	CA	ILE	A	350	11.031	0.475	39.466	1.00	32.31	C
ATOM	2625	CB	ILE	A	350	11.716	1.201	40.665	1.00	32.32	C
ATOM	2626	CG1	ILE	A	350	11.229	0.628	42.001	1.00	32.31	C
ATOM	2627	CD1	ILE	A	350	12.027	1.107	43.213	1.00	32.35	C
ATOM	2628	CG2	ILE	A	350	11.467	2.715	40.602	1.00	32.24	C
ATOM	2629	C	ILE	A	350	11.390	1.191	38.159	1.00	32.67	C
ATOM	2630	O	ILE	A	350	10.551	1.871	37.564	1.00	32.75	O
ATOM	2631	N	PHE	A	351	12.632	1.012	37.714	1.00	33.03	N
ATOM	2632	CA	PHE	A	351	13.145	1.701	36.531	1.00	33.41	C
ATOM	2633	CB	PHE	A	351	14.626	2.051	36.719	1.00	33.32	C
ATOM	2634	CG	PHE	A	351	14.895	2.945	37.899	1.00	33.07	C
ATOM	2635	CD1	PHE	A	351	15.278	2.406	39.124	1.00	32.93	C

ATOM	2636	CE1	PHE	A	351	15.528	3.228	40.220	1.00	32.82	C
ATOM	2637	CZ	PHE	A	351	15.400	4.608	40.095	1.00	32.92	C
ATOM	2638	CE2	PHE	A	351	15.020	5.159	38.875	1.00	32.86	C
ATOM	2639	CD2	PHE	A	351	14.771	4.328	37.785	1.00	32.98	C
ATOM	2640	C	PHE	A	351	12.950	0.893	35.243	1.00	33.83	C
ATOM	2641	O	PHE	A	351	13.425	1.293	34.174	1.00	33.89	O
ATOM	2642	N	ALA	A	352	12.246	-0.234	35.350	1.00	34.24	N
ATOM	2643	CA	ALA	A	352	12.010	-1.121	34.207	1.00	34.71	C
ATOM	2644	CB	ALA	A	352	11.557	-2.494	34.683	1.00	34.69	C
ATOM	2645	C	ALA	A	352	11.006	-0.542	33.210	1.00	35.05	C
ATOM	2646	O	ALA	A	352	11.147	-0.731	31.999	1.00	35.20	O
ATOM	2647	N	GLU	A	353	9.995	0.158	33.723	1.00	35.41	N
ATOM	2648	CA	GLU	A	353	8.970	0.771	32.874	1.00	35.75	C
ATOM	2649	CB	GLU	A	353	7.565	0.356	33.328	1.00	35.76	C
ATOM	2650	CG	GLU	A	353	7.194	0.809	34.737	1.00	36.09	C
ATOM	2651	CD	GLU	A	353	5.802	0.359	35.162	1.00	36.25	C
ATOM	2652	OE1	GLU	A	353	5.350	-0.716	34.706	1.00	36.77	O
ATOM	2653	OE2	GLU	A	353	5.162	1.081	35.962	1.00	36.88	O
ATOM	2654	C	GLU	A	353	9.094	2.295	32.836	1.00	35.78	C
ATOM	2655	O	GLU	A	353	9.601	2.914	33.774	1.00	35.89	O
ATOM	2656	N	SER	A	360	6.060	15.154	24.340	1.00	32.56	N
ATOM	2657	CA	SER	A	360	5.465	16.221	23.542	1.00	32.43	C
ATOM	2658	CB	SER	A	360	5.969	17.591	24.014	1.00	32.58	C
ATOM	2659	OG	SER	A	360	7.353	17.758	23.745	1.00	33.06	O
ATOM	2660	C	SER	A	360	5.759	16.028	22.054	1.00	32.11	C
ATOM	2661	O	SER	A	360	6.662	15.270	21.687	1.00	32.26	O
ATOM	2662	N	ASP	A	361	4.994	16.716	21.205	1.00	31.62	N
ATOM	2663	CA	ASP	A	361	5.202	16.656	19.754	1.00	31.02	C
ATOM	2664	CB	ASP	A	361	3.885	16.912	18.991	1.00	31.38	C
ATOM	2665	CG	ASP	A	361	3.271	18.285	19.292	1.00	32.23	C
ATOM	2666	OD1	ASP	A	361	3.942	19.142	19.908	1.00	33.51	O
ATOM	2667	OD2	ASP	A	361	2.104	18.504	18.900	1.00	33.69	O
ATOM	2668	C	ASP	A	361	6.313	17.603	19.279	1.00	30.18	C
ATOM	2669	O	ASP	A	361	6.628	17.658	18.087	1.00	30.33	O
ATOM	2670	N	ASN	A	362	6.897	18.341	20.222	1.00	28.99	N
ATOM	2671	CA	ASN	A	362	8.000	19.251	19.932	1.00	27.83	C
ATOM	2672	CB	ASN	A	362	8.117	20.313	21.037	1.00	27.87	C
ATOM	2673	CG	ASN	A	362	9.012	21.489	20.644	1.00	27.95	C
ATOM	2674	OD1	ASN	A	362	9.058	22.502	21.346	1.00	28.45	O
ATOM	2675	ND2	ASN	A	362	9.725	21.359	19.531	1.00	27.22	N
ATOM	2676	C	ASN	A	362	9.314	18.488	19.779	1.00	26.96	C
ATOM	2677	O	ASN	A	362	9.862	17.972	20.759	1.00	26.68	O
ATOM	2678	N	VAL	A	363	9.813	18.424	18.544	1.00	26.03	N
ATOM	2679	CA	VAL	A	363	11.051	17.701	18.236	1.00	25.16	C
ATOM	2680	CB	VAL	A	363	11.306	17.615	16.695	1.00	25.24	C
ATOM	2681	CG1	VAL	A	363	11.676	18.981	16.113	1.00	25.06	C
ATOM	2682	CG2	VAL	A	363	12.374	16.570	16.373	1.00	25.10	C
ATOM	2683	C	VAL	A	363	12.275	18.267	18.987	1.00	24.68	C
ATOM	2684	O	VAL	A	363	13.224	17.534	19.273	1.00	24.22	O
ATOM	2685	N	ASP	A	364	12.231	19.560	19.322	1.00	24.39	N
ATOM	2686	CA	ASP	A	364	13.261	20.185	20.171	1.00	24.11	C
ATOM	2687	CB	ASP	A	364	12.939	21.664	20.431	1.00	24.20	C
ATOM	2688	CG	ASP	A	364	13.269	22.568	19.244	1.00	24.94	C
ATOM	2689	OD1	ASP	A	364	13.819	22.081	18.234	1.00	25.45	O
ATOM	2690	OD2	ASP	A	364	12.974	23.781	19.334	1.00	26.26	O
ATOM	2691	C	ASP	A	364	13.417	19.465	21.515	1.00	23.85	C
ATOM	2692	O	ASP	A	364	14.499	19.465	22.103	1.00	23.56	O
ATOM	2693	N	ALA	A	365	12.330	18.860	21.994	1.00	23.43	N
ATOM	2694	CA	ALA	A	365	12.309	18.225	23.315	1.00	23.50	C
ATOM	2695	CB	ALA	A	365	10.956	18.461	23.987	1.00	23.51	C
ATOM	2696	C	ALA	A	365	12.628	16.726	23.266	1.00	23.38	C
ATOM	2697	O	ALA	A	365	12.537	16.032	24.285	1.00	23.47	O
ATOM	2698	N	GLN	A	366	13.032	16.240	22.096	1.00	23.35	N
ATOM	2699	CA	GLN	A	366	13.083	14.797	21.843	1.00	23.43	C

ATOM	2700	CB	GLN	A	366	12.219	14.445	20.627	1.00	23.36	C
ATOM	2701	CG	GLN	A	366	10.728	14.667	20.850	1.00	23.86	C
ATOM	2702	CD	GLN	A	366	9.879	14.294	19.645	1.00	24.06	C
ATOM	2703	OE1	GLN	A	366	10.393	13.879	18.606	1.00	25.85	O
ATOM	2704	NE2	GLN	A	366	8.569	14.444	19.783	1.00	25.43	N
ATOM	2705	C	GLN	A	366	14.491	14.206	21.688	1.00	23.42	C
ATOM	2706	O	GLN	A	366	14.654	13.128	21.113	1.00	23.21	O
ATOM	2707	N	LEU	A	367	15.498	14.895	22.222	1.00	23.58	N
ATOM	2708	CA	LEU	A	367	16.881	14.404	22.166	1.00	24.10	C
ATOM	2709	CB	LEU	A	367	17.829	15.346	22.931	1.00	23.96	C
ATOM	2710	CG	LEU	A	367	19.261	14.883	23.241	1.00	24.42	C
ATOM	2711	CD1	LEU	A	367	20.063	14.620	21.968	1.00	24.95	C
ATOM	2712	CD2	LEU	A	367	19.966	15.906	24.117	1.00	24.42	C
ATOM	2713	C	LEU	A	367	17.017	12.970	22.687	1.00	24.30	C
ATOM	2714	O	LEU	A	367	17.688	12.141	22.071	1.00	24.28	O
ATOM	2715	N	TYR	A	368	16.368	12.680	23.811	1.00	24.76	N
ATOM	2716	CA	TYR	A	368	16.534	11.386	24.473	1.00	25.35	C
ATOM	2717	CB	TYR	A	368	16.648	11.566	25.992	1.00	25.31	C
ATOM	2718	CG	TYR	A	368	17.858	12.381	26.399	1.00	25.37	C
ATOM	2719	CD1	TYR	A	368	19.149	11.891	26.200	1.00	25.28	C
ATOM	2720	CE1	TYR	A	368	20.265	12.635	26.558	1.00	25.61	C
ATOM	2721	CZ	TYR	A	368	20.101	13.885	27.122	1.00	25.52	C
ATOM	2722	OH	TYR	A	368	21.213	14.612	27.471	1.00	25.76	O
ATOM	2723	CE2	TYR	A	368	18.832	14.403	27.329	1.00	25.45	C
ATOM	2724	CD2	TYR	A	368	17.715	13.648	26.965	1.00	25.44	C
ATOM	2725	C	TYR	A	368	15.460	10.358	24.099	1.00	25.91	C
ATOM	2726	O	TYR	A	368	15.259	9.367	24.810	1.00	25.82	O
ATOM	2727	N	ASN	A	369	14.798	10.586	22.964	1.00	26.66	N
ATOM	2728	CA	ASN	A	369	13.861	9.611	22.401	1.00	27.46	C
ATOM	2729	CB	ASN	A	369	12.909	10.286	21.407	1.00	27.69	C
ATOM	2730	CG	ASN	A	369	11.733	10.963	22.086	1.00	28.32	C
ATOM	2731	OD1	ASN	A	369	11.880	11.608	23.126	1.00	29.94	O
ATOM	2732	ND2	ASN	A	369	10.553	10.826	21.491	1.00	29.53	N
ATOM	2733	C	ASN	A	369	14.573	8.433	21.731	1.00	27.79	C
ATOM	2734	O	ASN	A	369	13.940	7.614	21.058	1.00	28.22	O
ATOM	2735	N	GLY	A	370	15.889	8.356	21.918	1.00	28.11	N
ATOM	2736	CA	GLY	A	370	16.687	7.257	21.384	1.00	28.39	C
ATOM	2737	C	GLY	A	370	17.938	7.717	20.663	1.00	28.56	C
ATOM	2738	O	GLY	A	370	18.032	8.869	20.223	1.00	28.71	O
ATOM	2739	N	PHE	A	371	18.907	6.812	20.546	1.00	28.68	N
ATOM	2740	CA	PHE	A	371	20.119	7.072	19.777	1.00	28.78	C
ATOM	2741	CB	PHE	A	371	21.259	6.156	20.236	1.00	28.92	C
ATOM	2742	CG	PHE	A	371	21.633	6.323	21.683	1.00	29.24	C
ATOM	2743	CD1	PHE	A	371	22.419	7.398	22.095	1.00	29.38	C
ATOM	2744	CE1	PHE	A	371	22.773	7.552	23.437	1.00	29.62	C
ATOM	2745	CZ	PHE	A	371	22.344	6.621	24.380	1.00	29.79	C
ATOM	2746	CE2	PHE	A	371	21.563	5.540	23.979	1.00	29.99	C
ATOM	2747	CD2	PHE	A	371	21.214	5.395	22.634	1.00	29.62	C
ATOM	2748	C	PHE	A	371	19.860	6.860	18.292	1.00	28.64	C
ATOM	2749	O	PHE	A	371	19.043	6.018	17.907	1.00	28.78	O
ATOM	2750	N	PHE	A	372	20.557	7.628	17.460	1.00	28.49	N
ATOM	2751	CA	PHE	A	372	20.476	7.460	16.012	1.00	28.23	C
ATOM	2752	CB	PHE	A	372	20.894	8.745	15.292	1.00	28.15	C
ATOM	2753	CG	PHE	A	372	19.963	9.902	15.523	1.00	28.16	C
ATOM	2754	CD1	PHE	A	372	18.734	9.968	14.869	1.00	28.01	C
ATOM	2755	CE1	PHE	A	372	17.868	11.042	15.082	1.00	28.19	C
ATOM	2756	CZ	PHE	A	372	18.234	12.065	15.948	1.00	27.90	C
ATOM	2757	CE2	PHE	A	372	19.458	12.013	16.600	1.00	28.03	C
ATOM	2758	CD2	PHE	A	372	20.317	10.934	16.385	1.00	28.06	C
ATOM	2759	C	PHE	A	372	21.348	6.295	15.556	1.00	28.16	C
ATOM	2760	O	PHE	A	372	22.398	6.024	16.144	1.00	28.05	O
ATOM	2761	N	SER	A	373	20.905	5.608	14.506	1.00	28.17	N
ATOM	2762	CA	SER	A	373	21.667	4.503	13.928	1.00	28.13	C
ATOM	2763	CB	SER	A	373	20.780	3.672	12.995	1.00	28.09	C

ATOM	2764	OG	SER	A	373	20.357	4.433	11.876	1.00	28.16	O
ATOM	2765	C	SER	A	373	22.893	5.018	13.175	1.00	28.18	C
ATOM	2766	O	SER	A	373	23.011	6.218	12.908	1.00	28.07	O
ATOM	2767	N	ASP	A	374	23.804	4.105	12.841	1.00	28.21	N
ATOM	2768	CA	ASP	A	374	24.992	4.435	12.051	1.00	28.34	C
ATOM	2769	CB	ASP	A	374	25.867	3.192	11.847	1.00	28.51	C
ATOM	2770	CG	ASP	A	374	26.381	2.607	13.158	1.00	29.17	C
ATOM	2771	OD1	ASP	A	374	26.168	3.223	14.225	1.00	30.24	O
ATOM	2772	OD2	ASP	A	374	27.004	1.525	13.115	1.00	30.06	O
ATOM	2773	C	ASP	A	374	24.610	5.026	10.694	1.00	28.13	C
ATOM	2774	O	ASP	A	374	25.230	5.986	10.229	1.00	28.04	O
ATOM	2775	N	ALA	A	375	23.584	4.446	10.072	1.00	28.00	N
ATOM	2776	CA	ALA	A	375	23.096	4.903	8.771	1.00	27.78	C
ATOM	2777	CB	ALA	A	375	22.075	3.923	8.211	1.00	27.83	C
ATOM	2778	C	ALA	A	375	22.504	6.308	8.852	1.00	27.63	C
ATOM	2779	O	ALA	A	375	22.754	7.144	7.980	1.00	27.65	O
ATOM	2780	N	ASP	A	376	21.724	6.562	9.902	1.00	27.44	N
ATOM	2781	CA	ASP	A	376	21.133	7.883	10.122	1.00	27.26	C
ATOM	2782	CB	ASP	A	376	20.071	7.834	11.225	1.00	27.23	C
ATOM	2783	CG	ASP	A	376	18.683	7.504	10.691	1.00	27.44	C
ATOM	2784	OD1	ASP	A	376	18.487	7.517	9.454	1.00	27.54	O
ATOM	2785	OD2	ASP	A	376	17.781	7.242	11.512	1.00	27.38	O
ATOM	2786	C	ASP	A	376	22.182	8.946	10.436	1.00	27.06	C
ATOM	2787	O	ASP	A	376	22.063	10.086	9.989	1.00	26.87	O
ATOM	2788	N	ARG	A	377	23.205	8.567	11.202	1.00	26.93	N
ATOM	2789	CA	ARG	A	377	24.315	9.473	11.508	1.00	26.92	C
ATOM	2790	CB	ARG	A	377	25.228	8.878	12.592	1.00	27.11	C
ATOM	2791	CG	ARG	A	377	26.452	9.740	12.973	1.00	28.22	C
ATOM	2792	CD	ARG	A	377	26.082	11.190	13.314	1.00	29.90	C
ATOM	2793	NE	ARG	A	377	25.125	11.283	14.417	1.00	30.87	N
ATOM	2794	CZ	ARG	A	377	24.338	12.332	14.641	1.00	31.14	C
ATOM	2795	NH1	ARG	A	377	24.377	13.386	13.835	1.00	31.29	N
ATOM	2796	NH2	ARG	A	377	23.499	12.323	15.668	1.00	31.65	N
ATOM	2797	C	ARG	A	377	25.110	9.827	10.250	1.00	26.68	C
ATOM	2798	O	ARG	A	377	25.522	10.975	10.072	1.00	26.61	O
ATOM	2799	N	ALA	A	378	25.308	8.838	9.378	1.00	26.43	N
ATOM	2800	CA	ALA	A	378	25.990	9.052	8.103	1.00	26.33	C
ATOM	2801	CB	ALA	A	378	26.243	7.722	7.404	1.00	26.28	C
ATOM	2802	C	ALA	A	378	25.193	9.993	7.198	1.00	26.17	C
ATOM	2803	O	ALA	A	378	25.769	10.840	6.511	1.00	26.13	O
ATOM	2804	N	ALA	A	379	23.870	9.842	7.213	1.00	26.16	N
ATOM	2805	CA	ALA	A	379	22.975	10.688	6.422	1.00	26.13	C
ATOM	2806	CB	ALA	A	379	21.573	10.093	6.386	1.00	26.10	C
ATOM	2807	C	ALA	A	379	22.935	12.126	6.943	1.00	26.24	C
ATOM	2808	O	ALA	A	379	22.894	13.074	6.158	1.00	26.21	O
ATOM	2809	N	MET	A	380	22.945	12.280	8.267	1.00	26.32	N
ATOM	2810	CA	MET	A	380	22.957	13.608	8.888	1.00	26.67	C
ATOM	2811	CB	MET	A	380	22.642	13.516	10.389	1.00	26.57	C
ATOM	2812	CG	MET	A	380	21.196	13.107	10.693	1.00	26.96	C
ATOM	2813	SD	MET	A	380	20.810	13.016	12.455	1.00	28.29	S
ATOM	2814	CE	MET	A	380	19.994	14.578	12.728	1.00	29.37	C
ATOM	2815	C	MET	A	380	24.284	14.333	8.642	1.00	26.42	C
ATOM	2816	O	MET	A	380	24.323	15.562	8.570	1.00	26.41	O
ATOM	2817	N	LYS	A	381	25.362	13.561	8.498	1.00	26.41	N
ATOM	2818	CA	LYS	A	381	26.673	14.107	8.142	1.00	26.43	C
ATOM	2819	CB	LYS	A	381	27.755	13.027	8.263	1.00	26.44	C
ATOM	2820	CG	LYS	A	381	29.185	13.553	8.174	1.00	27.08	C
ATOM	2821	CD	LYS	A	381	30.198	12.449	8.439	1.00	27.35	C
ATOM	2822	CE	LYS	A	381	31.625	12.978	8.351	1.00	28.65	C
ATOM	2823	NZ	LYS	A	381	32.635	11.905	8.573	1.00	29.41	N
ATOM	2824	C	LYS	A	381	26.667	14.704	6.729	1.00	26.17	C
ATOM	2825	O	LYS	A	381	27.337	15.706	6.470	1.00	26.12	O
ATOM	2826	N	ILE	A	382	25.911	14.080	5.825	1.00	26.08	N
ATOM	2827	CA	ILE	A	382	25.738	14.606	4.468	1.00	26.02	C

ATOM	2828	CB	ILE	A	382	25.044	13.578	3.525	1.00	26.02	C
ATOM	2829	CG1	ILE	A	382	25.999	12.416	3.220	1.00	26.09	C
ATOM	2830	CD1	ILE	A	382	25.344	11.225	2.537	1.00	26.16	C
ATOM	2831	CG2	ILE	A	382	24.586	14.249	2.222	1.00	25.83	C
ATOM	2832	C	ILE	A	382	24.985	15.942	4.494	1.00	26.09	C
ATOM	2833	O	ILE	A	382	25.379	16.892	3.817	1.00	25.99	O
ATOM	2834	N	VAL	A	383	23.925	16.015	5.300	1.00	26.28	N
ATOM	2835	CA	VAL	A	383	23.202	17.275	5.526	1.00	26.60	C
ATOM	2836	CB	VAL	A	383	22.060	17.108	6.570	1.00	26.55	C
ATOM	2837	CG1	VAL	A	383	21.445	18.462	6.929	1.00	26.59	C
ATOM	2838	CG2	VAL	A	383	20.995	16.158	6.056	1.00	26.50	C
ATOM	2839	C	VAL	A	383	24.167	18.364	5.995	1.00	26.80	C
ATOM	2840	O	VAL	A	383	24.144	19.492	5.496	1.00	26.60	O
ATOM	2841	N	LEU	A	384	25.025	18.004	6.946	1.00	27.39	N
ATOM	2842	CA	LEU	A	384	25.989	18.927	7.528	1.00	28.05	C
ATOM	2843	CB	LEU	A	384	26.726	18.244	8.684	1.00	28.00	C
ATOM	2844	CG	LEU	A	384	27.578	19.102	9.615	1.00	28.19	C
ATOM	2845	CD1	LEU	A	384	26.710	20.077	10.398	1.00	28.31	C
ATOM	2846	CD2	LEU	A	384	28.363	18.202	10.553	1.00	28.11	C
ATOM	2847	C	LEU	A	384	26.993	19.447	6.496	1.00	28.58	C
ATOM	2848	O	LEU	A	384	27.352	20.628	6.509	1.00	28.62	O
ATOM	2849	N	GLU	A	385	27.434	18.564	5.601	1.00	29.30	N
ATOM	2850	CA	GLU	A	385	28.472	18.907	4.628	1.00	30.11	C
ATOM	2851	CB	GLU	A	385	29.430	17.726	4.424	1.00	30.16	C
ATOM	2852	CG	GLU	A	385	30.447	17.571	5.557	1.00	31.29	C
ATOM	2853	CD	GLU	A	385	31.052	16.177	5.644	1.00	32.28	C
ATOM	2854	OE1	GLU	A	385	31.035	15.441	4.636	1.00	33.18	O
ATOM	2855	OE2	GLU	A	385	31.554	15.820	6.728	1.00	33.47	O
ATOM	2856	C	GLU	A	385	27.913	19.419	3.291	1.00	30.40	C
ATOM	2857	O	GLU	A	385	28.671	19.840	2.415	1.00	30.53	O
ATOM	2858	N	THR	A	386	26.588	19.386	3.150	1.00	30.93	N
ATOM	2859	CA	THR	A	386	25.912	19.960	1.983	1.00	31.39	C
ATOM	2860	CB	THR	A	386	24.553	19.257	1.713	1.00	31.34	C
ATOM	2861	OG1	THR	A	386	24.767	17.853	1.523	1.00	30.95	O
ATOM	2862	CG2	THR	A	386	23.871	19.827	0.473	1.00	31.35	C
ATOM	2863	C	THR	A	386	25.686	21.461	2.183	1.00	31.90	C
ATOM	2864	O	THR	A	386	25.335	21.903	3.277	1.00	31.98	O
ATOM	2865	N	GLU	A	387	25.899	22.239	1.123	1.00	32.53	N
ATOM	2866	CA	GLU	A	387	25.625	23.676	1.154	1.00	33.12	C
ATOM	2867	CB	GLU	A	387	26.139	24.359	-0.122	1.00	33.31	C
ATOM	2868	CG	GLU	A	387	27.530	23.891	-0.565	1.00	34.06	C
ATOM	2869	CD	GLU	A	387	28.424	25.032	-1.013	1.00	35.29	C
ATOM	2870	OE1	GLU	A	387	28.701	25.933	-0.189	1.00	36.16	O
ATOM	2871	OE2	GLU	A	387	28.866	25.017	-2.181	1.00	35.88	O
ATOM	2872	C	GLU	A	387	24.121	23.918	1.333	1.00	33.40	C
ATOM	2873	O	GLU	A	387	23.308	23.226	0.720	1.00	33.41	O
ATOM	2874	N	PRO	A	388	23.749	24.890	2.197	1.00	33.68	N
ATOM	2875	CA	PRO	A	388	22.342	25.161	2.542	1.00	33.85	C
ATOM	2876	CB	PRO	A	388	22.424	26.474	3.325	1.00	33.91	C
ATOM	2877	CG	PRO	A	388	23.777	26.456	3.930	1.00	33.88	C
ATOM	2878	CD	PRO	A	388	24.668	25.791	2.920	1.00	33.73	C
ATOM	2879	C	PRO	A	388	21.412	25.318	1.333	1.00	34.05	C
ATOM	2880	O	PRO	A	388	20.248	24.918	1.399	1.00	34.14	O
ATOM	2881	N	ARG	A	389	21.926	25.890	0.243	1.00	34.14	N
ATOM	2882	CA	ARG	A	389	21.137	26.091	-0.979	1.00	34.28	C
ATOM	2883	CB	ARG	A	389	21.838	27.078	-1.926	1.00	34.29	C
ATOM	2884	CG	ARG	A	389	23.278	26.709	-2.278	1.00	34.69	C
ATOM	2885	CD	ARG	A	389	23.950	27.808	-3.086	1.00	35.21	C
ATOM	2886	NE	ARG	A	389	25.405	27.655	-3.111	1.00	36.56	N
ATOM	2887	CZ	ARG	A	389	26.075	26.948	-4.018	1.00	37.03	C
ATOM	2888	NH1	ARG	A	389	25.430	26.318	-4.994	1.00	37.57	N
ATOM	2889	NH2	ARG	A	389	27.398	26.873	-3.951	1.00	37.60	N
ATOM	2890	C	ARG	A	389	20.826	24.781	-1.712	1.00	34.05	C
ATOM	2891	O	ARG	A	389	19.870	24.711	-2.488	1.00	34.09	O

ATOM	2892	N	ASN	A	390	21.633	23.752	-1.458	1.00	33.80	N
ATOM	2893	CA	ASN	A	390	21.483	22.460	-2.133	1.00	33.57	C
ATOM	2894	CB	ASN	A	390	22.855	21.906	-2.541	1.00	33.55	C
ATOM	2895	CG	ASN	A	390	23.555	22.771	-3.582	1.00	33.68	C
ATOM	2896	OD1	ASN	A	390	22.913	23.505	-4.336	1.00	33.81	O
ATOM	2897	ND2	ASN	A	390	24.879	22.680	-3.630	1.00	33.82	N
ATOM	2898	C	ASN	A	390	20.704	21.420	-1.317	1.00	33.42	C
ATOM	2899	O	ASN	A	390	20.555	20.273	-1.743	1.00	33.34	O
ATOM	2900	N	LEU	A	391	20.200	21.831	-0.153	1.00	33.26	N
ATOM	2901	CA	LEU	A	391	19.431	20.936	0.719	1.00	33.09	C
ATOM	2902	CB	LEU	A	391	19.284	21.525	2.131	1.00	33.00	C
ATOM	2903	CG	LEU	A	391	20.515	21.489	3.045	1.00	32.79	C
ATOM	2904	CD1	LEU	A	391	20.262	22.291	4.313	1.00	32.24	C
ATOM	2905	CD2	LEU	A	391	20.921	20.054	3.387	1.00	32.47	C
ATOM	2906	C	LEU	A	391	18.056	20.514	0.160	1.00	33.13	C
ATOM	2907	O	LEU	A	391	17.671	19.353	0.308	1.00	33.18	O
ATOM	2908	N	PRO	A	392	17.311	21.450	-0.482	1.00	33.13	N
ATOM	2909	CA	PRO	A	392	15.982	21.081	-0.995	1.00	33.14	C
ATOM	2910	CB	PRO	A	392	15.471	22.386	-1.622	1.00	33.17	C
ATOM	2911	CG	PRO	A	392	16.277	23.460	-0.991	1.00	33.16	C
ATOM	2912	CD	PRO	A	392	17.620	22.865	-0.756	1.00	33.14	C
ATOM	2913	C	PRO	A	392	16.019	19.971	-2.050	1.00	33.14	C
ATOM	2914	O	PRO	A	392	15.075	19.185	-2.148	1.00	33.25	O
ATOM	2915	N	ALA	A	393	17.103	19.912	-2.824	1.00	33.05	N
ATOM	2916	CA	ALA	A	393	17.242	18.926	-3.897	1.00	33.01	C
ATOM	2917	CB	ALA	A	393	17.900	19.561	-5.117	1.00	33.04	C
ATOM	2918	C	ALA	A	393	18.017	17.679	-3.456	1.00	32.98	C
ATOM	2919	O	ALA	A	393	18.218	16.752	-4.247	1.00	33.01	O
ATOM	2920	N	LEU	A	394	18.439	17.658	-2.193	1.00	32.89	N
ATOM	2921	CA	LEU	A	394	19.246	16.561	-1.662	1.00	32.88	C
ATOM	2922	CB	LEU	A	394	19.795	16.922	-0.275	1.00	32.89	C
ATOM	2923	CG	LEU	A	394	20.937	16.084	0.309	1.00	32.90	C
ATOM	2924	CD1	LEU	A	394	22.191	16.156	-0.562	1.00	32.67	C
ATOM	2925	CD2	LEU	A	394	21.242	16.546	1.723	1.00	32.84	C
ATOM	2926	C	LEU	A	394	18.454	15.256	-1.607	1.00	32.91	C
ATOM	2927	O	LEU	A	394	17.362	15.200	-1.036	1.00	32.97	O
ATOM	2928	N	ASP	A	395	19.015	14.213	-2.213	1.00	32.90	N
ATOM	2929	CA	ASP	A	395	18.352	12.914	-2.305	1.00	32.91	C
ATOM	2930	CB	ASP	A	395	18.449	12.350	-3.736	1.00	33.07	C
ATOM	2931	CG	ASP	A	395	19.863	12.420	-4.311	1.00	33.85	C
ATOM	2932	OD1	ASP	A	395	20.491	13.503	-4.250	1.00	34.69	O
ATOM	2933	OD2	ASP	A	395	20.339	11.393	-4.844	1.00	34.84	O
ATOM	2934	C	ASP	A	395	18.890	11.914	-1.275	1.00	32.64	C
ATOM	2935	O	ASP	A	395	19.734	11.069	-1.588	1.00	32.73	O
ATOM	2936	N	ILE	A	396	18.402	12.031	-0.040	1.00	32.27	N
ATOM	2937	CA	ILE	A	396	18.761	11.101	1.039	1.00	31.92	C
ATOM	2938	CB	ILE	A	396	19.888	11.661	1.960	1.00	32.03	C
ATOM	2939	CG1	ILE	A	396	19.510	13.035	2.524	1.00	32.11	C
ATOM	2940	CD1	ILE	A	396	20.424	13.511	3.639	1.00	32.20	C
ATOM	2941	CG2	ILE	A	396	21.233	11.698	1.223	1.00	32.30	C
ATOM	2942	C	ILE	A	396	17.539	10.719	1.879	1.00	31.46	C
ATOM	2943	O	ILE	A	396	16.529	11.428	1.882	1.00	31.44	O
ATOM	2944	N	THR	A	397	17.641	9.595	2.586	1.00	30.85	N
ATOM	2945	CA	THR	A	397	16.527	9.057	3.365	1.00	30.33	C
ATOM	2946	CB	THR	A	397	16.032	7.708	2.771	1.00	30.35	C
ATOM	2947	OG1	THR	A	397	15.662	7.898	1.400	1.00	30.75	O
ATOM	2948	CG2	THR	A	397	14.826	7.170	3.541	1.00	30.65	C
ATOM	2949	C	THR	A	397	16.918	8.875	4.832	1.00	29.83	C
ATOM	2950	O	THR	A	397	18.070	8.559	5.144	1.00	29.69	O
ATOM	2951	N	PHE	A	398	15.953	9.093	5.724	1.00	29.24	N
ATOM	2952	CA	PHE	A	398	16.152	8.890	7.156	1.00	28.80	C
ATOM	2953	CB	PHE	A	398	15.952	10.202	7.920	1.00	28.77	C
ATOM	2954	CG	PHE	A	398	16.728	11.362	7.359	1.00	28.68	C
ATOM	2955	CD1	PHE	A	398	18.116	11.419	7.482	1.00	28.66	C

ATOM	2956	CE1	PHE	A	398	18.834	12.499	6.970	1.00	28.53	C
ATOM	2957	CZ	PHE	A	398	18.161	13.537	6.333	1.00	28.54	C
ATOM	2958	CE2	PHE	A	398	16.778	13.492	6.207	1.00	28.52	C
ATOM	2959	CD2	PHE	A	398	16.068	12.410	6.722	1.00	28.73	C
ATOM	2960	C	PHE	A	398	15.189	7.836	7.692	1.00	28.43	C
ATOM	2961	O	PHE	A	398	14.060	7.713	7.212	1.00	28.51	O
ATOM	2962	N	VAL	A	399	15.639	7.081	8.691	1.00	27.93	N
ATOM	2963	CA	VAL	A	399	14.789	6.095	9.356	1.00	27.51	C
ATOM	2964	CB	VAL	A	399	15.594	4.836	9.790	1.00	27.56	C
ATOM	2965	CG1	VAL	A	399	14.694	3.837	10.510	1.00	27.48	C
ATOM	2966	CG2	VAL	A	399	16.256	4.180	8.579	1.00	27.62	C
ATOM	2967	C	VAL	A	399	14.085	6.725	10.562	1.00	27.14	C
ATOM	2968	O	VAL	A	399	12.860	6.643	10.687	1.00	27.16	O
ATOM	2969	N	ASP	A	400	14.869	7.362	11.434	1.00	26.60	N
ATOM	2970	CA	ASP	A	400	14.344	8.027	12.627	1.00	26.12	C
ATOM	2971	CB	ASP	A	400	15.499	8.546	13.494	1.00	26.07	C
ATOM	2972	CG	ASP	A	400	15.071	8.866	14.916	1.00	25.68	C
ATOM	2973	OD1	ASP	A	400	14.322	9.844	15.111	1.00	24.98	O
ATOM	2974	OD2	ASP	A	400	15.504	8.150	15.845	1.00	25.50	O
ATOM	2975	C	ASP	A	400	13.403	9.173	12.249	1.00	25.99	C
ATOM	2976	O	ASP	A	400	13.758	10.043	11.449	1.00	25.75	O
ATOM	2977	N	LYS	A	401	12.209	9.166	12.842	1.00	25.84	N
ATOM	2978	CA	LYS	A	401	11.140	10.111	12.494	1.00	25.89	C
ATOM	2979	CB	LYS	A	401	9.806	9.650	13.094	1.00	26.10	C
ATOM	2980	CG	LYS	A	401	9.119	8.529	12.318	1.00	27.10	C
ATOM	2981	CD	LYS	A	401	8.119	9.070	11.296	1.00	28.84	C
ATOM	2982	CE	LYS	A	401	6.795	9.460	11.957	1.00	29.73	C
ATOM	2983	NZ	LYS	A	401	5.721	9.739	10.960	1.00	30.42	N
ATOM	2984	C	LYS	A	401	11.425	11.556	12.912	1.00	25.59	C
ATOM	2985	O	LYS	A	401	10.795	12.488	12.406	1.00	25.69	O
ATOM	2986	N	ARG	A	402	12.369	11.735	13.833	1.00	25.23	N
ATOM	2987	CA	ARG	A	402	12.731	13.070	14.322	1.00	24.90	C
ATOM	2988	CB	ARG	A	402	13.626	12.967	15.559	1.00	24.85	C
ATOM	2989	CG	ARG	A	402	12.933	12.426	16.804	1.00	24.34	C
ATOM	2990	CD	ARG	A	402	13.935	12.169	17.923	1.00	24.35	C
ATOM	2991	NE	ARG	A	402	14.868	11.091	17.593	1.00	23.14	N
ATOM	2992	CZ	ARG	A	402	15.897	10.724	18.355	1.00	23.18	C
ATOM	2993	NH1	ARG	A	402	16.144	11.350	19.500	1.00	22.48	N
ATOM	2994	NH2	ARG	A	402	16.686	9.732	17.968	1.00	23.20	N
ATOM	2995	C	ARG	A	402	13.434	13.914	13.261	1.00	25.03	C
ATOM	2996	O	ARG	A	402	13.277	15.138	13.233	1.00	25.02	O
ATOM	2997	N	ILE	A	403	14.202	13.257	12.392	1.00	25.12	N
ATOM	2998	CA	ILE	A	403	15.139	13.957	11.504	1.00	25.22	C
ATOM	2999	CB	ILE	A	403	16.121	12.984	10.796	1.00	25.16	C
ATOM	3000	CG1	ILE	A	403	16.822	12.092	11.829	1.00	25.47	C
ATOM	3001	CD1	ILE	A	403	17.636	10.951	11.234	1.00	25.14	C
ATOM	3002	CG2	ILE	A	403	17.151	13.773	9.983	1.00	25.08	C
ATOM	3003	C	ILE	A	403	14.448	14.878	10.487	1.00	25.43	C
ATOM	3004	O	ILE	A	403	14.899	16.003	10.262	1.00	25.44	O
ATOM	3005	N	GLU	A	404	13.358	14.400	9.889	1.00	25.70	N
ATOM	3006	CA	GLU	A	404	12.561	15.211	8.964	1.00	26.04	C
ATOM	3007	CB	GLU	A	404	11.339	14.430	8.465	1.00	26.36	C
ATOM	3008	CG	GLU	A	404	11.668	13.186	7.636	1.00	28.24	C
ATOM	3009	CD	GLU	A	404	11.785	11.916	8.472	1.00	30.17	C
ATOM	3010	OE1	GLU	A	404	11.889	12.014	9.716	1.00	31.41	O
ATOM	3011	OE2	GLU	A	404	11.766	10.812	7.879	1.00	31.34	O
ATOM	3012	C	GLU	A	404	12.114	16.519	9.623	1.00	25.73	C
ATOM	3013	O	GLU	A	404	12.182	17.587	9.012	1.00	25.68	O
ATOM	3014	N	LYS	A	405	11.667	16.418	10.874	1.00	25.31	N
ATOM	3015	CA	LYS	A	405	11.236	17.579	11.649	1.00	25.09	C
ATOM	3016	CB	LYS	A	405	10.519	17.138	12.927	1.00	25.34	C
ATOM	3017	CG	LYS	A	405	9.289	16.282	12.693	1.00	25.92	C
ATOM	3018	CD	LYS	A	405	8.734	15.764	14.007	1.00	26.97	C
ATOM	3019	CE	LYS	A	405	7.549	14.846	13.777	1.00	27.76	C

ATOM	3020	NZ	LYS	A	405	6.963	14.382	15.063	1.00	28.66	N
ATOM	3021	C	LYS	A	405	12.425	18.467	12.001	1.00	24.63	C
ATOM	3022	O	LYS	A	405	12.345	19.693	11.895	1.00	24.35	O
ATOM	3023	N	LEU	A	406	13.523	17.840	12.424	1.00	24.20	N
ATOM	3024	CA	LEU	A	406	14.759	18.561	12.725	1.00	23.99	C
ATOM	3025	CB	LEU	A	406	15.847	17.603	13.221	1.00	24.04	C
ATOM	3026	CG	LEU	A	406	15.716	17.022	14.633	1.00	24.13	C
ATOM	3027	CD1	LEU	A	406	16.721	15.897	14.837	1.00	24.41	C
ATOM	3028	CD2	LEU	A	406	15.891	18.097	15.701	1.00	24.39	C
ATOM	3029	C	LEU	A	406	15.265	19.323	11.508	1.00	23.82	C
ATOM	3030	O	LEU	A	406	15.735	20.452	11.631	1.00	23.88	O
ATOM	3031	N	LEU	A	407	15.151	18.702	10.334	1.00	23.66	N
ATOM	3032	CA	LEU	A	407	15.665	19.285	9.098	1.00	23.48	C
ATOM	3033	CB	LEU	A	407	15.693	18.244	7.970	1.00	23.48	C
ATOM	3034	CG	LEU	A	407	16.245	18.652	6.597	1.00	23.44	C
ATOM	3035	CD1	LEU	A	407	17.680	19.174	6.678	1.00	23.69	C
ATOM	3036	CD2	LEU	A	407	16.151	17.483	5.626	1.00	23.72	C
ATOM	3037	C	LEU	A	407	14.883	20.528	8.676	1.00	23.45	C
ATOM	3038	O	LEU	A	407	15.483	21.534	8.295	1.00	23.32	O
ATOM	3039	N	PHE	A	408	13.552	20.463	8.754	1.00	23.44	N
ATOM	3040	CA	PHE	A	408	12.722	21.625	8.428	1.00	23.61	C
ATOM	3041	CB	PHE	A	408	11.227	21.299	8.459	1.00	23.79	C
ATOM	3042	CG	PHE	A	408	10.351	22.500	8.213	1.00	24.34	C
ATOM	3043	CD1	PHE	A	408	10.211	23.024	6.926	1.00	24.69	C
ATOM	3044	CE1	PHE	A	408	9.421	24.146	6.695	1.00	25.46	C
ATOM	3045	CZ	PHE	A	408	8.768	24.764	7.755	1.00	25.45	C
ATOM	3046	CE2	PHE	A	408	8.904	24.259	9.042	1.00	25.49	C
ATOM	3047	CD2	PHE	A	408	9.698	23.133	9.267	1.00	24.99	C
ATOM	3048	C	PHE	A	408	13.015	22.808	9.348	1.00	23.50	C
ATOM	3049	O	PHE	A	408	13.247	23.921	8.873	1.00	23.58	O
ATOM	3050	N	ASN	A	409	12.996	22.561	10.659	1.00	23.47	N
ATOM	3051	CA	ASN	A	409	13.348	23.579	11.649	1.00	23.38	C
ATOM	3052	CB	ASN	A	409	13.283	23.000	13.065	1.00	23.45	C
ATOM	3053	CG	ASN	A	409	11.863	22.829	13.568	1.00	24.08	C
ATOM	3054	OD1	ASN	A	409	10.902	23.264	12.930	1.00	25.17	O
ATOM	3055	ND2	ASN	A	409	11.724	22.193	14.727	1.00	25.11	N
ATOM	3056	C	ASN	A	409	14.735	24.161	11.398	1.00	23.17	C
ATOM	3057	O	ASN	A	409	14.922	25.376	11.451	1.00	23.25	O
ATOM	3058	N	TYR	A	410	15.694	23.280	11.115	1.00	22.82	N
ATOM	3059	CA	TYR	A	410	17.077	23.666	10.825	1.00	22.69	C
ATOM	3060	CB	TYR	A	410	17.911	22.414	10.521	1.00	22.72	C
ATOM	3061	CG	TYR	A	410	19.363	22.658	10.155	1.00	22.89	C
ATOM	3062	CD1	TYR	A	410	20.302	23.008	11.129	1.00	22.39	C
ATOM	3063	CE1	TYR	A	410	21.641	23.214	10.798	1.00	22.91	C
ATOM	3064	CZ	TYR	A	410	22.057	23.053	9.485	1.00	22.99	C
ATOM	3065	OH	TYR	A	410	23.382	23.253	9.157	1.00	24.19	O
ATOM	3066	CE2	TYR	A	410	21.147	22.698	8.499	1.00	22.91	C
ATOM	3067	CD2	TYR	A	410	19.807	22.497	8.840	1.00	22.68	C
ATOM	3068	C	TYR	A	410	17.133	24.646	9.658	1.00	22.61	C
ATOM	3069	O	TYR	A	410	17.747	25.705	9.756	1.00	22.20	O
ATOM	3070	N	ARG	A	411	16.455	24.298	8.568	1.00	22.67	N
ATOM	3071	CA	ARG	A	411	16.416	25.144	7.381	1.00	22.90	C
ATOM	3072	CB	ARG	A	411	15.814	24.381	6.197	1.00	22.87	C
ATOM	3073	CG	ARG	A	411	16.669	23.217	5.711	1.00	23.06	C
ATOM	3074	CD	ARG	A	411	16.050	22.526	4.501	1.00	23.74	C
ATOM	3075	NE	ARG	A	411	15.922	23.438	3.365	1.00	25.83	N
ATOM	3076	CZ	ARG	A	411	14.769	23.784	2.797	1.00	27.04	C
ATOM	3077	NH1	ARG	A	411	13.621	23.281	3.234	1.00	27.76	N
ATOM	3078	NH2	ARG	A	411	14.766	24.631	1.779	1.00	27.44	N
ATOM	3079	C	ARG	A	411	15.650	26.445	7.623	1.00	22.98	C
ATOM	3080	O	ARG	A	411	16.107	27.516	7.236	1.00	23.23	O
ATOM	3081	N	ALA	A	412	14.493	26.344	8.274	1.00	23.00	N
ATOM	3082	CA	ALA	A	412	13.624	27.503	8.493	1.00	23.20	C
ATOM	3083	CB	ALA	A	412	12.244	27.056	8.938	1.00	23.26	C

ATOM	3084	C	ALA	A	412	14.206	28.520	9.481	1.00	23.39	C
ATOM	3085	O	ALA	A	412	14.024	29.725	9.312	1.00	23.34	O
ATOM	3086	N	ARG	A	413	14.901	28.027	10.506	1.00	23.67	N
ATOM	3087	CA	ARG	A	413	15.495	28.893	11.531	1.00	24.15	C
ATOM	3088	CB	ARG	A	413	15.727	28.111	12.826	1.00	23.96	C
ATOM	3089	CG	ARG	A	413	14.469	27.811	13.607	1.00	24.04	C
ATOM	3090	CD	ARG	A	413	14.776	26.932	14.804	1.00	23.45	C
ATOM	3091	NE	ARG	A	413	13.580	26.661	15.597	1.00	23.29	N
ATOM	3092	CZ	ARG	A	413	13.402	25.574	16.342	1.00	23.80	C
ATOM	3093	NH1	ARG	A	413	14.340	24.635	16.393	1.00	24.34	N
ATOM	3094	NH2	ARG	A	413	12.277	25.421	17.030	1.00	23.75	N
ATOM	3095	C	ARG	A	413	16.806	29.530	11.079	1.00	24.55	C
ATOM	3096	O	ARG	A	413	17.068	30.700	11.375	1.00	24.94	O
ATOM	3097	N	ASN	A	414	17.628	28.754	10.375	1.00	24.94	N
ATOM	3098	CA	ASN	A	414	18.976	29.187	10.003	1.00	25.44	C
ATOM	3099	CB	ASN	A	414	19.959	28.020	10.101	1.00	25.34	C
ATOM	3100	CG	ASN	A	414	20.127	27.520	11.518	1.00	25.48	C
ATOM	3101	OD1	ASN	A	414	19.707	26.415	11.851	1.00	26.75	O
ATOM	3102	ND2	ASN	A	414	20.735	28.335	12.363	1.00	24.95	N
ATOM	3103	C	ASN	A	414	19.060	29.806	8.617	1.00	25.77	C
ATOM	3104	O	ASN	A	414	19.779	30.787	8.414	1.00	25.93	O
ATOM	3105	N	PHE	A	415	18.334	29.223	7.664	1.00	26.20	N
ATOM	3106	CA	PHE	A	415	18.420	29.643	6.264	1.00	26.54	C
ATOM	3107	CB	PHE	A	415	19.195	28.600	5.444	1.00	26.66	C
ATOM	3108	CG	PHE	A	415	20.414	28.057	6.144	1.00	27.00	C
ATOM	3109	CD1	PHE	A	415	21.548	28.850	6.315	1.00	27.23	C
ATOM	3110	CE1	PHE	A	415	22.675	28.353	6.967	1.00	27.54	C
ATOM	3111	CZ	PHE	A	415	22.678	27.046	7.455	1.00	27.40	C
ATOM	3112	CE2	PHE	A	415	21.554	26.244	7.289	1.00	27.59	C
ATOM	3113	CD2	PHE	A	415	20.427	26.752	6.636	1.00	27.40	C
ATOM	3114	C	PHE	A	415	17.029	29.883	5.656	1.00	26.71	C
ATOM	3115	O	PHE	A	415	16.632	29.182	4.717	1.00	26.60	O
ATOM	3116	N	PRO	A	416	16.290	30.887	6.181	1.00	26.91	N
ATOM	3117	CA	PRO	A	416	14.900	31.119	5.761	1.00	26.95	C
ATOM	3118	CB	PRO	A	416	14.446	32.269	6.669	1.00	26.99	C
ATOM	3119	CG	PRO	A	416	15.701	32.954	7.068	1.00	27.10	C
ATOM	3120	CD	PRO	A	416	16.722	31.872	7.190	1.00	27.01	C
ATOM	3121	C	PRO	A	416	14.754	31.516	4.287	1.00	27.01	C
ATOM	3122	O	PRO	A	416	13.674	31.363	3.716	1.00	27.07	O
ATOM	3123	N	GLY	A	417	15.835	32.010	3.686	1.00	27.03	N
ATOM	3124	CA	GLY	A	417	15.832	32.404	2.275	1.00	26.99	C
ATOM	3125	C	GLY	A	417	15.814	31.232	1.307	1.00	26.96	C
ATOM	3126	O	GLY	A	417	15.642	31.419	0.097	1.00	27.15	O
ATOM	3127	N	THR	A	418	15.993	30.022	1.839	1.00	26.93	N
ATOM	3128	CA	THR	A	418	15.991	28.800	1.029	1.00	26.91	C
ATOM	3129	CB	THR	A	418	17.091	27.807	1.484	1.00	26.93	C
ATOM	3130	OG1	THR	A	418	16.789	27.320	2.797	1.00	26.88	O
ATOM	3131	CG2	THR	A	418	18.463	28.475	1.489	1.00	26.87	C
ATOM	3132	C	THR	A	418	14.631	28.089	1.046	1.00	26.81	C
ATOM	3133	O	THR	A	418	14.461	27.046	0.409	1.00	27.05	O
ATOM	3134	N	LEU	A	419	13.671	28.655	1.775	1.00	26.77	N
ATOM	3135	CA	LEU	A	419	12.323	28.090	1.856	1.00	26.69	C
ATOM	3136	CB	LEU	A	419	11.638	28.501	3.165	1.00	26.73	C
ATOM	3137	CG	LEU	A	419	12.333	28.262	4.510	1.00	26.68	C
ATOM	3138	CD1	LEU	A	419	11.499	28.866	5.626	1.00	27.10	C
ATOM	3139	CD2	LEU	A	419	12.585	26.779	4.767	1.00	26.83	C
ATOM	3140	C	LEU	A	419	11.463	28.543	0.682	1.00	26.67	C
ATOM	3141	O	LEU	A	419	11.508	29.712	0.289	1.00	26.75	O
ATOM	3142	N	ASP	A	420	10.675	27.621	0.129	1.00	26.66	N
ATOM	3143	CA	ASP	A	420	9.688	27.977	-0.897	1.00	26.64	C
ATOM	3144	CB	ASP	A	420	9.446	26.812	-1.880	1.00	26.99	C
ATOM	3145	CG	ASP	A	420	8.792	25.592	-1.226	1.00	27.60	C
ATOM	3146	OD1	ASP	A	420	8.213	25.714	-0.127	1.00	28.34	O
ATOM	3147	OD2	ASP	A	420	8.844	24.503	-1.838	1.00	29.00	O

ATOM	3148	C	ASP	A	420	8.386	28.468	-0.250	1.00	26.44	C
ATOM	3149	O	ASP	A	420	8.278	28.497	0.977	1.00	26.23	O
ATOM	3150	N	TYR	A	421	7.407	28.854	-1.069	1.00	26.26	N
ATOM	3151	CA	TYR	A	421	6.157	29.424	-0.552	1.00	26.15	C
ATOM	3152	CB	TYR	A	421	5.205	29.814	-1.690	1.00	26.02	C
ATOM	3153	CG	TYR	A	421	3.926	30.468	-1.203	1.00	26.01	C
ATOM	3154	CD1	TYR	A	421	3.890	31.828	-0.887	1.00	25.95	C
ATOM	3155	CE1	TYR	A	421	2.721	32.430	-0.429	1.00	25.88	C
ATOM	3156	CZ	TYR	A	421	1.571	31.668	-0.278	1.00	25.96	C
ATOM	3157	OH	TYR	A	421	0.410	32.256	0.173	1.00	26.24	O
ATOM	3158	CE2	TYR	A	421	1.581	30.316	-0.584	1.00	25.71	C
ATOM	3159	CD2	TYR	A	421	2.756	29.723	-1.041	1.00	25.85	C
ATOM	3160	C	TYR	A	421	5.448	28.501	0.441	1.00	26.30	C
ATOM	3161	O	TYR	A	421	5.021	28.944	1.511	1.00	26.11	O
ATOM	3162	N	ALA	A	422	5.328	27.223	0.081	1.00	26.38	N
ATOM	3163	CA	ALA	A	422	4.668	26.230	0.929	1.00	26.50	C
ATOM	3164	CB	ALA	A	422	4.560	24.895	0.204	1.00	26.50	C
ATOM	3165	C	ALA	A	422	5.387	26.060	2.268	1.00	26.59	C
ATOM	3166	O	ALA	A	422	4.743	25.950	3.313	1.00	26.66	O
ATOM	3167	N	GLU	A	423	6.720	26.047	2.225	1.00	26.74	N
ATOM	3168	CA	GLU	A	423	7.543	25.948	3.440	1.00	26.96	C
ATOM	3169	CB	GLU	A	423	9.001	25.635	3.086	1.00	27.01	C
ATOM	3170	CG	GLU	A	423	9.244	24.190	2.643	1.00	27.20	C
ATOM	3171	CD	GLU	A	423	10.597	23.988	1.970	1.00	27.41	C
ATOM	3172	OE1	GLU	A	423	11.132	24.955	1.388	1.00	27.82	O
ATOM	3173	OE2	GLU	A	423	11.118	22.853	2.012	1.00	27.85	O
ATOM	3174	C	GLU	A	423	7.462	27.219	4.286	1.00	27.00	C
ATOM	3175	O	GLU	A	423	7.503	27.156	5.520	1.00	26.93	O
ATOM	3176	N	GLN	A	424	7.346	28.367	3.618	1.00	27.08	N
ATOM	3177	CA	GLN	A	424	7.159	29.652	4.296	1.00	27.28	C
ATOM	3178	CB	GLN	A	424	7.221	30.808	3.291	1.00	27.26	C
ATOM	3179	CG	GLN	A	424	8.634	31.194	2.862	1.00	27.48	C
ATOM	3180	CD	GLN	A	424	8.654	32.162	1.686	1.00	28.08	C
ATOM	3181	OE1	GLN	A	424	7.618	32.692	1.279	1.00	28.92	O
ATOM	3182	NE2	GLN	A	424	9.839	32.390	1.131	1.00	29.26	N
ATOM	3183	C	GLN	A	424	5.839	29.696	5.066	1.00	27.30	C
ATOM	3184	O	GLN	A	424	5.775	30.247	6.166	1.00	27.24	O
ATOM	3185	N	GLN	A	425	4.793	29.114	4.481	1.00	27.36	N
ATOM	3186	CA	GLN	A	425	3.481	29.048	5.128	1.00	27.44	C
ATOM	3187	CB	GLN	A	425	2.389	28.685	4.116	1.00	27.51	C
ATOM	3188	CG	GLN	A	425	2.139	29.753	3.051	1.00	27.94	C
ATOM	3189	CD	GLN	A	425	1.797	31.113	3.642	1.00	28.66	C
ATOM	3190	OE1	GLN	A	425	2.521	32.087	3.442	1.00	29.19	O
ATOM	3191	NE2	GLN	A	425	0.692	31.181	4.379	1.00	29.28	N
ATOM	3192	C	GLN	A	425	3.475	28.067	6.298	1.00	27.51	C
ATOM	3193	O	GLN	A	425	2.792	28.293	7.299	1.00	27.41	O
ATOM	3194	N	ARG	A	426	4.239	26.983	6.164	1.00	27.53	N
ATOM	3195	CA	ARG	A	426	4.408	26.014	7.246	1.00	27.80	C
ATOM	3196	CB	ARG	A	426	5.198	24.790	6.763	1.00	27.86	C
ATOM	3197	CG	ARG	A	426	5.292	23.655	7.784	1.00	28.29	C
ATOM	3198	CD	ARG	A	426	6.118	22.486	7.259	1.00	28.56	C
ATOM	3199	NE	ARG	A	426	6.593	21.624	8.345	1.00	29.94	N
ATOM	3200	CZ	ARG	A	426	7.375	20.559	8.178	1.00	30.12	C
ATOM	3201	NH1	ARG	A	426	7.782	20.205	6.963	1.00	30.30	N
ATOM	3202	NH2	ARG	A	426	7.751	19.843	9.230	1.00	30.61	N
ATOM	3203	C	ARG	A	426	5.099	26.669	8.444	1.00	27.71	C
ATOM	3204	O	ARG	A	426	4.740	26.411	9.595	1.00	27.67	O
ATOM	3205	N	TRP	A	427	6.075	27.531	8.162	1.00	27.67	N
ATOM	3206	CA	TRP	A	427	6.793	28.248	9.213	1.00	27.78	C
ATOM	3207	CB	TRP	A	427	8.091	28.854	8.680	1.00	27.72	C
ATOM	3208	CG	TRP	A	427	8.970	29.396	9.767	1.00	27.64	C
ATOM	3209	CD1	TRP	A	427	9.319	30.700	9.965	1.00	27.83	C
ATOM	3210	NE1	TRP	A	427	10.131	30.811	11.070	1.00	27.75	N
ATOM	3211	CE2	TRP	A	427	10.313	29.568	11.615	1.00	27.64	C

ATOM	3212	CD2	TRP	A	427	9.591	28.649	10.821	1.00	27.94	C
ATOM	3213	CE3	TRP	A	427	9.610	27.291	11.169	1.00	27.75	C
ATOM	3214	CZ3	TRP	A	427	10.347	26.898	12.282	1.00	27.78	C
ATOM	3215	CH2	TRP	A	427	11.053	27.839	13.053	1.00	27.62	C
ATOM	3216	CZ2	TRP	A	427	11.050	29.173	12.735	1.00	27.48	C
ATOM	3217	C	TRP	A	427	5.936	29.325	9.875	1.00	28.06	C
ATOM	3218	O	TRP	A	427	6.022	29.531	11.086	1.00	27.94	O
ATOM	3219	N	LEU	A	428	5.117	30.011	9.078	1.00	28.34	N
ATOM	3220	CA	LEU	A	428	4.186	31.007	9.609	1.00	28.82	C
ATOM	3221	CB	LEU	A	428	3.427	31.708	8.477	1.00	28.88	C
ATOM	3222	CG	LEU	A	428	4.144	32.848	7.744	1.00	29.44	C
ATOM	3223	CD1	LEU	A	428	3.336	33.277	6.527	1.00	29.77	C
ATOM	3224	CD2	LEU	A	428	4.389	34.040	8.673	1.00	29.87	C
ATOM	3225	C	LEU	A	428	3.205	30.380	10.595	1.00	29.04	C
ATOM	3226	O	LEU	A	428	2.918	30.958	11.647	1.00	29.04	O
ATOM	3227	N	GLU	A	429	2.706	29.192	10.252	1.00	29.33	N
ATOM	3228	CA	GLU	A	429	1.798	28.447	11.123	1.00	29.77	C
ATOM	3229	CB	GLU	A	429	1.199	27.247	10.380	1.00	29.95	C
ATOM	3230	CG	GLU	A	429	0.032	26.575	11.106	1.00	31.05	C
ATOM	3231	CD	GLU	A	429	-1.092	27.545	11.440	1.00	32.27	C
ATOM	3232	OE1	GLU	A	429	-1.690	28.116	10.502	1.00	33.20	O
ATOM	3233	OE2	GLU	A	429	-1.377	27.732	12.642	1.00	33.24	O
ATOM	3234	C	GLU	A	429	2.505	27.987	12.399	1.00	29.75	C
ATOM	3235	O	GLU	A	429	1.921	28.020	13.484	1.00	29.78	O
ATOM	3236	N	HIS	A	430	3.760	27.562	12.255	1.00	29.80	N
ATOM	3237	CA	HIS	A	430	4.600	27.188	13.395	1.00	29.92	C
ATOM	3238	CB	HIS	A	430	5.984	26.734	12.910	1.00	29.82	C
ATOM	3239	CG	HIS	A	430	7.002	26.607	14.003	1.00	29.75	C
ATOM	3240	ND1	HIS	A	430	7.202	25.437	14.702	1.00	29.97	N
ATOM	3241	CE1	HIS	A	430	8.160	25.617	15.594	1.00	30.02	C
ATOM	3242	NE2	HIS	A	430	8.591	26.862	15.497	1.00	29.87	N
ATOM	3243	CD2	HIS	A	430	7.884	27.502	14.508	1.00	30.04	C
ATOM	3244	C	HIS	A	430	4.731	28.346	14.383	1.00	30.18	C
ATOM	3245	O	HIS	A	430	4.585	28.157	15.595	1.00	30.08	O
ATOM	3246	N	ARG	A	431	5.000	29.541	13.857	1.00	30.45	N
ATOM	3247	CA	ARG	A	431	5.151	30.740	14.685	1.00	30.84	C
ATOM	3248	CB	ARG	A	431	5.711	31.905	13.862	1.00	30.80	C
ATOM	3249	CG	ARG	A	431	7.134	31.681	13.364	1.00	31.07	C
ATOM	3250	CD	ARG	A	431	7.624	32.838	12.509	1.00	31.47	C
ATOM	3251	NE	ARG	A	431	8.098	33.960	13.317	1.00	32.66	N
ATOM	3252	CZ	ARG	A	431	7.475	35.132	13.427	1.00	33.11	C
ATOM	3253	NH1	ARG	A	431	6.340	35.357	12.774	1.00	33.51	N
ATOM	3254	NH2	ARG	A	431	7.994	36.085	14.188	1.00	33.18	N
ATOM	3255	C	ARG	A	431	3.838	31.139	15.355	1.00	30.98	C
ATOM	3256	O	ARG	A	431	3.833	31.576	16.505	1.00	30.90	O
ATOM	3257	N	ARG	A	432	2.729	30.976	14.631	1.00	31.21	N
ATOM	3258	CA	ARG	A	432	1.395	31.258	15.172	1.00	31.58	C
ATOM	3259	CB	ARG	A	432	0.334	31.187	14.067	1.00	31.56	C
ATOM	3260	CG	ARG	A	432	0.323	32.391	13.133	1.00	32.02	C
ATOM	3261	CD	ARG	A	432	-0.734	32.245	12.046	1.00	32.35	C
ATOM	3262	NE	ARG	A	432	-0.628	33.299	11.037	1.00	33.80	N
ATOM	3263	CZ	ARG	A	432	-1.452	33.439	10.001	1.00	34.49	C
ATOM	3264	NH1	ARG	A	432	-2.460	32.592	9.822	1.00	34.96	N
ATOM	3265	NH2	ARG	A	432	-1.270	34.431	9.139	1.00	35.02	N
ATOM	3266	C	ARG	A	432	1.025	30.315	16.321	1.00	31.58	C
ATOM	3267	O	ARG	A	432	0.307	30.705	17.244	1.00	31.53	O
ATOM	3268	N	GLN	A	433	1.520	29.079	16.256	1.00	31.63	N
ATOM	3269	CA	GLN	A	433	1.252	28.077	17.292	1.00	31.83	C
ATOM	3270	CB	GLN	A	433	1.495	26.663	16.752	1.00	31.81	C
ATOM	3271	CG	GLN	A	433	0.379	26.154	15.836	1.00	32.28	C
ATOM	3272	CD	GLN	A	433	0.749	24.880	15.085	1.00	32.55	C
ATOM	3273	OE1	GLN	A	433	1.763	24.240	15.373	1.00	33.88	O
ATOM	3274	NE2	GLN	A	433	-0.078	24.509	14.115	1.00	33.03	N
ATOM	3275	C	GLN	A	433	2.076	28.322	18.558	1.00	31.71	C

ATOM	3276	O	GLN	A	433	1.646	27.982	19.663	1.00	31.67	O
ATOM	3277	N	VAL	A	434	3.257	28.913	18.387	1.00	31.60	N
ATOM	3278	CA	VAL	A	434	4.078	29.346	19.519	1.00	31.59	C
ATOM	3279	CB	VAL	A	434	5.565	29.564	19.107	1.00	31.49	C
ATOM	3280	CG1	VAL	A	434	6.374	30.132	20.270	1.00	31.66	C
ATOM	3281	CG2	VAL	A	434	6.181	28.265	18.616	1.00	31.59	C
ATOM	3282	C	VAL	A	434	3.511	30.639	20.107	1.00	31.57	C
ATOM	3283	O	VAL	A	434	3.282	30.735	21.317	1.00	31.59	O
ATOM	3284	N	PHE	A	435	3.270	31.621	19.240	1.00	31.62	N
ATOM	3285	CA	PHE	A	435	2.837	32.944	19.674	1.00	31.68	C
ATOM	3286	CB	PHE	A	435	3.458	34.034	18.795	1.00	31.57	C
ATOM	3287	CG	PHE	A	435	4.960	33.977	18.730	1.00	31.44	C
ATOM	3288	CD1	PHE	A	435	5.718	33.801	19.890	1.00	31.49	C
ATOM	3289	CE1	PHE	A	435	7.109	33.748	19.832	1.00	31.29	C
ATOM	3290	CZ	PHE	A	435	7.755	33.882	18.609	1.00	31.33	C
ATOM	3291	CE2	PHE	A	435	7.012	34.061	17.447	1.00	31.39	C
ATOM	3292	CD2	PHE	A	435	5.621	34.110	17.513	1.00	31.62	C
ATOM	3293	C	PHE	A	435	1.317	33.075	19.723	1.00	31.86	C
ATOM	3294	O	PHE	A	435	0.689	33.627	18.810	1.00	31.90	O
ATOM	3295	N	THR	A	436	0.700	32.611	20.811	1.00	32.09	N
ATOM	3296	CA	THR	A	436	-0.744	32.538	20.995	1.00	32.28	C
ATOM	3297	CB	THR	A	436	-1.159	31.204	21.667	1.00	32.28	C
ATOM	3298	OG1	THR	A	436	-0.358	30.984	22.838	1.00	32.26	O
ATOM	3299	CG2	THR	A	436	-0.973	30.035	20.707	1.00	32.38	C
ATOM	3300	C	THR	A	436	-1.160	33.696	21.892	1.00	32.48	C
ATOM	3301	O	THR	A	436	-0.354	34.219	22.669	1.00	32.58	O
ATOM	3302	N	PRO	A	437	-2.343	34.199	21.692	1.00	32.62	N
ATOM	3303	CA	PRO	A	437	-2.854	35.312	22.499	1.00	32.65	C
ATOM	3304	CB	PRO	A	437	-4.369	35.295	22.216	1.00	32.69	C
ATOM	3305	CG	PRO	A	437	-4.623	34.009	21.452	1.00	32.68	C
ATOM	3306	CD	PRO	A	437	-3.353	33.708	20.741	1.00	32.65	C
ATOM	3307	C	PRO	A	437	-2.587	35.106	23.993	1.00	32.64	C
ATOM	3308	O	PRO	A	437	-2.222	36.053	24.690	1.00	32.71	O
ATOM	3309	N	GLU	A	438	-2.733	33.802	24.450	1.00	32.58	N
ATOM	3310	CA	GLU	A	438	-2.477	33.443	25.848	1.00	32.57	C
ATOM	3311	CB	GLU	A	438	-2.982	32.028	26.136	1.00	32.61	C
ATOM	3312	CG	GLU	A	438	-2.649	31.018	25.043	1.00	33.20	C
ATOM	3313	CD	GLU	A	438	-3.124	29.618	25.366	1.00	33.53	C
ATOM	3314	OE1	GLU	A	438	-3.471	29.361	26.543	1.00	34.34	O
ATOM	3315	OE2	GLU	A	438	-3.147	28.774	24.443	1.00	34.01	O
ATOM	3316	C	GLU	A	438	-1.000	33.554	26.226	1.00	32.24	C
ATOM	3317	O	GLU	A	438	-0.668	34.011	27.322	1.00	32.33	O
ATOM	3318	N	PHE	A	439	-0.109	33.131	25.363	1.00	31.85	N
ATOM	3319	CA	PHE	A	439	1.328	33.215	25.600	1.00	31.35	C
ATOM	3320	CB	PHE	A	439	2.105	32.373	24.581	1.00	31.40	C
ATOM	3321	CG	PHE	A	439	3.600	32.534	24.673	1.00	31.40	C
ATOM	3322	CD1	PHE	A	439	4.317	31.947	25.716	1.00	31.59	C
ATOM	3323	CE1	PHE	A	439	5.699	32.096	25.805	1.00	31.55	C
ATOM	3324	CZ	PHE	A	439	6.379	32.836	24.843	1.00	31.46	C
ATOM	3325	CE2	PHE	A	439	5.677	33.425	23.798	1.00	31.37	C
ATOM	3326	CD2	PHE	A	439	4.293	33.272	23.717	1.00	31.61	C
ATOM	3327	C	PHE	A	439	1.801	34.666	25.571	1.00	31.05	C
ATOM	3328	O	PHE	A	439	2.592	35.082	26.419	1.00	30.99	O
ATOM	3329	N	LEU	A	440	1.301	35.429	24.600	1.00	30.61	N
ATOM	3330	CA	LEU	A	440	1.692	36.828	24.435	1.00	30.26	C
ATOM	3331	CB	LEU	A	440	1.212	37.380	23.084	1.00	30.43	C
ATOM	3332	CG	LEU	A	440	1.605	36.629	21.804	1.00	30.59	C
ATOM	3333	CD1	LEU	A	440	1.288	37.462	20.571	1.00	31.06	C
ATOM	3334	CD2	LEU	A	440	3.069	36.214	21.810	1.00	31.06	C
ATOM	3335	C	LEU	A	440	1.179	37.697	25.580	1.00	29.92	C
ATOM	3336	O	LEU	A	440	1.871	38.614	26.028	1.00	29.84	O
ATOM	3337	N	GLN	A	441	-0.034	37.400	26.049	1.00	29.49	N
ATOM	3338	CA	GLN	A	441	-0.615	38.099	27.194	1.00	29.07	C
ATOM	3339	CB	GLN	A	441	-2.102	37.753	27.351	1.00	29.18	C

ATOM	3340	CG	GLN	A	441	-2.841	38.606	28.383	1.00	29.75	C
ATOM	3341	CD	GLN	A	441	-2.852	40.081	28.024	1.00	30.43	C
ATOM	3342	OE1	GLN	A	441	-3.384	40.476	26.986	1.00	31.08	O
ATOM	3343	NE2	GLN	A	441	-2.266	40.904	28.885	1.00	30.79	N
ATOM	3344	C	GLN	A	441	0.144	37.765	28.474	1.00	28.58	C
ATOM	3345	O	GLN	A	441	0.458	38.655	29.265	1.00	28.65	O
ATOM	3346	N	GLY	A	442	0.439	36.479	28.666	1.00	27.94	N
ATOM	3347	CA	GLY	A	442	1.241	36.022	29.800	1.00	27.15	C
ATOM	3348	C	GLY	A	442	2.633	36.628	29.795	1.00	26.49	C
ATOM	3349	O	GLY	A	442	3.180	36.958	30.849	1.00	26.50	O
ATOM	3350	N	TYR	A	443	3.200	36.781	28.599	1.00	25.80	N
ATOM	3351	CA	TYR	A	443	4.506	37.409	28.434	1.00	25.26	C
ATOM	3352	CB	TYR	A	443	5.005	37.245	26.994	1.00	24.62	C
ATOM	3353	CG	TYR	A	443	6.499	37.411	26.843	1.00	23.83	C
ATOM	3354	CD1	TYR	A	443	7.366	36.341	27.081	1.00	23.37	C
ATOM	3355	CE1	TYR	A	443	8.742	36.487	26.946	1.00	22.61	C
ATOM	3356	CZ	TYR	A	443	9.266	37.715	26.568	1.00	22.69	C
ATOM	3357	OH	TYR	A	443	10.626	37.863	26.431	1.00	22.52	O
ATOM	3358	CE2	TYR	A	443	8.428	38.792	26.325	1.00	22.51	C
ATOM	3359	CD2	TYR	A	443	7.051	38.635	26.465	1.00	22.79	C
ATOM	3360	C	TYR	A	443	4.459	38.888	28.819	1.00	25.28	C
ATOM	3361	O	TYR	A	443	5.304	39.363	29.580	1.00	25.21	O
ATOM	3362	N	ALA	A	444	3.462	39.604	28.297	1.00	25.48	N
ATOM	3363	CA	ALA	A	444	3.257	41.016	28.626	1.00	25.81	C
ATOM	3364	CB	ALA	A	444	2.107	41.593	27.806	1.00	25.81	C
ATOM	3365	C	ALA	A	444	3.001	41.213	30.120	1.00	26.01	C
ATOM	3366	O	ALA	A	444	3.508	42.162	30.724	1.00	26.04	O
ATOM	3367	N	ASP	A	445	2.220	40.307	30.708	1.00	26.34	N
ATOM	3368	CA	ASP	A	445	1.905	40.350	32.137	1.00	26.71	C
ATOM	3369	CB	ASP	A	445	0.853	39.293	32.497	1.00	26.87	C
ATOM	3370	CG	ASP	A	445	-0.544	39.660	32.012	1.00	27.59	C
ATOM	3371	OD1	ASP	A	445	-0.797	40.852	31.730	1.00	28.24	O
ATOM	3372	OD2	ASP	A	445	-1.395	38.749	31.919	1.00	28.77	O
ATOM	3373	C	ASP	A	445	3.144	40.169	33.010	1.00	26.77	C
ATOM	3374	O	ASP	A	445	3.273	40.815	34.050	1.00	26.68	O
ATOM	3375	N	GLU	A	446	4.047	39.285	32.587	1.00	26.79	N
ATOM	3376	CA	GLU	A	446	5.284	39.045	33.327	1.00	27.17	C
ATOM	3377	CB	GLU	A	446	6.018	37.808	32.799	1.00	27.24	C
ATOM	3378	CG	GLU	A	446	7.149	37.340	33.717	1.00	28.26	C
ATOM	3379	CD	GLU	A	446	7.944	36.169	33.159	1.00	28.85	C
ATOM	3380	OE1	GLU	A	446	7.471	35.503	32.211	1.00	31.26	O
ATOM	3381	OE2	GLU	A	446	9.050	35.912	33.682	1.00	30.75	O
ATOM	3382	C	GLU	A	446	6.202	40.265	33.290	1.00	26.78	C
ATOM	3383	O	GLU	A	446	6.779	40.644	34.310	1.00	26.64	O
ATOM	3384	N	LEU	A	447	6.325	40.876	32.112	1.00	26.64	N
ATOM	3385	CA	LEU	A	447	7.156	42.070	31.941	1.00	26.52	C
ATOM	3386	CB	LEU	A	447	7.206	42.491	30.468	1.00	26.40	C
ATOM	3387	CG	LEU	A	447	7.883	41.528	29.485	1.00	26.07	C
ATOM	3388	CD1	LEU	A	447	7.698	42.008	28.056	1.00	25.63	C
ATOM	3389	CD2	LEU	A	447	9.364	41.353	29.809	1.00	26.15	C
ATOM	3390	C	LEU	A	447	6.668	43.231	32.805	1.00	26.64	C
ATOM	3391	O	LEU	A	447	7.468	43.905	33.458	1.00	26.39	O
ATOM	3392	N	GLN	A	448	5.354	43.449	32.806	1.00	26.82	N
ATOM	3393	CA	GLN	A	448	4.740	44.508	33.607	1.00	27.29	C
ATOM	3394	CB	GLN	A	448	3.264	44.676	33.232	1.00	27.26	C
ATOM	3395	CG	GLN	A	448	3.053	45.288	31.847	1.00	28.22	C
ATOM	3396	CD	GLN	A	448	1.613	45.199	31.366	1.00	28.41	C
ATOM	3397	OE1	GLN	A	448	1.048	44.108	31.250	1.00	29.89	O
ATOM	3398	NE2	GLN	A	448	1.019	46.349	31.064	1.00	29.54	N
ATOM	3399	C	GLN	A	448	4.892	44.239	35.104	1.00	27.18	C
ATOM	3400	O	GLN	A	448	5.084	45.164	35.893	1.00	27.10	O
ATOM	3401	N	MET	A	449	4.820	42.965	35.482	1.00	27.21	N
ATOM	3402	CA	MET	A	449	5.036	42.551	36.864	1.00	27.66	C
ATOM	3403	CB	MET	A	449	4.669	41.077	37.034	1.00	27.54	C

ATOM	3404	CG	MET	A	449	4.509	40.630	38.473	1.00	28.84	C
ATOM	3405	SD	MET	A	449	4.974	38.903	38.692	1.00	30.54	S
ATOM	3406	CE	MET	A	449	6.764	39.033	38.635	1.00	29.99	C
ATOM	3407	C	MET	A	449	6.487	42.788	37.301	1.00	27.01	C
ATOM	3408	O	MET	A	449	6.740	43.274	38.404	1.00	27.03	O
ATOM	3409	N	LEU	A	450	7.431	42.447	36.426	1.00	26.53	N
ATOM	3410	CA	LEU	A	450	8.854	42.574	36.741	1.00	26.09	C
ATOM	3411	CB	LEU	A	450	9.703	41.746	35.769	1.00	25.90	C
ATOM	3412	CG	LEU	A	450	9.678	40.224	35.953	1.00	25.59	C
ATOM	3413	CD1	LEU	A	450	10.228	39.533	34.720	1.00	24.88	C
ATOM	3414	CD2	LEU	A	450	10.451	39.794	37.202	1.00	25.33	C
ATOM	3415	C	LEU	A	450	9.333	44.024	36.767	1.00	26.10	C
ATOM	3416	O	LEU	A	450	10.233	44.367	37.533	1.00	25.89	O
ATOM	3417	N	VAL	A	451	8.734	44.872	35.931	1.00	26.34	N
ATOM	3418	CA	VAL	A	451	9.092	46.294	35.903	1.00	26.66	C
ATOM	3419	CB	VAL	A	451	8.560	47.024	34.623	1.00	26.83	C
ATOM	3420	CG1	VAL	A	451	7.083	47.377	34.750	1.00	27.07	C
ATOM	3421	CG2	VAL	A	451	9.385	48.271	34.333	1.00	27.23	C
ATOM	3422	C	VAL	A	451	8.653	47.005	37.191	1.00	26.75	C
ATOM	3423	O	VAL	A	451	9.318	47.932	37.652	1.00	26.68	O
ATOM	3424	N	GLN	A	452	7.546	46.544	37.774	1.00	26.84	N
ATOM	3425	CA	GLN	A	452	7.090	47.040	39.071	1.00	27.12	C
ATOM	3426	CB	GLN	A	452	5.642	46.614	39.341	1.00	27.08	C
ATOM	3427	CG	GLN	A	452	4.604	47.333	38.478	1.00	27.73	C
ATOM	3428	CD	GLN	A	452	3.169	46.990	38.861	1.00	27.95	C
ATOM	3429	OE1	GLN	A	452	2.812	46.980	40.039	1.00	28.85	O
ATOM	3430	NE2	GLN	A	452	2.339	46.720	37.858	1.00	28.80	N
ATOM	3431	C	GLN	A	452	8.007	46.545	40.189	1.00	27.01	C
ATOM	3432	O	GLN	A	452	8.342	47.297	41.106	1.00	27.00	O
ATOM	3433	N	GLN	A	453	8.416	45.280	40.093	1.00	27.00	N
ATOM	3434	CA	GLN	A	453	9.306	44.660	41.077	1.00	27.00	C
ATOM	3435	CB	GLN	A	453	9.433	43.155	40.805	1.00	26.93	C
ATOM	3436	CG	GLN	A	453	10.280	42.392	41.825	1.00	27.10	C
ATOM	3437	CD	GLN	A	453	10.320	40.894	41.566	1.00	26.88	C
ATOM	3438	OE1	GLN	A	453	9.389	40.321	40.994	1.00	26.80	O
ATOM	3439	NE2	GLN	A	453	11.396	40.250	42.003	1.00	27.08	N
ATOM	3440	C	GLN	A	453	10.690	45.314	41.092	1.00	27.13	C
ATOM	3441	O	GLN	A	453	11.277	45.519	42.156	1.00	27.04	O
ATOM	3442	N	TYR	A	454	11.199	45.644	39.906	1.00	27.29	N
ATOM	3443	CA	TYR	A	454	12.549	46.189	39.767	1.00	27.53	C
ATOM	3444	CB	TYR	A	454	13.356	45.361	38.756	1.00	27.69	C
ATOM	3445	CG	TYR	A	454	13.641	43.947	39.214	1.00	28.08	C
ATOM	3446	CD1	TYR	A	454	14.590	43.694	40.207	1.00	28.54	C
ATOM	3447	CE1	TYR	A	454	14.858	42.397	40.635	1.00	28.98	C
ATOM	3448	CZ	TYR	A	454	14.172	41.334	40.071	1.00	28.56	C
ATOM	3449	OH	TYR	A	454	14.436	40.052	40.498	1.00	29.25	O
ATOM	3450	CE2	TYR	A	454	13.222	41.556	39.085	1.00	28.18	C
ATOM	3451	CD2	TYR	A	454	12.962	42.861	38.661	1.00	27.92	C
ATOM	3452	C	TYR	A	454	12.552	47.670	39.376	1.00	27.57	C
ATOM	3453	O	TYR	A	454	13.510	48.157	38.771	1.00	27.50	O
ATOM	3454	N	ALA	A	455	11.491	48.384	39.758	1.00	27.70	N
ATOM	3455	CA	ALA	A	455	11.306	49.795	39.386	1.00	27.84	C
ATOM	3456	CB	ALA	A	455	10.013	50.338	39.989	1.00	27.78	C
ATOM	3457	C	ALA	A	455	12.487	50.693	39.759	1.00	27.96	C
ATOM	3458	O	ALA	A	455	12.766	51.679	39.072	1.00	28.01	O
ATOM	3459	N	ASP	A	456	13.178	50.345	40.842	1.00	28.07	N
ATOM	3460	CA	ASP	A	456	14.289	51.152	41.341	1.00	28.26	C
ATOM	3461	CB	ASP	A	456	14.261	51.210	42.874	1.00	28.51	C
ATOM	3462	CG	ASP	A	456	13.053	51.974	43.408	1.00	29.33	C
ATOM	3463	OD1	ASP	A	456	12.679	53.008	42.807	1.00	30.45	O
ATOM	3464	OD2	ASP	A	456	12.480	51.544	44.432	1.00	30.63	O
ATOM	3465	C	ASP	A	456	15.659	50.689	40.823	1.00	28.05	C
ATOM	3466	O	ASP	A	456	16.692	51.271	41.167	1.00	28.26	O
ATOM	3467	N	ASP	A	457	15.657	49.649	39.990	1.00	27.64	N

ATOM	3468	CA	ASP	A	457	16.862	49.221	39.279	1.00	27.20	C
ATOM	3469	CB	ASP	A	457	17.069	47.706	39.413	1.00	27.37	C
ATOM	3470	CG	ASP	A	457	18.442	47.250	38.921	1.00	27.99	C
ATOM	3471	OD1	ASP	A	457	18.876	47.687	37.831	1.00	28.65	O
ATOM	3472	OD2	ASP	A	457	19.082	46.438	39.620	1.00	29.17	O
ATOM	3473	C	ASP	A	457	16.745	49.622	37.811	1.00	26.82	C
ATOM	3474	O	ASP	A	457	16.171	48.891	36.999	1.00	26.61	O
ATOM	3475	N	LYS	A	458	17.301	50.784	37.479	1.00	26.34	N
ATOM	3476	CA	LYS	A	458	17.100	51.393	36.162	1.00	26.00	C
ATOM	3477	CB	LYS	A	458	17.657	52.822	36.132	1.00	26.17	C
ATOM	3478	CG	LYS	A	458	17.052	53.764	37.189	1.00	26.56	C
ATOM	3479	CD	LYS	A	458	15.520	53.792	37.126	1.00	27.36	C
ATOM	3480	CE	LYS	A	458	14.930	54.831	38.072	1.00	27.51	C
ATOM	3481	NZ	LYS	A	458	15.049	54.436	39.504	1.00	28.15	N
ATOM	3482	C	LYS	A	458	17.673	50.558	35.013	1.00	25.67	C
ATOM	3483	O	LYS	A	458	17.127	50.564	33.908	1.00	25.29	O
ATOM	3484	N	GLU	A	459	18.764	49.841	35.282	1.00	25.32	N
ATOM	3485	CA	GLU	A	459	19.354	48.927	34.298	1.00	25.35	C
ATOM	3486	CB	GLU	A	459	20.676	48.358	34.809	1.00	25.44	C
ATOM	3487	CG	GLU	A	459	21.861	49.300	34.695	1.00	26.84	C
ATOM	3488	CD	GLU	A	459	23.128	48.722	35.309	1.00	27.47	C
ATOM	3489	OE1	GLU	A	459	23.124	47.527	35.692	1.00	30.55	O
ATOM	3490	OE2	GLU	A	459	24.130	49.463	35.411	1.00	30.02	O
ATOM	3491	C	GLU	A	459	18.403	47.784	33.962	1.00	24.66	C
ATOM	3492	O	GLU	A	459	18.244	47.422	32.796	1.00	24.46	O
ATOM	3493	N	LYS	A	460	17.779	47.213	34.991	1.00	24.09	N
ATOM	3494	CA	LYS	A	460	16.840	46.111	34.797	1.00	23.81	C
ATOM	3495	CB	LYS	A	460	16.492	45.445	36.130	1.00	23.95	C
ATOM	3496	CG	LYS	A	460	17.641	44.658	36.743	1.00	25.13	C
ATOM	3497	CD	LYS	A	460	17.149	43.729	37.839	1.00	27.43	C
ATOM	3498	CE	LYS	A	460	18.271	43.332	38.789	1.00	29.03	C
ATOM	3499	NZ	LYS	A	460	19.314	42.499	38.132	1.00	30.46	N
ATOM	3500	C	LYS	A	460	15.577	46.581	34.086	1.00	23.30	C
ATOM	3501	O	LYS	A	460	15.050	45.880	33.220	1.00	23.33	O
ATOM	3502	N	VAL	A	461	15.106	47.776	34.443	1.00	22.87	N
ATOM	3503	CA	VAL	A	461	13.964	48.386	33.761	1.00	22.45	C
ATOM	3504	CB	VAL	A	461	13.576	49.758	34.386	1.00	22.49	C
ATOM	3505	CG1	VAL	A	461	12.444	50.413	33.600	1.00	22.59	C
ATOM	3506	CG2	VAL	A	461	13.164	49.578	35.836	1.00	22.25	C
ATOM	3507	C	VAL	A	461	14.247	48.521	32.260	1.00	22.27	C
ATOM	3508	O	VAL	A	461	13.397	48.187	31.433	1.00	22.30	O
ATOM	3509	N	ALA	A	462	15.456	48.975	31.922	1.00	21.99	N
ATOM	3510	CA	ALA	A	462	15.887	49.092	30.524	1.00	21.82	C
ATOM	3511	CB	ALA	A	462	17.259	49.763	30.436	1.00	21.80	C
ATOM	3512	C	ALA	A	462	15.900	47.739	29.810	1.00	21.74	C
ATOM	3513	O	ALA	A	462	15.493	47.642	28.652	1.00	21.87	O
ATOM	3514	N	LEU	A	463	16.354	46.696	30.506	1.00	21.41	N
ATOM	3515	CA	LEU	A	463	16.355	45.344	29.938	1.00	21.23	C
ATOM	3516	CB	LEU	A	463	17.094	44.356	30.851	1.00	21.10	C
ATOM	3517	CG	LEU	A	463	18.619	44.467	30.963	1.00	20.92	C
ATOM	3518	CD1	LEU	A	463	19.140	43.560	32.069	1.00	20.25	C
ATOM	3519	CD2	LEU	A	463	19.305	44.144	29.639	1.00	21.03	C
ATOM	3520	C	LEU	A	463	14.934	44.856	29.668	1.00	21.23	C
ATOM	3521	O	LEU	A	463	14.666	44.253	28.630	1.00	21.26	O
ATOM	3522	N	LEU	A	464	14.022	45.136	30.600	1.00	21.24	N
ATOM	3523	CA	LEU	A	464	12.627	44.719	30.456	1.00	21.40	C
ATOM	3524	CB	LEU	A	464	11.875	44.873	31.781	1.00	21.24	C
ATOM	3525	CG	LEU	A	464	12.291	43.886	32.877	1.00	21.17	C
ATOM	3526	CD1	LEU	A	464	11.930	44.413	34.255	1.00	20.85	C
ATOM	3527	CD2	LEU	A	464	11.686	42.498	32.642	1.00	21.02	C
ATOM	3528	C	LEU	A	464	11.913	45.466	29.329	1.00	21.60	C
ATOM	3529	O	LEU	A	464	11.088	44.887	28.618	1.00	21.79	O
ATOM	3530	N	LYS	A	465	12.248	46.745	29.165	1.00	21.83	N
ATOM	3531	CA	LYS	A	465	11.737	47.548	28.050	1.00	22.23	C

ATOM	3532	CB	LYS	A	465	12.151	49.016	28.202	1.00	22.41	C
ATOM	3533	CG	LYS	A	465	11.571	49.718	29.424	1.00	24.11	C
ATOM	3534	CD	LYS	A	465	10.082	49.995	29.275	1.00	26.38	C
ATOM	3535	CE	LYS	A	465	9.534	50.732	30.492	1.00	27.88	C
ATOM	3536	NZ	LYS	A	465	10.156	52.079	30.662	1.00	28.79	N
ATOM	3537	C	LYS	A	465	12.216	47.005	26.705	1.00	22.14	C
ATOM	3538	O	LYS	A	465	11.464	47.001	25.727	1.00	22.11	O
ATOM	3539	N	ALA	A	466	13.468	46.548	26.668	1.00	22.09	N
ATOM	3540	CA	ALA	A	466	14.036	45.922	25.475	1.00	22.14	C
ATOM	3541	CB	ALA	A	466	15.519	45.646	25.673	1.00	22.15	C
ATOM	3542	C	ALA	A	466	13.290	44.635	25.119	1.00	22.22	C
ATOM	3543	O	ALA	A	466	13.030	44.364	23.948	1.00	22.19	O
ATOM	3544	N	LEU	A	467	12.934	43.855	26.138	1.00	22.40	N
ATOM	3545	CA	LEU	A	467	12.176	42.620	25.935	1.00	22.71	C
ATOM	3546	CB	LEU	A	467	12.093	41.818	27.235	1.00	22.59	C
ATOM	3547	CG	LEU	A	467	13.403	41.213	27.742	1.00	22.58	C
ATOM	3548	CD1	LEU	A	467	13.219	40.659	29.131	1.00	22.56	C
ATOM	3549	CD2	LEU	A	467	13.895	40.132	26.801	1.00	23.61	C
ATOM	3550	C	LEU	A	467	10.777	42.879	25.387	1.00	23.12	C
ATOM	3551	O	LEU	A	467	10.274	42.107	24.566	1.00	23.16	O
ATOM	3552	N	TRP	A	468	10.151	43.960	25.853	1.00	23.80	N
ATOM	3553	CA	TRP	A	468	8.846	44.383	25.346	1.00	24.42	C
ATOM	3554	CB	TRP	A	468	8.316	45.569	26.160	1.00	24.94	C
ATOM	3555	CG	TRP	A	468	6.899	45.965	25.820	1.00	25.60	C
ATOM	3556	CD1	TRP	A	468	6.488	46.704	24.745	1.00	26.31	C
ATOM	3557	NE1	TRP	A	468	5.124	46.863	24.772	1.00	26.64	N
ATOM	3558	CE2	TRP	A	468	4.623	46.228	25.878	1.00	26.57	C
ATOM	3559	CD2	TRP	A	468	5.715	45.651	26.566	1.00	26.41	C
ATOM	3560	CE3	TRP	A	468	5.469	44.935	27.748	1.00	26.50	C
ATOM	3561	CZ3	TRP	A	468	4.157	44.821	28.200	1.00	26.33	C
ATOM	3562	CH2	TRP	A	468	3.090	45.408	27.491	1.00	26.30	C
ATOM	3563	CZ2	TRP	A	468	3.303	46.113	26.332	1.00	26.49	C
ATOM	3564	C	TRP	A	468	8.946	44.757	23.869	1.00	24.63	C
ATOM	3565	O	TRP	A	468	8.140	44.310	23.052	1.00	24.46	O
ATOM	3566	N	GLN	A	469	9.954	45.562	23.540	1.00	24.89	N
ATOM	3567	CA	GLN	A	469	10.174	46.033	22.171	1.00	25.51	C
ATOM	3568	CB	GLN	A	469	11.314	47.053	22.137	1.00	25.53	C
ATOM	3569	CG	GLN	A	469	10.941	48.414	22.717	1.00	27.45	C
ATOM	3570	CD	GLN	A	469	12.153	49.242	23.113	1.00	29.02	C
ATOM	3571	OE1	GLN	A	469	13.108	49.379	22.347	1.00	30.62	O
ATOM	3572	NE2	GLN	A	469	12.113	49.807	24.316	1.00	30.06	N
ATOM	3573	C	GLN	A	469	10.457	44.884	21.205	1.00	25.42	C
ATOM	3574	O	GLN	A	469	9.975	44.887	20.070	1.00	25.46	O
ATOM	3575	N	TYR	A	470	11.234	43.903	21.662	1.00	25.53	N
ATOM	3576	CA	TYR	A	470	11.524	42.716	20.861	1.00	25.75	C
ATOM	3577	CB	TYR	A	470	12.596	41.853	21.533	1.00	25.15	C
ATOM	3578	CG	TYR	A	470	13.091	40.704	20.677	1.00	24.30	C
ATOM	3579	CD1	TYR	A	470	13.969	40.928	19.613	1.00	23.47	C
ATOM	3580	CE1	TYR	A	470	14.427	39.875	18.825	1.00	23.13	C
ATOM	3581	CZ	TYR	A	470	14.015	38.581	19.105	1.00	23.70	C
ATOM	3582	OH	TYR	A	470	14.467	37.537	18.333	1.00	23.91	O
ATOM	3583	CE2	TYR	A	470	13.148	38.333	20.161	1.00	23.33	C
ATOM	3584	CD2	TYR	A	470	12.694	39.392	20.939	1.00	23.86	C
ATOM	3585	C	TYR	A	470	10.257	41.903	20.612	1.00	26.49	C
ATOM	3586	O	TYR	A	470	10.011	41.463	19.490	1.00	26.47	O
ATOM	3587	N	ALA	A	471	9.455	41.721	21.663	1.00	27.50	N
ATOM	3588	CA	ALA	A	471	8.171	41.021	21.555	1.00	28.58	C
ATOM	3589	CB	ALA	A	471	7.530	40.861	22.930	1.00	28.43	C
ATOM	3590	C	ALA	A	471	7.215	41.731	20.593	1.00	29.45	C
ATOM	3591	O	ALA	A	471	6.536	41.083	19.799	1.00	29.58	O
ATOM	3592	N	ASP	A	472	7.181	43.062	20.662	1.00	30.53	N
ATOM	3593	CA	ASP	A	472	6.341	43.870	19.771	1.00	31.75	C
ATOM	3594	CB	ASP	A	472	6.453	45.358	20.127	1.00	31.91	C
ATOM	3595	CG	ASP	A	472	5.566	45.753	21.301	1.00	32.76	C

ATOM	3596	OD1	ASP	A	472	5.383	44.931	22.227	1.00	34.40	O
ATOM	3597	OD2	ASP	A	472	5.054	46.894	21.299	1.00	33.98	O
ATOM	3598	C	ASP	A	472	6.682	43.655	18.294	1.00	32.42	C
ATOM	3599	O	ASP	A	472	5.791	43.617	17.444	1.00	32.58	O
ATOM	3600	N	GLU	A	473	7.973	43.511	18.003	1.00	33.28	N
ATOM	3601	CA	GLU	A	473	8.454	43.315	16.636	1.00	34.24	C
ATOM	3602	CB	GLU	A	473	9.949	43.648	16.548	1.00	34.18	C
ATOM	3603	CG	GLU	A	473	10.546	43.519	15.144	1.00	34.99	C
ATOM	3604	CD	GLU	A	473	12.049	43.275	15.158	1.00	35.74	C
ATOM	3605	OE1	GLU	A	473	12.739	43.808	16.052	1.00	36.34	O
ATOM	3606	OE2	GLU	A	473	12.540	42.551	14.265	1.00	35.99	O
ATOM	3607	C	GLU	A	473	8.209	41.884	16.155	1.00	34.75	C
ATOM	3608	O	GLU	A	473	7.581	41.664	15.116	1.00	34.89	O
ATOM	3609	N	ILE	A	474	8.711	40.922	16.924	1.00	35.46	N
ATOM	3610	CA	ILE	A	474	8.707	39.513	16.535	1.00	36.13	C
ATOM	3611	CB	ILE	A	474	9.763	38.704	17.357	1.00	36.14	C
ATOM	3612	CG1	ILE	A	474	9.876	37.258	16.866	1.00	36.42	C
ATOM	3613	CD1	ILE	A	474	10.902	36.441	17.628	1.00	36.28	C
ATOM	3614	CG2	ILE	A	474	9.463	38.763	18.844	1.00	36.45	C
ATOM	3615	C	ILE	A	474	7.314	38.867	16.638	1.00	36.47	C
ATOM	3616	O	ILE	A	474	6.959	38.014	15.821	1.00	36.61	O
ATOM	3617	N	VAL	A	475	6.529	39.287	17.632	1.00	36.88	N
ATOM	3618	CA	VAL	A	475	5.220	38.674	17.889	1.00	37.23	C
ATOM	3619	CB	VAL	A	475	5.204	37.867	19.233	1.00	37.27	C
ATOM	3620	CG1	VAL	A	475	6.525	37.148	19.438	1.00	37.47	C
ATOM	3621	CG2	VAL	A	475	4.923	38.779	20.425	1.00	37.50	C
ATOM	3622	C	VAL	A	475	4.078	39.695	17.880	1.00	37.42	C
ATOM	3623	O	VAL	A	475	2.906	39.327	17.759	1.00	37.62	O
ATOM	3624	MG	MG	I	1	27.308	28.832	33.737	1.00	14.76	MG
ATOM	3625	CL1	YYY	B	1	28.094	2.115	55.180	1.00	22.85	CL
ATOM	3626	C4	YYY	B	1	29.678	2.529	55.906	1.00	23.32	C
ATOM	3627	C3	YYY	B	1	29.790	3.717	56.615	1.00	23.46	C
ATOM	3628	C2	YYY	B	1	31.000	4.068	57.200	1.00	23.50	C
ATOM	3629	C5	YYY	B	1	30.782	1.678	55.779	1.00	23.55	C
ATOM	3630	C6	YYY	B	1	32.000	2.034	56.372	1.00	23.45	C
ATOM	3631	S1	YYY	B	1	33.362	1.030	56.240	1.00	23.51	S
ATOM	3632	C7	YYY	B	1	32.103	3.231	57.079	1.00	23.62	C
ATOM	3633	N1	YYY	B	1	33.360	3.359	57.554	1.00	23.68	N
ATOM	3634	C1	YYY	B	1	34.103	2.293	57.193	1.00	23.69	C
ATOM	3635	N2	YYY	B	1	35.395	2.252	57.583	1.00	23.73	N
ATOM	3636	C8	YYY	B	1	36.295	1.293	57.331	1.00	23.94	C
ATOM	3637	O1	YYY	B	1	36.002	0.242	56.648	1.00	24.30	O
ATOM	3638	N3	YYY	B	1	35.995	3.280	58.357	1.00	23.88	N
ATOM	3639	C10	YYY	B	1	37.266	2.782	58.479	1.00	24.22	C
ATOM	3640	C9	YYY	B	1	37.674	1.458	57.871	1.00	24.01	C
ATOM	3641	C11	YYY	B	1	38.279	3.589	59.263	1.00	24.41	C
ATOM	3642	C12	YYY	B	1	38.106	3.275	60.744	1.00	25.86	C
ATOM	3643	C13	YYY	B	1	39.701	3.239	58.833	1.00	25.35	C
ATOM	3644	C14	YYY	B	1	38.042	5.078	59.026	1.00	25.63	C
ATOM	3645	OW0	HOH	Z	1	30.735	26.960	51.029	1.00	16.15	O
ATOM	3646	OW0	HOH	Z	2	44.217	16.660	49.450	1.00	14.33	O
ATOM	3647	OW0	HOH	Z	3	24.975	26.526	46.160	1.00	16.01	O
ATOM	3648	OW0	HOH	Z	4	29.478	19.724	49.693	1.00	15.11	O
ATOM	3649	OW0	HOH	Z	5	30.447	-0.495	45.382	1.00	19.69	O
ATOM	3650	OW0	HOH	Z	6	25.382	10.988	38.994	1.00	17.43	O
ATOM	3651	OW0	HOH	Z	7	44.837	23.107	52.651	1.00	20.53	O
ATOM	3652	OW0	HOH	Z	8	33.925	11.386	38.637	1.00	15.24	O
ATOM	3653	OW0	HOH	Z	9	38.427	5.626	46.633	1.00	16.61	O
ATOM	3654	OW0	HOH	Z	10	23.944	11.578	54.516	1.00	16.09	O
ATOM	3655	OW0	HOH	Z	11	28.525	13.633	42.165	1.00	17.08	O
ATOM	3656	OW0	HOH	Z	12	25.033	22.532	47.158	1.00	17.75	O
ATOM	3657	OW0	HOH	Z	13	27.496	29.414	40.232	1.00	20.32	O
ATOM	3658	OW0	HOH	Z	14	29.182	21.762	27.282	1.00	19.96	O
ATOM	3659	OW0	HOH	Z	15	32.302	10.304	34.313	1.00	17.52	O

ATOM	3660	OW0	HOH	Z	16	35.189	10.612	42.318	1.00	16.35	O
ATOM	3661	OW0	HOH	Z	17	35.725	12.468	40.290	1.00	15.12	O
ATOM	3662	OW0	HOH	Z	18	30.672	26.650	33.045	1.00	14.54	O
ATOM	3663	OW0	HOH	Z	19	24.951	22.872	11.339	1.00	22.33	O
ATOM	3664	OW0	HOH	Z	20	24.568	25.015	48.441	1.00	19.23	O
ATOM	3665	OW0	HOH	Z	21	19.932	32.297	20.323	1.00	19.71	O
ATOM	3666	OW0	HOH	Z	22	41.852	29.558	24.116	1.00	25.68	O
ATOM	3667	OW0	HOH	Z	23	18.984	43.268	16.674	1.00	17.99	O
ATOM	3668	OW0	HOH	Z	24	15.754	17.610	23.551	1.00	19.61	O
ATOM	3669	OW0	HOH	Z	25	19.703	30.937	14.675	1.00	21.60	O
ATOM	3670	OW0	HOH	Z	26	30.149	15.360	18.800	1.00	23.55	O
ATOM	3671	OW0	HOH	Z	27	16.476	31.681	55.796	1.00	21.45	O
ATOM	3672	OW0	HOH	Z	28	31.461	28.841	34.678	1.00	20.46	O
ATOM	3673	OW0	HOH	Z	29	26.682	19.963	37.147	1.00	18.83	O
ATOM	3674	OW0	HOH	Z	30	36.742	-0.870	35.859	1.00	19.22	O
ATOM	3675	OW0	HOH	Z	31	41.694	32.798	36.364	1.00	22.28	O
ATOM	3676	OW0	HOH	Z	32	13.964	35.164	19.055	1.00	23.29	O
ATOM	3677	OW0	HOH	Z	33	44.687	19.290	23.496	1.00	24.75	O
ATOM	3678	OW0	HOH	Z	34	11.439	39.520	24.163	1.00	20.33	O
ATOM	3679	OW0	HOH	Z	35	23.843	29.049	47.659	1.00	22.99	O
ATOM	3680	OW0	HOH	Z	36	22.474	12.245	56.697	1.00	19.77	O
ATOM	3681	OW0	HOH	Z	37	22.608	21.073	46.779	1.00	23.31	O
ATOM	3682	OW0	HOH	Z	38	22.463	10.731	58.957	1.00	22.59	O
ATOM	3683	OW0	HOH	Z	39	19.336	29.785	19.101	1.00	21.51	O
ATOM	3684	OW0	HOH	Z	41	14.440	21.298	15.751	1.00	20.75	O
ATOM	3685	OW0	HOH	Z	42	33.650	-3.329	39.080	1.00	24.45	O
ATOM	3686	OW0	HOH	Z	43	16.722	21.450	14.026	1.00	19.23	O
ATOM	3687	OW0	HOH	Z	44	39.081	3.110	40.982	1.00	24.16	O
ATOM	3688	OW0	HOH	Z	45	34.278	0.969	50.266	1.00	24.59	O
ATOM	3689	OW0	HOH	Z	46	14.349	14.267	25.329	1.00	25.77	O
ATOM	3690	OW0	HOH	Z	47	16.681	24.131	14.691	1.00	21.03	O
ATOM	3691	OW0	HOH	Z	48	46.024	29.060	46.493	1.00	26.02	O
ATOM	3692	OW0	HOH	Z	49	17.127	29.764	17.587	1.00	20.93	O
ATOM	3693	OW0	HOH	Z	50	43.551	11.011	34.180	1.00	24.73	O
ATOM	3694	OW0	HOH	Z	51	19.008	32.280	4.186	1.00	30.73	O
ATOM	3695	OW0	HOH	Z	52	34.412	6.047	58.495	1.00	22.05	O
ATOM	3696	OW0	HOH	Z	53	34.329	27.513	32.898	1.00	20.20	O
ATOM	3697	OW0	HOH	Z	54	19.084	25.572	14.852	1.00	20.40	O
ATOM	3698	OW0	HOH	Z	55	22.745	-0.549	33.308	1.00	26.43	O
ATOM	3699	OW0	HOH	Z	56	35.422	28.058	56.081	1.00	24.58	O
ATOM	3700	OW0	HOH	Z	57	22.195	43.452	25.965	1.00	27.10	O
ATOM	3701	OW0	HOH	Z	58	45.427	30.869	34.212	1.00	26.35	O
ATOM	3702	OW0	HOH	Z	59	21.828	24.908	48.645	1.00	24.91	O
ATOM	3703	OW0	HOH	Z	60	30.837	28.719	12.210	1.00	25.43	O
ATOM	3704	OW0	HOH	Z	61	17.828	17.925	50.430	1.00	27.79	O
ATOM	3705	OW0	HOH	Z	62	20.320	35.970	28.204	1.00	27.42	O
ATOM	3706	OW0	HOH	Z	63	35.174	15.298	40.368	1.00	20.63	O
ATOM	3707	OW0	HOH	Z	64	16.178	2.221	57.687	1.00	25.09	O
ATOM	3708	OW0	HOH	Z	65	19.078	25.252	23.832	1.00	21.17	O
ATOM	3709	OW0	HOH	Z	66	26.215	28.413	32.156	1.00	16.27	O
ATOM	3710	OW0	HOH	Z	67	25.853	16.573	41.891	1.00	23.07	O
ATOM	3711	OW0	HOH	Z	68	35.020	12.399	31.602	1.00	22.28	O
ATOM	3712	OW0	HOH	Z	69	21.269	22.265	48.825	1.00	24.30	O
ATOM	3713	OW0	HOH	Z	70	16.855	20.587	21.270	1.00	20.31	O
ATOM	3714	OW0	HOH	Z	71	29.288	15.327	14.200	1.00	30.70	O
ATOM	3715	OW0	HOH	Z	72	18.064	9.522	40.926	1.00	32.63	O
ATOM	3716	OW0	HOH	Z	73	18.792	32.399	12.581	1.00	24.74	O
ATOM	3717	OW0	HOH	Z	74	41.991	8.585	34.749	1.00	27.73	O
ATOM	3718	OW0	HOH	Z	75	19.048	27.076	27.917	1.00	24.01	O
ATOM	3719	OW0	HOH	Z	76	23.777	17.792	58.709	1.00	25.91	O
ATOM	3720	OW0	HOH	Z	77	29.374	36.692	17.816	1.00	24.49	O
ATOM	3721	OW0	HOH	Z	78	19.918	10.676	22.406	1.00	28.68	O
ATOM	3722	OW0	HOH	Z	79	27.313	-3.150	58.251	1.00	24.72	O
ATOM	3723	OW0	HOH	Z	80	42.835	30.604	42.664	1.00	26.43	O

ATOM	3724	OW0	HOH	Z	81	16.601	27.062	51.347	1.00	26.54	O
ATOM	3725	OW0	HOH	Z	82	36.122	14.693	20.290	1.00	24.81	O
ATOM	3726	OW0	HOH	Z	83	16.776	8.608	57.609	1.00	27.55	O
ATOM	3727	OW0	HOH	Z	84	49.363	21.380	43.879	1.00	26.69	O
ATOM	3728	OW0	HOH	Z	85	18.125	28.617	15.154	1.00	24.57	O
ATOM	3729	OW0	HOH	Z	86	23.381	9.809	18.221	1.00	24.73	O
ATOM	3730	OW0	HOH	Z	87	27.366	23.751	10.836	1.00	27.27	O
ATOM	3731	OW0	HOH	Z	88	18.276	5.937	13.820	1.00	31.75	O
ATOM	3732	OW0	HOH	Z	89	9.076	31.346	23.118	1.00	27.61	O
ATOM	3733	OW0	HOH	Z	90	12.198	18.017	6.329	1.00	24.92	O
ATOM	3734	OW0	HOH	Z	91	34.770	14.038	17.854	1.00	25.97	O
ATOM	3735	OW0	HOH	Z	92	20.353	45.797	23.808	1.00	24.47	O
ATOM	3736	OW0	HOH	Z	93	5.383	26.022	-2.819	1.00	37.33	O
ATOM	3737	OW0	HOH	Z	94	30.003	27.609	9.860	1.00	29.09	O
ATOM	3738	OW0	HOH	Z	95	22.149	32.114	31.499	1.00	30.63	O
ATOM	3739	OW0	HOH	Z	96	49.452	20.738	28.598	1.00	32.06	O
ATOM	3740	OW0	HOH	Z	97	24.888	33.333	10.620	1.00	26.86	O
ATOM	3741	OW0	HOH	Z	98	32.635	11.157	31.563	1.00	23.89	O
ATOM	3742	OW0	HOH	Z	99	47.392	31.855	32.606	1.00	28.44	O
ATOM	3743	OW0	HOH	Z	100	39.099	8.373	19.132	1.00	22.62	O
ATOM	3744	OW0	HOH	Z	101	29.416	18.809	39.094	1.00	28.00	O
ATOM	3745	OW0	HOH	Z	102	36.628	10.364	30.797	1.00	27.51	O
ATOM	3746	OW0	HOH	Z	103	33.009	16.670	38.915	1.00	29.71	O
ATOM	3747	OW0	HOH	Z	104	24.149	40.802	12.562	1.00	27.28	O
ATOM	3748	OW0	HOH	Z	105	30.877	9.387	62.920	1.00	28.76	O
ATOM	3749	OW0	HOH	Z	106	22.434	33.698	49.336	1.00	30.13	O
ATOM	3750	OW0	HOH	Z	107	42.970	15.955	28.432	1.00	29.47	O
ATOM	3751	OW0	HOH	Z	108	14.375	25.132	21.428	1.00	27.34	O
ATOM	3752	OW0	HOH	Z	109	11.291	34.633	33.574	1.00	30.36	O
ATOM	3753	OW0	HOH	Z	110	16.154	37.037	37.132	1.00	27.33	O
ATOM	3754	OW0	HOH	Z	111	50.368	22.690	46.917	1.00	30.48	O
ATOM	3755	OW0	HOH	Z	112	12.996	20.132	5.018	1.00	31.98	O
ATOM	3756	OW0	HOH	Z	113	45.519	11.333	44.780	1.00	25.99	O
ATOM	3757	OW0	HOH	Z	114	18.149	24.934	2.960	1.00	34.36	O
ATOM	3758	OW0	HOH	Z	115	34.566	0.240	61.652	1.00	34.36	O
ATOM	3759	OW0	HOH	Z	116	43.766	32.331	40.763	1.00	30.61	O
ATOM	3760	OW0	HOH	Z	117	13.521	46.083	19.695	1.00	29.81	O
ATOM	3761	OW0	HOH	Z	118	10.891	24.595	20.675	1.00	26.07	O
ATOM	3762	OW0	HOH	Z	119	24.216	-3.460	62.415	1.00	33.30	O
ATOM	3763	OW0	HOH	Z	120	14.526	7.764	53.236	1.00	27.09	O
ATOM	3764	OW0	HOH	Z	121	32.467	33.531	31.210	1.00	31.63	O
ATOM	3765	OW0	HOH	Z	122	43.690	32.022	37.913	1.00	33.60	O
ATOM	3766	OW0	HOH	Z	123	26.856	14.766	11.731	1.00	34.14	O
ATOM	3767	OW0	HOH	Z	124	22.483	15.624	15.244	1.00	36.61	O
ATOM	3768	OW0	HOH	Z	125	24.197	27.054	36.096	1.00	39.81	O
ATOM	3769	OW0	HOH	Z	126	35.806	27.449	16.681	1.00	29.95	O
ATOM	3770	OW0	HOH	Z	127	29.895	33.364	30.795	1.00	28.11	O
ATOM	3771	OW0	HOH	Z	128	35.259	8.012	30.913	1.00	27.34	O
ATOM	3772	OW0	HOH	Z	129	19.977	22.278	52.011	1.00	27.26	O
ATOM	3773	OW0	HOH	Z	130	21.679	-3.862	61.103	1.00	29.77	O
ATOM	3774	OW0	HOH	Z	131	38.336	35.245	38.625	1.00	31.39	O
ATOM	3775	OW0	HOH	Z	132	19.497	-4.560	35.579	1.00	36.99	O
ATOM	3776	OW0	HOH	Z	133	13.626	24.676	33.030	1.00	35.95	O
ATOM	3777	OW0	HOH	Z	134	29.966	0.914	30.456	1.00	28.42	O
ATOM	3778	OW0	HOH	Z	135	14.818	32.367	33.364	1.00	35.79	O
ATOM	3779	OW0	HOH	Z	136	43.100	32.469	34.116	1.00	30.84	O
ATOM	3780	OW0	HOH	Z	137	31.293	-11.499	43.457	1.00	32.64	O
ATOM	3781	OW0	HOH	Z	138	23.652	44.624	29.787	1.00	31.22	O
ATOM	3782	OW0	HOH	Z	139	34.426	23.668	57.286	1.00	36.73	O
ATOM	3783	OW0	HOH	Z	140	22.057	3.494	27.457	1.00	32.84	O
ATOM	3784	OW0	HOH	Z	141	13.333	10.323	5.028	1.00	39.48	O
ATOM	3785	OW0	HOH	Z	142	35.870	10.386	28.045	1.00	28.67	O
ATOM	3786	OW0	HOH	Z	143	25.342	28.817	9.171	1.00	31.20	O
ATOM	3787	OW0	HOH	Z	144	28.163	9.422	63.183	1.00	30.37	O

ATOM	3788	OW0	HOH	Z	145	15.391	17.073	26.164	1.00	32.48	O
ATOM	3789	OW0	HOH	Z	147	18.322	25.173	34.502	1.00	38.80	O
ATOM	3790	OW0	HOH	Z	148	35.921	14.923	15.423	1.00	33.55	O
ATOM	3791	OW0	HOH	Z	149	41.145	31.668	50.991	1.00	26.14	O
ATOM	3792	OW0	HOH	Z	150	34.974	38.563	43.958	1.00	35.93	O
ATOM	3793	OW0	HOH	Z	151	29.262	33.045	28.286	1.00	34.41	O
ATOM	3794	OW0	HOH	Z	152	32.969	0.998	63.374	1.00	29.95	O
ATOM	3795	OW0	HOH	Z	153	36.645	36.340	36.728	1.00	26.01	O
ATOM	3796	OW0	HOH	Z	154	14.570	19.845	2.779	1.00	37.35	O
ATOM	3797	OW0	HOH	Z	155	23.229	38.261	13.135	1.00	24.50	O
ATOM	3798	OW0	HOH	Z	156	11.740	26.762	21.998	1.00	26.79	O
ATOM	3799	OW0	HOH	Z	157	29.478	13.821	4.139	1.00	28.31	O
ATOM	3800	OW0	HOH	Z	158	40.787	26.421	56.755	1.00	32.84	O
ATOM	3801	OW0	HOH	Z	159	9.665	20.652	12.212	1.00	35.84	O
ATOM	3802	OW0	HOH	Z	160	39.205	9.838	31.145	1.00	36.76	O
ATOM	3803	OW0	HOH	Z	161	23.436	21.166	39.393	1.00	29.44	O
ATOM	3804	OW0	HOH	Z	162	21.335	23.224	37.167	1.00	34.57	O
ATOM	3805	OW0	HOH	Z	163	38.718	20.988	15.655	1.00	35.04	O
ATOM	3806	OW0	HOH	Z	164	41.044	1.755	39.757	1.00	33.08	O
ATOM	3807	OW0	HOH	Z	165	45.031	29.451	43.965	1.00	29.49	O
ATOM	3808	OW0	HOH	Z	166	38.081	25.941	56.123	1.00	32.80	O
ATOM	3809	OW0	HOH	Z	167	20.161	9.376	58.804	1.00	31.21	O
ATOM	3810	OW0	HOH	Z	168	47.018	18.000	42.384	1.00	37.13	O
ATOM	3811	OW0	HOH	Z	169	36.528	1.745	52.664	1.00	35.32	O
ATOM	3812	OW0	HOH	Z	170	18.928	8.125	24.229	1.00	26.06	O
ATOM	3813	OW0	HOH	Z	171	31.941	14.845	16.941	1.00	31.39	O
ATOM	3814	OW0	HOH	Z	172	22.944	15.985	32.916	1.00	29.55	O
ATOM	3815	OW0	HOH	Z	173	19.920	33.213	10.097	1.00	31.72	O
ATOM	3816	OW0	HOH	Z	174	18.293	10.153	53.111	1.00	36.29	O
ATOM	3817	OW0	HOH	Z	175	18.059	7.335	33.021	1.00	42.94	O
ATOM	3818	OW0	HOH	Z	176	28.432	-2.019	62.836	1.00	34.04	O
ATOM	3819	OW0	HOH	Z	177	30.260	16.127	38.651	1.00	29.47	O
ATOM	3820	OW0	HOH	Z	178	6.446	40.555	41.540	1.00	38.70	O
ATOM	3821	OW0	HOH	Z	179	26.333	18.199	39.290	1.00	32.47	O
ATOM	3822	OW0	HOH	Z	180	24.457	28.242	59.726	1.00	29.67	O
ATOM	3823	OW0	HOH	Z	181	27.364	28.017	37.544	1.00	31.95	O
ATOM	3824	OW0	HOH	Z	182	39.997	3.402	45.714	1.00	33.02	O
ATOM	3825	OW0	HOH	Z	183	49.996	23.378	42.174	1.00	39.39	O
ATOM	3826	OW0	HOH	Z	184	7.923	19.213	16.269	1.00	34.13	O
ATOM	3827	OW0	HOH	Z	185	27.164	-5.486	56.530	1.00	28.25	O
ATOM	3828	OW0	HOH	Z	186	16.652	-9.654	43.964	1.00	36.59	O
ATOM	3829	OW0	HOH	Z	187	43.634	17.615	30.496	1.00	33.30	O
ATOM	3830	OW0	HOH	Z	188	25.430	15.961	30.820	1.00	37.37	O
ATOM	3831	OW0	HOH	Z	189	26.820	13.382	38.133	1.00	33.66	O
ATOM	3832	OW0	HOH	Z	190	9.129	47.050	18.564	1.00	31.53	O
ATOM	3833	OW0	HOH	Z	191	25.669	-8.432	49.431	1.00	30.30	O
ATOM	3834	OW0	HOH	Z	192	45.776	16.987	31.896	1.00	35.42	O
ATOM	3835	OW0	HOH	Z	193	41.187	25.342	19.701	1.00	34.59	O
ATOM	3836	OW0	HOH	Z	194	27.200	7.055	64.435	1.00	29.95	O
ATOM	3837	OW0	HOH	Z	195	27.803	6.433	10.863	1.00	34.56	O
ATOM	3838	OW0	HOH	Z	196	49.509	18.917	42.454	1.00	43.82	O
ATOM	3839	OW0	HOH	Z	197	32.762	8.610	30.741	1.00	32.81	O
ATOM	3840	OW0	HOH	Z	198	31.505	21.855	11.049	1.00	36.84	O
ATOM	3841	OW0	HOH	Z	199	10.954	29.568	27.581	1.00	30.20	O
ATOM	3842	OW0	HOH	Z	200	39.303	8.355	22.166	1.00	44.80	O
ATOM	3843	OW0	HOH	Z	201	13.225	46.918	15.937	1.00	34.83	O
ATOM	3844	OW0	HOH	Z	202	22.374	-5.489	38.115	1.00	32.10	O
ATOM	3845	OW0	HOH	Z	203	42.406	39.234	47.357	1.00	31.98	O
ATOM	3846	OW0	HOH	Z	204	9.828	34.122	9.454	1.00	39.61	O
ATOM	3847	OW0	HOH	Z	205	21.143	18.937	42.697	1.00	39.50	O
ATOM	3848	OW0	HOH	Z	206	24.528	32.238	33.082	1.00	33.22	O
ATOM	3849	OW0	HOH	Z	207	7.747	21.062	4.366	1.00	41.57	O
ATOM	3850	OW0	HOH	Z	208	47.230	29.645	42.256	1.00	37.55	O
ATOM	3851	OW0	HOH	Z	209	22.547	1.506	10.647	1.00	45.42	O

ATOM	3852	OW0	HOH	Z	210	15.826	9.609	51.620	1.00	39.31	O
ATOM	3853	OW0	HOH	Z	211	2.253	24.652	3.430	1.00	35.99	O
ATOM	3854	OW0	HOH	Z	212	31.238	12.119	29.422	1.00	34.88	O
ATOM	3855	OW0	HOH	Z	213	23.361	28.226	0.607	1.00	45.18	O
ATOM	3856	OW0	HOH	Z	214	13.038	14.802	5.292	1.00	46.68	O
ATOM	3857	OW0	HOH	Z	215	49.714	15.276	45.776	1.00	43.87	O
ATOM	3858	OW0	HOH	Z	216	6.199	22.545	11.228	1.00	38.50	O
ATOM	3859	OW0	HOH	Z	217	19.024	19.372	46.664	1.00	40.03	O
ATOM	3860	OW0	HOH	Z	218	43.557	35.347	29.027	1.00	38.48	O
ATOM	3861	OW0	HOH	Z	219	20.983	42.950	35.348	1.00	43.44	O
ATOM	3862	OW0	HOH	Z	220	31.114	31.281	11.314	1.00	40.20	O
ATOM	3863	OW0	HOH	Z	221	36.177	0.796	48.006	1.00	42.56	O
ATOM	3864	OW0	HOH	Z	222	19.728	21.293	33.065	1.00	34.12	O
ATOM	3865	OW0	HOH	Z	223	16.075	49.403	26.726	1.00	29.77	O
ATOM	3866	OW0	HOH	Z	224	8.053	9.057	45.041	1.00	37.18	O
ATOM	3867	OW0	HOH	Z	225	7.350	33.889	9.389	1.00	43.38	O
ATOM	3868	OW0	HOH	Z	226	12.388	47.859	18.361	1.00	34.40	O
ATOM	3869	OW0	HOH	Z	227	28.994	39.741	14.691	1.00	39.78	O
ATOM	3870	OW0	HOH	Z	228	15.239	3.980	59.473	1.00	33.29	O
ATOM	3871	OW0	HOH	Z	229	35.649	33.806	53.865	1.00	35.34	O
ATOM	3872	OW0	HOH	Z	230	51.682	26.659	45.241	1.00	38.98	O
ATOM	3873	OW0	HOH	Z	231	38.537	9.458	25.717	1.00	32.29	O
ATOM	3874	OW0	HOH	Z	232	40.301	38.262	28.461	1.00	33.56	O
ATOM	3875	OW0	HOH	Z	233	24.403	19.220	40.931	1.00	31.65	O
ATOM	3876	OW0	HOH	Z	234	19.417	52.008	39.342	1.00	37.12	O
ATOM	3877	OW0	HOH	Z	235	23.456	-9.883	49.823	1.00	35.38	O
ATOM	3878	OW0	HOH	Z	236	44.033	34.971	33.166	1.00	47.26	O
ATOM	3879	OW0	HOH	Z	237	23.704	22.138	5.378	1.00	38.11	O
ATOM	3880	OW0	HOH	Z	238	21.182	46.392	26.444	1.00	32.01	O
ATOM	3881	OW0	HOH	Z	239	40.359	6.956	48.046	1.00	48.77	O
ATOM	3882	OW0	HOH	Z	240	11.410	26.740	29.056	1.00	40.03	O
ATOM	3883	OW0	HOH	Z	241	6.084	7.346	44.819	1.00	29.00	O
ATOM	3884	OW0	HOH	Z	242	38.607	15.896	56.596	1.00	37.31	O
ATOM	3885	OW0	HOH	Z	243	19.414	11.728	55.919	1.00	42.00	O
ATOM	3886	OW0	HOH	Z	244	26.826	-3.735	61.090	1.00	38.93	O
ATOM	3887	OW0	HOH	Z	245	10.003	37.534	40.258	1.00	43.01	O
ATOM	3888	OW0	HOH	Z	246	34.149	16.488	63.767	1.00	41.95	O
ATOM	3889	OW0	HOH	Z	247	9.400	12.826	16.332	1.00	37.21	O
ATOM	3890	OW0	HOH	Z	248	21.903	-6.746	41.205	1.00	38.57	O
ATOM	3891	OW0	HOH	Z	249	45.763	21.253	21.897	1.00	37.31	O
ATOM	3892	OW0	HOH	Z	250	33.096	22.047	13.280	1.00	47.97	O
ATOM	3893	OW0	HOH	Z	251	37.270	23.956	57.675	1.00	34.54	O
ATOM	3894	OW0	HOH	Z	252	18.185	14.737	49.781	1.00	32.85	O
ATOM	3895	OW0	HOH	Z	253	23.858	32.550	41.057	1.00	50.41	O
ATOM	3896	OW0	HOH	Z	254	18.544	10.488	49.874	1.00	44.44	O
ATOM	3897	OW0	HOH	Z	255	14.771	33.063	12.091	1.00	35.84	O
ATOM	3898	OW0	HOH	Z	256	20.711	11.123	40.135	1.00	43.08	O
ATOM	3899	OW0	HOH	Z	257	47.445	25.183	40.716	1.00	42.52	O
ATOM	3900	OW0	HOH	Z	258	49.714	23.073	26.775	1.00	46.07	O
ATOM	3901	OW0	HOH	Z	259	6.976	9.228	53.709	1.00	28.77	O
ATOM	3902	OW0	HOH	Z	260	16.396	5.631	15.703	1.00	45.74	O
ATOM	3903	OW0	HOH	Z	261	14.775	38.220	13.666	1.00	36.31	O
ATOM	3904	OW0	HOH	Z	262	7.503	22.471	23.700	1.00	43.06	O
ATOM	3905	OW0	HOH	Z	263	35.558	27.151	13.923	1.00	40.92	O
ATOM	3906	OW0	HOH	Z	264	40.908	35.213	37.942	1.00	38.55	O
ATOM	3907	OW0	HOH	Z	265	20.360	47.804	30.836	1.00	30.24	O
ATOM	3908	OW0	HOH	Z	266	5.399	33.984	2.079	1.00	45.30	O
ATOM	3909	OW0	HOH	Z	267	18.977	9.447	61.503	1.00	44.38	O
ATOM	3910	OW0	HOH	Z	268	34.863	16.985	56.795	1.00	37.59	O
ATOM	3911	OW0	HOH	Z	269	4.085	24.049	10.769	1.00	40.05	O
ATOM	3912	OW0	HOH	Z	270	12.703	-6.661	38.471	1.00	38.94	O
ATOM	3913	OW0	HOH	Z	271	22.387	46.165	31.578	1.00	38.09	O
ATOM	3914	OW0	HOH	Z	272	25.192	47.578	21.273	1.00	37.17	O
ATOM	3915	OW0	HOH	Z	273	30.912	35.165	49.928	1.00	49.31	O

ATOM	3916	OW0	HOH	Z	274	18.470	0.631	60.620	1.00	38.78	O
ATOM	3917	OW0	HOH	Z	275	21.139	32.446	6.639	1.00	37.32	O
ATOM	3918	OW0	HOH	Z	276	27.846	-9.129	51.274	1.00	37.62	O
ATOM	3919	OW0	HOH	Z	277	9.353	25.822	18.774	1.00	35.56	O
ATOM	3920	OW0	HOH	Z	278	26.313	21.017	-1.780	1.00	46.51	O
ATOM	3921	OW0	HOH	Z	279	18.304	17.977	27.500	1.00	39.04	O
ATOM	3922	OW0	HOH	Z	280	32.990	-5.269	40.752	1.00	34.10	O
ATOM	3923	OW0	HOH	Z	281	48.291	27.712	40.579	1.00	36.27	O
ATOM	3924	OW0	HOH	Z	282	22.238	31.903	47.422	1.00	48.17	O
ATOM	3925	OW0	HOH	Z	283	9.850	28.109	19.916	1.00	35.54	O
ATOM	3926	OW0	HOH	Z	284	18.199	24.982	51.065	1.00	36.70	O
ATOM	3927	OW0	HOH	Z	285	34.052	14.650	66.009	1.00	47.39	O
ATOM	3928	OW0	HOH	Z	286	3.668	28.719	23.076	1.00	41.76	O
ATOM	3929	OW0	HOH	Z	287	15.481	6.178	34.686	1.00	40.76	O
ATOM	3930	OW0	HOH	Z	288	30.307	43.454	21.426	1.00	41.96	O
ATOM	3931	OW0	HOH	Z	289	45.777	34.388	36.955	1.00	53.44	O
ATOM	3932	OW0	HOH	Z	290	38.322	26.570	16.277	1.00	40.13	O
ATOM	3933	OW0	HOH	Z	291	25.957	13.266	41.332	1.00	36.59	O
ATOM	3934	OW0	HOH	Z	292	9.867	31.765	26.398	1.00	38.30	O
ATOM	3935	OW0	HOH	Z	293	21.671	27.187	35.535	1.00	51.99	O
ATOM	3936	OW0	HOH	Z	294	33.306	26.920	12.585	1.00	48.74	O
ATOM	3937	OW0	HOH	Z	295	27.448	26.445	9.688	1.00	40.69	O
ATOM	3938	OW0	HOH	Z	296	4.820	25.564	17.188	1.00	41.40	O
ATOM	3939	OW0	HOH	Z	297	28.157	10.149	5.633	1.00	35.28	O
ATOM	3940	OW0	HOH	Z	298	27.680	14.319	25.632	1.00	39.39	O
ATOM	3941	OW0	HOH	Z	299	21.473	13.639	30.362	1.00	36.85	O
ATOM	3942	OW0	HOH	Z	300	24.994	25.325	57.875	1.00	33.41	O
ATOM	3943	OW0	HOH	Z	301	23.556	38.711	37.340	1.00	39.57	O
ATOM	3944	OW0	HOH	Z	302	44.768	34.965	26.428	1.00	42.42	O
ATOM	3945	OW0	HOH	Z	303	29.731	21.038	61.890	1.00	39.74	O
ATOM	3946	OW0	HOH	Z	304	2.707	35.429	33.045	1.00	42.38	O
ATOM	3947	OW0	HOH	Z	305	40.241	9.548	54.479	1.00	41.51	O
ATOM	3948	OW0	HOH	Z	306	48.716	29.622	46.334	1.00	37.26	O
ATOM	3949	OW0	HOH	Z	307	22.146	37.661	10.735	1.00	37.70	O
ATOM	3950	OW0	HOH	Z	308	29.721	33.796	53.597	1.00	34.03	O
ATOM	3951	OW0	HOH	Z	309	21.832	9.539	26.316	1.00	44.04	O
ATOM	3952	OW0	HOH	Z	310	18.625	11.738	44.175	1.00	49.66	O
ATOM	3953	OW0	HOH	Z	311	9.568	8.547	43.046	1.00	54.12	O
ATOM	3954	OW0	HOH	Z	312	9.559	17.734	6.257	1.00	40.96	O
ATOM	3955	OW0	HOH	Z	313	3.194	18.590	23.129	1.00	55.89	O
ATOM	3956	OW0	HOH	Z	314	4.647	38.489	41.572	1.00	38.75	O
ATOM	3957	OW0	HOH	Z	315	25.720	11.439	30.384	1.00	35.40	O
ATOM	3958	OW0	HOH	Z	316	20.644	-6.350	61.065	1.00	42.44	O
ATOM	3959	OW0	HOH	Z	317	19.281	29.040	49.588	1.00	42.23	O
ATOM	3960	OW0	HOH	Z	318	41.042	29.348	55.582	1.00	43.07	O
ATOM	3961	OW0	HOH	Z	319	39.711	24.510	17.303	1.00	40.26	O
ATOM	3962	OW0	HOH	Z	320	23.173	6.210	5.587	1.00	40.02	O
ATOM	3963	OW0	HOH	Z	321	36.405	35.222	20.283	1.00	42.88	O
ATOM	3964	OW0	HOH	Z	322	18.439	9.528	47.448	1.00	51.07	O
ATOM	3965	OW0	HOH	Z	323	10.573	7.258	58.154	1.00	45.42	O
ATOM	3966	OW0	HOH	Z	324	7.309	32.350	6.803	1.00	46.10	O
ATOM	3967	OW0	HOH	Z	325	8.176	23.236	12.922	1.00	43.35	O
ATOM	3968	OW0	HOH	Z	326	23.542	8.301	31.788	1.00	46.64	O
ATOM	3969	OW0	HOH	Z	327	11.408	26.036	31.693	1.00	46.43	O
ATOM	3970	OW0	HOH	Z	328	3.612	41.960	15.708	1.00	63.20	O
ATOM	3971	OW0	HOH	Z	329	22.848	17.153	41.528	1.00	36.33	O
ATOM	3972	OW0	HOH	Z	330	29.811	8.979	7.489	1.00	38.38	O
ATOM	3973	OW0	HOH	Z	331	26.967	6.984	14.844	1.00	44.87	O
ATOM	3974	OW0	HOH	Z	332	24.860	23.876	7.037	1.00	36.03	O
ATOM	3975	OW0	HOH	Z	333	39.537	16.594	15.749	1.00	42.23	O
ATOM	3976	OW0	HOH	Z	334	31.132	27.406	56.220	1.00	34.41	O
ATOM	3977	OW0	HOH	Z	335	13.304	7.877	17.789	1.00	42.52	O
ATOM	3978	OW0	HOH	Z	336	7.728	49.577	42.457	1.00	43.66	O
ATOM	3979	OW0	HOH	Z	337	51.361	20.241	45.329	1.00	40.12	O

ATOM	3980	OW0	HOH	Z	338	32.407	-4.809	50.652	1.00	39.95	O
ATOM	3981	OW0	HOH	Z	339	29.986	40.111	17.160	1.00	46.22	O
ATOM	3982	OW0	HOH	Z	340	29.950	10.535	14.992	1.00	52.45	O
ATOM	3983	OW0	HOH	Z	341	29.042	9.155	10.271	1.00	40.54	O
ATOM	3984	OW0	HOH	Z	342	9.599	33.188	31.757	1.00	46.01	O
ATOM	3985	OW0	HOH	Z	343	20.572	18.004	33.607	1.00	43.84	O
ATOM	3986	OW0	HOH	Z	344	16.649	17.660	2.196	1.00	47.16	O
ATOM	3987	OW0	HOH	Z	345	42.868	15.346	56.539	1.00	47.25	O
ATOM	3988	OW0	HOH	Z	346	20.132	31.342	50.528	1.00	42.58	O
ATOM	3989	OW0	HOH	Z	347	17.112	34.208	52.883	1.00	45.69	O
ATOM	3990	OW0	HOH	Z	348	9.715	22.663	17.042	1.00	36.52	O
ATOM	3991	OW0	HOH	Z	349	50.385	16.695	27.607	1.00	43.85	O
ATOM	3992	OW0	HOH	Z	350	12.167	-5.586	36.085	1.00	42.62	O
ATOM	3993	OW0	HOH	Z	351	25.445	35.375	34.031	1.00	50.62	O
ATOM	3994	OW0	HOH	Z	352	21.784	12.501	60.870	1.00	40.16	O
ATOM	3995	OW0	HOH	Z	353	31.839	19.501	29.680	1.00	41.28	O
ATOM	3996	OW0	HOH	Z	354	13.013	17.955	27.174	1.00	45.80	O
ATOM	3997	OW0	HOH	Z	355	48.602	5.061	19.549	1.00	45.60	O
ATOM	3998	OW0	HOH	Z	356	8.859	16.875	8.707	1.00	47.36	O
ATOM	3999	OW0	HOH	Z	357	46.442	32.338	41.142	1.00	38.09	O
ATOM	4000	OW0	HOH	Z	358	23.723	6.564	29.066	1.00	41.80	O
ATOM	4001	OW0	HOH	Z	359	33.801	10.610	66.323	1.00	47.53	O
ATOM	4002	OW0	HOH	Z	360	33.595	14.465	4.553	1.00	45.19	O
ATOM	4003	OW0	HOH	Z	361	33.437	11.589	28.090	1.00	45.12	O
ATOM	4004	OW0	HOH	Z	362	39.566	29.312	17.089	1.00	47.78	O
ATOM	4005	OW0	HOH	Z	363	26.913	-7.952	56.987	1.00	43.09	O
ATOM	4006	OW0	HOH	Z	364	22.795	14.326	58.303	1.00	38.53	O
ATOM	4007	OW0	HOH	Z	365	23.110	-10.449	47.395	1.00	40.34	O
ATOM	4008	OW0	HOH	Z	366	7.713	14.717	9.625	1.00	44.66	O
ATOM	4009	OW0	HOH	Z	367	50.975	28.269	28.930	1.00	55.08	O
ATOM	4010	OW0	HOH	Z	368	14.482	0.254	58.552	1.00	39.56	O
ATOM	4011	OW0	HOH	Z	369	18.764	10.405	37.621	1.00	40.03	O
ATOM	4012	OW0	HOH	Z	370	45.669	16.682	38.548	1.00	51.04	O
ATOM	4013	OW0	HOH	Z	371	36.035	30.009	17.161	1.00	45.79	O
ATOM	4014	OW0	HOH	Z	372	13.495	30.362	-2.110	1.00	52.87	O
ATOM	4015	OW0	HOH	Z	373	15.990	-7.871	57.592	1.00	41.45	O
ATOM	4016	OW0	HOH	Z	374	20.806	10.947	19.868	1.00	42.56	O
ATOM	4017	OW0	HOH	Z	375	11.600	6.596	14.566	1.00	47.69	O
ATOM	4018	OW0	HOH	Z	376	25.679	15.811	38.248	1.00	42.62	O
ATOM	4019	OW0	HOH	Z	377	41.484	8.318	52.350	1.00	49.22	O
ATOM	4020	OW0	HOH	Z	378	48.910	27.729	36.355	1.00	45.54	O
ATOM	4021	OW0	HOH	Z	379	18.457	22.556	-4.029	1.00	45.40	O
ATOM	4022	OW0	HOH	Z	380	15.923	13.477	48.926	1.00	53.94	O
ATOM	4023	OW0	HOH	Z	381	31.836	-4.021	53.522	1.00	45.73	O
ATOM	4024	OW0	HOH	Z	382	8.430	33.175	29.047	1.00	51.48	O
ATOM	4025	OW0	HOH	Z	383	26.954	23.450	61.270	1.00	40.29	O
ATOM	4026	OW0	HOH	Z	384	29.988	35.329	32.668	1.00	48.79	O
ATOM	4027	OW0	HOH	Z	385	5.483	42.993	40.757	1.00	32.49	O
ATOM	4028	OW0	HOH	Z	386	41.387	36.594	50.915	1.00	38.52	O
ATOM	4029	OW0	HOH	Z	387	36.465	6.256	29.053	1.00	39.44	O
ATOM	4030	OW0	HOH	Z	388	45.897	19.035	36.412	1.00	27.98	O
ATOM	4031	OW0	HOH	Z	389	48.052	31.929	38.993	1.00	49.72	O
ATOM	4032	OW0	HOH	Z	390	27.127	12.579	63.489	1.00	47.30	O
ATOM	4033	OW0	HOH	Z	391	26.324	9.487	19.115	1.00	46.32	O
ATOM	4034	OW0	HOH	Z	392	27.536	25.467	58.264	1.00	43.07	O
ATOM	4035	OW0	HOH	Z	393	29.603	3.246	65.779	1.00	43.20	O
ATOM	4036	OW0	HOH	Z	394	22.673	12.785	40.986	1.00	53.87	O
ATOM	4037	OW0	HOH	Z	395	40.519	3.822	43.160	1.00	45.29	O
ATOM	4038	OW0	HOH	Z	396	7.851	29.060	-3.909	1.00	34.56	O
ATOM	4039	OW0	HOH	Z	397	31.574	-2.074	55.542	1.00	39.25	O
ATOM	4040	OW0	HOH	Z	398	11.308	52.633	37.000	1.00	43.46	O
ATOM	4041	OW0	HOH	Z	399	14.385	44.274	17.999	1.00	43.00	O
ATOM	4042	OW0	HOH	Z	400	6.853	30.672	29.388	1.00	52.85	O
ATOM	4043	OW0	HOH	Z	401	44.730	9.323	46.401	1.00	43.46	O

ATOM	4044	OW0	HOH	Z	402	23.600	10.928	65.247	1.00	53.86	O
ATOM	4045	OW0	HOH	Z	403	27.612	36.694	33.323	1.00	47.16	O
ATOM	4046	OW0	HOH	Z	404	19.378	2.674	10.089	1.00	50.33	O
ATOM	4047	OW0	HOH	Z	405	36.151	-0.410	54.091	1.00	48.14	O
ATOM	4048	OW0	HOH	Z	406	17.502	-6.046	34.397	1.00	55.19	O
ATOM	4049	OW0	HOH	Z	407	14.682	36.620	15.814	1.00	36.83	O
ATOM	4050	OW0	HOH	Z	408	18.918	16.611	42.382	1.00	51.40	O
ATOM	4051	OW0	HOH	Z	409	21.073	50.082	37.594	1.00	47.32	O
ATOM	4052	OW0	HOH	Z	411	9.448	5.394	32.875	1.00	53.50	O
ATOM	4053	OW0	HOH	Z	413	2.663	-1.727	48.937	1.00	52.71	O
ATOM	4054	OW0	HOH	Z	414	21.233	25.587	45.932	1.00	44.02	O
ATOM	4055	OW0	HOH	Z	415	30.485	36.215	15.358	1.00	51.99	O
ATOM	4056	OW0	HOH	Z	416	51.843	21.922	40.072	1.00	56.29	O
ATOM	4057	OW0	HOH	Z	417	32.042	18.100	64.753	1.00	53.41	O
ATOM	4058	OW0	HOH	Z	418	30.544	21.851	3.348	1.00	49.80	O
ATOM	4059	OW0	HOH	Z	419	22.444	-4.502	33.538	1.00	43.58	O
ATOM	4060	OW0	HOH	Z	420	15.047	22.041	32.706	1.00	45.92	O
ATOM	4061	OW0	HOH	Z	421	29.257	25.725	56.322	1.00	40.75	O
ATOM	4062	OW0	HOH	Z	422	32.575	37.652	43.475	1.00	41.33	O
ATOM	4063	OW0	HOH	Z	423	37.131	38.600	50.665	1.00	44.87	O
ATOM	4064	OW0	HOH	Z	424	41.096	26.637	21.655	1.00	51.67	O
ATOM	4065	OW0	HOH	Z	425	26.571	38.214	31.343	1.00	46.55	O
ATOM	4066	OW0	HOH	Z	426	24.459	36.787	46.668	1.00	44.50	O
ATOM	4067	OW0	HOH	Z	427	25.441	-11.303	46.007	1.00	51.15	O
ATOM	4068	OW0	HOH	Z	428	46.170	14.110	31.720	1.00	39.70	O
ATOM	4069	OW0	HOH	Z	429	29.902	5.490	64.278	1.00	45.26	O
ATOM	4070	OW0	HOH	Z	430	12.331	32.728	34.937	1.00	52.97	O
ATOM	4071	OW0	HOH	Z	431	18.463	-9.869	42.087	1.00	44.05	O
ATOM	4072	OW0	HOH	Z	432	19.346	7.038	6.907	1.00	44.58	O
ATOM	4073	OW0	HOH	Z	433	9.947	32.080	6.486	1.00	48.15	O
ATOM	4074	OW0	HOH	Z	434	13.593	37.717	37.501	1.00	42.19	O
ATOM	4075	OW0	HOH	Z	435	-4.151	36.587	19.692	1.00	54.46	O
ATOM	4076	OW0	HOH	Z	436	46.660	11.419	22.542	1.00	54.74	O
ATOM	4077	OW0	HOH	Z	437	3.810	47.805	35.375	1.00	61.33	O
ATOM	4078	OW0	HOH	Z	438	37.872	-1.810	57.262	1.00	45.82	O
ATOM	4079	OW0	HOH	Z	439	36.643	16.851	59.689	1.00	52.24	O
ATOM	4080	OW0	HOH	Z	440	31.215	13.085	15.089	1.00	44.44	O
ATOM	4081	OW0	HOH	Z	441	31.115	16.489	12.583	1.00	46.55	O
ATOM	4082	OW0	HOH	Z	442	13.018	1.170	31.488	1.00	71.20	O
ATOM	4083	OW0	HOH	Z	443	28.936	33.840	39.024	1.00	57.61	O
ATOM	4084	OW0	HOH	Z	444	23.247	1.244	14.328	1.00	46.85	O
ATOM	4085	OW0	HOH	Z	445	13.213	32.167	10.184	1.00	42.76	O
ATOM	4086	OW0	HOH	Z	446	27.929	-6.168	61.609	1.00	45.29	O
ATOM	4087	OW0	HOH	Z	448	0.111	29.318	7.267	1.00	47.69	O
ATOM	4088	OW0	HOH	Z	449	33.521	26.325	56.999	1.00	44.66	O
ATOM	4089	OW0	HOH	Z	450	25.936	41.619	29.790	1.00	39.06	O
ATOM	4090	OW0	HOH	Z	451	43.840	1.243	37.210	1.00	49.42	O
ATOM	4091	OW0	HOH	Z	452	11.143	-7.541	50.997	1.00	43.90	O
ATOM	4092	OW0	HOH	Z	453	0.504	49.006	40.880	1.00	49.38	O
ATOM	4093	OW0	HOH	Z	454	49.382	22.778	22.490	1.00	50.62	O
ATOM	4094	OW0	HOH	Z	455	4.386	13.382	24.656	1.00	62.20	O
ATOM	4095	OW0	HOH	Z	456	22.642	16.253	62.524	1.00	40.21	O
ATOM	4096	OW0	HOH	Z	457	19.595	-2.565	63.161	1.00	54.59	O
ATOM	4097	OW0	HOH	Z	458	31.135	14.729	10.815	1.00	53.37	O
ATOM	4098	OW0	HOH	Z	459	15.020	-11.363	55.236	1.00	55.59	O
ATOM	4099	OW0	HOH	Z	460	11.933	28.886	34.221	1.00	49.32	O
ATOM	4100	OW0	HOH	Z	461	20.172	30.465	32.399	1.00	56.57	O
ATOM	4101	OW0	HOH	Z	462	11.248	32.686	4.270	1.00	45.49	O
ATOM	4102	OW0	HOH	Z	463	52.521	18.959	21.295	1.00	59.07	O
ATOM	4103	OW0	HOH	Z	464	5.334	34.592	30.241	1.00	63.41	O
ATOM	4104	OW0	HOH	Z	465	44.144	9.608	51.623	1.00	57.70	O
ATOM	4105	OW0	HOH	Z	466	37.097	21.260	13.439	1.00	52.51	O
ATOM	4106	OW0	HOH	Z	467	44.030	11.832	31.605	1.00	41.94	O
ATOM	4107	OW0	HOH	Z	468	34.117	35.918	18.044	1.00	44.68	O

ATOM	4108	OW0	HOH	Z	469	18.491	3.996	21.336	1.00	55.84	O
ATOM	4109	OW0	HOH	Z	471	29.303	8.886	20.237	1.00	53.15	O
ATOM	4110	OW0	HOH	Z	472	14.394	43.313	12.008	1.00	50.15	O
ATOM	4111	OW0	HOH	Z	473	23.952	51.031	33.322	1.00	54.98	O
ATOM	4112	OW0	HOH	Z	474	1.523	44.166	37.782	1.00	54.74	O
ATOM	4113	OW0	HOH	Z	475	24.759	18.478	-3.006	1.00	48.22	O
ATOM	4114	OW0	HOH	Z	476	12.952	37.928	39.944	1.00	39.92	O
ATOM	4115	OW0	HOH	Z	477	28.217	-2.061	20.941	1.00	50.36	O
ATOM	4116	OW0	HOH	Z	478	30.081	-3.165	57.599	1.00	44.63	O
ATOM	4117	OW0	HOH	Z	479	19.290	8.314	-1.363	1.00	55.01	O
ATOM	4118	OW0	HOH	Z	481	41.329	1.293	56.774	1.00	73.63	O
ATOM	4119	OW0	HOH	Z	482	44.221	6.919	35.599	1.00	52.10	O
ATOM	4120	OW0	HOH	Z	484	20.360	8.140	60.631	1.00	61.22	O
ATOM	4121	OW0	HOH	Z	485	11.293	41.055	12.455	1.00	51.10	O
ATOM	4122	OW0	HOH	Z	486	38.046	19.111	59.071	1.00	54.85	O
ATOM	4123	OW0	HOH	Z	487	31.249	33.416	15.195	1.00	53.18	O
ATOM	4124	OW0	HOH	Z	488	31.204	4.552	23.244	1.00	54.26	O
ATOM	4125	OW0	HOH	Z	489	30.921	-2.726	61.246	1.00	47.72	O
ATOM	4126	OW0	HOH	Z	490	14.235	-11.022	44.266	1.00	50.89	O
ATOM	4127	OW0	HOH	Z	491	4.881	23.737	15.186	1.00	53.86	O
ATOM	4128	OW0	HOH	Z	492	42.987	20.340	15.970	1.00	41.25	O
ATOM	4129	OW0	HOH	Z	493	6.931	24.571	18.740	1.00	46.69	O
ATOM	4130	OW0	HOH	Z	494	27.059	15.692	64.576	1.00	55.21	O
ATOM	4131	OW0	HOH	Z	496	-2.137	31.883	17.305	1.00	52.06	O
ATOM	4132	OW0	HOH	Z	497	16.583	10.141	-2.703	1.00	55.39	O
ATOM	4133	OW0	HOH	Z	498	29.765	11.212	3.701	1.00	45.51	O
ATOM	4134	OW0	HOH	Z	500	36.845	37.334	21.868	1.00	56.16	O
ATOM	4135	OW0	HOH	Z	501	32.478	9.326	7.561	1.00	51.65	O
ATOM	4136	OW0	HOH	Z	502	41.440	33.814	54.271	1.00	51.56	O
ATOM	4137	OW0	HOH	Z	503	15.629	19.817	31.255	1.00	46.43	O
ATOM	4138	OW0	HOH	Z	504	36.213	-4.072	40.780	1.00	52.48	O
ATOM	4139	OW0	HOH	Z	505	21.586	46.192	37.560	1.00	49.63	O
ATOM	4140	OW0	HOH	Z	506	20.992	20.522	38.327	1.00	49.64	O
ATOM	4141	OW0	HOH	Z	507	46.289	13.609	39.161	1.00	44.11	O
ATOM	4142	OW0	HOH	Z	508	46.618	15.202	18.151	1.00	55.74	O
ATOM	4143	OW0	HOH	Z	509	18.646	21.311	49.596	1.00	42.74	O
ATOM	4144	OW0	HOH	Z	510	33.117	5.574	24.893	1.00	58.41	O
ATOM	4145	OW0	HOH	Z	511	18.077	19.235	32.079	1.00	50.28	O
ATOM	4146	OW0	HOH	Z	512	13.592	51.634	46.901	1.00	53.90	O
ATOM	4147	OW0	HOH	Z	514	40.628	19.164	15.666	1.00	47.21	O
ATOM	4148	OW0	HOH	Z	515	26.567	32.671	35.413	1.00	53.85	O
ATOM	4149	OW0	HOH	Z	517	0.860	34.594	0.990	1.00	51.15	O
ATOM	4150	OW0	HOH	Z	518	21.869	18.466	-3.352	1.00	48.30	O
ATOM	4151	OW0	HOH	Z	519	14.655	4.120	14.381	1.00	59.21	O
ATOM	4152	OW0	HOH	Z	520	27.493	19.252	62.536	1.00	51.54	O
ATOM	4153	OW0	HOH	Z	521	26.107	29.405	-5.912	1.00	57.77	O
ATOM	4154	OW0	HOH	Z	523	24.095	33.282	7.056	1.00	56.77	O
ATOM	4155	OW0	HOH	Z	525	25.011	5.492	15.571	1.00	57.61	O
ATOM	4156	OW0	HOH	Z	526	46.978	36.267	24.404	1.00	62.44	O
ATOM	4157	OW0	HOH	Z	527	26.387	29.281	4.767	1.00	50.59	O
ATOM	4158	OW0	HOH	Z	528	29.687	38.296	31.604	1.00	60.44	O
ATOM	4159	OW0	HOH	Z	530	21.125	42.041	40.040	1.00	51.65	O
ATOM	4160	OW0	HOH	Z	531	26.717	20.913	56.908	1.00	18.75	O
ATOM	4161	OW0	HOH	Z	532	44.198	9.134	42.056	1.00	25.95	O
ATOM	4162	OW0	HOH	Z	534	40.793	7.373	60.743	1.00	50.90	O
ATOM	4163	OW0	HOH	Z	535	17.501	31.827	33.851	1.00	56.01	O
ATOM	4164	OW0	HOH	Z	536	6.030	22.869	3.287	1.00	54.63	O
ATOM	4165	OW0	HOH	Z	537	10.556	9.347	47.787	1.00	50.05	O
ATOM	4166	OW0	HOH	Z	538	15.353	16.546	-5.968	1.00	62.00	O
ATOM	4167	OW0	HOH	Z	539	19.481	22.979	35.392	1.00	46.36	O
ATOM	4168	OW0	HOH	Z	540	10.692	29.584	-4.152	1.00	51.33	O
ATOM	4169	OW0	HOH	Z	541	44.599	21.886	17.314	1.00	51.67	O
ATOM	4170	OW0	HOH	Z	542	22.147	25.599	-6.207	1.00	59.47	O
ATOM	4171	OW0	HOH	Z	543	3.884	2.935	39.688	1.00	59.44	O

ATOM	4172	OW0	HOH	Z	544	27.564	26.874	34.040	1.00	17.88	O
ATOM	4173	OW0	HOH	Z	545	4.793	5.591	43.427	1.00	66.19	O
ATOM	4174	OW0	HOH	Z	546	3.152	24.054	13.205	1.00	52.00	O
ATOM	4175	OW0	HOH	Z	547	15.692	46.446	42.589	1.00	51.31	O
ATOM	4176	OW0	HOH	Z	548	8.000	7.028	51.624	1.00	52.37	O
ATOM	4177	OW0	HOH	Z	549	35.215	-5.176	44.476	1.00	45.88	O
ATOM	4178	OW0	HOH	Z	550	16.928	4.221	30.356	1.00	66.82	O
ATOM	4179	OW0	HOH	Z	551	17.797	45.298	41.629	1.00	53.33	O
ATOM	4180	OW0	HOH	Z	552	25.483	41.413	33.816	1.00	53.83	O
ATOM	4181	OW0	HOH	Z	553	15.556	33.865	37.776	1.00	52.86	O
ATOM	4182	OW0	HOH	Z	554	27.337	-10.411	53.575	1.00	52.88	O
ATOM	4183	OW0	HOH	Z	555	45.968	11.887	34.801	1.00	49.96	O
ATOM	4184	OW0	HOH	Z	556	33.579	-0.659	59.497	1.00	61.78	O
ATOM	4185	OW0	HOH	Z	557	39.215	14.929	59.684	1.00	64.64	O
ATOM	4186	OW0	HOH	Z	559	4.022	23.837	29.725	1.00	58.44	O
ATOM	4187	OW0	HOH	Z	560	43.751	7.120	44.081	1.00	53.66	O
ATOM	4188	OW0	HOH	Z	561	26.890	30.995	33.381	1.00	19.60	O
ATOM	4189	OW0	HOH	Z	562	9.207	10.699	8.511	1.00	46.88	O
ATOM	4190	OW0	HOH	Z	563	20.032	15.557	15.518	1.00	51.24	O
ATOM	4191	OW0	HOH	Z	564	7.878	7.012	54.356	1.00	51.39	O
ATOM	4192	OW0	HOH	Z	566	10.276	20.805	3.467	1.00	51.83	O
ATOM	4193	OW0	HOH	Z	567	2.844	47.773	30.163	1.00	54.85	O
ATOM	4194	OW0	HOH	Z	568	24.328	-1.038	65.505	1.00	56.23	O
ATOM	4195	OW0	HOH	Z	569	5.510	14.287	26.944	1.00	64.54	O
ATOM	4196	OW0	HOH	Z	570	28.826	29.559	35.291	1.00	18.91	O
ATOM	4197	OW0	HOH	Z	571	30.590	7.060	30.452	1.00	37.05	O
ATOM	4198	OW0	HOH	Z	572	25.895	26.436	40.448	1.00	44.93	O
ATOM	4199	OW0	HOH	Z	573	7.981	47.102	29.714	1.00	42.60	O
ATOM	4200	OW0	HOH	Z	574	3.738	45.539	41.948	1.00	43.51	O
ATOM	4201	OW0	HOH	Z	575	15.872	52.569	32.650	1.00	43.50	O
ATOM	4202	OW0	HOH	Z	576	40.977	10.306	48.238	1.00	47.42	O
ATOM	4203	OW0	HOH	Z	577	31.615	12.687	4.974	1.00	54.35	O
ATOM	4204	OW0	HOH	Z	578	36.763	5.264	31.403	1.00	55.54	O
ATOM	4205	OW0	HOH	Z	579	20.058	27.099	25.492	1.00	52.07	O
ATOM	4206	OW0	HOH	Z	580	46.513	11.378	40.749	1.00	57.50	O
ATOM	4207	OW0	HOH	Z	581	24.468	-8.595	56.576	1.00	53.31	O
ATOM	4208	OW0	HOH	Z	582	42.920	13.084	49.055	1.00	69.61	O
ATOM	4209	OW0	HOH	Z	583	16.869	18.282	-7.940	1.00	61.38	O
ATOM	4210	OW0	HOH	Z	584	29.255	14.253	27.767	1.00	60.96	O
ATOM	4211	OW0	HOH	Z	586	42.338	2.629	60.950	1.00	55.14	O
ATOM	4212	OW0	HOH	Z	587	5.060	41.965	25.271	1.00	51.23	O
ATOM	4213	OW0	HOH	Z	588	22.095	10.890	12.872	1.00	62.83	O
ATOM	4214	OW0	HOH	Z	589	35.187	3.481	26.566	1.00	60.98	O
ATOM	4215	OW0	HOH	Z	590	21.325	45.254	34.133	1.00	58.44	O
ATOM	4216	OW0	HOH	Z	592	25.851	28.907	35.091	1.00	33.06	O
ATOM	4217	OW0	HOH	Z	593	30.294	32.534	55.904	1.00	52.54	O
ATOM	4218	OW0	HOH	Z	594	22.960	22.461	41.608	1.00	57.35	O
ATOM	4219	OW0	HOH	Z	595	35.665	31.696	55.608	1.00	62.87	O
ATOM	4220	OW0	HOH	Z	596	13.449	-11.478	53.120	1.00	61.95	O

[00128] Table 7 shows the coordinates of the crystal structure of *E. coli* ExoI bound to compound 10 that was identified in a screen according to the present invention. Compounds that bind prokaryotic exonucleases and that have crystal structures whose models substantially represent the atomic coordinates specified in Table 7, can be used for practicing the present invention.

Table 7. Coordinates of the crystal structure of *E. coli* ExoI bound to compound 10

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REMARK Written by O version 11.0.0
REMARK Wed Apr  2 12:04:12 2008
CRYST1   52.671   91.939  103.081  90.00  90.00  90.00
ORIGX1      1.000000  0.000000  0.000000        0.00000
ORIGX2      0.000000  1.000000  0.000000        0.00000
ORIGX3      0.000000  0.000000  1.000000        0.00000
SCALE1      0.018986  0.000000  0.000000        0.00000
SCALE2      0.000000  0.010877  0.000000        0.00000
SCALE3      0.000000  0.000000  0.009701        0.00000
ATOM      1  N   GLN A   7      49.018  15.739  17.237  1.00 24.46   7
ATOM      2  CA  GLN A   7      47.830  16.318  17.933  1.00 24.31   6
ATOM      3  CB  GLN A   7      46.544  15.607  17.482  1.00 24.69   6
ATOM      4  CG  GLN A   7      45.239  16.298  17.902  1.00 25.93   6
ATOM      5  CD  GLN A   7      44.941  17.567  17.108  1.00 27.82   6
ATOM      6  OE1 GLN A   7      45.555  17.830  16.069  1.00 28.38   8
ATOM      7  NE2 GLN A   7      43.988  18.356  17.596  1.00 27.72   7
ATOM      8  C   GLN A   7      47.998  16.229  19.449  1.00 23.82   6
ATOM      9  O   GLN A   7      48.179  15.142  20.005  1.00 23.86   8
ATOM     10  N   GLN A   8      47.955  17.383  20.109  1.00 23.00   7
ATOM     11  CA  GLN A   8      48.120  17.451  21.554  1.00 22.42   6
ATOM     12  CB  GLN A   8      48.937  18.696  21.947  1.00 22.71   6
ATOM     13  CG  GLN A   8      48.107  19.966  22.161  1.00 23.51   6
ATOM     14  CD  GLN A   8      48.940  21.241  22.139  1.00 23.89   6
ATOM     15  OE1 GLN A   8      49.712  21.477  21.205  1.00 25.61   8
ATOM     16  NE2 GLN A   8      48.767  22.082  23.158  1.00 23.84   7
ATOM     17  C   GLN A   8      46.759  17.465  22.243  1.00 21.15   6
ATOM     18  O   GLN A   8      45.751  17.855  21.642  1.00 21.30   8
ATOM     19  N   SER A   9      46.736  17.043  23.504  1.00 19.81   7
ATOM     20  CA  SER A   9      45.531  17.127  24.307  1.00 18.37   6
ATOM     21  CB  SER A   9      45.670  16.289  25.574  1.00 18.76   6
ATOM     22  OG  SER A   9      45.774  14.908  25.254  1.00 18.85   8
ATOM     23  C   SER A   9      45.253  18.585  24.654  1.00 17.20   6
ATOM     24  O   SER A   9      46.175  19.342  24.984  1.00 16.49   8
ATOM     25  N   THR A  10      43.987  18.985  24.541  1.00 15.77   7
ATOM     26  CA  THR A  10      43.577  20.347  24.902  1.00 14.81   6
ATOM     27  CB  THR A  10      43.376  21.275  23.650  1.00 14.71   6
ATOM     28  OG1 THR A  10      42.350  20.753  22.791  1.00 16.16   8
ATOM     29  CG2 THR A  10      44.672  21.429  22.874  1.00 15.06   6
ATOM     30  C   THR A  10      42.316  20.355  25.762  1.00 13.86   6
ATOM     31  O   THR A  10      41.611  19.354  25.855  1.00 12.93   8
ATOM     32  N   PHE A  11      42.072  21.491  26.412  1.00 12.98   7
ATOM     33  CA  PHE A  11      40.811  21.757  27.082  1.00 12.52   6
ATOM     34  CB  PHE A  11      41.059  22.241  28.513  1.00 12.52   6
ATOM     35  CG  PHE A  11      41.543  21.175  29.438  1.00 12.02   6
ATOM     36  CD1 PHE A  11      40.636  20.341  30.092  1.00 11.55   6
ATOM     37  CE1 PHE A  11      41.078  19.360  30.962  1.00 14.18   6
ATOM     38  CZ  PHE A  11      42.438  19.203  31.196  1.00 13.48   6
ATOM     39  CE2 PHE A  11      43.355  20.032  30.557  1.00 13.73   6
ATOM     40  CD2 PHE A  11      42.903  21.018  29.688  1.00 12.71   6
ATOM     41  C   PHE A  11      40.093  22.847  26.321  1.00 12.33   6
ATOM     42  O   PHE A  11      40.713  23.831  25.921  1.00 12.71   8
ATOM     43  N   LEU A  12      38.795  22.665  26.096  1.00 11.52   7
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ATOM	44	CA	LEU	A	12	37.965	23.748	25.588	1.00	11.19	6
ATOM	45	CB	LEU	A	12	37.265	23.363	24.276	1.00	11.40	6
ATOM	46	CG	LEU	A	12	36.596	24.520	23.514	1.00	12.89	6
ATOM	47	CD1	LEU	A	12	37.629	25.449	22.874	1.00	12.88	6
ATOM	48	CD2	LEU	A	12	35.657	23.989	22.468	1.00	14.11	6
ATOM	49	C	LEU	A	12	36.959	24.160	26.653	1.00	10.57	6
ATOM	50	O	LEU	A	12	35.951	23.485	26.876	1.00	10.17	8
ATOM	51	N	PHE	A	13	37.278	25.253	27.340	1.00	10.48	7
ATOM	52	CA	PHE	A	13	36.382	25.847	28.311	1.00	10.55	6
ATOM	53	CB	PHE	A	13	37.162	26.805	29.223	1.00	10.60	6
ATOM	54	CG	PHE	A	13	38.104	26.108	30.174	1.00	9.17	6
ATOM	55	CD1	PHE	A	13	37.705	25.808	31.480	1.00	9.71	6
ATOM	56	CE1	PHE	A	13	38.578	25.147	32.358	1.00	9.31	6
ATOM	57	CZ	PHE	A	13	39.852	24.775	31.937	1.00	9.96	6
ATOM	58	CE2	PHE	A	13	40.264	25.071	30.656	1.00	8.24	6
ATOM	59	CD2	PHE	A	13	39.380	25.733	29.768	1.00	8.18	6
ATOM	60	C	PHE	A	13	35.300	26.596	27.553	1.00	10.42	6
ATOM	61	O	PHE	A	13	35.594	27.305	26.584	1.00	11.02	8
ATOM	62	N	HIS	A	14	34.048	26.422	27.965	1.00	10.45	7
ATOM	63	CA	HIS	A	14	32.944	27.090	27.282	1.00	10.63	6
ATOM	64	CB	HIS	A	14	32.417	26.218	26.148	1.00	10.60	6
ATOM	65	CG	HIS	A	14	31.633	25.037	26.626	1.00	9.92	6
ATOM	66	ND1	HIS	A	14	30.254	24.986	26.578	1.00	12.95	7
ATOM	67	CE1	HIS	A	14	29.844	23.836	27.089	1.00	10.19	6
ATOM	68	NE2	HIS	A	14	30.903	23.145	27.467	1.00	10.83	7
ATOM	69	CD2	HIS	A	14	32.032	23.881	27.206	1.00	10.15	6
ATOM	70	C	HIS	A	14	31.797	27.434	28.210	1.00	10.83	6
ATOM	71	O	HIS	A	14	31.660	26.867	29.306	1.00	11.10	8
ATOM	72	N	ASP	A	15	30.955	28.351	27.745	1.00	11.37	7
ATOM	73	CA	ASP	A	15	29.776	28.773	28.486	1.00	11.71	6
ATOM	74	CB	ASP	A	15	30.161	29.825	29.524	1.00	12.27	6
ATOM	75	CG	ASP	A	15	29.045	30.118	30.500	1.00	13.18	6
ATOM	76	OD1	ASP	A	15	28.489	29.159	31.076	1.00	14.77	8
ATOM	77	OD2	ASP	A	15	28.728	31.316	30.698	1.00	15.12	8
ATOM	78	C	ASP	A	15	28.722	29.343	27.528	1.00	11.86	6
ATOM	79	O	ASP	A	15	29.061	30.065	26.575	1.00	11.63	8
ATOM	80	N	TYR	A	16	27.454	29.009	27.780	1.00	11.81	7
ATOM	81	CA	TYR	A	16	26.327	29.640	27.069	1.00	11.91	6
ATOM	82	CB	TYR	A	16	25.243	28.613	26.732	1.00	12.10	6
ATOM	83	CG	TYR	A	16	25.583	27.600	25.659	1.00	11.13	6
ATOM	84	CD1	TYR	A	16	25.346	27.873	24.308	1.00	11.76	6
ATOM	85	CE1	TYR	A	16	25.625	26.924	23.317	1.00	11.01	6
ATOM	86	CZ	TYR	A	16	26.139	25.682	23.688	1.00	11.35	6
ATOM	87	OH	TYR	A	16	26.427	24.734	22.728	1.00	11.33	8
ATOM	88	CE2	TYR	A	16	26.367	25.391	25.020	1.00	10.23	6
ATOM	89	CD2	TYR	A	16	26.085	26.344	25.998	1.00	11.77	6
ATOM	90	C	TYR	A	16	25.678	30.710	27.935	1.00	12.47	6
ATOM	91	O	TYR	A	16	25.557	30.544	29.146	1.00	12.24	8
ATOM	92	N	GLU	A	17	25.233	31.794	27.310	1.00	12.41	7
ATOM	93	CA	GLU	A	17	24.137	32.578	27.880	1.00	12.84	6
ATOM	94	CB	GLU	A	17	24.423	34.082	27.837	1.00	13.01	6
ATOM	95	CG	GLU	A	17	25.759	34.505	28.463	1.00	14.96	6
ATOM	96	CD	GLU	A	17	25.787	34.380	29.986	1.00	18.85	6
ATOM	97	OE1	GLU	A	17	24.713	34.341	30.620	1.00	19.07	8
ATOM	98	OE2	GLU	A	17	26.897	34.311	30.546	1.00	21.68	8
ATOM	99	C	GLU	A	17	22.911	32.243	27.049	1.00	12.28	6
ATOM	100	O	GLU	A	17	22.998	32.159	25.825	1.00	11.95	8
ATOM	101	N	THR	A	18	21.782	32.004	27.711	1.00	12.09	7
ATOM	102	CA	THR	A	18	20.561	31.608	27.010	1.00	11.78	6
ATOM	103	CB	THR	A	18	20.127	30.154	27.338	1.00	12.03	6
ATOM	104	OG1	THR	A	18	19.576	30.108	28.654	1.00	11.44	8
ATOM	105	CG2	THR	A	18	21.305	29.175	27.232	1.00	11.23	6
ATOM	106	C	THR	A	18	19.406	32.549	27.328	1.00	11.91	6
ATOM	107	O	THR	A	18	19.509	33.419	28.200	1.00	12.02	8

ATOM	108	N	PHE	A	19	18.300	32.361	26.620	1.00	11.86	7
ATOM	109	CA	PHE	A	19	17.111	33.173	26.828	1.00	12.22	6
ATOM	110	CB	PHE	A	19	16.438	33.464	25.485	1.00	12.24	6
ATOM	111	CG	PHE	A	19	17.136	34.516	24.692	1.00	12.23	6
ATOM	112	CD1	PHE	A	19	17.305	35.803	25.215	1.00	11.27	6
ATOM	113	CE1	PHE	A	19	17.969	36.799	24.481	1.00	12.54	6
ATOM	114	CZ	PHE	A	19	18.464	36.506	23.222	1.00	12.84	6
ATOM	115	CE2	PHE	A	19	18.300	35.230	22.687	1.00	13.20	6
ATOM	116	CD2	PHE	A	19	17.639	34.235	23.429	1.00	13.06	6
ATOM	117	C	PHE	A	19	16.136	32.557	27.836	1.00	12.67	6
ATOM	118	O	PHE	A	19	15.051	33.091	28.074	1.00	13.29	8
ATOM	119	N	GLY	A	20	16.544	31.457	28.461	1.00	13.25	7
ATOM	120	CA	GLY	A	20	15.726	30.830	29.500	1.00	14.08	6
ATOM	121	C	GLY	A	20	16.365	29.605	30.119	1.00	14.32	6
ATOM	122	O	GLY	A	20	17.464	29.197	29.727	1.00	14.46	8
ATOM	123	N	THR	A	21	15.654	28.993	31.062	1.00	14.83	7
ATOM	124	CA	THR	A	21	16.214	27.901	31.872	1.00	15.80	6
ATOM	125	CB	THR	A	21	15.575	27.827	33.293	1.00	15.79	6
ATOM	126	OG1	THR	A	21	14.147	27.766	33.190	1.00	17.19	8
ATOM	127	CG2	THR	A	21	15.992	29.022	34.165	1.00	17.19	6
ATOM	128	C	THR	A	21	16.084	26.523	31.227	1.00	15.42	6
ATOM	129	O	THR	A	21	16.817	25.606	31.584	1.00	15.27	8
ATOM	130	N	HIS	A	22	15.135	26.370	30.306	1.00	15.74	7
ATOM	131	CA	HIS	A	22	14.893	25.066	29.684	1.00	16.15	6
ATOM	132	CB	HIS	A	22	13.440	24.945	29.225	1.00	16.16	6
ATOM	133	CG	HIS	A	22	12.998	23.534	28.986	1.00	16.41	6
ATOM	134	ND1	HIS	A	22	11.971	22.945	29.694	1.00	17.55	7
ATOM	135	CE1	HIS	A	22	11.805	21.702	29.273	1.00	18.23	6
ATOM	136	NE2	HIS	A	22	12.695	21.460	28.326	1.00	17.96	7
ATOM	137	CD2	HIS	A	22	13.457	22.588	28.132	1.00	16.94	6
ATOM	138	C	HIS	A	22	15.859	24.827	28.519	1.00	16.60	6
ATOM	139	O	HIS	A	22	15.827	25.556	27.522	1.00	16.53	8
ATOM	140	N	PRO	A	23	16.727	23.796	28.644	1.00	17.14	7
ATOM	141	CA	PRO	A	23	17.791	23.552	27.661	1.00	17.15	6
ATOM	142	CB	PRO	A	23	18.491	22.297	28.199	1.00	17.23	6
ATOM	143	CG	PRO	A	23	18.096	22.196	29.625	1.00	17.52	6
ATOM	144	CD	PRO	A	23	16.733	22.794	29.722	1.00	17.32	6
ATOM	145	C	PRO	A	23	17.254	23.279	26.257	1.00	17.00	6
ATOM	146	O	PRO	A	23	17.957	23.518	25.271	1.00	17.62	8
ATOM	147	N	ALA	A	24	16.013	22.799	26.175	1.00	16.75	7
ATOM	148	CA	ALA	A	24	15.382	22.442	24.902	1.00	16.60	6
ATOM	149	CB	ALA	A	24	14.682	21.096	25.022	1.00	16.72	6
ATOM	150	C	ALA	A	24	14.405	23.497	24.374	1.00	16.34	6
ATOM	151	O	ALA	A	24	14.411	23.807	23.177	1.00	17.23	8
ATOM	152	N	LEU	A	25	13.571	24.039	25.264	1.00	15.74	7
ATOM	153	CA	LEU	A	25	12.443	24.894	24.863	1.00	14.72	6
ATOM	154	CB	LEU	A	25	11.207	24.588	25.715	1.00	15.02	6
ATOM	155	CG	LEU	A	25	10.619	23.178	25.556	1.00	16.37	6
ATOM	156	CD1	LEU	A	25	9.476	22.944	26.541	1.00	17.06	6
ATOM	157	CD2	LEU	A	25	10.164	22.927	24.121	1.00	17.74	6
ATOM	158	C	LEU	A	25	12.758	26.391	24.896	1.00	14.10	6
ATOM	159	O	LEU	A	25	11.990	27.211	24.380	1.00	13.80	8
ATOM	160	N	ASP	A	26	13.880	26.738	25.507	1.00	12.91	7
ATOM	161	CA	ASP	A	26	14.400	28.093	25.426	1.00	12.72	6
ATOM	162	CB	ASP	A	26	14.805	28.583	26.811	1.00	12.47	6
ATOM	163	CG	ASP	A	26	13.604	28.886	27.683	1.00	12.52	6
ATOM	164	OD1	ASP	A	26	12.746	29.681	27.242	1.00	13.57	8
ATOM	165	OD2	ASP	A	26	13.519	28.339	28.814	1.00	14.49	8
ATOM	166	C	ASP	A	26	15.583	28.102	24.479	1.00	12.67	6
ATOM	167	O	ASP	A	26	16.211	27.070	24.271	1.00	13.61	8
ATOM	168	N	ARG	A	27	15.864	29.260	23.886	1.00	12.50	7
ATOM	169	CA	ARG	A	27	16.893	29.364	22.854	1.00	12.20	6
ATOM	170	CB	ARG	A	27	16.396	30.204	21.662	1.00	12.54	6
ATOM	171	CG	ARG	A	27	14.996	29.860	21.135	1.00	12.35	6

ATOM	172	CD	ARG	A	27	14.897	28.450	20.545	1.00	12.86	6
ATOM	173	NE	ARG	A	27	13.506	28.000	20.484	1.00	13.60	7
ATOM	174	CZ	ARG	A	27	12.628	28.370	19.548	1.00	12.96	6
ATOM	175	NH1	ARG	A	27	12.988	29.206	18.581	1.00	12.94	7
ATOM	176	NH2	ARG	A	27	11.380	27.915	19.593	1.00	13.40	7
ATOM	177	C	ARG	A	27	18.176	29.972	23.423	1.00	12.27	6
ATOM	178	O	ARG	A	27	18.123	30.804	24.331	1.00	12.51	8
ATOM	179	N	PRO	A	28	19.337	29.573	22.874	1.00	11.85	7
ATOM	180	CA	PRO	A	28	20.615	30.147	23.299	1.00	11.63	6
ATOM	181	CB	PRO	A	28	21.641	29.264	22.582	1.00	11.77	6
ATOM	182	CG	PRO	A	28	20.919	28.789	21.356	1.00	11.13	6
ATOM	183	CD	PRO	A	28	19.511	28.573	21.803	1.00	11.90	6
ATOM	184	C	PRO	A	28	20.742	31.599	22.834	1.00	11.77	6
ATOM	185	O	PRO	A	28	20.088	31.989	21.864	1.00	12.13	8
ATOM	186	N	ALA	A	29	21.562	32.388	23.528	1.00	11.15	7
ATOM	187	CA	ALA	A	29	21.807	33.774	23.142	1.00	12.03	6
ATOM	188	CB	ALA	A	29	21.475	34.719	24.283	1.00	11.55	6
ATOM	189	C	ALA	A	29	23.246	33.980	22.694	1.00	11.81	6
ATOM	190	O	ALA	A	29	23.504	34.637	21.693	1.00	12.43	8
ATOM	191	N	GLN	A	30	24.183	33.421	23.455	1.00	12.09	7
ATOM	192	CA	GLN	A	30	25.595	33.668	23.240	1.00	12.07	6
ATOM	193	CB	GLN	A	30	26.028	34.870	24.083	1.00	12.59	6
ATOM	194	CG	GLN	A	30	27.437	35.367	23.838	1.00	13.47	6
ATOM	195	CD	GLN	A	30	27.927	36.215	24.984	1.00	14.83	6
ATOM	196	OE1	GLN	A	30	28.061	35.733	26.106	1.00	16.56	8
ATOM	197	NE2	GLN	A	30	28.184	37.484	24.716	1.00	15.99	7
ATOM	198	C	GLN	A	30	26.385	32.426	23.640	1.00	12.09	6
ATOM	199	O	GLN	A	30	26.045	31.753	24.613	1.00	11.17	8
ATOM	200	N	PHE	A	31	27.438	32.139	22.882	1.00	11.30	7
ATOM	201	CA	PHE	A	31	28.379	31.072	23.200	1.00	11.89	6
ATOM	202	CB	PHE	A	31	28.444	30.078	22.034	1.00	12.06	6
ATOM	203	CG	PHE	A	31	29.481	28.995	22.198	1.00	11.91	6
ATOM	204	CD1	PHE	A	31	29.169	27.804	22.851	1.00	12.42	6
ATOM	205	CE1	PHE	A	31	30.120	26.791	22.992	1.00	11.85	6
ATOM	206	CZ	PHE	A	31	31.397	26.951	22.450	1.00	12.35	6
ATOM	207	CE2	PHE	A	31	31.716	28.124	21.771	1.00	11.72	6
ATOM	208	CD2	PHE	A	31	30.758	29.142	21.648	1.00	11.50	6
ATOM	209	C	PHE	A	31	29.743	31.709	23.395	1.00	12.10	6
ATOM	210	O	PHE	A	31	30.140	32.560	22.605	1.00	11.84	8
ATOM	211	N	ALA	A	32	30.452	31.309	24.452	1.00	12.21	7
ATOM	212	CA	ALA	A	32	31.811	31.801	24.688	1.00	12.39	6
ATOM	213	CB	ALA	A	32	31.831	32.816	25.826	1.00	12.54	6
ATOM	214	C	ALA	A	32	32.728	30.634	24.996	1.00	12.38	6
ATOM	215	O	ALA	A	32	32.351	29.720	25.724	1.00	12.73	8
ATOM	216	N	ALA	A	33	33.928	30.654	24.422	1.00	12.31	7
ATOM	217	CA	ALA	A	33	34.885	29.565	24.637	1.00	11.94	6
ATOM	218	CB	ALA	A	33	34.574	28.405	23.715	1.00	12.28	6
ATOM	219	C	ALA	A	33	36.328	30.003	24.449	1.00	11.89	6
ATOM	220	O	ALA	A	33	36.606	31.015	23.807	1.00	12.03	8
ATOM	221	N	ILE	A	34	37.245	29.229	25.016	1.00	11.36	7
ATOM	222	CA	ILE	A	34	38.667	29.395	24.730	1.00	11.33	6
ATOM	223	CB	ILE	A	34	39.299	30.571	25.532	1.00	11.33	6
ATOM	224	CG1	ILE	A	34	40.464	31.201	24.749	1.00	10.79	6
ATOM	225	CD1	ILE	A	34	40.945	32.519	25.330	1.00	12.13	6
ATOM	226	CG2	ILE	A	34	39.748	30.123	26.903	1.00	12.48	6
ATOM	227	C	ILE	A	34	39.404	28.088	24.976	1.00	10.94	6
ATOM	228	O	ILE	A	34	39.032	27.316	25.854	1.00	10.90	8
ATOM	229	N	ARG	A	35	40.446	27.847	24.181	1.00	10.73	7
ATOM	230	CA	ARG	A	35	41.194	26.603	24.237	1.00	10.86	6
ATOM	231	CB	ARG	A	35	41.493	26.100	22.822	1.00	10.71	6
ATOM	232	CG	ARG	A	35	41.842	24.629	22.751	1.00	10.78	6
ATOM	233	CD	ARG	A	35	42.094	24.195	21.314	1.00	10.27	6
ATOM	234	NE	ARG	A	35	40.858	24.172	20.530	1.00	11.64	7
ATOM	235	CZ	ARG	A	35	39.989	23.166	20.525	1.00	11.78	6

ATOM	236	NH1	ARG	A	35	40.200	22.092	21.278	1.00	13.11	7
ATOM	237	NH2	ARG	A	35	38.899	23.238	19.773	1.00	13.03	7
ATOM	238	C	ARG	A	35	42.499	26.794	24.990	1.00	11.01	6
ATOM	239	O	ARG	A	35	43.199	27.785	24.792	1.00	10.81	8
ATOM	240	N	THR	A	36	42.821	25.835	25.851	1.00	11.74	7
ATOM	241	CA	THR	A	36	44.089	25.843	26.579	1.00	11.91	6
ATOM	242	CB	THR	A	36	43.896	25.976	28.114	1.00	12.23	6
ATOM	243	OG1	THR	A	36	43.503	24.715	28.658	1.00	11.98	8
ATOM	244	CG2	THR	A	36	42.868	27.059	28.480	1.00	10.73	6
ATOM	245	C	THR	A	36	44.825	24.536	26.330	1.00	12.22	6
ATOM	246	O	THR	A	36	44.229	23.551	25.899	1.00	12.29	8
ATOM	247	N	ASP	A	37	46.118	24.524	26.629	1.00	12.85	7
ATOM	248	CA	ASP	A	37	46.894	23.290	26.608	1.00	13.49	6
ATOM	249	CB	ASP	A	37	48.398	23.585	26.428	1.00	13.79	6
ATOM	250	CG	ASP	A	37	49.045	24.213	27.668	1.00	13.71	6
ATOM	251	OD1	ASP	A	37	48.405	24.279	28.736	1.00	15.96	8
ATOM	252	OD2	ASP	A	37	50.219	24.636	27.563	1.00	15.49	8
ATOM	253	C	ASP	A	37	46.618	22.449	27.864	1.00	14.23	6
ATOM	254	O	ASP	A	37	45.781	22.817	28.701	1.00	13.85	8
ATOM	255	N	SER	A	38	47.325	21.330	27.991	1.00	14.98	7
ATOM	256	CA	SER	A	38	47.087	20.382	29.083	1.00	15.89	6
ATOM	257	CB	SER	A	38	47.934	19.125	28.881	1.00	15.96	6
ATOM	258	OG	SER	A	38	49.310	19.460	28.885	1.00	17.21	8
ATOM	259	C	SER	A	38	47.362	20.988	30.464	1.00	16.06	6
ATOM	260	O	SER	A	38	46.896	20.465	31.480	1.00	16.84	8
ATOM	261	N	GLU	A	39	48.099	22.102	30.485	1.00	16.50	7
ATOM	262	CA	GLU	A	39	48.467	22.799	31.727	1.00	16.83	6
ATOM	263	CB	GLU	A	39	49.970	23.104	31.729	1.00	17.33	6
ATOM	264	CG	GLU	A	39	50.853	21.861	31.841	1.00	20.17	6
ATOM	265	CD	GLU	A	39	50.625	21.092	33.140	1.00	23.25	6
ATOM	266	OE1	GLU	A	39	50.540	21.734	34.213	1.00	25.80	8
ATOM	267	OE2	GLU	A	39	50.525	19.847	33.087	1.00	25.70	8
ATOM	268	C	GLU	A	39	47.658	24.091	31.951	1.00	16.45	6
ATOM	269	O	GLU	A	39	47.977	24.895	32.844	1.00	16.80	8
ATOM	270	N	PHE	A	40	46.605	24.267	31.152	1.00	15.76	7
ATOM	271	CA	PHE	A	40	45.692	25.426	31.253	1.00	15.42	6
ATOM	272	CB	PHE	A	40	45.114	25.575	32.668	1.00	15.00	6
ATOM	273	CG	PHE	A	40	44.362	24.362	33.153	1.00	15.57	6
ATOM	274	CD1	PHE	A	40	43.392	23.758	32.356	1.00	15.31	6
ATOM	275	CE1	PHE	A	40	42.692	22.639	32.805	1.00	15.59	6
ATOM	276	CZ	PHE	A	40	42.953	22.119	34.059	1.00	16.22	6
ATOM	277	CE2	PHE	A	40	43.921	22.714	34.869	1.00	16.87	6
ATOM	278	CD2	PHE	A	40	44.613	23.837	34.413	1.00	16.55	6
ATOM	279	C	PHE	A	40	46.282	26.756	30.764	1.00	15.13	6
ATOM	280	O	PHE	A	40	45.752	27.834	31.071	1.00	15.01	8
ATOM	281	N	ASN	A	41	47.356	26.674	29.983	1.00	14.93	7
ATOM	282	CA	ASN	A	41	47.868	27.839	29.260	1.00	14.96	6
ATOM	283	CB	ASN	A	41	49.299	27.592	28.772	1.00	14.97	6
ATOM	284	CG	ASN	A	41	50.260	27.284	29.900	1.00	15.95	6
ATOM	285	OD1	ASN	A	41	50.959	26.271	29.866	1.00	17.21	8
ATOM	286	ND2	ASN	A	41	50.298	28.152	30.909	1.00	15.72	7
ATOM	287	C	ASN	A	41	46.993	28.142	28.060	1.00	14.99	6
ATOM	288	O	ASN	A	41	46.815	27.290	27.191	1.00	14.78	8
ATOM	289	N	VAL	A	42	46.468	29.363	28.000	1.00	15.05	7
ATOM	290	CA	VAL	A	42	45.619	29.765	26.888	1.00	15.32	6
ATOM	291	CB	VAL	A	42	45.033	31.178	27.096	1.00	15.10	6
ATOM	292	CG1	VAL	A	42	44.346	31.669	25.825	1.00	15.35	6
ATOM	293	CG2	VAL	A	42	44.068	31.187	28.275	1.00	15.41	6
ATOM	294	C	VAL	A	42	46.408	29.697	25.581	1.00	15.38	6
ATOM	295	O	VAL	A	42	47.478	30.297	25.459	1.00	15.29	8
ATOM	296	N	ILE	A	43	45.896	28.926	24.625	1.00	15.85	7
ATOM	297	CA	ILE	A	43	46.567	28.776	23.325	1.00	16.32	6
ATOM	298	CB	ILE	A	43	47.081	27.321	23.091	1.00	16.48	6
ATOM	299	CG1	ILE	A	43	45.913	26.331	23.076	1.00	16.39	6

ATOM	300	CD1	ILE	A	43	46.284	24.925	22.619	1.00	16.03	6
ATOM	301	CG2	ILE	A	43	48.123	26.938	24.154	1.00	17.05	6
ATOM	302	C	ILE	A	43	45.705	29.225	22.140	1.00	16.88	6
ATOM	303	O	ILE	A	43	46.197	29.338	21.021	1.00	16.85	8
ATOM	304	N	GLY	A	44	44.421	29.475	22.391	1.00	17.13	7
ATOM	305	CA	GLY	A	44	43.516	29.927	21.337	1.00	17.42	6
ATOM	306	C	GLY	A	44	43.099	31.375	21.489	1.00	17.66	6
ATOM	307	O	GLY	A	44	43.445	32.033	22.475	1.00	18.18	8
ATOM	308	N	GLU	A	45	42.361	31.873	20.501	1.00	17.81	7
ATOM	309	CA	GLU	A	45	41.732	33.190	20.587	1.00	18.17	6
ATOM	310	CB	GLU	A	45	41.596	33.817	19.191	1.00	18.33	6
ATOM	311	CG	GLU	A	45	42.914	34.053	18.453	1.00	21.00	6
ATOM	312	CD	GLU	A	45	43.857	34.975	19.204	1.00	23.60	6
ATOM	313	OE1	GLU	A	45	43.477	36.137	19.471	1.00	25.01	8
ATOM	314	OE2	GLU	A	45	44.985	34.537	19.524	1.00	26.07	8
ATOM	315	C	GLU	A	45	40.351	33.025	21.202	1.00	17.41	6
ATOM	316	O	GLU	A	45	39.724	31.978	21.030	1.00	17.70	8
ATOM	317	N	PRO	A	46	39.867	34.051	21.930	1.00	17.19	7
ATOM	318	CA	PRO	A	46	38.490	33.992	22.437	1.00	16.54	6
ATOM	319	CB	PRO	A	46	38.288	35.385	23.042	1.00	17.03	6
ATOM	320	CG	PRO	A	46	39.663	35.797	23.461	1.00	17.48	6
ATOM	321	CD	PRO	A	46	40.552	35.286	22.356	1.00	16.95	6
ATOM	322	C	PRO	A	46	37.494	33.760	21.303	1.00	16.32	6
ATOM	323	O	PRO	A	46	37.587	34.413	20.257	1.00	15.63	8
ATOM	324	N	GLU	A	47	36.583	32.807	21.501	1.00	15.53	7
ATOM	325	CA	GLU	A	47	35.528	32.511	20.532	1.00	15.92	6
ATOM	326	CB	GLU	A	47	35.518	31.020	20.185	1.00	16.37	6
ATOM	327	CG	GLU	A	47	36.816	30.510	19.546	1.00	17.60	6
ATOM	328	CD	GLU	A	47	36.831	30.639	18.030	1.00	21.42	6
ATOM	329	OE1	GLU	A	47	35.890	31.228	17.459	1.00	21.52	8
ATOM	330	OE2	GLU	A	47	37.795	30.146	17.407	1.00	23.79	8
ATOM	331	C	GLU	A	47	34.182	32.916	21.111	1.00	15.64	6
ATOM	332	O	GLU	A	47	33.623	32.211	21.953	1.00	15.54	8
ATOM	333	N	VAL	A	48	33.668	34.056	20.662	1.00	15.23	7
ATOM	334	CA	VAL	A	48	32.434	34.625	21.217	1.00	15.21	6
ATOM	335	CB	VAL	A	48	32.702	35.928	22.024	1.00	15.39	6
ATOM	336	CG1	VAL	A	48	31.393	36.557	22.498	1.00	15.74	6
ATOM	337	CG2	VAL	A	48	33.632	35.660	23.213	1.00	15.26	6
ATOM	338	C	VAL	A	48	31.486	34.951	20.085	1.00	14.78	6
ATOM	339	O	VAL	A	48	31.820	35.729	19.202	1.00	14.93	8
ATOM	340	N	PHE	A	49	30.304	34.349	20.105	1.00	14.42	7
ATOM	341	CA	PHE	A	49	29.315	34.650	19.086	1.00	14.02	6
ATOM	342	CB	PHE	A	49	29.599	33.889	17.779	1.00	14.23	6
ATOM	343	CG	PHE	A	49	29.882	32.431	17.970	1.00	14.42	6
ATOM	344	CD1	PHE	A	49	28.873	31.496	17.838	1.00	14.89	6
ATOM	345	CE1	PHE	A	49	29.130	30.142	18.014	1.00	15.80	6
ATOM	346	CZ	PHE	A	49	30.420	29.715	18.311	1.00	14.95	6
ATOM	347	CE2	PHE	A	49	31.438	30.642	18.440	1.00	14.78	6
ATOM	348	CD2	PHE	A	49	31.171	31.990	18.268	1.00	14.37	6
ATOM	349	C	PHE	A	49	27.889	34.449	19.557	1.00	13.54	6
ATOM	350	O	PHE	A	49	27.637	33.841	20.611	1.00	12.57	8
ATOM	351	N	TYR	A	50	26.962	34.990	18.772	1.00	13.19	7
ATOM	352	CA	TYR	A	50	25.558	35.064	19.149	1.00	13.13	6
ATOM	353	CB	TYR	A	50	25.058	36.504	19.045	1.00	13.64	6
ATOM	354	CG	TYR	A	50	25.693	37.443	20.029	1.00	14.49	6
ATOM	355	CD1	TYR	A	50	25.050	37.765	21.219	1.00	15.09	6
ATOM	356	CE1	TYR	A	50	25.621	38.640	22.129	1.00	16.62	6
ATOM	357	CZ	TYR	A	50	26.851	39.198	21.857	1.00	16.15	6
ATOM	358	OH	TYR	A	50	27.417	40.065	22.761	1.00	17.68	8
ATOM	359	CE2	TYR	A	50	27.515	38.900	20.678	1.00	16.01	6
ATOM	360	CD2	TYR	A	50	26.932	38.024	19.769	1.00	15.85	6
ATOM	361	C	TYR	A	50	24.712	34.191	18.259	1.00	12.63	6
ATOM	362	O	TYR	A	50	25.107	33.857	17.126	1.00	12.64	8
ATOM	363	N	CYS	A	51	23.537	33.839	18.768	1.00	12.47	7

ATOM	364	CA	CYS	A	51	22.558	33.087	18.008	1.00	12.46	6
ATOM	365	CB	CYS	A	51	22.187	31.802	18.743	1.00	12.80	6
ATOM	366	SG	CYS	A	51	21.278	30.670	17.717	1.00	12.66	16
ATOM	367	C	CYS	A	51	21.308	33.922	17.794	1.00	12.59	6
ATOM	368	O	CYS	A	51	20.689	34.384	18.761	1.00	12.01	8
ATOM	369	N	LYS	A	52	20.948	34.121	16.527	1.00	12.54	7
ATOM	370	CA	LYS	A	52	19.672	34.742	16.164	1.00	12.82	6
ATOM	371	CB	LYS	A	52	19.562	34.883	14.650	1.00	12.80	6
ATOM	372	CG	LYS	A	52	20.423	35.954	14.034	1.00	14.17	6
ATOM	373	CD	LYS	A	52	20.272	35.944	12.518	1.00	17.60	6
ATOM	374	CE	LYS	A	52	18.818	35.924	12.105	1.00	18.27	6
ATOM	375	NZ	LYS	A	52	18.058	37.111	12.605	1.00	22.27	7
ATOM	376	C	LYS	A	52	18.502	33.883	16.629	1.00	12.59	6
ATOM	377	O	LYS	A	52	18.412	32.714	16.249	1.00	12.46	8
ATOM	378	N	PRO	A	53	17.586	34.462	17.433	1.00	12.78	7
ATOM	379	CA	PRO	A	53	16.369	33.712	17.761	1.00	12.96	6
ATOM	380	CB	PRO	A	53	15.841	34.413	19.019	1.00	12.61	6
ATOM	381	CG	PRO	A	53	16.375	35.826	18.940	1.00	13.03	6
ATOM	382	CD	PRO	A	53	17.623	35.796	18.062	1.00	12.66	6
ATOM	383	C	PRO	A	53	15.356	33.791	16.620	1.00	13.24	6
ATOM	384	O	PRO	A	53	15.181	34.860	16.022	1.00	13.74	8
ATOM	385	N	ALA	A	54	14.721	32.662	16.299	1.00	13.78	7
ATOM	386	CA	ALA	A	54	13.668	32.636	15.274	1.00	13.43	6
ATOM	387	CB	ALA	A	54	13.350	31.213	14.871	1.00	13.87	6
ATOM	388	C	ALA	A	54	12.413	33.343	15.780	1.00	13.62	6
ATOM	389	O	ALA	A	54	12.250	33.543	16.982	1.00	13.41	8
ATOM	390	N	ASP	A	55	11.526	33.720	14.862	1.00	13.35	7
ATOM	391	CA	ASP	A	55	10.387	34.570	15.221	1.00	13.69	6
ATOM	392	CB	ASP	A	55	9.940	35.426	14.027	1.00	14.38	6
ATOM	393	CG	ASP	A	55	9.390	34.595	12.872	1.00	15.75	6
ATOM	394	OD1	ASP	A	55	9.209	33.365	13.021	1.00	17.62	8
ATOM	395	OD2	ASP	A	55	9.142	35.186	11.801	1.00	19.79	8
ATOM	396	C	ASP	A	55	9.197	33.817	15.834	1.00	13.17	6
ATOM	397	O	ASP	A	55	8.082	34.349	15.896	1.00	12.92	8
ATOM	398	N	ASP	A	56	9.433	32.586	16.282	1.00	12.57	7
ATOM	399	CA	ASP	A	56	8.391	31.813	16.959	1.00	12.30	6
ATOM	400	CB	ASP	A	56	8.281	30.395	16.360	1.00	12.51	6
ATOM	401	CG	ASP	A	56	9.547	29.562	16.561	1.00	12.79	6
ATOM	402	OD1	ASP	A	56	10.628	30.142	16.802	1.00	15.49	8
ATOM	403	OD2	ASP	A	56	9.454	28.319	16.491	1.00	15.56	8
ATOM	404	C	ASP	A	56	8.639	31.749	18.469	1.00	12.36	6
ATOM	405	O	ASP	A	56	8.087	30.906	19.159	1.00	12.42	8
ATOM	406	N	TYR	A	57	9.456	32.666	18.977	1.00	12.11	7
ATOM	407	CA	TYR	A	57	9.928	32.561	20.350	1.00	12.08	6
ATOM	408	CB	TYR	A	57	11.270	31.823	20.370	1.00	11.87	6
ATOM	409	CG	TYR	A	57	11.913	31.708	21.732	1.00	11.72	6
ATOM	410	CD1	TYR	A	57	11.494	30.740	22.643	1.00	10.75	6
ATOM	411	CE1	TYR	A	57	12.091	30.633	23.892	1.00	9.98	6
ATOM	412	CZ	TYR	A	57	13.129	31.494	24.229	1.00	11.16	6
ATOM	413	OH	TYR	A	57	13.727	31.405	25.456	1.00	12.73	8
ATOM	414	CE2	TYR	A	57	13.566	32.457	23.335	1.00	11.39	6
ATOM	415	CD2	TYR	A	57	12.966	32.557	22.102	1.00	10.42	6
ATOM	416	C	TYR	A	57	10.053	33.915	21.034	1.00	12.15	6
ATOM	417	O	TYR	A	57	10.518	34.879	20.435	1.00	12.56	8
ATOM	418	N	LEU	A	58	9.626	33.978	22.296	1.00	12.41	7
ATOM	419	CA	LEU	A	58	9.932	35.124	23.157	1.00	12.34	6
ATOM	420	CB	LEU	A	58	8.657	35.801	23.663	1.00	12.56	6
ATOM	421	CG	LEU	A	58	7.849	36.615	22.648	1.00	13.12	6
ATOM	422	CD1	LEU	A	58	6.564	37.099	23.282	1.00	14.03	6
ATOM	423	CD2	LEU	A	58	8.656	37.789	22.112	1.00	13.18	6
ATOM	424	C	LEU	A	58	10.793	34.685	24.335	1.00	12.26	6
ATOM	425	O	LEU	A	58	10.521	33.660	24.952	1.00	11.94	8
ATOM	426	N	PRO	A	59	11.844	35.459	24.644	1.00	12.22	7
ATOM	427	CA	PRO	A	59	12.736	35.072	25.734	1.00	12.23	6

ATOM	428	CB	PRO	A	59	13.884	36.082	25.623	1.00	12.06	6
ATOM	429	CG	PRO	A	59	13.311	37.245	24.891	1.00	12.45	6
ATOM	430	CD	PRO	A	59	12.250	36.725	24.001	1.00	12.21	6
ATOM	431	C	PRO	A	59	12.057	35.174	27.099	1.00	12.77	6
ATOM	432	O	PRO	A	59	11.108	35.944	27.262	1.00	12.39	8
ATOM	433	N	GLN	A	60	12.523	34.379	28.061	1.00	12.95	7
ATOM	434	CA	GLN	A	60	12.093	34.545	29.445	1.00	14.10	6
ATOM	435	CB	GLN	A	60	12.576	33.378	30.318	1.00	14.10	6
ATOM	436	CG	GLN	A	60	11.984	32.027	29.929	1.00	15.57	6
ATOM	437	CD	GLN	A	60	12.275	30.909	30.930	1.00	17.12	6
ATOM	438	OE1	GLN	A	60	13.120	31.046	31.829	1.00	20.38	8
ATOM	439	NE2	GLN	A	60	11.582	29.783	30.765	1.00	20.41	7
ATOM	440	C	GLN	A	60	12.662	35.868	29.958	1.00	14.35	6
ATOM	441	O	GLN	A	60	13.874	36.065	29.920	1.00	13.24	8
ATOM	442	N	PRO	A	61	11.780	36.798	30.400	1.00	14.55	7
ATOM	443	CA	PRO	A	61	12.245	38.095	30.899	1.00	14.97	6
ATOM	444	CB	PRO	A	61	10.960	38.738	31.447	1.00	14.94	6
ATOM	445	CG	PRO	A	61	9.871	38.134	30.632	1.00	14.83	6
ATOM	446	CD	PRO	A	61	10.306	36.700	30.420	1.00	14.84	6
ATOM	447	C	PRO	A	61	13.303	37.976	32.007	1.00	15.13	6
ATOM	448	O	PRO	A	61	14.235	38.783	32.062	1.00	15.62	8
ATOM	449	N	GLY	A	62	13.162	36.971	32.868	1.00	15.59	7
ATOM	450	CA	GLY	A	62	14.108	36.748	33.949	1.00	16.07	6
ATOM	451	C	GLY	A	62	15.521	36.466	33.476	1.00	16.38	6
ATOM	452	O	GLY	A	62	16.493	36.860	34.132	1.00	17.16	8
ATOM	453	N	ALA	A	63	15.635	35.788	32.332	1.00	16.40	7
ATOM	454	CA	ALA	A	63	16.937	35.432	31.758	1.00	16.03	6
ATOM	455	CB	ALA	A	63	16.772	34.361	30.697	1.00	16.37	6
ATOM	456	C	ALA	A	63	17.659	36.647	31.183	1.00	16.03	6
ATOM	457	O	ALA	A	63	18.865	36.810	31.376	1.00	15.96	8
ATOM	458	N	VAL	A	64	16.915	37.495	30.474	1.00	15.90	7
ATOM	459	CA	VAL	A	64	17.464	38.731	29.925	1.00	15.95	6
ATOM	460	CB	VAL	A	64	16.443	39.451	29.007	1.00	15.64	6
ATOM	461	CG1	VAL	A	64	16.914	40.872	28.655	1.00	15.38	6
ATOM	462	CG2	VAL	A	64	16.214	38.633	27.749	1.00	15.05	6
ATOM	463	C	VAL	A	64	17.953	39.659	31.037	1.00	16.67	6
ATOM	464	O	VAL	A	64	18.984	40.303	30.893	1.00	17.04	8
ATOM	465	N	LEU	A	65	17.219	39.701	32.152	1.00	16.95	7
ATOM	466	CA	LEU	A	65	17.624	40.506	33.313	1.00	17.54	6
ATOM	467	CB	LEU	A	65	16.517	40.554	34.369	1.00	17.84	6
ATOM	468	CG	LEU	A	65	15.219	41.303	34.034	1.00	18.34	6
ATOM	469	CD1	LEU	A	65	14.344	41.430	35.272	1.00	19.45	6
ATOM	470	CD2	LEU	A	65	15.473	42.678	33.403	1.00	20.43	6
ATOM	471	C	LEU	A	65	18.938	40.032	33.948	1.00	17.82	6
ATOM	472	O	LEU	A	65	19.670	40.832	34.523	1.00	17.99	8
ATOM	473	N	ILE	A	66	19.224	38.734	33.843	1.00	17.97	7
ATOM	474	CA	ILE	A	66	20.485	38.170	34.350	1.00	18.30	6
ATOM	475	CB	ILE	A	66	20.354	36.654	34.643	1.00	18.40	6
ATOM	476	CG1	ILE	A	66	19.383	36.417	35.807	1.00	19.02	6
ATOM	477	CD1	ILE	A	66	18.964	34.950	35.984	1.00	19.25	6
ATOM	478	CG2	ILE	A	66	21.727	36.034	34.937	1.00	19.04	6
ATOM	479	C	ILE	A	66	21.649	38.399	33.376	1.00	18.39	6
ATOM	480	O	ILE	A	66	22.742	38.820	33.778	1.00	18.24	8
ATOM	481	N	THR	A	67	21.404	38.116	32.099	1.00	17.69	7
ATOM	482	CA	THR	A	67	22.457	38.151	31.074	1.00	17.85	6
ATOM	483	CB	THR	A	67	22.112	37.234	29.878	1.00	17.75	6
ATOM	484	OG1	THR	A	67	21.003	37.785	29.155	1.00	18.28	8
ATOM	485	CG2	THR	A	67	21.766	35.818	30.352	1.00	18.54	6
ATOM	486	C	THR	A	67	22.719	39.555	30.542	1.00	17.40	6
ATOM	487	O	THR	A	67	23.844	39.876	30.133	1.00	18.00	8
ATOM	488	N	GLY	A	68	21.682	40.385	30.526	1.00	16.56	7
ATOM	489	CA	GLY	A	68	21.777	41.710	29.939	1.00	16.28	6
ATOM	490	C	GLY	A	68	21.785	41.683	28.417	1.00	15.46	6
ATOM	491	O	GLY	A	68	22.046	42.711	27.772	1.00	15.84	8

ATOM	492	N	ILE	A	69	21.493	40.512	27.839	1.00	15.26	7
ATOM	493	CA	ILE	A	69	21.437	40.360	26.380	1.00	14.64	6
ATOM	494	CB	ILE	A	69	22.159	39.063	25.881	1.00	14.55	6
ATOM	495	CG1	ILE	A	69	23.608	39.011	26.376	1.00	14.87	6
ATOM	496	CD1	ILE	A	69	24.328	37.712	26.007	1.00	15.26	6
ATOM	497	CG2	ILE	A	69	22.120	38.974	24.348	1.00	15.35	6
ATOM	498	C	ILE	A	69	19.993	40.349	25.885	1.00	14.58	6
ATOM	499	O	ILE	A	69	19.233	39.424	26.189	1.00	14.60	8
ATOM	500	N	THR	A	70	19.630	41.377	25.117	1.00	14.27	7
ATOM	501	CA	THR	A	70	18.290	41.489	24.539	1.00	14.14	6
ATOM	502	CB	THR	A	70	17.955	42.959	24.127	1.00	13.96	6
ATOM	503	OG1	THR	A	70	18.867	43.401	23.111	1.00	14.89	8
ATOM	504	CG2	THR	A	70	18.036	43.885	25.318	1.00	15.10	6
ATOM	505	C	THR	A	70	18.168	40.595	23.311	1.00	13.62	6
ATOM	506	O	THR	A	70	19.179	40.280	22.668	1.00	13.66	8
ATOM	507	N	PRO	A	71	16.930	40.164	22.981	1.00	13.60	7
ATOM	508	CA	PRO	A	71	16.694	39.469	21.710	1.00	13.45	6
ATOM	509	CB	PRO	A	71	15.186	39.182	21.743	1.00	13.32	6
ATOM	510	CG	PRO	A	71	14.637	40.150	22.762	1.00	13.53	6
ATOM	511	CD	PRO	A	71	15.698	40.274	23.782	1.00	13.34	6
ATOM	512	C	PRO	A	71	17.062	40.325	20.486	1.00	13.67	6
ATOM	513	O	PRO	A	71	17.485	39.782	19.461	1.00	13.64	8
ATOM	514	N	GLN	A	72	16.908	41.647	20.598	1.00	13.97	7
ATOM	515	CA	GLN	A	72	17.346	42.565	19.534	1.00	14.07	6
ATOM	516	CB	GLN	A	72	17.014	44.024	19.886	1.00	14.43	6
ATOM	517	CG	GLN	A	72	15.531	44.374	19.828	1.00	14.67	6
ATOM	518	CD	GLN	A	72	14.863	44.331	21.185	1.00	14.98	6
ATOM	519	OE1	GLN	A	72	15.208	43.513	22.041	1.00	16.14	8
ATOM	520	NE2	GLN	A	72	13.894	45.212	21.389	1.00	15.04	7
ATOM	521	C	GLN	A	72	18.846	42.439	19.267	1.00	13.91	6
ATOM	522	O	GLN	A	72	19.282	42.416	18.108	1.00	14.07	8
ATOM	523	N	GLU	A	73	19.629	42.370	20.342	1.00	14.10	7
ATOM	524	CA	GLU	A	73	21.081	42.276	20.221	1.00	14.08	6
ATOM	525	CB	GLU	A	73	21.778	42.533	21.561	1.00	14.17	6
ATOM	526	CG	GLU	A	73	23.299	42.495	21.464	1.00	14.67	6
ATOM	527	CD	GLU	A	73	23.996	42.833	22.764	1.00	15.23	6
ATOM	528	OE1	GLU	A	73	23.460	42.499	23.841	1.00	18.79	8
ATOM	529	OE2	GLU	A	73	25.097	43.424	22.708	1.00	17.09	8
ATOM	530	C	GLU	A	73	21.524	40.943	19.625	1.00	13.82	6
ATOM	531	O	GLU	A	73	22.344	40.921	18.704	1.00	13.80	8
ATOM	532	N	ALA	A	74	20.986	39.836	20.142	1.00	13.17	7
ATOM	533	CA	ALA	A	74	21.284	38.503	19.575	1.00	12.70	6
ATOM	534	CB	ALA	A	74	20.645	37.399	20.411	1.00	12.95	6
ATOM	535	C	ALA	A	74	20.853	38.391	18.104	1.00	12.78	6
ATOM	536	O	ALA	A	74	21.575	37.816	17.275	1.00	12.37	8
ATOM	537	N	ARG	A	75	19.680	38.930	17.788	1.00	12.70	7
ATOM	538	CA	ARG	A	75	19.216	38.984	16.407	1.00	13.09	6
ATOM	539	CB	ARG	A	75	17.801	39.549	16.328	1.00	13.12	6
ATOM	540	CG	ARG	A	75	17.188	39.461	14.938	1.00	14.17	6
ATOM	541	CD	ARG	A	75	15.707	39.777	14.976	1.00	15.99	6
ATOM	542	NE	ARG	A	75	15.444	41.167	15.339	1.00	17.81	7
ATOM	543	CZ	ARG	A	75	14.242	41.732	15.316	1.00	18.68	6
ATOM	544	NH1	ARG	A	75	13.177	41.026	14.945	1.00	18.04	7
ATOM	545	NH2	ARG	A	75	14.101	43.006	15.662	1.00	18.75	7
ATOM	546	C	ARG	A	75	20.158	39.799	15.517	1.00	13.07	6
ATOM	547	O	ARG	A	75	20.479	39.383	14.413	1.00	13.04	8
ATOM	548	N	ALA	A	76	20.602	40.959	15.999	1.00	13.02	7
ATOM	549	CA	ALA	A	76	21.404	41.858	15.152	1.00	12.99	6
ATOM	550	CB	ALA	A	76	21.298	43.307	15.633	1.00	13.28	6
ATOM	551	C	ALA	A	76	22.869	41.426	15.038	1.00	13.53	6
ATOM	552	O	ALA	A	76	23.528	41.705	14.032	1.00	13.83	8
ATOM	553	N	LYS	A	77	23.381	40.749	16.070	1.00	13.38	7
ATOM	554	CA	LYS	A	77	24.792	40.333	16.086	1.00	13.73	6
ATOM	555	CB	LYS	A	77	25.426	40.628	17.451	1.00	13.72	6

ATOM	556	CG	LYS	A	77	25.422	42.107	17.818	1.00	15.21	6
ATOM	557	CD	LYS	A	77	26.171	42.370	19.095	1.00	15.59	6
ATOM	558	CE	LYS	A	77	26.307	43.858	19.339	1.00	16.23	6
ATOM	559	NZ	LYS	A	77	26.891	44.159	20.685	1.00	17.82	7
ATOM	560	C	LYS	A	77	24.966	38.858	15.746	1.00	13.84	6
ATOM	561	O	LYS	A	77	26.083	38.396	15.497	1.00	14.45	8
ATOM	562	N	GLY	A	78	23.862	38.123	15.718	1.00	13.79	7
ATOM	563	CA	GLY	A	78	23.924	36.666	15.634	1.00	14.22	6
ATOM	564	C	GLY	A	78	23.891	36.109	14.224	1.00	14.25	6
ATOM	565	O	GLY	A	78	23.579	36.817	13.265	1.00	14.82	8
ATOM	566	N	GLU	A	79	24.236	34.832	14.105	1.00	14.13	7
ATOM	567	CA	GLU	A	79	23.940	34.056	12.912	1.00	14.68	6
ATOM	568	CB	GLU	A	79	25.143	33.204	12.524	1.00	14.91	6
ATOM	569	CG	GLU	A	79	26.414	34.008	12.289	1.00	17.74	6
ATOM	570	CD	GLU	A	79	27.632	33.130	12.146	1.00	21.61	6
ATOM	571	OE1	GLU	A	79	27.869	32.288	13.040	1.00	22.92	8
ATOM	572	OE2	GLU	A	79	28.361	33.286	11.144	1.00	23.45	8
ATOM	573	C	GLU	A	79	22.765	33.156	13.245	1.00	14.11	6
ATOM	574	O	GLU	A	79	22.420	33.005	14.417	1.00	13.88	8
ATOM	575	N	ASN	A	80	22.141	32.555	12.231	1.00	13.72	7
ATOM	576	CA	ASN	A	80	21.043	31.632	12.513	1.00	13.40	6
ATOM	577	CB	ASN	A	80	20.285	31.221	11.246	1.00	13.79	6
ATOM	578	CG	ASN	A	80	21.159	30.486	10.223	1.00	14.18	6
ATOM	579	OD1	ASN	A	80	22.142	29.824	10.563	1.00	13.68	8
ATOM	580	ND2	ASN	A	80	20.768	30.578	8.963	1.00	15.88	7
ATOM	581	C	ASN	A	80	21.532	30.422	13.298	1.00	12.88	6
ATOM	582	O	ASN	A	80	22.733	30.177	13.382	1.00	12.27	8
ATOM	583	N	GLU	A	81	20.604	29.683	13.899	1.00	12.58	7
ATOM	584	CA	GLU	A	81	20.986	28.561	14.744	1.00	12.26	6
ATOM	585	CB	GLU	A	81	19.773	27.953	15.437	1.00	11.90	6
ATOM	586	CG	GLU	A	81	20.109	27.408	16.828	1.00	12.73	6
ATOM	587	CD	GLU	A	81	18.928	26.786	17.515	1.00	12.53	6
ATOM	588	OE1	GLU	A	81	18.349	25.840	16.946	1.00	12.98	8
ATOM	589	OE2	GLU	A	81	18.582	27.224	18.643	1.00	14.87	8
ATOM	590	C	GLU	A	81	21.782	27.492	13.988	1.00	12.21	6
ATOM	591	O	GLU	A	81	22.688	26.878	14.552	1.00	12.03	8
ATOM	592	N	ALA	A	82	21.472	27.298	12.705	1.00	12.78	7
ATOM	593	CA	ALA	A	82	22.242	26.363	11.877	1.00	12.90	6
ATOM	594	CB	ALA	A	82	21.707	26.334	10.438	1.00	13.31	6
ATOM	595	C	ALA	A	82	23.742	26.689	11.885	1.00	13.22	6
ATOM	596	O	ALA	A	82	24.574	25.807	12.101	1.00	13.38	8
ATOM	597	N	ALA	A	83	24.072	27.960	11.661	1.00	12.96	7
ATOM	598	CA	ALA	A	83	25.460	28.406	11.589	1.00	13.11	6
ATOM	599	CB	ALA	A	83	25.546	29.763	10.899	1.00	13.08	6
ATOM	600	C	ALA	A	83	26.094	28.464	12.981	1.00	13.06	6
ATOM	601	O	ALA	A	83	27.277	28.193	13.142	1.00	13.43	8
ATOM	602	N	PHE	A	84	25.282	28.816	13.977	1.00	12.44	7
ATOM	603	CA	PHE	A	84	25.683	28.820	15.388	1.00	12.44	6
ATOM	604	CB	PHE	A	84	24.476	29.257	16.231	1.00	12.30	6
ATOM	605	CG	PHE	A	84	24.784	29.527	17.683	1.00	12.81	6
ATOM	606	CD1	PHE	A	84	25.584	30.607	18.061	1.00	11.94	6
ATOM	607	CE1	PHE	A	84	25.836	30.871	19.405	1.00	12.19	6
ATOM	608	CZ	PHE	A	84	25.267	30.080	20.383	1.00	11.98	6
ATOM	609	CE2	PHE	A	84	24.448	29.011	20.021	1.00	12.37	6
ATOM	610	CD2	PHE	A	84	24.207	28.747	18.677	1.00	11.92	6
ATOM	611	C	PHE	A	84	26.150	27.418	15.799	1.00	12.49	6
ATOM	612	O	PHE	A	84	27.205	27.256	16.430	1.00	12.19	8
ATOM	613	N	ALA	A	85	25.359	26.418	15.409	1.00	12.22	7
ATOM	614	CA	ALA	A	85	25.661	25.009	15.644	1.00	12.13	6
ATOM	615	CB	ALA	A	85	24.494	24.146	15.176	1.00	11.23	6
ATOM	616	C	ALA	A	85	26.957	24.574	14.952	1.00	12.26	6
ATOM	617	O	ALA	A	85	27.790	23.880	15.555	1.00	12.18	8
ATOM	618	N	ALA	A	86	27.118	24.975	13.686	1.00	11.99	7
ATOM	619	CA	ALA	A	86	28.304	24.625	12.897	1.00	12.33	6

ATOM	620	CB	ALA	A	86	28.182	25.167	11.447	1.00	11.70	6
ATOM	621	C	ALA	A	86	29.593	25.104	13.540	1.00	12.55	6
ATOM	622	O	ALA	A	86	30.586	24.375	13.570	1.00	13.03	8
ATOM	623	N	ARG	A	87	29.567	26.327	14.069	1.00	13.24	7
ATOM	624	CA	ARG	A	87	30.720	26.904	14.754	1.00	13.60	6
ATOM	625	CB	ARG	A	87	30.455	28.374	15.096	1.00	13.81	6
ATOM	626	CG	ARG	A	87	30.556	29.336	13.925	1.00	15.20	6
ATOM	627	CD	ARG	A	87	30.584	30.781	14.414	1.00	17.78	6
ATOM	628	NE	ARG	A	87	30.344	31.745	13.338	1.00	21.20	7
ATOM	629	CZ	ARG	A	87	31.289	32.259	12.548	1.00	22.71	6
ATOM	630	NH1	ARG	A	87	32.561	31.908	12.696	1.00	23.42	7
ATOM	631	NH2	ARG	A	87	30.958	33.130	11.604	1.00	23.43	7
ATOM	632	C	ARG	A	87	31.071	26.121	16.031	1.00	13.48	6
ATOM	633	O	ARG	A	87	32.222	25.738	16.240	1.00	13.61	8
ATOM	634	N	ILE	A	88	30.068	25.886	16.873	1.00	13.61	7
ATOM	635	CA	ILE	A	88	30.251	25.109	18.093	1.00	13.81	6
ATOM	636	CB	ILE	A	88	28.946	25.071	18.930	1.00	13.72	6
ATOM	637	CG1	ILE	A	88	28.569	26.489	19.380	1.00	13.09	6
ATOM	638	CD1	ILE	A	88	27.163	26.616	19.913	1.00	13.63	6
ATOM	639	CG2	ILE	A	88	29.082	24.108	20.105	1.00	13.89	6
ATOM	640	C	ILE	A	88	30.739	23.683	17.793	1.00	14.15	6
ATOM	641	O	ILE	A	88	31.679	23.200	18.418	1.00	13.95	8
ATOM	642	N	HIS	A	89	30.104	23.033	16.818	1.00	14.67	7
ATOM	643	CA	HIS	A	89	30.462	21.669	16.422	1.00	14.87	6
ATOM	644	CB	HIS	A	89	29.488	21.141	15.368	1.00	15.06	6
ATOM	645	CG	HIS	A	89	29.723	19.710	14.990	1.00	15.19	6
ATOM	646	ND1	HIS	A	89	30.465	19.345	13.888	1.00	15.49	7
ATOM	647	CE1	HIS	A	89	30.497	18.027	13.798	1.00	14.66	6
ATOM	648	NE2	HIS	A	89	29.809	17.524	14.807	1.00	15.16	7
ATOM	649	CD2	HIS	A	89	29.316	18.555	15.569	1.00	15.52	6
ATOM	650	C	HIS	A	89	31.902	21.571	15.902	1.00	15.22	6
ATOM	651	O	HIS	A	89	32.596	20.595	16.166	1.00	15.06	8
ATOM	652	N	SER	A	90	32.342	22.596	15.176	1.00	15.51	7
ATOM	653	CA	SER	A	90	33.710	22.646	14.669	1.00	16.24	6
ATOM	654	CB	SER	A	90	33.891	23.827	13.709	1.00	16.26	6
ATOM	655	OG	SER	A	90	33.852	25.063	14.412	1.00	18.36	8
ATOM	656	C	SER	A	90	34.734	22.717	15.809	1.00	15.89	6
ATOM	657	O	SER	A	90	35.788	22.078	15.744	1.00	16.86	8
ATOM	658	N	LEU	A	91	34.410	23.481	16.853	1.00	15.75	7
ATOM	659	CA	LEU	A	91	35.275	23.607	18.030	1.00	14.94	6
ATOM	660	CB	LEU	A	91	34.820	24.779	18.907	1.00	14.86	6
ATOM	661	CG	LEU	A	91	35.010	26.197	18.359	1.00	15.05	6
ATOM	662	CD1	LEU	A	91	34.327	27.205	19.271	1.00	16.20	6
ATOM	663	CD2	LEU	A	91	36.490	26.525	18.209	1.00	16.84	6
ATOM	664	C	LEU	A	91	35.302	22.327	18.861	1.00	14.49	6
ATOM	665	O	LEU	A	91	36.363	21.909	19.342	1.00	14.78	8
ATOM	666	N	PHE	A	92	34.129	21.717	19.027	1.00	13.44	7
ATOM	667	CA	PHE	A	92	33.958	20.570	19.907	1.00	13.12	6
ATOM	668	CB	PHE	A	92	32.465	20.367	20.255	1.00	12.46	6
ATOM	669	CG	PHE	A	92	31.934	21.290	21.344	1.00	12.19	6
ATOM	670	CD1	PHE	A	92	32.612	22.448	21.714	1.00	11.10	6
ATOM	671	CE1	PHE	A	92	32.102	23.290	22.707	1.00	10.74	6
ATOM	672	CZ	PHE	A	92	30.905	22.980	23.338	1.00	11.11	6
ATOM	673	CE2	PHE	A	92	30.214	21.830	22.987	1.00	12.08	6
ATOM	674	CD2	PHE	A	92	30.729	20.987	21.985	1.00	11.63	6
ATOM	675	C	PHE	A	92	34.520	19.278	19.301	1.00	12.89	6
ATOM	676	O	PHE	A	92	34.759	18.319	20.021	1.00	13.28	8
ATOM	677	N	THR	A	93	34.709	19.240	17.980	1.00	12.89	7
ATOM	678	CA	THR	A	93	35.126	17.991	17.334	1.00	13.04	6
ATOM	679	CB	THR	A	93	34.237	17.618	16.135	1.00	13.01	6
ATOM	680	OG1	THR	A	93	34.195	18.714	15.216	1.00	12.12	8
ATOM	681	CG2	THR	A	93	32.821	17.271	16.609	1.00	14.51	6
ATOM	682	C	THR	A	93	36.599	17.948	16.931	1.00	13.18	6
ATOM	683	O	THR	A	93	37.034	17.014	16.259	1.00	13.01	8

ATOM	684	N	VAL	A	94	37.362	18.954	17.350	1.00	12.97	7
ATOM	685	CA	VAL	A	94	38.819	18.880	17.285	1.00	12.81	6
ATOM	686	CB	VAL	A	94	39.466	20.211	17.753	1.00	12.92	6
ATOM	687	CG1	VAL	A	94	40.983	20.077	17.873	1.00	12.48	6
ATOM	688	CG2	VAL	A	94	39.097	21.346	16.794	1.00	13.06	6
ATOM	689	C	VAL	A	94	39.271	17.705	18.172	1.00	12.77	6
ATOM	690	O	VAL	A	94	38.851	17.610	19.333	1.00	12.20	8
ATOM	691	N	PRO	A	95	40.079	16.777	17.609	1.00	13.06	7
ATOM	692	CA	PRO	A	95	40.550	15.592	18.345	1.00	13.26	6
ATOM	693	CB	PRO	A	95	41.524	14.938	17.361	1.00	13.42	6
ATOM	694	CG	PRO	A	95	41.037	15.356	16.025	1.00	13.24	6
ATOM	695	CD	PRO	A	95	40.561	16.771	16.213	1.00	13.23	6
ATOM	696	C	PRO	A	95	41.279	15.907	19.649	1.00	13.38	6
ATOM	697	O	PRO	A	95	41.921	16.951	19.765	1.00	14.01	8
ATOM	698	N	LYS	A	96	41.184	14.988	20.610	1.00	13.06	7
ATOM	699	CA	LYS	A	96	41.880	15.098	21.897	1.00	13.39	6
ATOM	700	CB	LYS	A	96	43.410	15.036	21.713	1.00	13.10	6
ATOM	701	CG	LYS	A	96	43.919	13.754	21.051	1.00	14.33	6
ATOM	702	CD	LYS	A	96	45.439	13.678	21.098	1.00	14.88	6
ATOM	703	CE	LYS	A	96	45.931	12.886	22.307	1.00	18.63	6
ATOM	704	NZ	LYS	A	96	45.840	11.412	22.079	1.00	19.29	7
ATOM	705	C	LYS	A	96	41.470	16.345	22.694	1.00	13.00	6
ATOM	706	O	LYS	A	96	42.276	16.912	23.443	1.00	13.26	8
ATOM	707	N	THR	A	97	40.216	16.761	22.525	1.00	12.75	7
ATOM	708	CA	THR	A	97	39.651	17.879	23.298	1.00	12.67	6
ATOM	709	CB	THR	A	97	38.711	18.754	22.430	1.00	12.99	6
ATOM	710	OG1	THR	A	97	39.433	19.270	21.313	1.00	13.19	8
ATOM	711	CG2	THR	A	97	38.154	19.924	23.244	1.00	13.21	6
ATOM	712	C	THR	A	97	38.855	17.387	24.493	1.00	12.55	6
ATOM	713	O	THR	A	97	37.980	16.526	24.350	1.00	12.80	8
ATOM	714	N	CYS	A	98	39.149	17.953	25.666	1.00	11.73	7
ATOM	715	CA	CYS	A	98	38.279	17.818	26.822	1.00	11.31	6
ATOM	716	CB	CYS	A	98	39.085	17.647	28.106	1.00	11.35	6
ATOM	717	SG	CYS	A	98	38.052	17.609	29.610	1.00	12.81	16
ATOM	718	C	CYS	A	98	37.395	19.056	26.911	1.00	10.55	6
ATOM	719	O	CYS	A	98	37.877	20.157	27.188	1.00	9.88	8
ATOM	720	N	ILE	A	99	36.109	18.869	26.636	1.00	10.46	7
ATOM	721	CA	ILE	A	99	35.147	19.967	26.622	1.00	10.53	6
ATOM	722	CB	ILE	A	99	33.979	19.686	25.626	1.00	10.72	6
ATOM	723	CG1	ILE	A	99	34.514	19.469	24.199	1.00	11.33	6
ATOM	724	CD1	ILE	A	99	34.577	18.015	23.786	1.00	13.60	6
ATOM	725	CG2	ILE	A	99	32.945	20.806	25.678	1.00	11.06	6
ATOM	726	C	ILE	A	99	34.579	20.117	28.009	1.00	10.69	6
ATOM	727	O	ILE	A	99	33.984	19.180	28.542	1.00	10.93	8
ATOM	728	N	LEU	A	100	34.770	21.288	28.615	1.00	10.45	7
ATOM	729	CA	LEU	A	100	34.360	21.464	30.009	1.00	10.47	6
ATOM	730	CB	LEU	A	100	35.500	21.089	30.980	1.00	10.45	6
ATOM	731	CG	LEU	A	100	36.689	22.043	31.181	1.00	11.09	6
ATOM	732	CD1	LEU	A	100	37.637	21.503	32.249	1.00	11.45	6
ATOM	733	CD2	LEU	A	100	37.447	22.275	29.889	1.00	11.97	6
ATOM	734	C	LEU	A	100	33.835	22.853	30.299	1.00	10.83	6
ATOM	735	O	LEU	A	100	34.066	23.790	29.543	1.00	11.82	8
ATOM	736	N	GLY	A	101	33.111	22.976	31.400	1.00	11.08	7
ATOM	737	CA	GLY	A	101	32.553	24.253	31.784	1.00	10.95	6
ATOM	738	C	GLY	A	101	32.315	24.278	33.270	1.00	10.91	6
ATOM	739	O	GLY	A	101	33.000	23.580	34.041	1.00	11.15	8
ATOM	740	N	TYR	A	102	31.340	25.079	33.673	1.00	11.01	7
ATOM	741	CA	TYR	A	102	30.942	25.144	35.064	1.00	11.18	6
ATOM	742	CB	TYR	A	102	31.344	26.479	35.692	1.00	11.65	6
ATOM	743	CG	TYR	A	102	31.350	26.407	37.190	1.00	11.24	6
ATOM	744	CD1	TYR	A	102	32.476	25.954	37.875	1.00	11.51	6
ATOM	745	CE1	TYR	A	102	32.475	25.853	39.262	1.00	12.12	6
ATOM	746	CZ	TYR	A	102	31.339	26.200	39.970	1.00	12.65	6
ATOM	747	OH	TYR	A	102	31.349	26.100	41.345	1.00	12.00	8

ATOM	748	CE2	TYR	A	102	30.200	26.640	39.303	1.00	12.68	6
ATOM	749	CD2	TYR	A	102	30.211	26.734	37.926	1.00	11.67	6
ATOM	750	C	TYR	A	102	29.436	24.945	35.139	1.00	11.33	6
ATOM	751	O	TYR	A	102	28.659	25.843	34.784	1.00	11.24	8
ATOM	752	N	ASN	A	103	29.041	23.760	35.602	1.00	12.10	7
ATOM	753	CA	ASN	A	103	27.656	23.275	35.527	1.00	12.63	6
ATOM	754	CB	ASN	A	103	26.650	24.281	36.121	1.00	12.54	6
ATOM	755	CG	ASN	A	103	25.297	23.641	36.434	1.00	13.23	6
ATOM	756	OD1	ASN	A	103	25.225	22.470	36.800	1.00	14.60	8
ATOM	757	ND2	ASN	A	103	24.221	24.410	36.272	1.00	16.03	7
ATOM	758	C	ASN	A	103	27.232	22.834	34.115	1.00	13.09	6
ATOM	759	O	ASN	A	103	26.034	22.764	33.802	1.00	13.38	8
ATOM	760	N	ASN	A	104	28.210	22.502	33.276	1.00	13.06	7
ATOM	761	CA	ASN	A	104	27.905	22.089	31.901	1.00	13.07	6
ATOM	762	CB	ASN	A	104	29.148	22.131	31.008	1.00	12.99	6
ATOM	763	CG	ASN	A	104	30.298	21.337	31.571	1.00	12.31	6
ATOM	764	OD1	ASN	A	104	30.783	21.629	32.662	1.00	12.01	8
ATOM	765	ND2	ASN	A	104	30.755	20.326	30.824	1.00	12.75	7
ATOM	766	C	ASN	A	104	27.208	20.736	31.793	1.00	13.48	6
ATOM	767	O	ASN	A	104	26.386	20.534	30.914	1.00	13.40	8
ATOM	768	N	VAL	A	105	27.522	19.814	32.697	1.00	14.08	7
ATOM	769	CA	VAL	A	105	26.940	18.473	32.619	1.00	14.71	6
ATOM	770	CB	VAL	A	105	27.525	17.526	33.685	1.00	14.68	6
ATOM	771	CG1	VAL	A	105	26.727	16.229	33.759	1.00	14.95	6
ATOM	772	CG2	VAL	A	105	28.970	17.220	33.364	1.00	14.65	6
ATOM	773	C	VAL	A	105	25.409	18.512	32.679	1.00	15.13	6
ATOM	774	O	VAL	A	105	24.733	17.824	31.898	1.00	16.46	8
ATOM	775	N	ARG	A	106	24.870	19.356	33.556	1.00	15.56	7
ATOM	776	CA	ARG	A	106	23.417	19.450	33.749	1.00	15.86	6
ATOM	777	CB	ARG	A	106	23.080	19.643	35.229	1.00	16.46	6
ATOM	778	CG	ARG	A	106	23.635	18.548	36.120	1.00	18.79	6
ATOM	779	CD	ARG	A	106	23.313	18.804	37.586	1.00	23.08	6
ATOM	780	NE	ARG	A	106	24.490	18.823	38.476	1.00	27.18	7
ATOM	781	CZ	ARG	A	106	25.685	18.278	38.218	1.00	27.90	6
ATOM	782	NH1	ARG	A	106	25.923	17.626	37.083	1.00	27.99	7
ATOM	783	NH2	ARG	A	106	26.654	18.391	39.111	1.00	28.51	7
ATOM	784	C	ARG	A	106	22.743	20.541	32.906	1.00	15.30	6
ATOM	785	O	ARG	A	106	21.532	20.480	32.665	1.00	15.59	8
ATOM	786	N	PHE	A	107	23.515	21.529	32.452	1.00	14.34	7
ATOM	787	CA	PHE	A	107	22.941	22.616	31.662	1.00	13.07	6
ATOM	788	CB	PHE	A	107	23.016	23.951	32.407	1.00	13.02	6
ATOM	789	CG	PHE	A	107	22.298	25.065	31.706	1.00	12.39	6
ATOM	790	CD1	PHE	A	107	20.911	25.019	31.536	1.00	13.22	6
ATOM	791	CE1	PHE	A	107	20.236	26.047	30.863	1.00	13.50	6
ATOM	792	CZ	PHE	A	107	20.946	27.129	30.373	1.00	12.88	6
ATOM	793	CE2	PHE	A	107	22.333	27.183	30.531	1.00	12.85	6
ATOM	794	CD2	PHE	A	107	23.000	26.151	31.188	1.00	12.71	6
ATOM	795	C	PHE	A	107	23.517	22.752	30.253	1.00	12.78	6
ATOM	796	O	PHE	A	107	22.840	22.441	29.276	1.00	12.53	8
ATOM	797	N	ASP	A	108	24.756	23.229	30.154	1.00	12.65	7
ATOM	798	CA	ASP	A	108	25.334	23.603	28.853	1.00	12.55	6
ATOM	799	CB	ASP	A	108	26.725	24.228	29.027	1.00	12.85	6
ATOM	800	CG	ASP	A	108	26.713	25.417	29.956	1.00	12.52	6
ATOM	801	OD1	ASP	A	108	26.824	26.561	29.454	1.00	12.38	8
ATOM	802	OD2	ASP	A	108	26.588	25.210	31.188	1.00	14.32	8
ATOM	803	C	ASP	A	108	25.390	22.441	27.862	1.00	12.78	6
ATOM	804	O	ASP	A	108	25.125	22.627	26.662	1.00	12.59	8
ATOM	805	N	ASP	A	109	25.728	21.248	28.355	1.00	12.76	7
ATOM	806	CA	ASP	A	109	25.757	20.050	27.510	1.00	13.49	6
ATOM	807	CB	ASP	A	109	26.316	18.855	28.283	1.00	13.76	6
ATOM	808	CG	ASP	A	109	27.803	18.985	28.571	1.00	15.55	6
ATOM	809	OD1	ASP	A	109	28.448	19.933	28.060	1.00	15.92	8
ATOM	810	OD2	ASP	A	109	28.335	18.124	29.311	1.00	17.53	8
ATOM	811	C	ASP	A	109	24.375	19.713	26.964	1.00	13.33	6

ATOM	812	O	ASP	A	109	24.236	19.255	25.824	1.00	13.67	8
ATOM	813	N	GLU	A	110	23.352	19.969	27.771	1.00	13.06	7
ATOM	814	CA	GLU	A	110	21.972	19.752	27.352	1.00	13.09	6
ATOM	815	CB	GLU	A	110	21.043	19.737	28.561	1.00	13.28	6
ATOM	816	CG	GLU	A	110	21.229	18.525	29.437	1.00	15.94	6
ATOM	817	CD	GLU	A	110	20.969	17.222	28.689	1.00	18.22	6
ATOM	818	OE1	GLU	A	110	19.877	17.086	28.094	1.00	20.07	8
ATOM	819	OE2	GLU	A	110	21.863	16.344	28.685	1.00	20.95	8
ATOM	820	C	GLU	A	110	21.515	20.780	26.318	1.00	12.47	6
ATOM	821	O	GLU	A	110	20.766	20.449	25.391	1.00	12.47	8
ATOM	822	N	VAL	A	111	21.973	22.023	26.464	1.00	11.80	7
ATOM	823	CA	VAL	A	111	21.793	23.022	25.399	1.00	11.50	6
ATOM	824	CB	VAL	A	111	22.323	24.421	25.809	1.00	11.38	6
ATOM	825	CG1	VAL	A	111	22.190	25.408	24.669	1.00	11.22	6
ATOM	826	CG2	VAL	A	111	21.582	24.937	27.037	1.00	11.05	6
ATOM	827	C	VAL	A	111	22.472	22.548	24.112	1.00	11.66	6
ATOM	828	O	VAL	A	111	21.860	22.546	23.045	1.00	12.10	8
ATOM	829	N	THR	A	112	23.732	22.131	24.227	1.00	11.70	7
ATOM	830	CA	THR	A	112	24.482	21.604	23.092	1.00	11.96	6
ATOM	831	CB	THR	A	112	25.878	21.132	23.525	1.00	11.97	6
ATOM	832	OG1	THR	A	112	26.601	22.243	24.073	1.00	12.20	8
ATOM	833	CG2	THR	A	112	26.650	20.558	22.339	1.00	11.65	6
ATOM	834	C	THR	A	112	23.731	20.465	22.400	1.00	12.19	6
ATOM	835	O	THR	A	112	23.548	20.483	21.180	1.00	11.83	8
ATOM	836	N	ARG	A	113	23.281	19.484	23.180	1.00	12.38	7
ATOM	837	CA	ARG	A	113	22.587	18.324	22.610	1.00	12.75	6
ATOM	838	CB	ARG	A	113	22.217	17.312	23.692	1.00	13.58	6
ATOM	839	CG	ARG	A	113	23.417	16.602	24.287	1.00	15.46	6
ATOM	840	CD	ARG	A	113	23.003	15.467	25.216	1.00	20.60	6
ATOM	841	NE	ARG	A	113	24.116	15.008	26.059	1.00	24.49	7
ATOM	842	CZ	ARG	A	113	25.241	14.450	25.600	1.00	27.34	6
ATOM	843	NH1	ARG	A	113	25.440	14.294	24.293	1.00	28.57	7
ATOM	844	NH2	ARG	A	113	26.182	14.056	26.449	1.00	28.87	7
ATOM	845	C	ARG	A	113	21.357	18.736	21.817	1.00	12.65	6
ATOM	846	O	ARG	A	113	21.089	18.188	20.747	1.00	12.92	8
ATOM	847	N	ASN	A	114	20.633	19.727	22.331	1.00	11.97	7
ATOM	848	CA	ASN	A	114	19.404	20.196	21.702	1.00	11.72	6
ATOM	849	CB	ASN	A	114	18.543	20.938	22.725	1.00	12.26	6
ATOM	850	CG	ASN	A	114	17.783	19.985	23.633	1.00	12.54	6
ATOM	851	OD1	ASN	A	114	18.139	19.791	24.806	1.00	15.86	8
ATOM	852	ND2	ASN	A	114	16.751	19.364	23.090	1.00	11.70	7
ATOM	853	C	ASN	A	114	19.631	21.031	20.440	1.00	11.53	6
ATOM	854	O	ASN	A	114	18.922	20.864	19.445	1.00	11.14	8
ATOM	855	N	ILE	A	115	20.631	21.909	20.472	1.00	11.38	7
ATOM	856	CA	ILE	A	115	21.030	22.669	19.281	1.00	12.11	6
ATOM	857	CB	ILE	A	115	22.187	23.643	19.596	1.00	12.40	6
ATOM	858	CG1	ILE	A	115	21.733	24.729	20.577	1.00	12.59	6
ATOM	859	CD1	ILE	A	115	22.890	25.485	21.210	1.00	12.12	6
ATOM	860	CG2	ILE	A	115	22.716	24.285	18.333	1.00	12.89	6
ATOM	861	C	ILE	A	115	21.463	21.729	18.144	1.00	12.20	6
ATOM	862	O	ILE	A	115	21.117	21.940	16.981	1.00	12.10	8
ATOM	863	N	PHE	A	116	22.225	20.693	18.501	1.00	12.63	7
ATOM	864	CA	PHE	A	116	22.696	19.697	17.541	1.00	12.35	6
ATOM	865	CB	PHE	A	116	23.721	18.770	18.210	1.00	12.67	6
ATOM	866	CG	PHE	A	116	25.100	19.391	18.389	1.00	11.93	6
ATOM	867	CD1	PHE	A	116	25.364	20.712	18.006	1.00	11.56	6
ATOM	868	CE1	PHE	A	116	26.639	21.264	18.180	1.00	11.52	6
ATOM	869	CZ	PHE	A	116	27.655	20.505	18.748	1.00	12.24	6
ATOM	870	CE2	PHE	A	116	27.411	19.194	19.121	1.00	11.81	6
ATOM	871	CD2	PHE	A	116	26.138	18.643	18.947	1.00	12.39	6
ATOM	872	C	PHE	A	116	21.515	18.892	16.994	1.00	12.80	6
ATOM	873	O	PHE	A	116	21.382	18.718	15.780	1.00	12.64	8
ATOM	874	N	TYR	A	117	20.653	18.438	17.906	1.00	13.04	7
ATOM	875	CA	TYR	A	117	19.387	17.763	17.571	1.00	13.50	6

ATOM	876	CB	TYR	A	117	18.622	17.426	18.869	1.00	13.97	6
ATOM	877	CG	TYR	A	117	17.168	17.010	18.714	1.00	14.55	6
ATOM	878	CD1	TYR	A	117	16.825	15.738	18.241	1.00	16.18	6
ATOM	879	CE1	TYR	A	117	15.487	15.344	18.124	1.00	15.17	6
ATOM	880	CZ	TYR	A	117	14.478	16.229	18.490	1.00	15.35	6
ATOM	881	OH	TYR	A	117	13.151	15.848	18.376	1.00	15.17	8
ATOM	882	CE2	TYR	A	117	14.797	17.493	18.978	1.00	14.92	6
ATOM	883	CD2	TYR	A	117	16.136	17.872	19.095	1.00	15.36	6
ATOM	884	C	TYR	A	117	18.514	18.569	16.599	1.00	13.52	6
ATOM	885	O	TYR	A	117	18.053	18.037	15.592	1.00	13.17	8
ATOM	886	N	ARG	A	118	18.305	19.854	16.889	1.00	13.25	7
ATOM	887	CA	ARG	A	118	17.463	20.692	16.028	1.00	13.20	6
ATOM	888	CB	ARG	A	118	17.145	22.027	16.701	1.00	13.03	6
ATOM	889	CG	ARG	A	118	16.295	21.903	17.954	1.00	12.95	6
ATOM	890	CD	ARG	A	118	15.677	23.240	18.331	1.00	13.09	6
ATOM	891	NE	ARG	A	118	16.644	24.190	18.887	1.00	12.69	7
ATOM	892	CZ	ARG	A	118	16.891	24.327	20.187	1.00	13.30	6
ATOM	893	NH1	ARG	A	118	16.265	23.553	21.071	1.00	13.22	7
ATOM	894	NH2	ARG	A	118	17.762	25.237	20.608	1.00	13.43	7
ATOM	895	C	ARG	A	118	18.071	20.939	14.645	1.00	13.42	6
ATOM	896	O	ARG	A	118	17.346	21.178	13.670	1.00	14.04	8
ATOM	897	N	ASN	A	119	19.398	20.880	14.564	1.00	13.34	7
ATOM	898	CA	ASN	A	119	20.111	21.326	13.377	1.00	13.62	6
ATOM	899	CB	ASN	A	119	20.995	22.520	13.730	1.00	13.54	6
ATOM	900	CG	ASN	A	119	20.172	23.723	14.176	1.00	12.59	6
ATOM	901	OD1	ASN	A	119	19.609	24.445	13.345	1.00	11.81	8
ATOM	902	ND2	ASN	A	119	20.055	23.915	15.491	1.00	13.00	7
ATOM	903	C	ASN	A	119	20.869	20.212	12.651	1.00	14.14	6
ATOM	904	O	ASN	A	119	21.810	20.468	11.876	1.00	14.12	8
ATOM	905	N	PHE	A	120	20.428	18.976	12.895	1.00	14.24	7
ATOM	906	CA	PHE	A	120	20.834	17.803	12.112	1.00	14.75	6
ATOM	907	CB	PHE	A	120	20.464	17.974	10.635	1.00	15.23	6
ATOM	908	CG	PHE	A	120	18.989	17.925	10.386	1.00	15.86	6
ATOM	909	CD1	PHE	A	120	18.381	16.740	9.990	1.00	16.57	6
ATOM	910	CE1	PHE	A	120	17.014	16.678	9.783	1.00	16.66	6
ATOM	911	CZ	PHE	A	120	16.234	17.808	9.977	1.00	16.99	6
ATOM	912	CE2	PHE	A	120	16.824	18.997	10.373	1.00	17.14	6
ATOM	913	CD2	PHE	A	120	18.199	19.050	10.586	1.00	16.48	6
ATOM	914	C	PHE	A	120	22.287	17.394	12.295	1.00	15.09	6
ATOM	915	O	PHE	A	120	22.906	16.828	11.386	1.00	14.87	8
ATOM	916	N	TYR	A	121	22.816	17.692	13.480	1.00	14.93	7
ATOM	917	CA	TYR	A	121	24.066	17.107	13.970	1.00	15.72	6
ATOM	918	CB	TYR	A	121	24.906	18.160	14.704	1.00	15.59	6
ATOM	919	CG	TYR	A	121	25.483	19.223	13.810	1.00	15.53	6
ATOM	920	CD1	TYR	A	121	26.726	19.048	13.201	1.00	15.17	6
ATOM	921	CE1	TYR	A	121	27.260	20.024	12.375	1.00	15.11	6
ATOM	922	CZ	TYR	A	121	26.549	21.188	12.150	1.00	15.67	6
ATOM	923	OH	TYR	A	121	27.073	22.147	11.322	1.00	17.50	8
ATOM	924	CE2	TYR	A	121	25.309	21.388	12.743	1.00	15.64	6
ATOM	925	CD2	TYR	A	121	24.784	20.409	13.564	1.00	14.74	6
ATOM	926	C	TYR	A	121	23.772	15.955	14.924	1.00	15.93	6
ATOM	927	O	TYR	A	121	22.711	15.915	15.556	1.00	16.24	8
ATOM	928	N	ASP	A	122	24.718	15.025	15.039	1.00	16.38	7
ATOM	929	CA	ASP	A	122	24.672	14.013	16.098	1.00	16.43	6
ATOM	930	CB	ASP	A	122	25.795	12.990	15.912	1.00	16.51	6
ATOM	931	CG	ASP	A	122	25.590	11.732	16.752	1.00	17.23	6
ATOM	932	OD1	ASP	A	122	25.727	11.794	17.993	1.00	18.13	8
ATOM	933	OD2	ASP	A	122	25.305	10.676	16.163	1.00	19.91	8
ATOM	934	C	ASP	A	122	24.795	14.695	17.466	1.00	16.67	6
ATOM	935	O	ASP	A	122	25.774	15.387	17.724	1.00	16.39	8
ATOM	936	N	PRO	A	123	23.790	14.501	18.343	1.00	16.80	7
ATOM	937	CA	PRO	A	123	23.777	15.146	19.658	1.00	17.07	6
ATOM	938	CB	PRO	A	123	22.364	14.840	20.188	1.00	17.05	6
ATOM	939	CG	PRO	A	123	21.578	14.389	18.985	1.00	16.74	6

ATOM	940	CD	PRO	A	123	22.579	13.694	18.127	1.00	16.70	6
ATOM	941	C	PRO	A	123	24.813	14.605	20.637	1.00	17.59	6
ATOM	942	O	PRO	A	123	25.054	15.231	21.671	1.00	17.72	8
ATOM	943	N	TYR	A	124	25.425	13.465	20.313	1.00	17.96	7
ATOM	944	CA	TYR	A	124	26.207	12.712	21.299	1.00	18.77	6
ATOM	945	CB	TYR	A	124	25.549	11.360	21.585	1.00	19.53	6
ATOM	946	CG	TYR	A	124	24.102	11.460	21.996	1.00	20.40	6
ATOM	947	CD1	TYR	A	124	23.753	11.839	23.291	1.00	21.05	6
ATOM	948	CE1	TYR	A	124	22.427	11.942	23.675	1.00	21.48	6
ATOM	949	CZ	TYR	A	124	21.428	11.660	22.762	1.00	21.42	6
ATOM	950	OH	TYR	A	124	20.116	11.762	23.149	1.00	22.21	8
ATOM	951	CE2	TYR	A	124	21.744	11.280	21.466	1.00	21.11	6
ATOM	952	CD2	TYR	A	124	23.079	11.182	21.090	1.00	20.18	6
ATOM	953	C	TYR	A	124	27.671	12.494	20.927	1.00	18.59	6
ATOM	954	O	TYR	A	124	28.542	12.529	21.800	1.00	18.82	8
ATOM	955	N	ALA	A	125	27.934	12.262	19.639	1.00	18.17	7
ATOM	956	CA	ALA	A	125	29.252	11.791	19.179	1.00	18.03	6
ATOM	957	CB	ALA	A	125	29.213	11.461	17.684	1.00	17.91	6
ATOM	958	C	ALA	A	125	30.405	12.751	19.485	1.00	17.64	6
ATOM	959	O	ALA	A	125	31.550	12.325	19.629	1.00	18.03	8
ATOM	960	N	TRP	A	126	30.094	14.043	19.579	1.00	17.14	7
ATOM	961	CA	TRP	A	126	31.102	15.086	19.774	1.00	16.85	6
ATOM	962	CB	TRP	A	126	30.440	16.468	19.824	1.00	16.86	6
ATOM	963	CG	TRP	A	126	29.392	16.596	20.903	1.00	16.99	6
ATOM	964	CD1	TRP	A	126	28.079	16.234	20.814	1.00	16.78	6
ATOM	965	NE1	TRP	A	126	27.432	16.499	21.995	1.00	17.08	7
ATOM	966	CE2	TRP	A	126	28.325	17.047	22.880	1.00	16.96	6
ATOM	967	CD2	TRP	A	126	29.575	17.121	22.226	1.00	16.61	6
ATOM	968	CE3	TRP	A	126	30.675	17.646	22.925	1.00	17.18	6
ATOM	969	CZ3	TRP	A	126	30.491	18.072	24.235	1.00	16.50	6
ATOM	970	CH2	TRP	A	126	29.230	17.989	24.858	1.00	16.04	6
ATOM	971	CZ2	TRP	A	126	28.141	17.475	24.201	1.00	16.55	6
ATOM	972	C	TRP	A	126	31.915	14.874	21.044	1.00	16.55	6
ATOM	973	O	TRP	A	126	33.080	15.260	21.109	1.00	16.76	8
ATOM	974	N	SER	A	127	31.293	14.242	22.039	1.00	15.96	7
ATOM	975	CA	SER	A	127	31.850	14.181	23.390	1.00	16.27	6
ATOM	976	CB	SER	A	127	30.724	14.164	24.429	1.00	15.79	6
ATOM	977	OG	SER	A	127	30.123	12.885	24.518	1.00	17.24	8
ATOM	978	C	SER	A	127	32.814	13.018	23.632	1.00	16.11	6
ATOM	979	O	SER	A	127	33.485	12.974	24.669	1.00	15.88	8
ATOM	980	N	TRP	A	128	32.881	12.077	22.691	1.00	16.51	7
ATOM	981	CA	TRP	A	128	33.727	10.894	22.874	1.00	16.47	6
ATOM	982	CB	TRP	A	128	32.901	9.680	23.323	1.00	16.28	6
ATOM	983	CG	TRP	A	128	31.877	9.210	22.328	1.00	16.51	6
ATOM	984	CD1	TRP	A	128	30.561	9.580	22.265	1.00	16.56	6
ATOM	985	NE1	TRP	A	128	29.933	8.922	21.232	1.00	16.33	7
ATOM	986	CE2	TRP	A	128	30.842	8.113	20.602	1.00	16.34	6
ATOM	987	CD2	TRP	A	128	32.078	8.261	21.273	1.00	16.30	6
ATOM	988	CE3	TRP	A	128	33.186	7.529	20.821	1.00	16.23	6
ATOM	989	CZ3	TRP	A	128	33.024	6.678	19.729	1.00	16.51	6
ATOM	990	CH2	TRP	A	128	31.776	6.552	19.084	1.00	16.57	6
ATOM	991	CZ2	TRP	A	128	30.680	7.260	19.503	1.00	15.83	6
ATOM	992	C	TRP	A	128	34.618	10.536	21.684	1.00	16.92	6
ATOM	993	O	TRP	A	128	35.686	9.957	21.875	1.00	16.97	8
ATOM	994	N	GLN	A	129	34.180	10.876	20.469	1.00	17.59	7
ATOM	995	CA	GLN	A	129	34.947	10.560	19.246	1.00	18.35	6
ATOM	996	CB	GLN	A	129	34.151	10.940	17.993	1.00	18.24	6
ATOM	997	CG	GLN	A	129	32.995	9.992	17.663	1.00	19.55	6
ATOM	998	CD	GLN	A	129	32.395	10.239	16.279	1.00	20.30	6
ATOM	999	OE1	GLN	A	129	32.560	11.315	15.698	1.00	22.16	8
ATOM	1000	NE2	GLN	A	129	31.704	9.231	15.741	1.00	21.07	7
ATOM	1001	C	GLN	A	129	36.302	11.273	19.228	1.00	18.43	6
ATOM	1002	O	GLN	A	129	36.453	12.326	19.834	1.00	18.58	8
ATOM	1003	N	HIS	A	130	37.276	10.689	18.526	1.00	19.05	7

ATOM	1004	CA	HIS	A	130	38.622	11.283	18.385	1.00	19.20	6
ATOM	1005	CB	HIS	A	130	38.577	12.608	17.599	1.00	19.81	6
ATOM	1006	CG	HIS	A	130	37.703	12.578	16.381	1.00	20.84	6
ATOM	1007	ND1	HIS	A	130	37.977	11.791	15.283	1.00	22.57	7
ATOM	1008	CE1	HIS	A	130	37.049	11.986	14.363	1.00	22.36	6
ATOM	1009	NE2	HIS	A	130	36.190	12.879	14.818	1.00	22.91	7
ATOM	1010	CD2	HIS	A	130	36.580	13.272	16.076	1.00	21.95	6
ATOM	1011	C	HIS	A	130	39.324	11.522	19.736	1.00	18.98	6
ATOM	1012	O	HIS	A	130	40.096	12.480	19.881	1.00	19.06	8
ATOM	1013	N	ASP	A	131	39.053	10.653	20.712	1.00	18.67	7
ATOM	1014	CA	ASP	A	131	39.667	10.729	22.048	1.00	18.57	6
ATOM	1015	CB	ASP	A	131	41.205	10.794	21.961	1.00	19.43	6
ATOM	1016	CG	ASP	A	131	41.827	9.483	21.524	1.00	21.89	6
ATOM	1017	OD1	ASP	A	131	41.223	8.409	21.765	1.00	24.99	8
ATOM	1018	OD2	ASP	A	131	42.940	9.526	20.948	1.00	24.98	8
ATOM	1019	C	ASP	A	131	39.151	11.896	22.893	1.00	17.54	6
ATOM	1020	O	ASP	A	131	39.745	12.229	23.924	1.00	17.28	8
ATOM	1021	N	ASN	A	132	38.045	12.505	22.469	1.00	16.25	7
ATOM	1022	CA	ASN	A	132	37.463	13.610	23.220	1.00	15.55	6
ATOM	1023	CB	ASN	A	132	36.412	14.353	22.389	1.00	15.22	6
ATOM	1024	CG	ASN	A	132	37.032	15.280	21.355	1.00	15.64	6
ATOM	1025	OD1	ASN	A	132	38.237	15.257	21.128	1.00	15.95	8
ATOM	1026	ND2	ASN	A	132	36.197	16.106	20.721	1.00	15.87	7
ATOM	1027	C	ASN	A	132	36.869	13.164	24.551	1.00	15.12	6
ATOM	1028	O	ASN	A	132	36.631	11.979	24.772	1.00	15.02	8
ATOM	1029	N	SER	A	133	36.645	14.125	25.439	1.00	14.92	7
ATOM	1030	CA	SER	A	133	36.028	13.847	26.725	1.00	14.40	6
ATOM	1031	CB	SER	A	133	37.088	13.418	27.745	1.00	14.47	6
ATOM	1032	OG	SER	A	133	37.968	14.493	28.064	1.00	13.85	8
ATOM	1033	C	SER	A	133	35.291	15.074	27.216	1.00	14.57	6
ATOM	1034	O	SER	A	133	35.308	16.122	26.563	1.00	14.41	8
ATOM	1035	N	ARG	A	134	34.629	14.937	28.356	1.00	14.55	7
ATOM	1036	CA	ARG	A	134	34.045	16.082	29.016	1.00	14.90	6
ATOM	1037	CB	ARG	A	134	32.540	16.203	28.744	1.00	15.97	6
ATOM	1038	CG	ARG	A	134	31.667	15.070	29.258	1.00	17.72	6
ATOM	1039	CD	ARG	A	134	30.207	15.397	28.947	1.00	22.47	6
ATOM	1040	NE	ARG	A	134	29.281	14.322	29.286	1.00	24.59	7
ATOM	1041	CZ	ARG	A	134	27.960	14.474	29.361	1.00	25.83	6
ATOM	1042	NH1	ARG	A	134	27.406	15.662	29.130	1.00	27.15	7
ATOM	1043	NH2	ARG	A	134	27.190	13.444	29.673	1.00	26.83	7
ATOM	1044	C	ARG	A	134	34.357	16.072	30.495	1.00	14.31	6
ATOM	1045	O	ARG	A	134	34.701	15.038	31.062	1.00	14.01	8
ATOM	1046	N	TRP	A	135	34.255	17.244	31.099	1.00	13.27	7
ATOM	1047	CA	TRP	A	135	34.474	17.420	32.516	1.00	12.49	6
ATOM	1048	CB	TRP	A	135	35.961	17.659	32.796	1.00	12.56	6
ATOM	1049	CG	TRP	A	135	36.408	17.280	34.188	1.00	11.49	6
ATOM	1050	CD1	TRP	A	135	35.770	16.432	35.062	1.00	11.76	6
ATOM	1051	NE1	TRP	A	135	36.497	16.317	36.225	1.00	10.56	7
ATOM	1052	CE2	TRP	A	135	37.628	17.085	36.123	1.00	11.76	6
ATOM	1053	CD2	TRP	A	135	37.613	17.697	34.847	1.00	12.04	6
ATOM	1054	CE3	TRP	A	135	38.679	18.541	34.488	1.00	12.85	6
ATOM	1055	CZ3	TRP	A	135	39.709	18.742	35.401	1.00	12.12	6
ATOM	1056	CH2	TRP	A	135	39.696	18.115	36.662	1.00	12.51	6
ATOM	1057	CZ2	TRP	A	135	38.670	17.292	37.042	1.00	11.64	6
ATOM	1058	C	TRP	A	135	33.636	18.618	32.930	1.00	12.61	6
ATOM	1059	O	TRP	A	135	33.064	19.309	32.081	1.00	12.34	8
ATOM	1060	N	ASP	A	136	33.529	18.847	34.230	1.00	12.04	7
ATOM	1061	CA	ASP	A	136	32.679	19.909	34.755	1.00	12.12	6
ATOM	1062	CB	ASP	A	136	31.253	19.383	34.960	1.00	12.12	6
ATOM	1063	CG	ASP	A	136	30.251	20.482	35.336	1.00	13.38	6
ATOM	1064	OD1	ASP	A	136	30.663	21.538	35.856	1.00	14.75	8
ATOM	1065	OD2	ASP	A	136	29.034	20.266	35.122	1.00	14.58	8
ATOM	1066	C	ASP	A	136	33.272	20.317	36.083	1.00	12.00	6
ATOM	1067	O	ASP	A	136	33.411	19.484	36.968	1.00	12.06	8

ATOM	1068	N	LEU	A	137	33.646	21.593	36.210	1.00	12.04	7
ATOM	1069	CA	LEU	A	137	34.324	22.074	37.420	1.00	12.35	6
ATOM	1070	CB	LEU	A	137	35.080	23.390	37.160	1.00	12.51	6
ATOM	1071	CG	LEU	A	137	36.546	23.321	36.699	1.00	14.36	6
ATOM	1072	CD1	LEU	A	137	37.426	22.512	37.646	1.00	16.05	6
ATOM	1073	CD2	LEU	A	137	36.661	22.802	35.268	1.00	13.72	6
ATOM	1074	C	LEU	A	137	33.405	22.220	38.625	1.00	12.12	6
ATOM	1075	O	LEU	A	137	33.879	22.289	39.763	1.00	12.23	8
ATOM	1076	N	LEU	A	138	32.095	22.257	38.390	1.00	11.86	7
ATOM	1077	CA	LEU	A	138	31.146	22.370	39.495	1.00	12.24	6
ATOM	1078	CB	LEU	A	138	29.699	22.480	38.989	1.00	12.09	6
ATOM	1079	CG	LEU	A	138	28.598	22.428	40.069	1.00	11.81	6
ATOM	1080	CD1	LEU	A	138	28.788	23.517	41.123	1.00	12.67	6
ATOM	1081	CD2	LEU	A	138	27.215	22.524	39.444	1.00	12.98	6
ATOM	1082	C	LEU	A	138	31.284	21.209	40.483	1.00	12.62	6
ATOM	1083	O	LEU	A	138	31.443	21.430	41.685	1.00	12.80	8
ATOM	1084	N	ASP	A	139	31.213	19.972	39.988	1.00	13.12	7
ATOM	1085	CA	ASP	A	139	31.338	18.826	40.884	1.00	13.51	6
ATOM	1086	CB	ASP	A	139	30.817	17.531	40.245	1.00	14.42	6
ATOM	1087	CG	ASP	A	139	29.290	17.425	40.285	1.00	16.19	6
ATOM	1088	OD1	ASP	A	139	28.627	18.220	41.000	1.00	18.88	8
ATOM	1089	OD2	ASP	A	139	28.748	16.530	39.603	1.00	20.15	8
ATOM	1090	C	ASP	A	139	32.760	18.660	41.420	1.00	12.95	6
ATOM	1091	O	ASP	A	139	32.950	18.092	42.483	1.00	13.00	8
ATOM	1092	N	VAL	A	140	33.746	19.205	40.708	1.00	12.48	7
ATOM	1093	CA	VAL	A	140	35.117	19.273	41.230	1.00	11.93	6
ATOM	1094	CB	VAL	A	140	36.128	19.770	40.153	1.00	11.93	6
ATOM	1095	CG1	VAL	A	140	37.510	20.050	40.779	1.00	11.40	6
ATOM	1096	CG2	VAL	A	140	36.247	18.750	39.015	1.00	11.91	6
ATOM	1097	C	VAL	A	140	35.183	20.156	42.489	1.00	11.81	6
ATOM	1098	O	VAL	A	140	35.746	19.749	43.512	1.00	11.72	8
ATOM	1099	N	MET	A	141	34.585	21.348	42.424	1.00	11.06	7
ATOM	1100	CA	MET	A	141	34.556	22.246	43.589	1.00	10.98	6
ATOM	1101	CB	MET	A	141	33.934	23.610	43.238	1.00	11.16	6
ATOM	1102	CG	MET	A	141	34.693	24.428	42.186	1.00	11.87	6
ATOM	1103	SD	MET	A	141	36.491	24.451	42.337	1.00	14.74	16
ATOM	1104	CE	MET	A	141	36.734	25.126	43.973	1.00	15.71	6
ATOM	1105	C	MET	A	141	33.802	21.601	44.750	1.00	10.49	6
ATOM	1106	O	MET	A	141	34.245	21.670	45.897	1.00	10.83	8
ATOM	1107	N	ARG	A	142	32.668	20.960	44.447	1.00	10.16	7
ATOM	1108	CA	ARG	A	142	31.880	20.264	45.469	1.00	10.59	6
ATOM	1109	CB	ARG	A	142	30.614	19.665	44.859	1.00	10.26	6
ATOM	1110	CG	ARG	A	142	29.550	20.695	44.532	1.00	10.62	6
ATOM	1111	CD	ARG	A	142	28.331	20.039	43.915	1.00	12.16	6
ATOM	1112	NE	ARG	A	142	27.202	20.963	43.822	1.00	14.23	7
ATOM	1113	CZ	ARG	A	142	26.296	20.940	42.845	1.00	14.32	6
ATOM	1114	NH1	ARG	A	142	26.387	20.039	41.863	1.00	15.14	7
ATOM	1115	NH2	ARG	A	142	25.302	21.817	42.847	1.00	15.34	7
ATOM	1116	C	ARG	A	142	32.691	19.166	46.146	1.00	10.62	6
ATOM	1117	O	ARG	A	142	32.651	19.016	47.365	1.00	11.76	8
ATOM	1118	N	ALA	A	143	33.415	18.398	45.335	1.00	11.35	7
ATOM	1119	CA	ALA	A	143	34.258	17.320	45.819	1.00	11.68	6
ATOM	1120	CB	ALA	A	143	34.841	16.521	44.638	1.00	11.74	6
ATOM	1121	C	ALA	A	143	35.372	17.847	46.727	1.00	12.02	6
ATOM	1122	O	ALA	A	143	35.670	17.240	47.747	1.00	12.10	8
ATOM	1123	N	CYS	A	144	35.975	18.979	46.359	1.00	12.27	7
ATOM	1124	CA	CYS	A	144	37.004	19.602	47.203	1.00	13.89	6
ATOM	1125	CB	CYS	A	144	37.589	20.847	46.543	1.00	13.89	6
ATOM	1126	SG	CYS	A	144	38.736	20.503	45.219	1.00	19.77	16
ATOM	1127	C	CYS	A	144	36.450	19.976	48.559	1.00	13.44	6
ATOM	1128	O	CYS	A	144	37.067	19.694	49.578	1.00	13.92	8
ATOM	1129	N	TYR	A	145	35.284	20.620	48.567	1.00	13.37	7
ATOM	1130	CA	TYR	A	145	34.666	21.061	49.810	1.00	13.40	6
ATOM	1131	CB	TYR	A	145	33.370	21.828	49.526	1.00	13.97	6

ATOM	1132	CG	TYR	A	145	32.588	22.149	50.779	1.00	13.99	6
ATOM	1133	CD1	TYR	A	145	32.935	23.246	51.581	1.00	17.07	6
ATOM	1134	CE1	TYR	A	145	32.232	23.534	52.741	1.00	15.19	6
ATOM	1135	CZ	TYR	A	145	31.172	22.723	53.121	1.00	14.57	6
ATOM	1136	OH	TYR	A	145	30.480	23.014	54.275	1.00	15.08	8
ATOM	1137	CE2	TYR	A	145	30.810	21.621	52.349	1.00	13.56	6
ATOM	1138	CD2	TYR	A	145	31.525	21.335	51.192	1.00	12.90	6
ATOM	1139	C	TYR	A	145	34.379	19.889	50.739	1.00	13.12	6
ATOM	1140	O	TYR	A	145	34.623	19.969	51.945	1.00	12.83	8
ATOM	1141	N	ALA	A	146	33.845	18.810	50.175	1.00	12.30	7
ATOM	1142	CA	ALA	A	146	33.457	17.654	50.966	1.00	12.79	6
ATOM	1143	CB	ALA	A	146	32.519	16.769	50.173	1.00	12.80	6
ATOM	1144	C	ALA	A	146	34.673	16.860	51.413	1.00	12.62	6
ATOM	1145	O	ALA	A	146	34.772	16.460	52.572	1.00	12.86	8
ATOM	1146	N	LEU	A	147	35.607	16.654	50.488	1.00	12.83	7
ATOM	1147	CA	LEU	A	147	36.637	15.641	50.669	1.00	12.59	6
ATOM	1148	CB	LEU	A	147	36.780	14.785	49.403	1.00	12.65	6
ATOM	1149	CG	LEU	A	147	35.555	14.040	48.868	1.00	12.45	6
ATOM	1150	CD1	LEU	A	147	35.883	13.423	47.531	1.00	11.07	6
ATOM	1151	CD2	LEU	A	147	35.053	12.971	49.835	1.00	11.34	6
ATOM	1152	C	LEU	A	147	37.998	16.183	51.072	1.00	12.61	6
ATOM	1153	O	LEU	A	147	38.724	15.534	51.821	1.00	13.21	8
ATOM	1154	N	ARG	A	148	38.349	17.360	50.556	1.00	12.50	7
ATOM	1155	CA	ARG	A	148	39.688	17.928	50.741	1.00	12.23	6
ATOM	1156	CB	ARG	A	148	40.611	17.529	49.574	1.00	12.30	6
ATOM	1157	CG	ARG	A	148	40.894	16.025	49.431	1.00	12.32	6
ATOM	1158	CD	ARG	A	148	41.714	15.480	50.600	1.00	13.52	6
ATOM	1159	NE	ARG	A	148	42.100	14.080	50.409	1.00	15.56	7
ATOM	1160	CZ	ARG	A	148	41.340	13.038	50.745	1.00	15.44	6
ATOM	1161	NH1	ARG	A	148	40.146	13.232	51.289	1.00	14.42	7
ATOM	1162	NH2	ARG	A	148	41.773	11.799	50.530	1.00	16.11	7
ATOM	1163	C	ARG	A	148	39.604	19.456	50.832	1.00	11.99	6
ATOM	1164	O	ARG	A	148	40.122	20.155	49.961	1.00	11.82	8
ATOM	1165	N	PRO	A	149	38.924	19.979	51.878	1.00	12.09	7
ATOM	1166	CA	PRO	A	149	38.625	21.426	51.933	1.00	12.04	6
ATOM	1167	CB	PRO	A	149	37.615	21.524	53.079	1.00	12.21	6
ATOM	1168	CG	PRO	A	149	37.973	20.382	53.978	1.00	11.98	6
ATOM	1169	CD	PRO	A	149	38.353	19.263	53.032	1.00	11.95	6
ATOM	1170	C	PRO	A	149	39.824	22.344	52.217	1.00	11.96	6
ATOM	1171	O	PRO	A	149	39.710	23.570	52.057	1.00	11.64	8
ATOM	1172	N	GLU	A	150	40.960	21.769	52.598	1.00	12.34	7
ATOM	1173	CA	GLU	A	150	42.139	22.575	52.983	1.00	13.08	6
ATOM	1174	CB	GLU	A	150	43.264	21.668	53.490	1.00	12.78	6
ATOM	1175	CG	GLU	A	150	44.601	22.384	53.677	1.00	13.74	6
ATOM	1176	CD	GLU	A	150	45.738	21.444	54.056	1.00	14.91	6
ATOM	1177	OE1	GLU	A	150	45.483	20.243	54.303	1.00	18.13	8
ATOM	1178	OE2	GLU	A	150	46.893	21.915	54.113	1.00	18.64	8
ATOM	1179	C	GLU	A	150	42.659	23.496	51.860	1.00	13.48	6
ATOM	1180	O	GLU	A	150	42.866	23.054	50.718	1.00	13.90	8
ATOM	1181	N	GLY	A	151	42.863	24.770	52.192	1.00	13.52	7
ATOM	1182	CA	GLY	A	151	43.538	25.705	51.285	1.00	13.84	6
ATOM	1183	C	GLY	A	151	42.630	26.597	50.456	1.00	14.13	6
ATOM	1184	O	GLY	A	151	43.085	27.570	49.851	1.00	14.44	8
ATOM	1185	N	ILE	A	152	41.344	26.276	50.433	1.00	14.41	7
ATOM	1186	CA	ILE	A	152	40.372	27.077	49.704	1.00	14.85	6
ATOM	1187	CB	ILE	A	152	39.660	26.223	48.617	1.00	14.98	6
ATOM	1188	CG1	ILE	A	152	40.684	25.742	47.587	1.00	15.34	6
ATOM	1189	CD1	ILE	A	152	40.199	24.605	46.716	1.00	16.38	6
ATOM	1190	CG2	ILE	A	152	38.543	27.006	47.936	1.00	16.02	6
ATOM	1191	C	ILE	A	152	39.358	27.713	50.651	1.00	14.69	6
ATOM	1192	O	ILE	A	152	38.902	27.078	51.588	1.00	14.63	8
ATOM	1193	N	ASN	A	153	39.023	28.977	50.403	1.00	14.67	7
ATOM	1194	CA	ASN	A	153	37.954	29.642	51.135	1.00	15.20	6
ATOM	1195	CB	ASN	A	153	38.106	31.167	51.063	1.00	15.27	6

ATOM	1196	CG	ASN	A	153	39.343	31.674	51.804	1.00	17.87	6
ATOM	1197	OD1	ASN	A	153	40.004	32.618	51.356	1.00	21.55	8
ATOM	1198	ND2	ASN	A	153	39.657	31.053	52.945	1.00	19.96	7
ATOM	1199	C	ASN	A	153	36.596	29.219	50.597	1.00	14.76	6
ATOM	1200	O	ASN	A	153	36.330	29.330	49.393	1.00	15.14	8
ATOM	1201	N	TRP	A	154	35.747	28.724	51.493	1.00	14.52	7
ATOM	1202	CA	TRP	A	154	34.435	28.212	51.118	1.00	14.46	6
ATOM	1203	CB	TRP	A	154	34.233	26.802	51.671	1.00	13.79	6
ATOM	1204	CG	TRP	A	154	35.263	25.856	51.161	1.00	12.68	6
ATOM	1205	CD1	TRP	A	154	36.330	25.352	51.850	1.00	12.25	6
ATOM	1206	NE1	TRP	A	154	37.071	24.524	51.037	1.00	12.34	7
ATOM	1207	CE2	TRP	A	154	36.500	24.499	49.791	1.00	11.74	6
ATOM	1208	CD2	TRP	A	154	35.355	25.330	49.833	1.00	11.94	6
ATOM	1209	CE3	TRP	A	154	34.577	25.473	48.676	1.00	11.13	6
ATOM	1210	CZ3	TRP	A	154	34.960	24.797	47.530	1.00	11.51	6
ATOM	1211	CH2	TRP	A	154	36.104	23.973	47.515	1.00	12.83	6
ATOM	1212	CZ2	TRP	A	154	36.885	23.811	48.635	1.00	11.80	6
ATOM	1213	C	TRP	A	154	33.327	29.154	51.580	1.00	15.21	6
ATOM	1214	O	TRP	A	154	32.987	29.190	52.764	1.00	15.69	8
ATOM	1215	N	PRO	A	155	32.757	29.918	50.637	1.00	15.87	7
ATOM	1216	CA	PRO	A	155	31.777	30.943	50.981	1.00	15.97	6
ATOM	1217	CB	PRO	A	155	31.670	31.761	49.691	1.00	15.86	6
ATOM	1218	CG	PRO	A	155	31.977	30.806	48.617	1.00	16.20	6
ATOM	1219	CD	PRO	A	155	33.003	29.857	49.180	1.00	15.99	6
ATOM	1220	C	PRO	A	155	30.417	30.347	51.343	1.00	16.18	6
ATOM	1221	O	PRO	A	155	30.048	29.291	50.835	1.00	15.97	8
ATOM	1222	N	GLU	A	156	29.700	31.025	52.236	1.00	16.45	7
ATOM	1223	CA	GLU	A	156	28.339	30.650	52.606	1.00	16.71	6
ATOM	1224	CB	GLU	A	156	28.135	30.795	54.101	1.00	17.19	6
ATOM	1225	CG	GLU	A	156	28.584	29.622	54.927	1.00	19.16	6
ATOM	1226	CD	GLU	A	156	28.212	29.791	56.388	1.00	22.32	6
ATOM	1227	OE1	GLU	A	156	27.408	30.699	56.699	1.00	24.65	8
ATOM	1228	OE2	GLU	A	156	28.727	29.024	57.223	1.00	23.32	8
ATOM	1229	C	GLU	A	156	27.367	31.578	51.923	1.00	16.31	6
ATOM	1230	O	GLU	A	156	27.601	32.791	51.868	1.00	16.58	8
ATOM	1231	N	ASN	A	157	26.255	31.029	51.439	1.00	15.73	7
ATOM	1232	CA	ASN	A	157	25.196	31.870	50.874	1.00	15.61	6
ATOM	1233	CB	ASN	A	157	24.352	31.096	49.852	1.00	15.40	6
ATOM	1234	CG	ASN	A	157	23.648	29.890	50.450	1.00	15.22	6
ATOM	1235	OD1	ASN	A	157	23.247	29.898	51.614	1.00	14.29	8
ATOM	1236	ND2	ASN	A	157	23.476	28.845	49.639	1.00	13.74	7
ATOM	1237	C	ASN	A	157	24.331	32.505	51.976	1.00	15.47	6
ATOM	1238	O	ASN	A	157	24.559	32.257	53.157	1.00	15.71	8
ATOM	1239	N	ASP	A	158	23.343	33.313	51.580	1.00	15.83	7
ATOM	1240	CA	ASP	A	158	22.492	34.047	52.541	1.00	15.56	6
ATOM	1241	CB	ASP	A	158	21.543	35.004	51.810	1.00	16.35	6
ATOM	1242	CG	ASP	A	158	22.263	36.185	51.175	1.00	18.10	6
ATOM	1243	OD1	ASP	A	158	23.376	36.535	51.626	1.00	19.35	8
ATOM	1244	OD2	ASP	A	158	21.703	36.770	50.220	1.00	20.70	8
ATOM	1245	C	ASP	A	158	21.671	33.131	53.449	1.00	14.72	6
ATOM	1246	O	ASP	A	158	21.087	33.585	54.441	1.00	14.75	8
ATOM	1247	N	ASP	A	159	21.633	31.845	53.110	1.00	13.87	7
ATOM	1248	CA	ASP	A	159	20.880	30.867	53.879	1.00	13.04	6
ATOM	1249	CB	ASP	A	159	20.162	29.885	52.942	1.00	13.41	6
ATOM	1250	CG	ASP	A	159	19.082	30.567	52.095	1.00	13.56	6
ATOM	1251	OD1	ASP	A	159	18.644	31.680	52.470	1.00	15.49	8
ATOM	1252	OD2	ASP	A	159	18.663	29.991	51.071	1.00	14.66	8
ATOM	1253	C	ASP	A	159	21.759	30.129	54.891	1.00	12.70	6
ATOM	1254	O	ASP	A	159	21.250	29.400	55.732	1.00	12.09	8
ATOM	1255	N	GLY	A	160	23.074	30.351	54.815	1.00	12.05	7
ATOM	1256	CA	GLY	A	160	24.028	29.751	55.758	1.00	12.10	6
ATOM	1257	C	GLY	A	160	24.553	28.401	55.312	1.00	11.86	6
ATOM	1258	O	GLY	A	160	25.075	27.625	56.122	1.00	11.81	8
ATOM	1259	N	LEU	A	161	24.432	28.134	54.015	1.00	11.86	7

ATOM	1260	CA	LEU	A	161	24.862	26.870	53.420	1.00	11.83	6
ATOM	1261	CB	LEU	A	161	23.715	26.245	52.611	1.00	12.11	6
ATOM	1262	CG	LEU	A	161	22.433	25.881	53.366	1.00	12.70	6
ATOM	1263	CD1	LEU	A	161	21.265	25.734	52.416	1.00	12.37	6
ATOM	1264	CD2	LEU	A	161	22.622	24.615	54.208	1.00	12.62	6
ATOM	1265	C	LEU	A	161	26.050	27.115	52.502	1.00	11.84	6
ATOM	1266	O	LEU	A	161	26.169	28.200	51.925	1.00	11.42	8
ATOM	1267	N	PRO	A	162	26.931	26.104	52.348	1.00	12.16	7
ATOM	1268	CA	PRO	A	162	28.066	26.304	51.451	1.00	12.38	6
ATOM	1269	CB	PRO	A	162	28.793	24.955	51.469	1.00	12.71	6
ATOM	1270	CG	PRO	A	162	27.841	23.982	52.074	1.00	12.59	6
ATOM	1271	CD	PRO	A	162	26.924	24.762	52.958	1.00	12.59	6
ATOM	1272	C	PRO	A	162	27.563	26.613	50.055	1.00	12.51	6
ATOM	1273	O	PRO	A	162	26.634	25.959	49.575	1.00	12.79	8
ATOM	1274	N	SER	A	163	28.161	27.619	49.428	1.00	13.08	7
ATOM	1275	CA	SER	A	163	27.755	28.063	48.099	1.00	13.05	6
ATOM	1276	CB	SER	A	163	27.612	29.582	48.065	1.00	13.35	6
ATOM	1277	OG	SER	A	163	27.218	30.022	46.775	1.00	14.58	8
ATOM	1278	C	SER	A	163	28.760	27.622	47.038	1.00	13.31	6
ATOM	1279	O	SER	A	163	29.970	27.653	47.266	1.00	13.16	8
ATOM	1280	N	PHE	A	164	28.250	27.231	45.877	1.00	13.51	7
ATOM	1281	CA	PHE	A	164	29.109	26.833	44.771	1.00	13.47	6
ATOM	1282	CB	PHE	A	164	29.028	25.323	44.549	1.00	13.49	6
ATOM	1283	CG	PHE	A	164	29.461	24.538	45.742	1.00	12.97	6
ATOM	1284	CD1	PHE	A	164	30.812	24.293	45.974	1.00	14.02	6
ATOM	1285	CE1	PHE	A	164	31.222	23.597	47.108	1.00	11.87	6
ATOM	1286	CZ	PHE	A	164	30.286	23.156	48.027	1.00	12.69	6
ATOM	1287	CE2	PHE	A	164	28.939	23.411	47.825	1.00	13.71	6
ATOM	1288	CD2	PHE	A	164	28.530	24.112	46.687	1.00	12.87	6
ATOM	1289	C	PHE	A	164	28.825	27.620	43.498	1.00	14.18	6
ATOM	1290	O	PHE	A	164	29.220	27.219	42.404	1.00	14.01	8
ATOM	1291	N	ARG	A	165	28.172	28.766	43.655	1.00	14.63	7
ATOM	1292	CA	ARG	A	165	28.023	29.702	42.557	1.00	15.46	6
ATOM	1293	CB	ARG	A	165	27.098	30.853	42.954	1.00	15.36	6
ATOM	1294	CG	ARG	A	165	25.681	30.390	43.284	1.00	17.75	6
ATOM	1295	CD	ARG	A	165	24.836	31.512	43.852	1.00	19.73	6
ATOM	1296	NE	ARG	A	165	24.649	32.605	42.900	1.00	22.69	7
ATOM	1297	CZ	ARG	A	165	23.933	33.701	43.146	1.00	24.60	6
ATOM	1298	NH1	ARG	A	165	23.326	33.862	44.321	1.00	25.88	7
ATOM	1299	NH2	ARG	A	165	23.824	34.642	42.217	1.00	26.54	7
ATOM	1300	C	ARG	A	165	29.404	30.217	42.169	1.00	15.30	6
ATOM	1301	O	ARG	A	165	30.214	30.568	43.029	1.00	14.95	8
ATOM	1302	N	LEU	A	166	29.680	30.222	40.870	1.00	15.78	7
ATOM	1303	CA	LEU	A	166	31.001	30.585	40.377	1.00	16.42	6
ATOM	1304	CB	LEU	A	166	31.007	30.595	38.841	1.00	16.03	6
ATOM	1305	CG	LEU	A	166	32.331	30.772	38.095	1.00	17.33	6
ATOM	1306	CD1	LEU	A	166	33.346	29.702	38.482	1.00	17.51	6
ATOM	1307	CD2	LEU	A	166	32.061	30.734	36.606	1.00	16.48	6
ATOM	1308	C	LEU	A	166	31.452	31.933	40.935	1.00	16.73	6
ATOM	1309	O	LEU	A	166	32.602	32.086	41.354	1.00	17.53	8
ATOM	1310	N	GLU	A	167	30.531	32.894	40.963	1.00	17.35	7
ATOM	1311	CA	GLU	A	167	30.828	34.251	41.414	1.00	17.88	6
ATOM	1312	CB	GLU	A	167	29.680	35.220	41.062	1.00	18.44	6
ATOM	1313	CG	GLU	A	167	28.287	34.794	41.560	1.00	20.26	6
ATOM	1314	CD	GLU	A	167	27.475	34.050	40.509	1.00	23.46	6
ATOM	1315	OE1	GLU	A	167	28.039	33.172	39.813	1.00	23.39	8
ATOM	1316	OE2	GLU	A	167	26.258	34.346	40.378	1.00	25.10	8
ATOM	1317	C	GLU	A	167	31.199	34.364	42.902	1.00	17.77	6
ATOM	1318	O	GLU	A	167	31.981	35.233	43.275	1.00	18.10	8
ATOM	1319	N	HIS	A	168	30.643	33.481	43.736	1.00	17.07	7
ATOM	1320	CA	HIS	A	168	30.955	33.464	45.170	1.00	16.85	6
ATOM	1321	CB	HIS	A	168	29.894	32.690	45.959	1.00	16.71	6
ATOM	1322	CG	HIS	A	168	28.561	33.366	46.007	1.00	16.61	6
ATOM	1323	ND1	HIS	A	168	27.399	32.694	46.318	1.00	17.09	7

ATOM	1324	CE1	HIS	A	168	26.384	33.540	46.296	1.00	17.64	6
ATOM	1325	NE2	HIS	A	168	26.844	34.733	45.963	1.00	17.96	7
ATOM	1326	CD2	HIS	A	168	28.202	34.652	45.780	1.00	16.80	6
ATOM	1327	C	HIS	A	168	32.322	32.860	45.425	1.00	16.62	6
ATOM	1328	O	HIS	A	168	33.074	33.339	46.282	1.00	16.69	8
ATOM	1329	N	LEU	A	169	32.636	31.803	44.680	1.00	16.15	7
ATOM	1330	CA	LEU	A	169	33.910	31.102	44.810	1.00	16.47	6
ATOM	1331	CB	LEU	A	169	33.852	29.744	44.101	1.00	16.52	6
ATOM	1332	CG	LEU	A	169	33.013	28.638	44.747	1.00	16.98	6
ATOM	1333	CD1	LEU	A	169	32.795	27.495	43.772	1.00	17.70	6
ATOM	1334	CD2	LEU	A	169	33.651	28.130	46.041	1.00	16.82	6
ATOM	1335	C	LEU	A	169	35.095	31.929	44.304	1.00	16.48	6
ATOM	1336	O	LEU	A	169	36.181	31.862	44.870	1.00	16.35	8
ATOM	1337	N	THR	A	170	34.888	32.713	43.243	1.00	16.89	7
ATOM	1338	CA	THR	A	170	35.937	33.633	42.776	1.00	17.53	6
ATOM	1339	CB	THR	A	170	35.633	34.242	41.390	1.00	17.67	6
ATOM	1340	OG1	THR	A	170	34.336	34.850	41.402	1.00	17.23	8
ATOM	1341	CG2	THR	A	170	35.682	33.173	40.312	1.00	17.43	6
ATOM	1342	C	THR	A	170	36.189	34.751	43.790	1.00	17.94	6
ATOM	1343	O	THR	A	170	37.324	34.955	44.217	1.00	18.14	8
ATOM	1344	N	LYS	A	171	35.122	35.449	44.189	1.00	18.32	7
ATOM	1345	CA	LYS	A	171	35.209	36.521	45.189	1.00	18.97	6
ATOM	1346	CB	LYS	A	171	33.816	37.109	45.467	1.00	18.97	6
ATOM	1347	CG	LYS	A	171	33.816	38.417	46.259	1.00	21.23	6
ATOM	1348	CD	LYS	A	171	34.155	39.612	45.371	1.00	24.05	6
ATOM	1349	CE	LYS	A	171	33.873	40.924	46.088	1.00	25.72	6
ATOM	1350	NZ	LYS	A	171	33.961	42.096	45.167	1.00	27.61	7
ATOM	1351	C	LYS	A	171	35.845	36.050	46.500	1.00	19.09	6
ATOM	1352	O	LYS	A	171	36.670	36.757	47.090	1.00	18.84	8
ATOM	1353	N	ALA	A	172	35.461	34.857	46.949	1.00	19.24	7
ATOM	1354	CA	ALA	A	172	35.952	34.309	48.215	1.00	19.56	6
ATOM	1355	CB	ALA	A	172	35.125	33.100	48.622	1.00	19.46	6
ATOM	1356	C	ALA	A	172	37.442	33.952	48.188	1.00	19.94	6
ATOM	1357	O	ALA	A	172	38.077	33.852	49.235	1.00	19.66	8
ATOM	1358	N	ASN	A	173	37.989	33.756	46.991	1.00	20.95	7
ATOM	1359	CA	ASN	A	173	39.381	33.325	46.853	1.00	21.67	6
ATOM	1360	CB	ASN	A	173	39.447	31.940	46.200	1.00	21.38	6
ATOM	1361	CG	ASN	A	173	38.875	30.855	47.090	1.00	20.21	6
ATOM	1362	OD1	ASN	A	173	37.723	30.445	46.933	1.00	19.52	8
ATOM	1363	ND2	ASN	A	173	39.669	30.403	48.051	1.00	17.17	7
ATOM	1364	C	ASN	A	173	40.269	34.337	46.124	1.00	22.78	6
ATOM	1365	O	ASN	A	173	41.377	34.005	45.688	1.00	22.90	8
ATOM	1366	N	GLY	A	174	39.778	35.571	46.011	1.00	23.91	7
ATOM	1367	CA	GLY	A	174	40.559	36.684	45.461	1.00	25.64	6
ATOM	1368	C	GLY	A	174	40.823	36.599	43.970	1.00	26.95	6
ATOM	1369	O	GLY	A	174	41.813	37.143	43.475	1.00	27.21	8
ATOM	1370	N	ILE	A	175	39.932	35.923	43.251	1.00	28.25	7
ATOM	1371	CA	ILE	A	175	40.046	35.781	41.803	1.00	29.65	6
ATOM	1372	CB	ILE	A	175	39.584	34.375	41.333	1.00	29.60	6
ATOM	1373	CG1	ILE	A	175	40.532	33.295	41.871	1.00	29.47	6
ATOM	1374	CD1	ILE	A	175	39.986	31.867	41.768	1.00	29.87	6
ATOM	1375	CG2	ILE	A	175	39.491	34.317	39.806	1.00	29.44	6
ATOM	1376	C	ILE	A	175	39.237	36.865	41.088	1.00	30.74	6
ATOM	1377	O	ILE	A	175	38.020	36.970	41.276	1.00	30.58	8
ATOM	1378	N	GLU	A	176	39.922	37.670	40.273	1.00	32.23	7
ATOM	1379	CA	GLU	A	176	39.269	38.732	39.498	1.00	33.84	6
ATOM	1380	CB	GLU	A	176	40.300	39.590	38.744	1.00	33.85	6
ATOM	1381	CG	GLU	A	176	41.406	38.801	38.025	1.00	34.65	6
ATOM	1382	CD	GLU	A	176	42.385	39.702	37.268	1.00	35.04	6
ATOM	1383	OE1	GLU	A	176	41.927	40.606	36.532	1.00	36.26	8
ATOM	1384	OE2	GLU	A	176	43.615	39.496	37.403	1.00	36.02	8
ATOM	1385	C	GLU	A	176	38.212	38.170	38.542	1.00	34.48	6
ATOM	1386	O	GLU	A	176	38.492	37.271	37.747	1.00	34.80	8
ATOM	1387	N	HIS	A	177	36.999	38.706	38.647	1.00	35.35	7

ATOM	1388	CA	HIS	A	177	35.841	38.199	37.920	1.00	36.08	6
ATOM	1389	CB	HIS	A	177	35.124	37.136	38.765	1.00	35.96	6
ATOM	1390	CG	HIS	A	177	34.106	36.334	38.013	1.00	35.77	6
ATOM	1391	ND1	HIS	A	177	33.159	35.557	38.647	1.00	35.39	7
ATOM	1392	CE1	HIS	A	177	32.402	34.962	37.743	1.00	35.38	6
ATOM	1393	NE2	HIS	A	177	32.820	35.328	36.544	1.00	35.21	7
ATOM	1394	CD2	HIS	A	177	33.885	36.186	36.685	1.00	35.24	6
ATOM	1395	C	HIS	A	177	34.900	39.360	37.597	1.00	36.63	6
ATOM	1396	O	HIS	A	177	34.486	40.102	38.496	1.00	36.97	8
ATOM	1397	N	SER	A	178	34.573	39.520	36.316	1.00	37.21	7
ATOM	1398	CA	SER	A	178	33.792	40.671	35.857	1.00	37.57	6
ATOM	1399	CB	SER	A	178	34.705	41.689	35.165	1.00	37.65	6
ATOM	1400	OG	SER	A	178	33.989	42.856	34.803	1.00	37.97	8
ATOM	1401	C	SER	A	178	32.646	40.259	34.929	1.00	37.78	6
ATOM	1402	O	SER	A	178	31.956	41.108	34.349	1.00	37.96	8
ATOM	1403	N	ASP	A	182	34.571	40.474	29.995	0.50	15.23	7
ATOM	1404	CA	ASP	A	182	33.167	40.814	29.783	0.50	15.04	6
ATOM	1405	CB	ASP	A	182	33.038	41.896	28.710	0.50	15.49	6
ATOM	1406	CG	ASP	A	182	31.872	42.839	28.965	0.50	16.16	6
ATOM	1407	OD1	ASP	A	182	30.738	42.354	29.165	0.50	18.07	8
ATOM	1408	OD2	ASP	A	182	32.094	44.073	28.957	0.50	18.37	8
ATOM	1409	C	ASP	A	182	32.376	39.570	29.384	0.50	14.62	6
ATOM	1410	O	ASP	A	182	31.899	38.827	30.239	0.50	14.80	8
ATOM	1411	N	ALA	A	183	32.247	39.337	28.082	0.50	13.88	7
ATOM	1412	CA	ALA	A	183	31.562	38.139	27.603	0.50	12.83	6
ATOM	1413	CB	ALA	A	183	31.299	38.233	26.114	0.50	13.22	6
ATOM	1414	C	ALA	A	183	32.373	36.880	27.930	0.50	12.32	6
ATOM	1415	O	ALA	A	183	31.833	35.781	27.991	0.50	11.94	8
ATOM	1416	N	MET	A	184	33.671	37.058	28.145	0.50	11.69	7
ATOM	1417	CA	MET	A	184	34.564	35.945	28.445	0.50	11.31	6
ATOM	1418	CB	MET	A	184	35.934	36.183	27.802	0.50	11.25	6
ATOM	1419	CG	MET	A	184	35.968	35.988	26.294	0.50	10.01	6
ATOM	1420	SD	MET	A	184	35.675	34.287	25.788	0.50	9.86	16
ATOM	1421	CE	MET	A	184	37.109	33.467	26.459	0.50	8.77	6
ATOM	1422	C	MET	A	184	34.725	35.737	29.953	0.50	11.29	6
ATOM	1423	O	MET	A	184	35.394	34.803	30.396	0.50	11.11	8
ATOM	1424	N	ALA	A	185	34.087	36.600	30.735	0.50	11.41	7
ATOM	1425	CA	ALA	A	185	34.241	36.587	32.189	0.50	11.95	6
ATOM	1426	CB	ALA	A	185	33.255	37.549	32.829	0.50	11.84	6
ATOM	1427	C	ALA	A	185	34.105	35.193	32.808	0.50	12.38	6
ATOM	1428	O	ALA	A	185	34.966	34.765	33.582	0.50	11.91	8
ATOM	1429	N	ASP	A	186	33.025	34.494	32.460	1.00	13.56	7
ATOM	1430	CA	ASP	A	186	32.702	33.191	33.053	1.00	14.47	6
ATOM	1431	CB	ASP	A	186	31.260	32.790	32.719	1.00	15.00	6
ATOM	1432	CG	ASP	A	186	30.229	33.666	33.423	1.00	17.39	6
ATOM	1433	OD1	ASP	A	186	29.039	33.592	33.055	1.00	21.39	8
ATOM	1434	OD2	ASP	A	186	30.607	34.414	34.348	1.00	19.82	8
ATOM	1435	C	ASP	A	186	33.671	32.089	32.622	1.00	14.62	6
ATOM	1436	O	ASP	A	186	34.022	31.208	33.417	1.00	15.17	8
ATOM	1437	N	VAL	A	187	34.104	32.146	31.364	1.00	14.28	7
ATOM	1438	CA	VAL	A	187	35.093	31.193	30.855	1.00	14.37	6
ATOM	1439	CB	VAL	A	187	35.263	31.294	29.312	1.00	14.35	6
ATOM	1440	CG1	VAL	A	187	36.449	30.461	28.833	1.00	13.97	6
ATOM	1441	CG2	VAL	A	187	33.974	30.865	28.593	1.00	15.55	6
ATOM	1442	C	VAL	A	187	36.443	31.348	31.566	1.00	14.34	6
ATOM	1443	O	VAL	A	187	37.038	30.360	31.995	1.00	14.59	8
ATOM	1444	N	TYR	A	188	36.915	32.592	31.709	1.00	14.01	7
ATOM	1445	CA	TYR	A	188	38.162	32.847	32.432	1.00	14.23	6
ATOM	1446	CB	TYR	A	188	38.592	34.308	32.287	1.00	14.43	6
ATOM	1447	CG	TYR	A	188	39.108	34.674	30.906	1.00	14.96	6
ATOM	1448	CD1	TYR	A	188	40.082	33.902	30.275	1.00	15.78	6
ATOM	1449	CE1	TYR	A	188	40.563	34.240	29.009	1.00	17.16	6
ATOM	1450	CZ	TYR	A	188	40.081	35.374	28.372	1.00	16.40	6
ATOM	1451	OH	TYR	A	188	40.561	35.721	27.126	1.00	17.69	8

ATOM	1452	CE2	TYR	A	188	39.130	36.166	28.984	1.00	16.08	6
ATOM	1453	CD2	TYR	A	188	38.650	35.820	30.246	1.00	15.95	6
ATOM	1454	C	TYR	A	188	38.055	32.460	33.914	1.00	14.23	6
ATOM	1455	O	TYR	A	188	38.994	31.894	34.479	1.00	13.98	8
ATOM	1456	N	ALA	A	189	36.909	32.754	34.530	1.00	14.31	7
ATOM	1457	CA	ALA	A	189	36.648	32.347	35.920	1.00	14.37	6
ATOM	1458	CB	ALA	A	189	35.278	32.854	36.384	1.00	14.64	6
ATOM	1459	C	ALA	A	189	36.753	30.826	36.100	1.00	14.54	6
ATOM	1460	O	ALA	A	189	37.296	30.339	37.108	1.00	14.81	8
ATOM	1461	N	THR	A	190	36.233	30.083	35.126	1.00	14.35	7
ATOM	1462	CA	THR	A	190	36.251	28.618	35.166	1.00	14.19	6
ATOM	1463	CB	THR	A	190	35.400	27.996	34.027	1.00	14.31	6
ATOM	1464	OG1	THR	A	190	34.077	28.549	34.044	1.00	14.06	8
ATOM	1465	CG2	THR	A	190	35.307	26.476	34.189	1.00	14.09	6
ATOM	1466	C	THR	A	190	37.684	28.087	35.092	1.00	14.10	6
ATOM	1467	O	THR	A	190	38.067	27.188	35.858	1.00	14.09	8
ATOM	1468	N	ILE	A	191	38.474	28.644	34.173	1.00	13.92	7
ATOM	1469	CA	ILE	A	191	39.903	28.311	34.075	1.00	13.91	6
ATOM	1470	CB	ILE	A	191	40.589	29.100	32.931	1.00	13.75	6
ATOM	1471	CG1	ILE	A	191	39.906	28.795	31.599	1.00	13.60	6
ATOM	1472	CD1	ILE	A	191	40.350	29.690	30.464	1.00	14.24	6
ATOM	1473	CG2	ILE	A	191	42.079	28.757	32.837	1.00	13.69	6
ATOM	1474	C	ILE	A	191	40.592	28.587	35.418	1.00	14.43	6
ATOM	1475	O	ILE	A	191	41.369	27.767	35.913	1.00	14.45	8
ATOM	1476	N	ALA	A	192	40.265	29.725	36.026	1.00	14.74	7
ATOM	1477	CA	ALA	A	192	40.862	30.101	37.309	1.00	15.21	6
ATOM	1478	CB	ALA	A	192	40.414	31.492	37.718	1.00	15.29	6
ATOM	1479	C	ALA	A	192	40.539	29.084	38.404	1.00	15.60	6
ATOM	1480	O	ALA	A	192	41.394	28.774	39.234	1.00	15.50	8
ATOM	1481	N	MET	A	193	39.318	28.549	38.390	1.00	16.15	7
ATOM	1482	CA	MET	A	193	38.909	27.535	39.373	1.00	17.25	6
ATOM	1483	CB	MET	A	193	37.407	27.247	39.268	1.00	18.07	6
ATOM	1484	CG	MET	A	193	36.511	28.441	39.570	1.00	21.14	6
ATOM	1485	SD	MET	A	193	36.789	29.173	41.204	1.00	28.40	16
ATOM	1486	CE	MET	A	193	36.177	27.877	42.237	1.00	28.37	6
ATOM	1487	C	MET	A	193	39.694	26.245	39.176	1.00	16.97	6
ATOM	1488	O	MET	A	193	40.109	25.605	40.146	1.00	16.53	8
ATOM	1489	N	ALA	A	194	39.899	25.878	37.910	1.00	16.44	7
ATOM	1490	CA	ALA	A	194	40.702	24.710	37.554	1.00	15.93	6
ATOM	1491	CB	ALA	A	194	40.710	24.510	36.049	1.00	16.22	6
ATOM	1492	C	ALA	A	194	42.127	24.838	38.091	1.00	15.72	6
ATOM	1493	O	ALA	A	194	42.649	23.908	38.710	1.00	15.37	8
ATOM	1494	N	LYS	A	195	42.744	25.997	37.870	1.00	15.57	7
ATOM	1495	CA	LYS	A	195	44.097	26.247	38.367	1.00	15.53	6
ATOM	1496	CB	LYS	A	195	44.615	27.600	37.876	1.00	15.59	6
ATOM	1497	CG	LYS	A	195	44.917	27.655	36.403	1.00	16.39	6
ATOM	1498	CD	LYS	A	195	45.420	29.035	36.008	1.00	18.30	6
ATOM	1499	CE	LYS	A	195	45.494	29.183	34.514	1.00	19.05	6
ATOM	1500	NZ	LYS	A	195	46.039	30.515	34.088	1.00	21.67	7
ATOM	1501	C	LYS	A	195	44.135	26.199	39.892	1.00	15.81	6
ATOM	1502	O	LYS	A	195	45.084	25.678	40.478	1.00	15.53	8
ATOM	1503	N	LEU	A	196	43.093	26.744	40.520	1.00	15.88	7
ATOM	1504	CA	LEU	A	196	42.978	26.784	41.979	1.00	16.34	6
ATOM	1505	CB	LEU	A	196	41.653	27.444	42.372	1.00	16.85	6
ATOM	1506	CG	LEU	A	196	41.417	27.747	43.850	1.00	17.42	6
ATOM	1507	CD1	LEU	A	196	42.162	28.986	44.241	1.00	19.30	6
ATOM	1508	CD2	LEU	A	196	39.928	27.926	44.116	1.00	19.06	6
ATOM	1509	C	LEU	A	196	43.059	25.383	42.584	1.00	16.42	6
ATOM	1510	O	LEU	A	196	43.872	25.123	43.475	1.00	16.57	8
ATOM	1511	N	VAL	A	197	42.222	24.482	42.084	1.00	16.10	7
ATOM	1512	CA	VAL	A	197	42.157	23.118	42.606	1.00	16.07	6
ATOM	1513	CB	VAL	A	197	40.907	22.383	42.075	1.00	16.21	6
ATOM	1514	CG1	VAL	A	197	40.839	20.962	42.628	1.00	16.46	6
ATOM	1515	CG2	VAL	A	197	39.659	23.152	42.442	1.00	15.68	6

ATOM	1516	C	VAL	A	197	43.433	22.330	42.279	1.00	15.93	6
ATOM	1517	O	VAL	A	197	43.972	21.621	43.131	1.00	16.31	8
ATOM	1518	N	LYS	A	198	43.912	22.466	41.044	1.00	15.56	7
ATOM	1519	CA	LYS	A	198	45.152	21.822	40.614	1.00	15.39	6
ATOM	1520	CB	LYS	A	198	45.470	22.189	39.162	1.00	15.41	6
ATOM	1521	CG	LYS	A	198	46.709	21.497	38.598	1.00	15.70	6
ATOM	1522	CD	LYS	A	198	46.937	21.867	37.133	1.00	16.82	6
ATOM	1523	CE	LYS	A	198	48.200	21.220	36.581	1.00	17.97	6
ATOM	1524	NZ	LYS	A	198	48.014	19.765	36.301	1.00	20.73	7
ATOM	1525	C	LYS	A	198	46.327	22.195	41.511	1.00	14.85	6
ATOM	1526	O	LYS	A	198	47.167	21.348	41.822	1.00	14.91	8
ATOM	1527	N	THR	A	199	46.384	23.463	41.919	1.00	14.63	7
ATOM	1528	CA	THR	A	199	47.488	23.954	42.754	1.00	14.66	6
ATOM	1529	CB	THR	A	199	47.669	25.497	42.619	1.00	14.98	6
ATOM	1530	OG1	THR	A	199	47.981	25.821	41.259	1.00	15.83	8
ATOM	1531	CG2	THR	A	199	48.799	25.997	43.514	1.00	15.86	6
ATOM	1532	C	THR	A	199	47.309	23.579	44.221	1.00	14.17	6
ATOM	1533	O	THR	A	199	48.271	23.201	44.893	1.00	13.93	8
ATOM	1534	N	ARG	A	200	46.078	23.668	44.714	1.00	13.57	7
ATOM	1535	CA	ARG	A	200	45.836	23.530	46.151	1.00	13.08	6
ATOM	1536	CB	ARG	A	200	44.846	24.596	46.652	1.00	13.41	6
ATOM	1537	CG	ARG	A	200	45.253	26.024	46.252	1.00	13.52	6
ATOM	1538	CD	ARG	A	200	44.457	27.091	46.961	1.00	13.50	6
ATOM	1539	NE	ARG	A	200	44.756	28.425	46.430	1.00	13.22	7
ATOM	1540	CZ	ARG	A	200	44.169	29.546	46.843	1.00	13.91	6
ATOM	1541	NH1	ARG	A	200	43.246	29.509	47.798	1.00	14.65	7
ATOM	1542	NH2	ARG	A	200	44.497	30.709	46.290	1.00	15.99	7
ATOM	1543	C	ARG	A	200	45.439	22.118	46.578	1.00	12.61	6
ATOM	1544	O	ARG	A	200	45.646	21.741	47.730	1.00	11.64	8
ATOM	1545	N	GLN	A	201	44.908	21.329	45.640	1.00	11.66	7
ATOM	1546	CA	GLN	A	201	44.626	19.908	45.894	1.00	11.35	6
ATOM	1547	CB	GLN	A	201	43.140	19.696	46.224	1.00	11.05	6
ATOM	1548	CG	GLN	A	201	42.729	20.218	47.590	1.00	9.96	6
ATOM	1549	CD	GLN	A	201	43.431	19.495	48.744	1.00	9.52	6
ATOM	1550	OE1	GLN	A	201	43.895	18.349	48.600	1.00	9.28	8
ATOM	1551	NE2	GLN	A	201	43.505	20.159	49.896	1.00	11.21	7
ATOM	1552	C	GLN	A	201	45.059	19.018	44.715	1.00	11.22	6
ATOM	1553	O	GLN	A	201	44.220	18.449	44.019	1.00	11.30	8
ATOM	1554	N	PRO	A	202	46.380	18.889	44.510	1.00	11.61	7
ATOM	1555	CA	PRO	A	202	46.983	18.277	43.317	1.00	12.06	6
ATOM	1556	CB	PRO	A	202	48.486	18.348	43.617	1.00	11.93	6
ATOM	1557	CG	PRO	A	202	48.621	19.431	44.610	1.00	11.58	6
ATOM	1558	CD	PRO	A	202	47.415	19.346	45.457	1.00	11.92	6
ATOM	1559	C	PRO	A	202	46.571	16.822	43.062	1.00	12.45	6
ATOM	1560	O	PRO	A	202	46.242	16.463	41.917	1.00	12.38	8
ATOM	1561	N	ARG	A	203	46.617	15.991	44.105	1.00	12.80	7
ATOM	1562	CA	ARG	A	203	46.281	14.572	43.969	1.00	13.00	6
ATOM	1563	CB	ARG	A	203	46.701	13.780	45.214	1.00	13.35	6
ATOM	1564	CG	ARG	A	203	48.176	13.895	45.543	1.00	14.48	6
ATOM	1565	CD	ARG	A	203	49.012	12.746	45.003	1.00	18.79	6
ATOM	1566	NE	ARG	A	203	50.383	12.819	45.517	1.00	21.14	7
ATOM	1567	CZ	ARG	A	203	50.828	12.173	46.597	1.00	21.94	6
ATOM	1568	NH1	ARG	A	203	50.018	11.383	47.295	1.00	24.20	7
ATOM	1569	NH2	ARG	A	203	52.089	12.319	46.981	1.00	22.21	7
ATOM	1570	C	ARG	A	203	44.795	14.366	43.682	1.00	13.11	6
ATOM	1571	O	ARG	A	203	44.432	13.538	42.845	1.00	13.70	8
ATOM	1572	N	LEU	A	204	43.942	15.119	44.379	1.00	13.22	7
ATOM	1573	CA	LEU	A	204	42.499	15.048	44.138	1.00	13.24	6
ATOM	1574	CB	LEU	A	204	41.704	15.853	45.178	1.00	13.22	6
ATOM	1575	CG	LEU	A	204	40.171	15.725	45.111	1.00	13.20	6
ATOM	1576	CD1	LEU	A	204	39.714	14.294	45.397	1.00	13.81	6
ATOM	1577	CD2	LEU	A	204	39.501	16.693	46.059	1.00	13.54	6
ATOM	1578	C	LEU	A	204	42.162	15.507	42.727	1.00	13.65	6
ATOM	1579	O	LEU	A	204	41.359	14.875	42.041	1.00	13.87	8

ATOM	1580	N	PHE	A	205	42.794	16.594	42.287	1.00	13.49	7
ATOM	1581	CA	PHE	A	205	42.587	17.102	40.929	1.00	13.52	6
ATOM	1582	CB	PHE	A	205	43.441	18.345	40.679	1.00	13.70	6
ATOM	1583	CG	PHE	A	205	43.052	19.097	39.439	1.00	14.74	6
ATOM	1584	CD1	PHE	A	205	41.975	19.975	39.454	1.00	15.30	6
ATOM	1585	CE1	PHE	A	205	41.607	20.670	38.305	1.00	16.10	6
ATOM	1586	CZ	PHE	A	205	42.324	20.489	37.131	1.00	15.73	6
ATOM	1587	CE2	PHE	A	205	43.394	19.615	37.102	1.00	15.12	6
ATOM	1588	CD2	PHE	A	205	43.758	18.923	38.253	1.00	16.09	6
ATOM	1589	C	PHE	A	205	42.901	16.029	39.878	1.00	13.54	6
ATOM	1590	O	PHE	A	205	42.082	15.743	39.014	1.00	13.05	8
ATOM	1591	N	ASP	A	206	44.090	15.438	39.989	1.00	13.80	7
ATOM	1592	CA	ASP	A	206	44.535	14.361	39.108	1.00	14.29	6
ATOM	1593	CB	ASP	A	206	45.939	13.903	39.523	1.00	14.93	6
ATOM	1594	CG	ASP	A	206	46.608	13.010	38.486	1.00	18.25	6
ATOM	1595	OD1	ASP	A	206	46.012	11.983	38.086	1.00	23.29	8
ATOM	1596	OD2	ASP	A	206	47.752	13.320	38.088	1.00	23.48	8
ATOM	1597	C	ASP	A	206	43.563	13.185	39.152	1.00	13.70	6
ATOM	1598	O	ASP	A	206	43.215	12.616	38.109	1.00	13.46	8
ATOM	1599	N	TYR	A	207	43.118	12.829	40.358	1.00	13.43	7
ATOM	1600	CA	TYR	A	207	42.202	11.703	40.525	1.00	12.98	6
ATOM	1601	CB	TYR	A	207	41.912	11.431	42.010	1.00	13.61	6
ATOM	1602	CG	TYR	A	207	40.850	10.374	42.191	1.00	13.23	6
ATOM	1603	CD1	TYR	A	207	41.189	9.029	42.237	1.00	13.68	6
ATOM	1604	CE1	TYR	A	207	40.209	8.043	42.366	1.00	15.29	6
ATOM	1605	CZ	TYR	A	207	38.874	8.408	42.446	1.00	13.86	6
ATOM	1606	OH	TYR	A	207	37.915	7.437	42.567	1.00	14.70	8
ATOM	1607	CE2	TYR	A	207	38.502	9.742	42.397	1.00	13.03	6
ATOM	1608	CD2	TYR	A	207	39.489	10.720	42.259	1.00	14.11	6
ATOM	1609	C	TYR	A	207	40.886	11.956	39.797	1.00	13.25	6
ATOM	1610	O	TYR	A	207	40.377	11.089	39.084	1.00	13.56	8
ATOM	1611	N	LEU	A	208	40.328	13.142	40.014	1.00	13.12	7
ATOM	1612	CA	LEU	A	208	39.043	13.499	39.437	1.00	12.88	6
ATOM	1613	CB	LEU	A	208	38.513	14.799	40.042	1.00	12.52	6
ATOM	1614	CG	LEU	A	208	38.132	14.703	41.528	1.00	13.07	6
ATOM	1615	CD1	LEU	A	208	37.920	16.080	42.126	1.00	12.35	6
ATOM	1616	CD2	LEU	A	208	36.894	13.836	41.725	1.00	11.77	6
ATOM	1617	C	LEU	A	208	39.107	13.590	37.916	1.00	12.66	6
ATOM	1618	O	LEU	A	208	38.183	13.157	37.244	1.00	13.36	8
ATOM	1619	N	PHE	A	209	40.202	14.156	37.389	1.00	12.62	7
ATOM	1620	CA	PHE	A	209	40.420	14.250	35.944	1.00	12.65	6
ATOM	1621	CB	PHE	A	209	41.685	15.066	35.631	1.00	12.13	6
ATOM	1622	CG	PHE	A	209	42.012	15.161	34.153	1.00	13.29	6
ATOM	1623	CD1	PHE	A	209	41.216	15.921	33.290	1.00	11.93	6
ATOM	1624	CE1	PHE	A	209	41.521	16.012	31.923	1.00	12.87	6
ATOM	1625	CZ	PHE	A	209	42.638	15.350	31.412	1.00	12.61	6
ATOM	1626	CE2	PHE	A	209	43.443	14.594	32.265	1.00	14.03	6
ATOM	1627	CD2	PHE	A	209	43.130	14.507	33.629	1.00	13.02	6
ATOM	1628	C	PHE	A	209	40.512	12.868	35.304	1.00	13.00	6
ATOM	1629	O	PHE	A	209	39.867	12.599	34.289	1.00	13.00	8
ATOM	1630	N	THR	A	210	41.314	11.994	35.904	1.00	13.10	7
ATOM	1631	CA	THR	A	210	41.469	10.629	35.404	1.00	13.88	6
ATOM	1632	CB	THR	A	210	42.510	9.853	36.228	1.00	13.82	6
ATOM	1633	OG1	THR	A	210	43.775	10.517	36.141	1.00	15.00	8
ATOM	1634	CG2	THR	A	210	42.663	8.431	35.719	1.00	14.67	6
ATOM	1635	C	THR	A	210	40.124	9.883	35.412	1.00	13.91	6
ATOM	1636	O	THR	A	210	39.784	9.174	34.455	1.00	14.05	8
ATOM	1637	N	HIS	A	211	39.349	10.078	36.472	1.00	14.13	7
ATOM	1638	CA	HIS	A	211	38.096	9.353	36.637	1.00	14.28	6
ATOM	1639	CB	HIS	A	211	37.856	9.028	38.109	1.00	14.55	6
ATOM	1640	CG	HIS	A	211	38.848	8.053	38.656	1.00	15.29	6
ATOM	1641	ND1	HIS	A	211	38.523	6.746	38.952	1.00	17.69	7
ATOM	1642	CE1	HIS	A	211	39.604	6.113	39.372	1.00	15.87	6
ATOM	1643	NE2	HIS	A	211	40.624	6.948	39.320	1.00	17.19	7

ATOM	1644	CD2	HIS	A	211	40.181	8.164	38.859	1.00	14.71	6
ATOM	1645	C	HIS	A	211	36.893	10.025	35.982	1.00	14.06	6
ATOM	1646	O	HIS	A	211	35.754	9.672	36.264	1.00	14.58	8
ATOM	1647	N	ARG	A	212	37.155	10.958	35.067	1.00	14.17	7
ATOM	1648	CA	ARG	A	212	36.103	11.484	34.205	1.00	14.39	6
ATOM	1649	CB	ARG	A	212	36.552	12.787	33.538	1.00	14.33	6
ATOM	1650	CG	ARG	A	212	37.300	12.576	32.216	1.00	13.41	6
ATOM	1651	CD	ARG	A	212	38.074	13.823	31.806	1.00	13.05	6
ATOM	1652	NE	ARG	A	212	38.890	13.621	30.605	1.00	13.41	7
ATOM	1653	CZ	ARG	A	212	40.056	12.972	30.575	1.00	13.67	6
ATOM	1654	NH1	ARG	A	212	40.559	12.414	31.677	1.00	12.39	7
ATOM	1655	NH2	ARG	A	212	40.713	12.859	29.432	1.00	12.54	7
ATOM	1656	C	ARG	A	212	35.746	10.438	33.133	1.00	15.04	6
ATOM	1657	O	ARG	A	212	34.706	10.532	32.485	1.00	15.58	8
ATOM	1658	N	ASN	A	213	36.634	9.459	32.954	1.00	15.64	7
ATOM	1659	CA	ASN	A	213	36.465	8.383	31.973	1.00	16.37	6
ATOM	1660	CB	ASN	A	213	37.850	7.850	31.558	1.00	16.74	6
ATOM	1661	CG	ASN	A	213	37.779	6.589	30.721	1.00	17.30	6
ATOM	1662	OD1	ASN	A	213	37.680	5.481	31.252	1.00	19.16	8
ATOM	1663	ND2	ASN	A	213	37.880	6.746	29.403	1.00	19.82	7
ATOM	1664	C	ASN	A	213	35.582	7.265	32.534	1.00	16.38	6
ATOM	1665	O	ASN	A	213	35.796	6.805	33.653	1.00	16.27	8
ATOM	1666	N	LYS	A	214	34.581	6.842	31.760	1.00	16.55	7
ATOM	1667	CA	LYS	A	214	33.581	5.892	32.268	1.00	16.84	6
ATOM	1668	CB	LYS	A	214	32.412	5.723	31.290	1.00	17.04	6
ATOM	1669	CG	LYS	A	214	32.765	5.049	29.982	1.00	17.62	6
ATOM	1670	CD	LYS	A	214	31.534	4.876	29.101	1.00	17.60	6
ATOM	1671	CE	LYS	A	214	31.911	4.269	27.761	1.00	19.76	6
ATOM	1672	NZ	LYS	A	214	30.726	4.105	26.865	1.00	20.59	7
ATOM	1673	C	LYS	A	214	34.179	4.539	32.648	1.00	16.84	6
ATOM	1674	O	LYS	A	214	33.710	3.895	33.588	1.00	16.84	8
ATOM	1675	N	HIS	A	215	35.225	4.125	31.936	1.00	16.78	7
ATOM	1676	CA	HIS	A	215	35.832	2.813	32.165	1.00	17.28	6
ATOM	1677	CB	HIS	A	215	36.702	2.389	30.974	1.00	17.65	6
ATOM	1678	CG	HIS	A	215	35.937	2.236	29.694	1.00	18.04	6
ATOM	1679	ND1	HIS	A	215	34.976	1.265	29.515	1.00	19.00	7
ATOM	1680	CE1	HIS	A	215	34.463	1.372	28.301	1.00	18.51	6
ATOM	1681	NE2	HIS	A	215	35.056	2.379	27.688	1.00	19.90	7
ATOM	1682	CD2	HIS	A	215	35.982	2.937	28.536	1.00	19.66	6
ATOM	1683	C	HIS	A	215	36.610	2.758	33.485	1.00	17.13	6
ATOM	1684	O	HIS	A	215	36.643	1.717	34.147	1.00	17.51	8
ATOM	1685	N	LYS	A	216	37.209	3.885	33.870	1.00	17.20	7
ATOM	1686	CA	LYS	A	216	37.843	4.028	35.190	1.00	17.24	6
ATOM	1687	CB	LYS	A	216	38.688	5.306	35.261	1.00	17.58	6
ATOM	1688	CG	LYS	A	216	39.921	5.305	34.356	1.00	18.27	6
ATOM	1689	CD	LYS	A	216	40.997	4.329	34.847	1.00	20.51	6
ATOM	1690	CE	LYS	A	216	41.804	4.912	35.995	1.00	21.67	6
ATOM	1691	NZ	LYS	A	216	43.031	4.117	36.284	1.00	23.96	7
ATOM	1692	C	LYS	A	216	36.811	4.044	36.313	1.00	17.13	6
ATOM	1693	O	LYS	A	216	37.056	3.514	37.395	1.00	17.48	8
ATOM	1694	N	LEU	A	217	35.669	4.685	36.062	1.00	17.16	7
ATOM	1695	CA	LEU	A	217	34.566	4.676	37.014	1.00	16.82	6
ATOM	1696	CB	LEU	A	217	33.449	5.632	36.574	1.00	16.58	6
ATOM	1697	CG	LEU	A	217	33.743	7.131	36.686	1.00	15.75	6
ATOM	1698	CD1	LEU	A	217	32.686	7.925	35.959	1.00	16.55	6
ATOM	1699	CD2	LEU	A	217	33.846	7.574	38.160	1.00	15.59	6
ATOM	1700	C	LEU	A	217	34.028	3.259	37.205	1.00	16.77	6
ATOM	1701	O	LEU	A	217	33.735	2.845	38.332	1.00	16.81	8
ATOM	1702	N	MET	A	218	33.929	2.516	36.103	1.00	16.90	7
ATOM	1703	CA	MET	A	218	33.451	1.129	36.131	1.00	17.24	6
ATOM	1704	CB	MET	A	218	33.481	0.515	34.722	1.00	16.98	6
ATOM	1705	CG	MET	A	218	32.299	0.887	33.819	1.00	17.78	6
ATOM	1706	SD	MET	A	218	32.371	-0.006	32.241	1.00	20.08	16
ATOM	1707	CE	MET	A	218	30.702	0.179	31.616	1.00	18.58	6

ATOM	1708	C	MET	A	218	34.260	0.258	37.101	1.00	16.57	6
ATOM	1709	O	MET	A	218	33.705	-0.631	37.748	1.00	16.75	8
ATOM	1710	N	ALA	A	219	35.564	0.532	37.203	1.00	16.30	7
ATOM	1711	CA	ALA	A	219	36.478	-0.245	38.062	1.00	16.23	6
ATOM	1712	CB	ALA	A	219	37.924	0.142	37.789	1.00	15.99	6
ATOM	1713	C	ALA	A	219	36.170	-0.121	39.557	1.00	16.23	6
ATOM	1714	O	ALA	A	219	36.572	-0.979	40.359	1.00	15.84	8
ATOM	1715	N	LEU	A	220	35.474	0.950	39.927	1.00	16.33	7
ATOM	1716	CA	LEU	A	220	35.114	1.195	41.327	1.00	16.78	6
ATOM	1717	CB	LEU	A	220	34.886	2.691	41.567	1.00	16.95	6
ATOM	1718	CG	LEU	A	220	36.003	3.684	41.221	1.00	17.43	6
ATOM	1719	CD1	LEU	A	220	35.459	5.106	41.202	1.00	18.75	6
ATOM	1720	CD2	LEU	A	220	37.181	3.573	42.180	1.00	17.78	6
ATOM	1721	C	LEU	A	220	33.862	0.427	41.725	1.00	16.95	6
ATOM	1722	O	LEU	A	220	33.561	0.285	42.917	1.00	16.90	8
ATOM	1723	N	ILE	A	221	33.137	-0.070	40.727	1.00	17.36	7
ATOM	1724	CA	ILE	A	221	31.809	-0.639	40.939	1.00	17.60	6
ATOM	1725	CB	ILE	A	221	30.835	-0.239	39.785	1.00	17.59	6
ATOM	1726	CG1	ILE	A	221	30.583	1.279	39.814	1.00	17.89	6
ATOM	1727	CD1	ILE	A	221	30.253	1.886	38.462	1.00	20.35	6
ATOM	1728	CG2	ILE	A	221	29.520	-1.018	39.877	1.00	17.41	6
ATOM	1729	C	ILE	A	221	31.842	-2.158	41.134	1.00	18.01	6
ATOM	1730	O	ILE	A	221	32.277	-2.900	40.251	1.00	17.44	8
ATOM	1731	N	ASP	A	222	31.397	-2.602	42.311	1.00	18.37	7
ATOM	1732	CA	ASP	A	222	31.273	-4.028	42.622	1.00	19.05	6
ATOM	1733	CB	ASP	A	222	32.328	-4.437	43.665	1.00	19.17	6
ATOM	1734	CG	ASP	A	222	32.518	-5.947	43.765	1.00	20.60	6
ATOM	1735	OD1	ASP	A	222	31.595	-6.709	43.414	1.00	20.94	8
ATOM	1736	OD2	ASP	A	222	33.602	-6.369	44.224	1.00	22.12	8
ATOM	1737	C	ASP	A	222	29.853	-4.312	43.126	1.00	19.09	6
ATOM	1738	O	ASP	A	222	29.551	-4.138	44.313	1.00	19.36	8
ATOM	1739	N	VAL	A	223	28.986	-4.744	42.210	1.00	19.41	7
ATOM	1740	CA	VAL	A	223	27.581	-5.014	42.525	1.00	19.75	6
ATOM	1741	CB	VAL	A	223	26.710	-5.150	41.235	1.00	19.86	6
ATOM	1742	CG1	VAL	A	223	25.277	-5.552	41.578	1.00	20.05	6
ATOM	1743	CG2	VAL	A	223	26.723	-3.857	40.450	1.00	20.09	6
ATOM	1744	C	VAL	A	223	27.387	-6.230	43.461	1.00	19.78	6
ATOM	1745	O	VAL	A	223	26.704	-6.109	44.477	1.00	19.65	8
ATOM	1746	N	PRO	A	224	27.987	-7.400	43.124	1.00	19.92	7
ATOM	1747	CA	PRO	A	224	27.799	-8.572	43.992	1.00	20.19	6
ATOM	1748	CB	PRO	A	224	28.699	-9.631	43.349	1.00	20.26	6
ATOM	1749	CG	PRO	A	224	28.788	-9.224	41.922	1.00	20.12	6
ATOM	1750	CD	PRO	A	224	28.831	-7.729	41.957	1.00	20.08	6
ATOM	1751	C	PRO	A	224	28.220	-8.340	45.443	1.00	20.36	6
ATOM	1752	O	PRO	A	224	27.578	-8.859	46.356	1.00	20.24	8
ATOM	1753	N	GLN	A	225	29.289	-7.573	45.643	1.00	20.74	7
ATOM	1754	CA	GLN	A	225	29.795	-7.284	46.988	1.00	21.15	6
ATOM	1755	CB	GLN	A	225	31.304	-7.020	46.954	1.00	21.14	6
ATOM	1756	CG	GLN	A	225	32.167	-8.272	47.020	1.00	22.23	6
ATOM	1757	CD	GLN	A	225	33.641	-7.966	47.287	1.00	22.85	6
ATOM	1758	OE1	GLN	A	225	34.097	-6.818	47.153	1.00	24.66	8
ATOM	1759	NE2	GLN	A	225	34.398	-8.999	47.658	1.00	24.30	7
ATOM	1760	C	GLN	A	225	29.079	-6.100	47.638	1.00	20.88	6
ATOM	1761	O	GLN	A	225	29.185	-5.898	48.851	1.00	20.82	8
ATOM	1762	N	MET	A	226	28.340	-5.337	46.829	1.00	20.77	7
ATOM	1763	CA	MET	A	226	27.776	-4.040	47.237	1.00	20.93	6
ATOM	1764	CB	MET	A	226	26.588	-4.213	48.202	1.00	21.17	6
ATOM	1765	CG	MET	A	226	25.362	-4.889	47.595	1.00	21.57	6
ATOM	1766	SD	MET	A	226	23.964	-4.878	48.740	1.00	22.39	16
ATOM	1767	CE	MET	A	226	22.884	-6.114	48.014	1.00	23.45	6
ATOM	1768	C	MET	A	226	28.846	-3.140	47.857	1.00	20.67	6
ATOM	1769	O	MET	A	226	28.631	-2.538	48.909	1.00	20.39	8
ATOM	1770	N	LYS	A	227	29.996	-3.049	47.189	1.00	20.10	7
ATOM	1771	CA	LYS	A	227	31.130	-2.291	47.705	1.00	19.62	6

ATOM	1772	CB	LYS	A	227	32.331	-2.426	46.763	1.00	19.99	6
ATOM	1773	CG	LYS	A	227	33.577	-1.693	47.230	1.00	22.00	6
ATOM	1774	CD	LYS	A	227	34.838	-2.383	46.738	1.00	24.37	6
ATOM	1775	CE	LYS	A	227	36.083	-1.744	47.332	1.00	26.67	6
ATOM	1776	NZ	LYS	A	227	37.278	-2.634	47.179	1.00	28.20	7
ATOM	1777	C	LYS	A	227	30.757	-0.814	47.899	1.00	18.73	6
ATOM	1778	O	LYS	A	227	30.327	-0.161	46.955	1.00	18.60	8
ATOM	1779	N	PRO	A	228	30.908	-0.297	49.132	1.00	18.10	7
ATOM	1780	CA	PRO	A	228	30.583	1.109	49.398	1.00	17.36	6
ATOM	1781	CB	PRO	A	228	30.681	1.213	50.925	1.00	17.56	6
ATOM	1782	CG	PRO	A	228	31.580	0.128	51.327	1.00	18.03	6
ATOM	1783	CD	PRO	A	228	31.375	-0.994	50.345	1.00	17.90	6
ATOM	1784	C	PRO	A	228	31.542	2.098	48.727	1.00	16.76	6
ATOM	1785	O	PRO	A	228	32.745	1.846	48.651	1.00	16.20	8
ATOM	1786	N	LEU	A	229	30.987	3.205	48.228	1.00	15.78	7
ATOM	1787	CA	LEU	A	229	31.768	4.299	47.651	1.00	15.53	6
ATOM	1788	CB	LEU	A	229	31.582	4.351	46.122	1.00	15.75	6
ATOM	1789	CG	LEU	A	229	31.890	3.099	45.300	1.00	15.95	6
ATOM	1790	CD1	LEU	A	229	31.273	3.216	43.905	1.00	17.34	6
ATOM	1791	CD2	LEU	A	229	33.393	2.842	45.223	1.00	16.41	6
ATOM	1792	C	LEU	A	229	31.302	5.620	48.243	1.00	15.35	6
ATOM	1793	O	LEU	A	229	30.161	5.735	48.695	1.00	15.10	8
ATOM	1794	N	VAL	A	230	32.177	6.622	48.246	1.00	14.74	7
ATOM	1795	CA	VAL	A	230	31.712	7.979	48.485	1.00	15.19	6
ATOM	1796	CB	VAL	A	230	32.782	8.871	49.197	1.00	15.47	6
ATOM	1797	CG1	VAL	A	230	34.080	8.920	48.413	1.00	16.18	6
ATOM	1798	CG2	VAL	A	230	32.238	10.276	49.461	1.00	17.25	6
ATOM	1799	C	VAL	A	230	31.247	8.562	47.151	1.00	14.57	6
ATOM	1800	O	VAL	A	230	31.851	8.317	46.110	1.00	14.85	8
ATOM	1801	N	HIS	A	231	30.141	9.287	47.187	1.00	14.53	7
ATOM	1802	CA	HIS	A	231	29.582	9.880	45.991	1.00	13.71	6
ATOM	1803	CB	HIS	A	231	28.322	9.114	45.576	1.00	13.94	6
ATOM	1804	CG	HIS	A	231	27.632	9.663	44.363	1.00	12.94	6
ATOM	1805	ND1	HIS	A	231	28.308	10.033	43.219	1.00	13.82	7
ATOM	1806	CE1	HIS	A	231	27.439	10.449	42.312	1.00	12.18	6
ATOM	1807	NE2	HIS	A	231	26.225	10.346	42.821	1.00	13.09	7
ATOM	1808	CD2	HIS	A	231	26.317	9.853	44.100	1.00	13.14	6
ATOM	1809	C	HIS	A	231	29.268	11.333	46.308	1.00	14.30	6
ATOM	1810	O	HIS	A	231	28.628	11.623	47.317	1.00	14.18	8
ATOM	1811	N	VAL	A	232	29.772	12.235	45.472	1.00	14.51	7
ATOM	1812	CA	VAL	A	232	29.472	13.659	45.598	1.00	14.51	6
ATOM	1813	CB	VAL	A	232	30.762	14.532	45.594	1.00	14.88	6
ATOM	1814	CG1	VAL	A	232	30.414	16.020	45.791	1.00	14.32	6
ATOM	1815	CG2	VAL	A	232	31.740	14.052	46.682	1.00	14.13	6
ATOM	1816	C	VAL	A	232	28.524	14.081	44.487	1.00	15.20	6
ATOM	1817	O	VAL	A	232	28.839	13.947	43.295	1.00	15.23	8
ATOM	1818	N	SER	A	233	27.354	14.575	44.883	1.00	15.31	7
ATOM	1819	CA	SER	A	233	26.292	14.900	43.953	1.00	15.75	6
ATOM	1820	CB	SER	A	233	25.382	13.692	43.742	1.00	15.55	6
ATOM	1821	OG	SER	A	233	24.330	14.015	42.850	1.00	17.12	8
ATOM	1822	C	SER	A	233	25.464	16.058	44.493	1.00	15.65	6
ATOM	1823	O	SER	A	233	25.147	16.100	45.684	1.00	15.67	8
ATOM	1824	N	GLY	A	234	25.107	16.987	43.613	1.00	15.99	7
ATOM	1825	CA	GLY	A	234	24.217	18.096	43.984	1.00	16.27	6
ATOM	1826	C	GLY	A	234	22.866	17.624	44.513	1.00	16.69	6
ATOM	1827	O	GLY	A	234	22.194	18.347	45.260	1.00	17.48	8
ATOM	1828	N	MET	A	235	22.473	16.408	44.131	1.00	16.74	7
ATOM	1829	CA	MET	A	235	21.201	15.821	44.564	1.00	17.05	6
ATOM	1830	CB	MET	A	235	20.904	14.531	43.784	1.00	17.78	6
ATOM	1831	CG	MET	A	235	20.673	14.732	42.283	1.00	21.45	6
ATOM	1832	SD	MET	A	235	19.162	15.639	41.872	1.00	29.38	16
ATOM	1833	CE	MET	A	235	19.794	17.287	41.562	1.00	28.47	6
ATOM	1834	C	MET	A	235	21.181	15.538	46.065	1.00	16.24	6
ATOM	1835	O	MET	A	235	20.112	15.483	46.682	1.00	16.70	8

ATOM	1836	N	PHE	A	236	22.363	15.364	46.654	1.00	15.55	7
ATOM	1837	CA	PHE	A	236	22.464	15.115	48.093	1.00	14.98	6
ATOM	1838	CB	PHE	A	236	23.822	14.501	48.439	1.00	14.62	6
ATOM	1839	CG	PHE	A	236	23.971	13.056	48.009	1.00	14.77	6
ATOM	1840	CD1	PHE	A	236	22.881	12.182	48.041	1.00	14.91	6
ATOM	1841	CE1	PHE	A	236	23.022	10.836	47.658	1.00	15.23	6
ATOM	1842	CZ	PHE	A	236	24.261	10.362	47.251	1.00	13.93	6
ATOM	1843	CE2	PHE	A	236	25.359	11.225	47.227	1.00	14.40	6
ATOM	1844	CD2	PHE	A	236	25.207	12.564	47.607	1.00	14.85	6
ATOM	1845	C	PHE	A	236	22.215	16.380	48.929	1.00	14.67	6
ATOM	1846	O	PHE	A	236	21.808	16.297	50.095	1.00	14.95	8
ATOM	1847	N	GLY	A	237	22.474	17.547	48.348	1.00	14.01	7
ATOM	1848	CA	GLY	A	237	22.184	18.813	49.038	1.00	13.81	6
ATOM	1849	C	GLY	A	237	23.361	19.369	49.824	1.00	13.87	6
ATOM	1850	O	GLY	A	237	24.117	18.616	50.464	1.00	13.27	8
ATOM	1851	N	ALA	A	238	23.510	20.692	49.774	1.00	13.61	7
ATOM	1852	CA	ALA	A	238	24.639	21.389	50.399	1.00	13.96	6
ATOM	1853	CB	ALA	A	238	24.641	22.845	49.987	1.00	14.18	6
ATOM	1854	C	ALA	A	238	24.658	21.271	51.924	1.00	13.87	6
ATOM	1855	O	ALA	A	238	25.709	21.469	52.558	1.00	13.19	8
ATOM	1856	N	TRP	A	239	23.502	20.955	52.513	1.00	14.04	7
ATOM	1857	CA	TRP	A	239	23.391	20.823	53.970	1.00	14.13	6
ATOM	1858	CB	TRP	A	239	21.929	20.617	54.403	1.00	14.31	6
ATOM	1859	CG	TRP	A	239	21.299	19.359	53.865	1.00	14.66	6
ATOM	1860	CD1	TRP	A	239	20.614	19.221	52.694	1.00	15.69	6
ATOM	1861	NE1	TRP	A	239	20.184	17.925	52.543	1.00	15.17	7
ATOM	1862	CE2	TRP	A	239	20.590	17.196	53.630	1.00	15.91	6
ATOM	1863	CD2	TRP	A	239	21.291	18.070	54.488	1.00	14.80	6
ATOM	1864	CE3	TRP	A	239	21.808	17.570	55.693	1.00	16.09	6
ATOM	1865	CZ3	TRP	A	239	21.621	16.223	55.989	1.00	15.31	6
ATOM	1866	CH2	TRP	A	239	20.920	15.380	55.111	1.00	15.67	6
ATOM	1867	CZ2	TRP	A	239	20.397	15.845	53.932	1.00	15.63	6
ATOM	1868	C	TRP	A	239	24.268	19.684	54.492	1.00	14.03	6
ATOM	1869	O	TRP	A	239	24.673	19.688	55.651	1.00	13.54	8
ATOM	1870	N	ARG	A	240	24.540	18.705	53.635	1.00	13.47	7
ATOM	1871	CA	ARG	A	240	25.468	17.628	53.979	1.00	13.54	6
ATOM	1872	CB	ARG	A	240	24.762	16.271	53.974	1.00	13.59	6
ATOM	1873	CG	ARG	A	240	23.952	15.979	52.719	1.00	13.69	6
ATOM	1874	CD	ARG	A	240	23.549	14.520	52.693	1.00	13.99	6
ATOM	1875	NE	ARG	A	240	22.384	14.272	51.858	1.00	14.86	7
ATOM	1876	CZ	ARG	A	240	21.912	13.056	51.577	1.00	13.53	6
ATOM	1877	NH1	ARG	A	240	22.517	11.977	52.058	1.00	15.69	7
ATOM	1878	NH2	ARG	A	240	20.835	12.919	50.814	1.00	15.33	7
ATOM	1879	C	ARG	A	240	26.668	17.622	53.034	1.00	13.66	6
ATOM	1880	O	ARG	A	240	27.235	16.571	52.746	1.00	14.06	8
ATOM	1881	N	GLY	A	241	27.039	18.810	52.549	1.00	13.86	7
ATOM	1882	CA	GLY	A	241	28.174	18.951	51.638	1.00	13.42	6
ATOM	1883	C	GLY	A	241	28.058	18.112	50.379	1.00	13.72	6
ATOM	1884	O	GLY	A	241	29.071	17.675	49.829	1.00	13.79	8
ATOM	1885	N	ASN	A	242	26.821	17.894	49.917	1.00	13.27	7
ATOM	1886	CA	ASN	A	242	26.551	17.150	48.667	1.00	13.18	6
ATOM	1887	CB	ASN	A	242	27.039	17.942	47.453	1.00	13.15	6
ATOM	1888	CG	ASN	A	242	26.381	19.280	47.341	1.00	13.61	6
ATOM	1889	OD1	ASN	A	242	25.162	19.372	47.189	1.00	14.76	8
ATOM	1890	ND2	ASN	A	242	27.178	20.339	47.406	1.00	15.97	7
ATOM	1891	C	ASN	A	242	27.134	15.736	48.614	1.00	13.01	6
ATOM	1892	O	ASN	A	242	27.378	15.200	47.524	1.00	12.74	8
ATOM	1893	N	THR	A	243	27.293	15.120	49.778	1.00	12.81	7
ATOM	1894	CA	THR	A	243	28.096	13.910	49.901	1.00	13.09	6
ATOM	1895	CB	THR	A	243	29.461	14.251	50.545	1.00	13.52	6
ATOM	1896	OG1	THR	A	243	30.143	15.188	49.706	1.00	13.64	8
ATOM	1897	CG2	THR	A	243	30.329	13.017	50.717	1.00	13.34	6
ATOM	1898	C	THR	A	243	27.377	12.835	50.706	1.00	13.15	6
ATOM	1899	O	THR	A	243	26.699	13.130	51.691	1.00	13.24	8

ATOM	1900	N	SER	A	244	27.510	11.588	50.261	1.00	13.25	7
ATOM	1901	CA	SER	A	244	27.110	10.448	51.073	1.00	13.21	6
ATOM	1902	CB	SER	A	244	25.629	10.127	50.891	1.00	13.30	6
ATOM	1903	OG	SER	A	244	25.160	9.331	51.974	1.00	13.88	8
ATOM	1904	C	SER	A	244	27.949	9.230	50.737	1.00	13.09	6
ATOM	1905	O	SER	A	244	28.767	9.265	49.816	1.00	13.10	8
ATOM	1906	N	TRP	A	245	27.763	8.169	51.517	1.00	13.47	7
ATOM	1907	CA	TRP	A	245	28.262	6.845	51.165	1.00	13.66	6
ATOM	1908	CB	TRP	A	245	28.744	6.093	52.410	1.00	14.15	6
ATOM	1909	CG	TRP	A	245	30.148	6.463	52.832	1.00	13.65	6
ATOM	1910	CD1	TRP	A	245	31.282	6.388	52.069	1.00	14.03	6
ATOM	1911	NE1	TRP	A	245	32.372	6.802	52.796	1.00	14.33	7
ATOM	1912	CE2	TRP	A	245	31.955	7.154	54.054	1.00	14.70	6
ATOM	1913	CD2	TRP	A	245	30.557	6.950	54.111	1.00	14.81	6
ATOM	1914	CE3	TRP	A	245	29.877	7.240	55.304	1.00	13.42	6
ATOM	1915	CZ3	TRP	A	245	30.603	7.716	56.386	1.00	13.91	6
ATOM	1916	CH2	TRP	A	245	31.992	7.910	56.298	1.00	14.30	6
ATOM	1917	CZ2	TRP	A	245	32.683	7.642	55.137	1.00	13.87	6
ATOM	1918	C	TRP	A	245	27.154	6.069	50.472	1.00	14.09	6
ATOM	1919	O	TRP	A	245	26.019	6.032	50.953	1.00	14.21	8
ATOM	1920	N	VAL	A	246	27.487	5.463	49.337	1.00	14.32	7
ATOM	1921	CA	VAL	A	246	26.506	4.743	48.521	1.00	14.39	6
ATOM	1922	CB	VAL	A	246	26.226	5.472	47.183	1.00	14.57	6
ATOM	1923	CG1	VAL	A	246	25.711	6.880	47.443	1.00	13.84	6
ATOM	1924	CG2	VAL	A	246	27.485	5.512	46.304	1.00	14.53	6
ATOM	1925	C	VAL	A	246	26.958	3.320	48.245	1.00	15.10	6
ATOM	1926	O	VAL	A	246	28.137	2.996	48.390	1.00	15.41	8
ATOM	1927	N	ALA	A	247	26.010	2.473	47.852	1.00	15.43	7
ATOM	1928	CA	ALA	A	247	26.316	1.105	47.444	1.00	16.07	6
ATOM	1929	CB	ALA	A	247	25.913	0.131	48.523	1.00	16.42	6
ATOM	1930	C	ALA	A	247	25.578	0.795	46.151	1.00	16.26	6
ATOM	1931	O	ALA	A	247	24.402	1.131	46.022	1.00	16.24	8
ATOM	1932	N	PRO	A	248	26.264	0.156	45.183	1.00	16.78	7
ATOM	1933	CA	PRO	A	248	25.573	-0.252	43.964	1.00	17.28	6
ATOM	1934	CB	PRO	A	248	26.717	-0.513	42.977	1.00	17.46	6
ATOM	1935	CG	PRO	A	248	27.887	-0.844	43.810	1.00	17.27	6
ATOM	1936	CD	PRO	A	248	27.698	-0.196	45.161	1.00	16.54	6
ATOM	1937	C	PRO	A	248	24.740	-1.518	44.170	1.00	17.69	6
ATOM	1938	O	PRO	A	248	25.243	-2.516	44.694	1.00	17.84	8
ATOM	1939	N	LEU	A	249	23.476	-1.471	43.754	1.00	18.15	7
ATOM	1940	CA	LEU	A	249	22.572	-2.615	43.920	1.00	18.51	6
ATOM	1941	CB	LEU	A	249	21.204	-2.152	44.420	1.00	19.03	6
ATOM	1942	CG	LEU	A	249	21.062	-1.575	45.829	1.00	20.20	6
ATOM	1943	CD1	LEU	A	249	19.592	-1.352	46.121	1.00	21.74	6
ATOM	1944	CD2	LEU	A	249	21.685	-2.476	46.892	1.00	22.27	6
ATOM	1945	C	LEU	A	249	22.396	-3.409	42.632	1.00	18.48	6
ATOM	1946	O	LEU	A	249	22.305	-4.643	42.649	1.00	18.65	8
ATOM	1947	N	ALA	A	250	22.299	-2.688	41.523	1.00	18.26	7
ATOM	1948	CA	ALA	A	250	22.127	-3.293	40.212	1.00	18.04	6
ATOM	1949	CB	ALA	A	250	20.732	-3.874	40.077	1.00	17.83	6
ATOM	1950	C	ALA	A	250	22.362	-2.246	39.147	1.00	17.93	6
ATOM	1951	O	ALA	A	250	22.480	-1.049	39.448	1.00	18.06	8
ATOM	1952	N	TRP	A	251	22.437	-2.697	37.903	1.00	17.94	7
ATOM	1953	CA	TRP	A	251	22.515	-1.806	36.772	1.00	18.27	6
ATOM	1954	CB	TRP	A	251	23.480	-2.355	35.726	1.00	18.21	6
ATOM	1955	CG	TRP	A	251	24.904	-2.207	36.134	1.00	17.39	6
ATOM	1956	CD1	TRP	A	251	25.621	-3.053	36.931	1.00	16.61	6
ATOM	1957	NE1	TRP	A	251	26.900	-2.576	37.097	1.00	16.75	7
ATOM	1958	CE2	TRP	A	251	27.027	-1.395	36.412	1.00	16.95	6
ATOM	1959	CD2	TRP	A	251	25.784	-1.130	35.794	1.00	16.91	6
ATOM	1960	CE3	TRP	A	251	25.644	0.036	35.025	1.00	17.57	6
ATOM	1961	CZ3	TRP	A	251	26.742	0.892	34.900	1.00	17.56	6
ATOM	1962	CH2	TRP	A	251	27.965	0.596	35.522	1.00	17.80	6
ATOM	1963	CZ2	TRP	A	251	28.129	-0.542	36.279	1.00	17.98	6

ATOM	1964	C	TRP	A	251	21.131	-1.597	36.179	1.00	19.04	6
ATOM	1965	O	TRP	A	251	20.283	-2.499	36.216	1.00	18.74	8
ATOM	1966	N	HIS	A	252	20.900	-0.397	35.658	1.00	19.75	7
ATOM	1967	CA	HIS	A	252	19.625	-0.055	35.050	1.00	20.70	6
ATOM	1968	CB	HIS	A	252	19.674	1.369	34.505	1.00	20.60	6
ATOM	1969	CG	HIS	A	252	18.329	1.957	34.224	1.00	20.81	6
ATOM	1970	ND1	HIS	A	252	17.600	1.642	33.097	1.00	20.57	7
ATOM	1971	CE1	HIS	A	252	16.463	2.314	33.110	1.00	20.70	6
ATOM	1972	NE2	HIS	A	252	16.432	3.060	34.200	1.00	21.32	7
ATOM	1973	CD2	HIS	A	252	17.587	2.854	34.914	1.00	20.42	6
ATOM	1974	C	HIS	A	252	19.302	-1.063	33.936	1.00	21.37	6
ATOM	1975	O	HIS	A	252	20.156	-1.360	33.096	1.00	21.57	8
ATOM	1976	N	PRO	A	253	18.077	-1.621	33.951	1.00	22.27	7
ATOM	1977	CA	PRO	A	253	17.707	-2.669	32.993	1.00	22.77	6
ATOM	1978	CB	PRO	A	253	16.342	-3.140	33.503	1.00	22.79	6
ATOM	1979	CG	PRO	A	253	15.801	-1.984	34.252	1.00	22.68	6
ATOM	1980	CD	PRO	A	253	16.978	-1.319	34.887	1.00	22.15	6
ATOM	1981	C	PRO	A	253	17.597	-2.188	31.540	1.00	23.44	6
ATOM	1982	O	PRO	A	253	17.578	-3.012	30.626	1.00	23.61	8
ATOM	1983	N	GLU	A	254	17.535	-0.873	31.335	1.00	23.97	7
ATOM	1984	CA	GLU	A	254	17.409	-0.303	29.989	1.00	24.25	6
ATOM	1985	CB	GLU	A	254	16.075	0.444	29.835	1.00	24.50	6
ATOM	1986	CG	GLU	A	254	14.827	-0.395	30.139	1.00	25.98	6
ATOM	1987	CD	GLU	A	254	14.722	-1.657	29.282	1.00	27.85	6
ATOM	1988	OE1	GLU	A	254	15.258	-1.668	28.150	1.00	28.69	8
ATOM	1989	OE2	GLU	A	254	14.091	-2.638	29.743	1.00	28.74	8
ATOM	1990	C	GLU	A	254	18.574	0.619	29.619	1.00	24.10	6
ATOM	1991	O	GLU	A	254	19.053	0.602	28.482	1.00	24.16	8
ATOM	1992	N	ASN	A	255	19.019	1.425	30.580	1.00	23.78	7
ATOM	1993	CA	ASN	A	255	20.098	2.381	30.354	1.00	23.59	6
ATOM	1994	CB	ASN	A	255	19.918	3.607	31.258	1.00	23.74	6
ATOM	1995	CG	ASN	A	255	20.753	4.809	30.809	1.00	24.62	6
ATOM	1996	OD1	ASN	A	255	21.780	4.666	30.140	1.00	25.73	8
ATOM	1997	ND2	ASN	A	255	20.313	6.002	31.194	1.00	25.16	7
ATOM	1998	C	ASN	A	255	21.464	1.742	30.586	1.00	23.14	6
ATOM	1999	O	ASN	A	255	21.818	1.412	31.717	1.00	22.76	8
ATOM	2000	N	ARG	A	256	22.225	1.582	29.504	1.00	22.74	7
ATOM	2001	CA	ARG	A	256	23.532	0.915	29.543	1.00	22.32	6
ATOM	2002	CB	ARG	A	256	24.107	0.812	28.124	1.00	22.70	6
ATOM	2003	CG	ARG	A	256	25.121	-0.303	27.929	1.00	23.54	6
ATOM	2004	CD	ARG	A	256	25.415	-0.527	26.456	1.00	24.61	6
ATOM	2005	NE	ARG	A	256	26.269	-1.697	26.244	1.00	25.65	7
ATOM	2006	CZ	ARG	A	256	26.583	-2.196	25.051	1.00	25.61	6
ATOM	2007	NH1	ARG	A	256	26.113	-1.635	23.941	1.00	25.69	7
ATOM	2008	NH2	ARG	A	256	27.368	-3.264	24.967	1.00	26.14	7
ATOM	2009	C	ARG	A	256	24.537	1.613	30.475	1.00	21.82	6
ATOM	2010	O	ARG	A	256	25.368	0.954	31.101	1.00	21.80	8
ATOM	2011	N	ASN	A	257	24.441	2.940	30.566	1.00	21.11	7
ATOM	2012	CA	ASN	A	257	25.393	3.750	31.338	1.00	20.82	6
ATOM	2013	CB	ASN	A	257	25.724	5.041	30.590	1.00	21.21	6
ATOM	2014	CG	ASN	A	257	26.349	4.788	29.241	1.00	22.48	6
ATOM	2015	OD1	ASN	A	257	25.856	5.268	28.219	1.00	24.94	8
ATOM	2016	ND2	ASN	A	257	27.439	4.028	29.223	1.00	23.25	7
ATOM	2017	C	ASN	A	257	24.936	4.099	32.752	1.00	19.99	6
ATOM	2018	O	ASN	A	257	25.632	4.815	33.468	1.00	19.95	8
ATOM	2019	N	ALA	A	258	23.767	3.609	33.149	1.00	19.28	7
ATOM	2020	CA	ALA	A	258	23.229	3.942	34.465	1.00	18.46	6
ATOM	2021	CB	ALA	A	258	21.802	4.463	34.348	1.00	18.55	6
ATOM	2022	C	ALA	A	258	23.301	2.777	35.438	1.00	18.25	6
ATOM	2023	O	ALA	A	258	22.886	1.653	35.116	1.00	17.66	8
ATOM	2024	N	VAL	A	259	23.844	3.055	36.627	1.00	17.53	7
ATOM	2025	CA	VAL	A	259	23.877	2.099	37.728	1.00	17.46	6
ATOM	2026	CB	VAL	A	259	25.333	1.885	38.268	1.00	17.84	6
ATOM	2027	CG1	VAL	A	259	25.928	3.190	38.802	1.00	17.61	6

ATOM	2028	CG2	VAL	A	259	25.373	0.786	39.324	1.00	17.59	6
ATOM	2029	C	VAL	A	259	22.952	2.593	38.838	1.00	17.01	6
ATOM	2030	O	VAL	A	259	22.828	3.803	39.066	1.00	16.30	8
ATOM	2031	N	ILE	A	260	22.291	1.653	39.509	1.00	17.04	7
ATOM	2032	CA	ILE	A	260	21.334	1.978	40.562	1.00	17.28	6
ATOM	2033	CB	ILE	A	260	20.098	1.027	40.537	1.00	17.31	6
ATOM	2034	CG1	ILE	A	260	19.441	1.023	39.150	1.00	17.29	6
ATOM	2035	CD1	ILE	A	260	18.563	-0.202	38.868	1.00	17.13	6
ATOM	2036	CG2	ILE	A	260	19.092	1.442	41.598	1.00	16.90	6
ATOM	2037	C	ILE	A	260	22.016	1.911	41.925	1.00	17.69	6
ATOM	2038	O	ILE	A	260	22.482	0.850	42.347	1.00	17.67	8
ATOM	2039	N	MET	A	261	22.078	3.058	42.598	1.00	17.90	7
ATOM	2040	CA	MET	A	261	22.766	3.185	43.882	1.00	18.30	6
ATOM	2041	CB	MET	A	261	23.692	4.402	43.859	1.00	18.67	6
ATOM	2042	CG	MET	A	261	24.843	4.294	42.885	1.00	19.51	6
ATOM	2043	SD	MET	A	261	26.176	3.276	43.530	1.00	22.87	16
ATOM	2044	CE	MET	A	261	27.533	3.810	42.490	1.00	19.74	6
ATOM	2045	C	MET	A	261	21.768	3.362	45.007	1.00	18.17	6
ATOM	2046	O	MET	A	261	20.721	3.983	44.813	1.00	17.92	8
ATOM	2047	N	VAL	A	262	22.094	2.826	46.187	1.00	17.88	7
ATOM	2048	CA	VAL	A	262	21.383	3.195	47.410	1.00	17.88	6
ATOM	2049	CB	VAL	A	262	20.984	1.964	48.276	1.00	18.06	6
ATOM	2050	CG1	VAL	A	262	20.640	2.382	49.723	1.00	19.13	6
ATOM	2051	CG2	VAL	A	262	19.806	1.277	47.672	1.00	19.52	6
ATOM	2052	C	VAL	A	262	22.235	4.150	48.227	1.00	17.60	6
ATOM	2053	O	VAL	A	262	23.436	3.951	48.374	1.00	17.13	8
ATOM	2054	N	ASP	A	263	21.603	5.203	48.724	1.00	16.99	7
ATOM	2055	CA	ASP	A	263	22.233	6.115	49.658	1.00	17.03	6
ATOM	2056	CB	ASP	A	263	21.476	7.445	49.658	1.00	16.56	6
ATOM	2057	CG	ASP	A	263	22.015	8.438	50.673	1.00	16.33	6
ATOM	2058	OD1	ASP	A	263	22.997	8.128	51.381	1.00	16.88	8
ATOM	2059	OD2	ASP	A	263	21.442	9.540	50.756	1.00	17.38	8
ATOM	2060	C	ASP	A	263	22.189	5.453	51.031	1.00	17.03	6
ATOM	2061	O	ASP	A	263	21.107	5.247	51.593	1.00	17.19	8
ATOM	2062	N	LEU	A	264	23.362	5.103	51.561	1.00	17.34	7
ATOM	2063	CA	LEU	A	264	23.440	4.357	52.826	1.00	17.57	6
ATOM	2064	CB	LEU	A	264	24.825	3.720	53.005	1.00	17.59	6
ATOM	2065	CG	LEU	A	264	25.254	2.605	52.045	1.00	17.00	6
ATOM	2066	CD1	LEU	A	264	26.732	2.302	52.210	1.00	16.09	6
ATOM	2067	CD2	LEU	A	264	24.421	1.330	52.226	1.00	16.43	6
ATOM	2068	C	LEU	A	264	23.073	5.199	54.056	1.00	18.25	6
ATOM	2069	O	LEU	A	264	22.771	4.658	55.123	1.00	18.17	8
ATOM	2070	N	ALA	A	265	23.088	6.520	53.898	1.00	18.46	7
ATOM	2071	CA	ALA	A	265	22.668	7.426	54.964	1.00	18.74	6
ATOM	2072	CB	ALA	A	265	23.297	8.790	54.773	1.00	18.88	6
ATOM	2073	C	ALA	A	265	21.148	7.546	55.040	1.00	19.01	6
ATOM	2074	O	ALA	A	265	20.605	8.049	56.027	1.00	19.41	8
ATOM	2075	N	GLY	A	266	20.464	7.087	53.995	1.00	18.99	7
ATOM	2076	CA	GLY	A	266	19.006	7.181	53.929	1.00	19.57	6
ATOM	2077	C	GLY	A	266	18.303	6.171	54.818	1.00	19.83	6
ATOM	2078	O	GLY	A	266	18.943	5.444	55.580	1.00	19.94	8
ATOM	2079	N	ASP	A	267	16.976	6.141	54.719	1.00	20.35	7
ATOM	2080	CA	ASP	A	267	16.150	5.153	55.402	1.00	21.00	6
ATOM	2081	CB	ASP	A	267	14.879	5.823	55.951	1.00	21.02	6
ATOM	2082	CG	ASP	A	267	13.842	4.820	56.462	1.00	22.22	6
ATOM	2083	OD1	ASP	A	267	14.226	3.720	56.928	1.00	23.40	8
ATOM	2084	OD2	ASP	A	267	12.634	5.149	56.406	1.00	22.86	8
ATOM	2085	C	ASP	A	267	15.792	4.053	54.413	1.00	21.20	6
ATOM	2086	O	ASP	A	267	15.074	4.296	53.438	1.00	21.21	8
ATOM	2087	N	ILE	A	268	16.295	2.845	54.659	1.00	21.65	7
ATOM	2088	CA	ILE	A	268	16.088	1.735	53.724	1.00	22.09	6
ATOM	2089	CB	ILE	A	268	17.322	0.781	53.636	1.00	22.05	6
ATOM	2090	CG1	ILE	A	268	17.655	0.187	55.007	1.00	21.91	6
ATOM	2091	CD1	ILE	A	268	18.443	-1.110	54.936	1.00	22.50	6

ATOM	2092	CG2	ILE	A	268	18.525	1.507	53.012	1.00	21.71	6
ATOM	2093	C	ILE	A	268	14.810	0.931	53.992	1.00	22.52	6
ATOM	2094	O	ILE	A	268	14.504	-0.007	53.253	1.00	22.71	8
ATOM	2095	N	SER	A	269	14.061	1.316	55.029	1.00	23.11	7
ATOM	2096	CA	SER	A	269	12.784	0.654	55.373	1.00	23.57	6
ATOM	2097	CB	SER	A	269	12.032	1.423	56.469	1.00	23.63	6
ATOM	2098	OG	SER	A	269	12.653	1.259	57.733	1.00	23.20	8
ATOM	2099	C	SER	A	269	11.860	0.407	54.166	1.00	24.17	6
ATOM	2100	O	SER	A	269	11.387	-0.714	53.987	1.00	23.84	8
ATOM	2101	N	PRO	A	270	11.607	1.452	53.334	1.00	24.71	7
ATOM	2102	CA	PRO	A	270	10.720	1.275	52.172	1.00	25.34	6
ATOM	2103	CB	PRO	A	270	10.725	2.657	51.508	1.00	25.44	6
ATOM	2104	CG	PRO	A	270	11.151	3.598	52.574	1.00	25.14	6
ATOM	2105	CD	PRO	A	270	12.104	2.839	53.425	1.00	24.80	6
ATOM	2106	C	PRO	A	270	11.226	0.225	51.184	1.00	25.96	6
ATOM	2107	O	PRO	A	270	10.425	-0.459	50.552	1.00	25.83	8
ATOM	2108	N	LEU	A	271	12.546	0.108	51.054	1.00	26.77	7
ATOM	2109	CA	LEU	A	271	13.150	-0.908	50.190	1.00	27.62	6
ATOM	2110	CB	LEU	A	271	14.648	-0.659	50.030	1.00	27.56	6
ATOM	2111	CG	LEU	A	271	15.100	0.596	49.292	1.00	27.99	6
ATOM	2112	CD1	LEU	A	271	16.612	0.675	49.335	1.00	27.52	6
ATOM	2113	CD2	LEU	A	271	14.599	0.593	47.851	1.00	27.69	6
ATOM	2114	C	LEU	A	271	12.935	-2.316	50.729	1.00	28.33	6
ATOM	2115	O	LEU	A	271	12.900	-3.279	49.966	1.00	28.38	8
ATOM	2116	N	LEU	A	272	12.806	-2.426	52.047	1.00	29.24	7
ATOM	2117	CA	LEU	A	272	12.671	-3.721	52.703	1.00	30.15	6
ATOM	2118	CB	LEU	A	272	13.278	-3.681	54.112	1.00	30.10	6
ATOM	2119	CG	LEU	A	272	14.717	-3.177	54.294	1.00	30.15	6
ATOM	2120	CD1	LEU	A	272	15.129	-3.294	55.750	1.00	30.47	6
ATOM	2121	CD2	LEU	A	272	15.712	-3.907	53.388	1.00	30.28	6
ATOM	2122	C	LEU	A	272	11.220	-4.194	52.773	1.00	30.81	6
ATOM	2123	O	LEU	A	272	10.924	-5.345	52.454	1.00	30.93	8
ATOM	2124	N	GLU	A	273	10.321	-3.301	53.183	1.00	31.65	7
ATOM	2125	CA	GLU	A	273	8.949	-3.694	53.527	1.00	32.45	6
ATOM	2126	CB	GLU	A	273	8.588	-3.206	54.941	1.00	32.44	6
ATOM	2127	CG	GLU	A	273	8.545	-1.691	55.107	1.00	32.58	6
ATOM	2128	CD	GLU	A	273	8.584	-1.255	56.565	1.00	32.88	6
ATOM	2129	OE1	GLU	A	273	7.635	-0.568	57.006	1.00	33.17	8
ATOM	2130	OE2	GLU	A	273	9.561	-1.596	57.270	1.00	32.64	8
ATOM	2131	C	GLU	A	273	7.883	-3.258	52.508	1.00	32.95	6
ATOM	2132	O	GLU	A	273	6.682	-3.434	52.745	1.00	33.07	8
ATOM	2133	N	LEU	A	274	8.323	-2.720	51.374	1.00	33.45	7
ATOM	2134	CA	LEU	A	274	7.402	-2.208	50.360	1.00	34.04	6
ATOM	2135	CB	LEU	A	274	7.506	-0.683	50.283	1.00	33.97	6
ATOM	2136	CG	LEU	A	274	6.236	0.150	50.124	1.00	34.16	6
ATOM	2137	CD1	LEU	A	274	5.282	-0.062	51.301	1.00	34.18	6
ATOM	2138	CD2	LEU	A	274	6.603	1.620	49.992	1.00	34.16	6
ATOM	2139	C	LEU	A	274	7.687	-2.829	48.994	1.00	34.44	6
ATOM	2140	O	LEU	A	274	8.845	-3.032	48.630	1.00	34.54	8
ATOM	2141	N	ASP	A	275	6.626	-3.125	48.242	1.00	35.01	7
ATOM	2142	CA	ASP	A	275	6.755	-3.782	46.933	1.00	35.42	6
ATOM	2143	CB	ASP	A	275	5.427	-4.430	46.514	1.00	35.48	6
ATOM	2144	CG	ASP	A	275	4.312	-3.418	46.337	1.00	35.85	6
ATOM	2145	OD1	ASP	A	275	3.510	-3.246	47.280	1.00	36.48	8
ATOM	2146	OD2	ASP	A	275	4.240	-2.790	45.259	1.00	36.29	8
ATOM	2147	C	ASP	A	275	7.269	-2.832	45.844	1.00	35.72	6
ATOM	2148	O	ASP	A	275	7.333	-1.616	46.047	1.00	35.80	8
ATOM	2149	N	SER	A	276	7.624	-3.397	44.691	1.00	35.93	7
ATOM	2150	CA	SER	A	276	8.289	-2.647	43.619	1.00	36.22	6
ATOM	2151	CB	SER	A	276	8.898	-3.605	42.592	1.00	36.27	6
ATOM	2152	OG	SER	A	276	7.902	-4.407	41.984	1.00	36.57	8
ATOM	2153	C	SER	A	276	7.387	-1.620	42.921	1.00	36.32	6
ATOM	2154	O	SER	A	276	7.873	-0.618	42.391	1.00	36.34	8
ATOM	2155	N	ASP	A	277	6.081	-1.876	42.919	1.00	36.42	7

ATOM	2156	CA	ASP	A	277	5.116	-0.956	42.315	1.00	36.57	6
ATOM	2157	CB	ASP	A	277	3.773	-1.656	42.080	1.00	36.60	6
ATOM	2158	CG	ASP	A	277	3.790	-2.565	40.862	1.00	36.84	6
ATOM	2159	OD1	ASP	A	277	4.314	-2.145	39.806	1.00	37.07	8
ATOM	2160	OD2	ASP	A	277	3.264	-3.695	40.958	1.00	36.61	8
ATOM	2161	C	ASP	A	277	4.919	0.301	43.162	1.00	36.56	6
ATOM	2162	O	ASP	A	277	4.825	1.411	42.629	1.00	36.46	8
ATOM	2163	N	THR	A	278	4.861	0.116	44.481	1.00	36.62	7
ATOM	2164	CA	THR	A	278	4.682	1.223	45.419	1.00	36.66	6
ATOM	2165	CB	THR	A	278	4.329	0.712	46.833	1.00	36.65	6
ATOM	2166	OG1	THR	A	278	3.410	-0.382	46.733	1.00	36.38	8
ATOM	2167	CG2	THR	A	278	3.697	1.822	47.667	1.00	36.69	6
ATOM	2168	C	THR	A	278	5.938	2.096	45.482	1.00	36.82	6
ATOM	2169	O	THR	A	278	5.849	3.315	45.656	1.00	36.84	8
ATOM	2170	N	LEU	A	279	7.100	1.463	45.332	1.00	36.94	7
ATOM	2171	CA	LEU	A	279	8.377	2.173	45.279	1.00	37.06	6
ATOM	2172	CB	LEU	A	279	9.548	1.193	45.414	1.00	37.03	6
ATOM	2173	CG	LEU	A	279	9.747	0.495	46.767	1.00	36.91	6
ATOM	2174	CD1	LEU	A	279	10.610	-0.749	46.612	1.00	36.89	6
ATOM	2175	CD2	LEU	A	279	10.338	1.440	47.807	1.00	36.58	6
ATOM	2176	C	LEU	A	279	8.510	2.990	43.995	1.00	37.17	6
ATOM	2177	O	LEU	A	279	9.136	4.052	43.989	1.00	37.26	8
ATOM	2178	N	ARG	A	280	7.913	2.493	42.912	1.00	37.40	7
ATOM	2179	CA	ARG	A	280	7.874	3.225	41.647	1.00	37.69	6
ATOM	2180	CB	ARG	A	280	7.628	2.272	40.474	1.00	37.74	6
ATOM	2181	CG	ARG	A	280	8.019	2.854	39.114	1.00	38.23	6
ATOM	2182	CD	ARG	A	280	7.385	2.101	37.947	1.00	38.72	6
ATOM	2183	NE	ARG	A	280	7.840	0.714	37.859	1.00	39.36	7
ATOM	2184	CZ	ARG	A	280	7.064	-0.347	38.066	1.00	39.83	6
ATOM	2185	NH1	ARG	A	280	5.778	-0.192	38.365	1.00	40.20	7
ATOM	2186	NH2	ARG	A	280	7.570	-1.568	37.965	1.00	39.89	7
ATOM	2187	C	ARG	A	280	6.795	4.308	41.675	1.00	37.76	6
ATOM	2188	O	ARG	A	280	6.858	5.246	42.472	1.00	37.89	8
ATOM	2189	N	ALA	A	295	10.621	8.192	52.084	1.00	25.34	7
ATOM	2190	CA	ALA	A	295	11.604	8.462	51.036	1.00	25.42	6
ATOM	2191	CB	ALA	A	295	12.610	9.502	51.506	1.00	25.37	6
ATOM	2192	C	ALA	A	295	12.318	7.186	50.604	1.00	25.41	6
ATOM	2193	O	ALA	A	295	12.677	6.354	51.437	1.00	26.03	8
ATOM	2194	N	VAL	A	296	12.514	7.037	49.298	1.00	25.14	7
ATOM	2195	CA	VAL	A	296	13.261	5.906	48.751	1.00	24.60	6
ATOM	2196	CB	VAL	A	296	12.630	5.376	47.439	1.00	24.64	6
ATOM	2197	CG1	VAL	A	296	13.259	4.053	47.038	1.00	24.60	6
ATOM	2198	CG2	VAL	A	296	11.119	5.217	47.596	1.00	24.23	6
ATOM	2199	C	VAL	A	296	14.706	6.344	48.501	1.00	24.40	6
ATOM	2200	O	VAL	A	296	14.959	7.187	47.638	1.00	24.50	8
ATOM	2201	N	PRO	A	297	15.660	5.781	49.269	1.00	24.02	7
ATOM	2202	CA	PRO	A	297	17.061	6.208	49.187	1.00	23.76	6
ATOM	2203	CB	PRO	A	297	17.651	5.700	50.505	1.00	23.78	6
ATOM	2204	CG	PRO	A	297	16.855	4.480	50.819	1.00	23.88	6
ATOM	2205	CD	PRO	A	297	15.466	4.705	50.261	1.00	24.07	6
ATOM	2206	C	PRO	A	297	17.790	5.595	47.985	1.00	23.58	6
ATOM	2207	O	PRO	A	297	18.804	4.913	48.148	1.00	23.52	8
ATOM	2208	N	VAL	A	298	17.275	5.860	46.790	1.00	23.17	7
ATOM	2209	CA	VAL	A	298	17.780	5.255	45.564	1.00	23.25	6
ATOM	2210	CB	VAL	A	298	16.784	4.185	45.029	1.00	23.01	6
ATOM	2211	CG1	VAL	A	298	17.071	3.829	43.573	1.00	23.88	6
ATOM	2212	CG2	VAL	A	298	16.800	2.940	45.915	1.00	23.31	6
ATOM	2213	C	VAL	A	298	18.001	6.334	44.504	1.00	23.14	6
ATOM	2214	O	VAL	A	298	17.177	7.236	44.350	1.00	23.07	8
ATOM	2215	N	LYS	A	299	19.116	6.244	43.785	1.00	23.13	7
ATOM	2216	CA	LYS	A	299	19.380	7.168	42.681	1.00	23.24	6
ATOM	2217	CB	LYS	A	299	20.072	8.447	43.178	1.00	23.39	6
ATOM	2218	CG	LYS	A	299	21.537	8.285	43.573	1.00	23.24	6
ATOM	2219	CD	LYS	A	299	22.274	9.626	43.577	1.00	23.83	6

ATOM	2220	CE	LYS	A	299	22.384	10.200	42.173	1.00	24.10	6
ATOM	2221	NZ	LYS	A	299	23.620	10.991	41.958	1.00	23.51	7
ATOM	2222	C	LYS	A	299	20.182	6.519	41.560	1.00	22.98	6
ATOM	2223	O	LYS	A	299	20.913	5.550	41.786	1.00	23.45	8
ATOM	2224	N	LEU	A	300	20.023	7.048	40.350	1.00	22.51	7
ATOM	2225	CA	LEU	A	300	20.823	6.613	39.207	1.00	22.13	6
ATOM	2226	CB	LEU	A	300	20.053	6.799	37.895	1.00	22.32	6
ATOM	2227	CG	LEU	A	300	18.733	6.053	37.692	1.00	22.01	6
ATOM	2228	CD1	LEU	A	300	18.184	6.340	36.301	1.00	22.82	6
ATOM	2229	CD2	LEU	A	300	18.897	4.546	37.912	1.00	22.32	6
ATOM	2230	C	LEU	A	300	22.118	7.399	39.145	1.00	21.88	6
ATOM	2231	O	LEU	A	300	22.117	8.625	39.275	1.00	22.04	8
ATOM	2232	N	VAL	A	301	23.222	6.687	38.944	1.00	21.12	7
ATOM	2233	CA	VAL	A	301	24.500	7.316	38.641	1.00	20.46	6
ATOM	2234	CB	VAL	A	301	25.616	6.802	39.580	1.00	20.35	6
ATOM	2235	CG1	VAL	A	301	26.979	7.334	39.150	1.00	20.43	6
ATOM	2236	CG2	VAL	A	301	25.310	7.181	41.033	1.00	19.99	6
ATOM	2237	C	VAL	A	301	24.852	7.031	37.179	1.00	20.21	6
ATOM	2238	O	VAL	A	301	24.966	5.870	36.779	1.00	20.01	8
ATOM	2239	N	HIS	A	302	24.991	8.091	36.386	1.00	19.71	7
ATOM	2240	CA	HIS	A	302	25.262	7.962	34.949	1.00	19.59	6
ATOM	2241	CB	HIS	A	302	24.476	9.006	34.151	1.00	20.12	6
ATOM	2242	CG	HIS	A	302	22.992	8.896	34.315	1.00	21.05	6
ATOM	2243	ND1	HIS	A	302	22.315	9.478	35.365	1.00	22.18	7
ATOM	2244	CE1	HIS	A	302	21.026	9.206	35.259	1.00	22.11	6
ATOM	2245	NE2	HIS	A	302	20.846	8.455	34.189	1.00	21.70	7
ATOM	2246	CD2	HIS	A	302	22.060	8.244	33.581	1.00	21.43	6
ATOM	2247	C	HIS	A	302	26.753	8.098	34.688	1.00	19.07	6
ATOM	2248	O	HIS	A	302	27.319	9.179	34.830	1.00	18.57	8
ATOM	2249	N	ILE	A	303	27.385	6.992	34.301	1.00	18.30	7
ATOM	2250	CA	ILE	A	303	28.846	6.925	34.258	1.00	18.00	6
ATOM	2251	CB	ILE	A	303	29.364	5.465	34.226	1.00	18.13	6
ATOM	2252	CG1	ILE	A	303	28.809	4.724	32.998	1.00	18.15	6
ATOM	2253	CD1	ILE	A	303	29.434	3.372	32.751	1.00	18.23	6
ATOM	2254	CG2	ILE	A	303	29.027	4.756	35.543	1.00	19.14	6
ATOM	2255	C	ILE	A	303	29.476	7.733	33.123	1.00	17.56	6
ATOM	2256	O	ILE	A	303	30.679	7.985	33.144	1.00	17.17	8
ATOM	2257	N	ASN	A	304	28.659	8.136	32.147	1.00	17.49	7
ATOM	2258	CA	ASN	A	304	29.105	9.024	31.068	1.00	17.68	6
ATOM	2259	CB	ASN	A	304	28.415	8.648	29.750	1.00	17.81	6
ATOM	2260	CG	ASN	A	304	26.929	8.968	29.757	1.00	18.29	6
ATOM	2261	OD1	ASN	A	304	26.189	8.545	30.649	1.00	17.64	8
ATOM	2262	ND2	ASN	A	304	26.481	9.711	28.746	1.00	20.26	7
ATOM	2263	C	ASN	A	304	28.863	10.509	31.373	1.00	17.93	6
ATOM	2264	O	ASN	A	304	29.026	11.368	30.495	1.00	18.09	8
ATOM	2265	N	LYS	A	305	28.482	10.805	32.616	1.00	17.72	7
ATOM	2266	CA	LYS	A	305	28.155	12.174	33.016	1.00	17.83	6
ATOM	2267	CB	LYS	A	305	26.675	12.276	33.401	1.00	18.11	6
ATOM	2268	CG	LYS	A	305	25.737	12.191	32.202	1.00	19.13	6
ATOM	2269	CD	LYS	A	305	24.292	12.462	32.578	1.00	21.75	6
ATOM	2270	CE	LYS	A	305	23.470	12.752	31.330	1.00	22.85	6
ATOM	2271	NZ	LYS	A	305	22.020	12.892	31.633	1.00	24.04	7
ATOM	2272	C	LYS	A	305	29.069	12.695	34.142	1.00	17.68	6
ATOM	2273	O	LYS	A	305	28.645	13.490	34.992	1.00	17.81	8
ATOM	2274	N	CYS	A	306	30.323	12.239	34.124	1.00	17.47	7
ATOM	2275	CA	CYS	A	306	31.351	12.656	35.096	1.00	17.66	6
ATOM	2276	CB	CYS	A	306	31.885	14.050	34.765	1.00	18.21	6
ATOM	2277	SG	CYS	A	306	32.338	14.276	33.080	1.00	22.01	16
ATOM	2278	C	CYS	A	306	30.885	12.653	36.549	1.00	16.80	6
ATOM	2279	O	CYS	A	306	31.097	13.640	37.258	1.00	17.11	8
ATOM	2280	N	PRO	A	307	30.273	11.550	37.014	1.00	16.12	7
ATOM	2281	CA	PRO	A	307	29.924	11.554	38.438	1.00	15.54	6
ATOM	2282	CB	PRO	A	307	29.065	10.305	38.589	1.00	15.62	6
ATOM	2283	CG	PRO	A	307	29.548	9.385	37.502	1.00	15.98	6

ATOM	2284	CD	PRO	A	307	29.892	10.290	36.351	1.00	16.06	6
ATOM	2285	C	PRO	A	307	31.163	11.436	39.306	1.00	15.17	6
ATOM	2286	O	PRO	A	307	32.145	10.807	38.903	1.00	14.80	8
ATOM	2287	N	VAL	A	308	31.119	12.048	40.487	1.00	14.15	7
ATOM	2288	CA	VAL	A	308	32.218	11.941	41.424	1.00	13.90	6
ATOM	2289	CB	VAL	A	308	32.378	13.217	42.271	1.00	13.72	6
ATOM	2290	CG1	VAL	A	308	33.415	13.010	43.364	1.00	13.75	6
ATOM	2291	CG2	VAL	A	308	32.769	14.389	41.369	1.00	13.17	6
ATOM	2292	C	VAL	A	308	32.036	10.700	42.290	1.00	14.08	6
ATOM	2293	O	VAL	A	308	31.091	10.612	43.077	1.00	13.79	8
ATOM	2294	N	LEU	A	309	32.919	9.724	42.078	1.00	14.49	7
ATOM	2295	CA	LEU	A	309	32.931	8.472	42.838	1.00	14.34	6
ATOM	2296	CB	LEU	A	309	32.390	7.311	41.993	1.00	14.97	6
ATOM	2297	CG	LEU	A	309	30.912	7.300	41.603	1.00	15.28	6
ATOM	2298	CD1	LEU	A	309	30.660	6.290	40.474	1.00	14.92	6
ATOM	2299	CD2	LEU	A	309	30.028	6.990	42.811	1.00	15.39	6
ATOM	2300	C	LEU	A	309	34.351	8.149	43.264	1.00	14.48	6
ATOM	2301	O	LEU	A	309	35.300	8.378	42.512	1.00	13.62	8
ATOM	2302	N	ALA	A	310	34.489	7.597	44.469	1.00	14.21	7
ATOM	2303	CA	ALA	A	310	35.784	7.154	44.977	1.00	14.57	6
ATOM	2304	CB	ALA	A	310	36.562	8.335	45.566	1.00	14.47	6
ATOM	2305	C	ALA	A	310	35.592	6.078	46.023	1.00	14.97	6
ATOM	2306	O	ALA	A	310	34.503	5.937	46.580	1.00	14.05	8
ATOM	2307	N	GLN	A	311	36.650	5.317	46.299	1.00	15.60	7
ATOM	2308	CA	GLN	A	311	36.594	4.316	47.358	1.00	17.03	6
ATOM	2309	CB	GLN	A	311	37.934	3.578	47.517	1.00	16.88	6
ATOM	2310	CG	GLN	A	311	39.117	4.464	47.874	1.00	18.50	6
ATOM	2311	CD	GLN	A	311	40.389	3.670	48.141	1.00	19.48	6
ATOM	2312	OE1	GLN	A	311	40.435	2.818	49.035	1.00	22.53	8
ATOM	2313	NE2	GLN	A	311	41.429	3.950	47.369	1.00	21.87	7
ATOM	2314	C	GLN	A	311	36.161	4.965	48.670	1.00	16.84	6
ATOM	2315	O	GLN	A	311	36.436	6.148	48.919	1.00	17.36	8
ATOM	2316	N	ALA	A	312	35.471	4.188	49.493	1.00	16.84	7
ATOM	2317	CA	ALA	A	312	34.773	4.715	50.658	1.00	16.78	6
ATOM	2318	CB	ALA	A	312	34.020	3.599	51.362	1.00	16.66	6
ATOM	2319	C	ALA	A	312	35.658	5.499	51.649	1.00	16.67	6
ATOM	2320	O	ALA	A	312	35.201	6.468	52.236	1.00	16.21	8
ATOM	2321	N	ASN	A	313	36.919	5.089	51.808	1.00	16.92	7
ATOM	2322	CA	ASN	A	313	37.821	5.737	52.780	1.00	17.32	6
ATOM	2323	CB	ASN	A	313	38.939	4.775	53.237	1.00	17.92	6
ATOM	2324	CG	ASN	A	313	40.068	4.638	52.221	1.00	19.28	6
ATOM	2325	OD1	ASN	A	313	39.994	5.154	51.106	1.00	20.50	8
ATOM	2326	ND2	ASN	A	313	41.126	3.931	52.615	1.00	21.31	7
ATOM	2327	C	ASN	A	313	38.382	7.093	52.321	1.00	17.34	6
ATOM	2328	O	ASN	A	313	39.155	7.729	53.037	1.00	17.22	8
ATOM	2329	N	THR	A	314	37.983	7.520	51.124	1.00	17.12	7
ATOM	2330	CA	THR	A	314	38.349	8.839	50.605	1.00	17.09	6
ATOM	2331	CB	THR	A	314	37.974	8.976	49.118	1.00	17.16	6
ATOM	2332	OG1	THR	A	314	38.580	7.907	48.386	1.00	17.59	8
ATOM	2333	CG2	THR	A	314	38.455	10.314	48.544	1.00	16.81	6
ATOM	2334	C	THR	A	314	37.687	9.948	51.417	1.00	16.74	6
ATOM	2335	O	THR	A	314	38.215	11.063	51.505	1.00	17.26	8
ATOM	2336	N	LEU	A	315	36.529	9.644	52.006	1.00	16.36	7
ATOM	2337	CA	LEU	A	315	35.912	10.543	52.977	1.00	16.48	6
ATOM	2338	CB	LEU	A	315	34.379	10.427	52.954	1.00	16.42	6
ATOM	2339	CG	LEU	A	315	33.582	11.274	53.963	1.00	16.43	6
ATOM	2340	CD1	LEU	A	315	33.759	12.776	53.706	1.00	16.50	6
ATOM	2341	CD2	LEU	A	315	32.089	10.886	53.972	1.00	16.53	6
ATOM	2342	C	LEU	A	315	36.468	10.246	54.366	1.00	16.28	6
ATOM	2343	O	LEU	A	315	36.164	9.206	54.952	1.00	15.88	8
ATOM	2344	N	ARG	A	316	37.296	11.163	54.873	1.00	16.21	7
ATOM	2345	CA	ARG	A	316	37.976	10.993	56.153	1.00	16.48	6
ATOM	2346	CB	ARG	A	316	39.172	11.957	56.258	1.00	16.38	6
ATOM	2347	CG	ARG	A	316	40.324	11.589	55.340	1.00	15.89	6

ATOM	2348	CD	ARG	A	316	41.289	12.745	55.119	1.00	16.12	6
ATOM	2349	NE	ARG	A	316	42.392	12.340	54.246	1.00	16.37	7
ATOM	2350	CZ	ARG	A	316	43.106	13.169	53.484	1.00	17.30	6
ATOM	2351	NH1	ARG	A	316	42.838	14.474	53.467	1.00	16.55	7
ATOM	2352	NH2	ARG	A	316	44.088	12.690	52.728	1.00	17.52	7
ATOM	2353	C	ARG	A	316	37.010	11.201	57.325	1.00	16.65	6
ATOM	2354	O	ARG	A	316	36.056	11.971	57.211	1.00	16.26	8
ATOM	2355	N	PRO	A	317	37.237	10.485	58.450	1.00	17.32	7
ATOM	2356	CA	PRO	A	317	36.368	10.624	59.618	1.00	17.54	6
ATOM	2357	CB	PRO	A	317	37.172	9.939	60.731	1.00	17.52	6
ATOM	2358	CG	PRO	A	317	37.951	8.895	60.021	1.00	17.53	6
ATOM	2359	CD	PRO	A	317	38.290	9.472	58.669	1.00	17.36	6
ATOM	2360	C	PRO	A	317	36.080	12.078	59.989	1.00	17.91	6
ATOM	2361	O	PRO	A	317	34.917	12.440	60.180	1.00	17.77	8
ATOM	2362	N	GLU	A	318	37.129	12.897	60.086	1.00	18.53	7
ATOM	2363	CA	GLU	A	318	36.983	14.303	60.471	1.00	19.05	6
ATOM	2364	CB	GLU	A	318	38.351	14.998	60.588	1.00	19.27	6
ATOM	2365	CG	GLU	A	318	39.206	14.992	59.311	1.00	20.97	6
ATOM	2366	CD	GLU	A	318	40.249	13.874	59.283	1.00	24.08	6
ATOM	2367	OE1	GLU	A	318	41.394	14.155	58.864	1.00	25.28	8
ATOM	2368	OE2	GLU	A	318	39.933	12.721	59.668	1.00	24.58	8
ATOM	2369	C	GLU	A	318	36.054	15.074	59.520	1.00	18.89	6
ATOM	2370	O	GLU	A	318	35.327	15.971	59.941	1.00	19.64	8
ATOM	2371	N	ASP	A	319	36.076	14.709	58.244	1.00	18.93	7
ATOM	2372	CA	ASP	A	319	35.214	15.347	57.258	1.00	18.62	6
ATOM	2373	CB	ASP	A	319	35.816	15.235	55.860	1.00	18.66	6
ATOM	2374	CG	ASP	A	319	37.060	16.088	55.705	1.00	18.52	6
ATOM	2375	OD1	ASP	A	319	36.959	17.327	55.882	1.00	18.49	8
ATOM	2376	OD2	ASP	A	319	38.137	15.520	55.432	1.00	18.14	8
ATOM	2377	C	ASP	A	319	33.796	14.804	57.295	1.00	18.72	6
ATOM	2378	O	ASP	A	319	32.840	15.565	57.165	1.00	18.32	8
ATOM	2379	N	ALA	A	320	33.661	13.490	57.485	1.00	18.88	7
ATOM	2380	CA	ALA	A	320	32.348	12.877	57.692	1.00	19.13	6
ATOM	2381	CB	ALA	A	320	32.489	11.370	57.911	1.00	19.62	6
ATOM	2382	C	ALA	A	320	31.671	13.538	58.892	1.00	19.42	6
ATOM	2383	O	ALA	A	320	30.489	13.884	58.843	1.00	19.04	8
ATOM	2384	N	ASP	A	321	32.448	13.745	59.953	1.00	19.43	7
ATOM	2385	CA	ASP	A	321	31.993	14.476	61.133	1.00	20.01	6
ATOM	2386	CB	ASP	A	321	33.114	14.527	62.175	1.00	20.71	6
ATOM	2387	CG	ASP	A	321	32.687	15.195	63.468	1.00	22.52	6
ATOM	2388	OD1	ASP	A	321	31.819	14.637	64.177	1.00	26.24	8
ATOM	2389	OD2	ASP	A	321	33.238	16.273	63.786	1.00	25.69	8
ATOM	2390	C	ASP	A	321	31.543	15.894	60.769	1.00	19.66	6
ATOM	2391	O	ASP	A	321	30.442	16.320	61.134	1.00	19.86	8
ATOM	2392	N	ARG	A	322	32.396	16.608	60.036	1.00	19.12	7
ATOM	2393	CA	ARG	A	322	32.110	17.974	59.599	1.00	18.88	6
ATOM	2394	CB	ARG	A	322	33.274	18.502	58.740	1.00	18.93	6
ATOM	2395	CG	ARG	A	322	33.138	19.955	58.276	1.00	18.80	6
ATOM	2396	CD	ARG	A	322	34.418	20.446	57.581	1.00	18.83	6
ATOM	2397	NE	ARG	A	322	34.861	19.514	56.543	1.00	19.15	7
ATOM	2398	CZ	ARG	A	322	34.529	19.605	55.257	1.00	18.83	6
ATOM	2399	NH1	ARG	A	322	33.769	20.603	54.830	1.00	19.04	7
ATOM	2400	NH2	ARG	A	322	34.967	18.702	54.398	1.00	18.79	7
ATOM	2401	C	ARG	A	322	30.782	18.058	58.827	1.00	18.51	6
ATOM	2402	O	ARG	A	322	30.002	18.988	59.026	1.00	18.47	8
ATOM	2403	N	LEU	A	323	30.532	17.070	57.967	1.00	18.43	7
ATOM	2404	CA	LEU	A	323	29.343	17.065	57.103	1.00	18.00	6
ATOM	2405	CB	LEU	A	323	29.642	16.348	55.777	1.00	18.10	6
ATOM	2406	CG	LEU	A	323	30.782	16.916	54.918	1.00	17.20	6
ATOM	2407	CD1	LEU	A	323	31.002	16.091	53.661	1.00	17.72	6
ATOM	2408	CD2	LEU	A	323	30.552	18.390	54.562	1.00	16.29	6
ATOM	2409	C	LEU	A	323	28.109	16.455	57.780	1.00	18.26	6
ATOM	2410	O	LEU	A	323	27.017	16.471	57.218	1.00	18.25	8
ATOM	2411	N	GLY	A	324	28.297	15.905	58.979	1.00	18.16	7

ATOM	2412	CA	GLY	A	324	27.198	15.332	59.759	1.00	18.68	6
ATOM	2413	C	GLY	A	324	26.771	13.942	59.317	1.00	18.99	6
ATOM	2414	O	GLY	A	324	25.688	13.481	59.669	1.00	19.21	8
ATOM	2415	N	ILE	A	325	27.630	13.267	58.557	1.00	19.24	7
ATOM	2416	CA	ILE	A	325	27.320	11.937	58.028	1.00	19.72	6
ATOM	2417	CB	ILE	A	325	28.128	11.640	56.733	1.00	19.37	6
ATOM	2418	CG1	ILE	A	325	27.786	12.671	55.654	1.00	19.77	6
ATOM	2419	CD1	ILE	A	325	28.832	12.806	54.570	1.00	20.67	6
ATOM	2420	CG2	ILE	A	325	27.865	10.201	56.240	1.00	19.89	6
ATOM	2421	C	ILE	A	325	27.577	10.856	59.079	1.00	20.15	6
ATOM	2422	O	ILE	A	325	28.688	10.727	59.589	1.00	20.85	8
ATOM	2423	N	ASN	A	326	26.537	10.087	59.398	1.00	20.42	7
ATOM	2424	CA	ASN	A	326	26.619	9.057	60.433	1.00	20.40	6
ATOM	2425	CB	ASN	A	326	25.254	8.881	61.116	1.00	20.48	6
ATOM	2426	CG	ASN	A	326	25.278	7.836	62.222	1.00	20.98	6
ATOM	2427	OD1	ASN	A	326	26.157	6.973	62.268	1.00	21.02	8
ATOM	2428	ND2	ASN	A	326	24.294	7.900	63.111	1.00	22.87	7
ATOM	2429	C	ASN	A	326	27.149	7.717	59.898	1.00	20.44	6
ATOM	2430	O	ASN	A	326	26.425	6.967	59.243	1.00	20.31	8
ATOM	2431	N	ARG	A	327	28.408	7.424	60.215	1.00	20.35	7
ATOM	2432	CA	ARG	A	327	29.114	6.251	59.685	1.00	20.35	6
ATOM	2433	CB	ARG	A	327	30.563	6.257	60.171	1.00	20.35	6
ATOM	2434	CG	ARG	A	327	31.451	5.230	59.509	1.00	21.65	6
ATOM	2435	CD	ARG	A	327	32.799	5.165	60.190	1.00	22.69	6
ATOM	2436	NE	ARG	A	327	33.723	4.300	59.465	1.00	25.02	7
ATOM	2437	CZ	ARG	A	327	34.576	4.715	58.530	1.00	25.86	6
ATOM	2438	NH1	ARG	A	327	34.639	6.000	58.192	1.00	26.09	7
ATOM	2439	NH2	ARG	A	327	35.374	3.838	57.935	1.00	26.78	7
ATOM	2440	C	ARG	A	327	28.442	4.938	60.080	1.00	20.50	6
ATOM	2441	O	ARG	A	327	28.260	4.042	59.242	1.00	20.53	8
ATOM	2442	N	GLN	A	328	28.068	4.835	61.353	1.00	20.30	7
ATOM	2443	CA	GLN	A	328	27.468	3.610	61.886	1.00	20.64	6
ATOM	2444	CB	GLN	A	328	27.358	3.672	63.411	1.00	20.92	6
ATOM	2445	CG	GLN	A	328	27.081	2.311	64.081	1.00	21.67	6
ATOM	2446	CD	GLN	A	328	28.031	1.209	63.613	1.00	23.09	6
ATOM	2447	OE1	GLN	A	328	29.255	1.372	63.620	1.00	23.75	8
ATOM	2448	NE2	GLN	A	328	27.466	0.083	63.205	1.00	23.92	7
ATOM	2449	C	GLN	A	328	26.111	3.302	61.249	1.00	20.45	6
ATOM	2450	O	GLN	A	328	25.795	2.145	60.990	1.00	20.50	8
ATOM	2451	N	HIS	A	329	25.324	4.345	60.990	1.00	20.24	7
ATOM	2452	CA	HIS	A	329	24.057	4.203	60.270	1.00	20.11	6
ATOM	2453	CB	HIS	A	329	23.359	5.565	60.138	1.00	20.60	6
ATOM	2454	CG	HIS	A	329	22.046	5.506	59.419	1.00	21.78	6
ATOM	2455	ND1	HIS	A	329	20.857	5.235	60.061	1.00	23.34	7
ATOM	2456	CE1	HIS	A	329	19.872	5.245	59.181	1.00	24.18	6
ATOM	2457	NE2	HIS	A	329	20.379	5.511	57.991	1.00	23.80	7
ATOM	2458	CD2	HIS	A	329	21.737	5.678	58.111	1.00	23.01	6
ATOM	2459	C	HIS	A	329	24.284	3.597	58.886	1.00	19.67	6
ATOM	2460	O	HIS	A	329	23.585	2.661	58.479	1.00	18.85	8
ATOM	2461	N	CYS	A	330	25.264	4.142	58.168	1.00	19.17	7
ATOM	2462	CA	CYS	A	330	25.615	3.647	56.845	1.00	19.01	6
ATOM	2463	CB	CYS	A	330	26.662	4.547	56.200	1.00	18.89	6
ATOM	2464	SG	CYS	A	330	26.065	6.222	55.830	1.00	18.67	16
ATOM	2465	C	CYS	A	330	26.096	2.199	56.900	1.00	19.15	6
ATOM	2466	O	CYS	A	330	25.693	1.389	56.077	1.00	19.29	8
ATOM	2467	N	LEU	A	331	26.947	1.883	57.880	1.00	19.22	7
ATOM	2468	CA	LEU	A	331	27.420	0.503	58.097	1.00	19.91	6
ATOM	2469	CB	LEU	A	331	28.437	0.437	59.243	1.00	19.96	6
ATOM	2470	CG	LEU	A	331	29.908	0.307	58.845	1.00	21.65	6
ATOM	2471	CD1	LEU	A	331	30.670	1.547	59.234	1.00	22.54	6
ATOM	2472	CD2	LEU	A	331	30.524	-0.914	59.524	1.00	22.49	6
ATOM	2473	C	LEU	A	331	26.281	-0.467	58.376	1.00	19.81	6
ATOM	2474	O	LEU	A	331	26.235	-1.564	57.805	1.00	19.80	8
ATOM	2475	N	ASP	A	332	25.366	-0.062	59.257	1.00	19.78	7

ATOM	2476	CA	ASP	A	332	24.220	-0.897	59.619	1.00	20.10	6
ATOM	2477	CB	ASP	A	332	23.408	-0.256	60.753	1.00	20.33	6
ATOM	2478	CG	ASP	A	332	24.145	-0.261	62.087	1.00	21.59	6
ATOM	2479	OD1	ASP	A	332	25.191	-0.942	62.210	1.00	22.98	8
ATOM	2480	OD2	ASP	A	332	23.670	0.422	63.022	1.00	23.86	8
ATOM	2481	C	ASP	A	332	23.323	-1.165	58.413	1.00	19.89	6
ATOM	2482	O	ASP	A	332	22.888	-2.297	58.198	1.00	19.92	8
ATOM	2483	N	ASN	A	333	23.061	-0.119	57.627	1.00	19.48	7
ATOM	2484	CA	ASN	A	333	22.299	-0.250	56.391	1.00	19.35	6
ATOM	2485	CB	ASN	A	333	22.053	1.127	55.752	1.00	19.04	6
ATOM	2486	CG	ASN	A	333	20.868	1.864	56.366	1.00	19.49	6
ATOM	2487	OD1	ASN	A	333	20.703	3.076	56.165	1.00	18.93	8
ATOM	2488	ND2	ASN	A	333	20.033	1.143	57.099	1.00	18.69	7
ATOM	2489	C	ASN	A	333	22.995	-1.174	55.392	1.00	19.44	6
ATOM	2490	O	ASN	A	333	22.347	-2.005	54.754	1.00	19.71	8
ATOM	2491	N	LEU	A	334	24.316	-1.028	55.268	1.00	19.53	7
ATOM	2492	CA	LEU	A	334	25.092	-1.849	54.336	1.00	19.61	6
ATOM	2493	CB	LEU	A	334	26.560	-1.416	54.302	1.00	19.82	6
ATOM	2494	CG	LEU	A	334	27.477	-2.115	53.286	1.00	19.61	6
ATOM	2495	CD1	LEU	A	334	26.985	-1.939	51.843	1.00	20.01	6
ATOM	2496	CD2	LEU	A	334	28.905	-1.620	53.440	1.00	19.55	6
ATOM	2497	C	LEU	A	334	24.981	-3.336	54.670	1.00	19.79	6
ATOM	2498	O	LEU	A	334	24.756	-4.154	53.777	1.00	19.48	8
ATOM	2499	N	LYS	A	335	25.138	-3.672	55.952	1.00	20.08	7
ATOM	2500	CA	LYS	A	335	25.012	-5.060	56.416	1.00	21.16	6
ATOM	2501	CB	LYS	A	335	25.289	-5.159	57.921	1.00	21.01	6
ATOM	2502	CG	LYS	A	335	25.374	-6.589	58.443	1.00	22.32	6
ATOM	2503	CD	LYS	A	335	25.769	-6.626	59.910	1.00	22.83	6
ATOM	2504	CE	LYS	A	335	25.499	-7.998	60.521	1.00	24.73	6
ATOM	2505	NZ	LYS	A	335	24.038	-8.271	60.634	1.00	25.63	7
ATOM	2506	C	LYS	A	335	23.637	-5.637	56.091	1.00	21.23	6
ATOM	2507	O	LYS	A	335	23.533	-6.759	55.590	1.00	21.44	8
ATOM	2508	N	ILE	A	336	22.589	-4.860	56.363	1.00	21.44	7
ATOM	2509	CA	ILE	A	336	21.210	-5.288	56.096	1.00	21.69	6
ATOM	2510	CB	ILE	A	336	20.172	-4.259	56.624	1.00	21.75	6
ATOM	2511	CG1	ILE	A	336	20.167	-4.249	58.158	1.00	22.07	6
ATOM	2512	CD1	ILE	A	336	19.544	-2.998	58.778	1.00	22.69	6
ATOM	2513	CG2	ILE	A	336	18.770	-4.576	56.091	1.00	21.66	6
ATOM	2514	C	ILE	A	336	20.988	-5.560	54.605	1.00	21.92	6
ATOM	2515	O	ILE	A	336	20.445	-6.603	54.236	1.00	21.84	8
ATOM	2516	N	LEU	A	337	21.432	-4.633	53.754	1.00	21.98	7
ATOM	2517	CA	LEU	A	337	21.277	-4.785	52.305	1.00	22.50	6
ATOM	2518	CB	LEU	A	337	21.762	-3.537	51.566	1.00	22.09	6
ATOM	2519	CG	LEU	A	337	20.932	-2.256	51.713	1.00	22.02	6
ATOM	2520	CD1	LEU	A	337	21.780	-1.042	51.385	1.00	21.70	6
ATOM	2521	CD2	LEU	A	337	19.669	-2.292	50.846	1.00	22.24	6
ATOM	2522	C	LEU	A	337	22.000	-6.026	51.781	1.00	22.99	6
ATOM	2523	O	LEU	A	337	21.483	-6.731	50.910	1.00	23.37	8
ATOM	2524	N	ARG	A	338	23.188	-6.289	52.322	1.00	23.58	7
ATOM	2525	CA	ARG	A	338	23.975	-7.467	51.937	1.00	24.38	6
ATOM	2526	CB	ARG	A	338	25.383	-7.391	52.531	1.00	24.30	6
ATOM	2527	CG	ARG	A	338	26.323	-6.492	51.754	1.00	23.96	6
ATOM	2528	CD	ARG	A	338	27.632	-6.265	52.495	1.00	23.56	6
ATOM	2529	NE	ARG	A	338	28.613	-5.594	51.646	1.00	22.34	7
ATOM	2530	CZ	ARG	A	338	29.794	-5.140	52.060	1.00	22.32	6
ATOM	2531	NH1	ARG	A	338	30.160	-5.270	53.331	1.00	22.83	7
ATOM	2532	NH2	ARG	A	338	30.609	-4.548	51.200	1.00	22.28	7
ATOM	2533	C	ARG	A	338	23.303	-8.780	52.338	1.00	25.05	6
ATOM	2534	O	ARG	A	338	23.446	-9.792	51.646	1.00	24.77	8
ATOM	2535	N	GLU	A	339	22.567	-8.753	53.449	1.00	25.86	7
ATOM	2536	CA	GLU	A	339	21.854	-9.937	53.948	1.00	27.24	6
ATOM	2537	CB	GLU	A	339	21.703	-9.872	55.470	1.00	27.32	6
ATOM	2538	CG	GLU	A	339	23.019	-9.983	56.233	1.00	28.40	6
ATOM	2539	CD	GLU	A	339	22.908	-9.502	57.670	1.00	29.57	6

ATOM	2540	OE1	GLU	A	339	22.146	-8.540	57.925	1.00	30.40	8
ATOM	2541	OE2	GLU	A	339	23.590	-10.079	58.544	1.00	30.29	8
ATOM	2542	C	GLU	A	339	20.481	-10.103	53.288	1.00	27.73	6
ATOM	2543	O	GLU	A	339	19.803	-11.116	53.489	1.00	27.75	8
ATOM	2544	N	ASN	A	340	20.083	-9.106	52.500	1.00	28.43	7
ATOM	2545	CA	ASN	A	340	18.814	-9.143	51.777	1.00	29.16	6
ATOM	2546	CB	ASN	A	340	17.826	-8.148	52.392	1.00	29.16	6
ATOM	2547	CG	ASN	A	340	17.479	-8.487	53.825	1.00	29.55	6
ATOM	2548	OD1	ASN	A	340	16.859	-9.516	54.099	1.00	29.43	8
ATOM	2549	ND2	ASN	A	340	17.871	-7.621	54.749	1.00	29.85	7
ATOM	2550	C	ASN	A	340	18.985	-8.871	50.275	1.00	29.59	6
ATOM	2551	O	ASN	A	340	18.555	-7.827	49.779	1.00	29.62	8
ATOM	2552	N	PRO	A	341	19.588	-9.829	49.539	1.00	30.24	7
ATOM	2553	CA	PRO	A	341	19.910	-9.628	48.121	1.00	30.66	6
ATOM	2554	CB	PRO	A	341	20.760	-10.862	47.768	1.00	30.66	6
ATOM	2555	CG	PRO	A	341	21.111	-11.502	49.088	1.00	30.55	6
ATOM	2556	CD	PRO	A	341	19.988	-11.170	49.998	1.00	30.37	6
ATOM	2557	C	PRO	A	341	18.676	-9.553	47.210	1.00	31.08	6
ATOM	2558	O	PRO	A	341	18.807	-9.236	46.026	1.00	31.16	8
ATOM	2559	N	GLN	A	342	17.496	-9.839	47.758	1.00	31.68	7
ATOM	2560	CA	GLN	A	342	16.242	-9.722	47.004	1.00	32.33	6
ATOM	2561	CB	GLN	A	342	15.077	-10.381	47.756	1.00	32.34	6
ATOM	2562	CG	GLN	A	342	14.705	-9.715	49.085	1.00	32.97	6
ATOM	2563	CD	GLN	A	342	15.417	-10.331	50.284	1.00	33.61	6
ATOM	2564	OE1	GLN	A	342	16.330	-11.146	50.135	1.00	33.60	8
ATOM	2565	NE2	GLN	A	342	14.994	-9.943	51.484	1.00	34.10	7
ATOM	2566	C	GLN	A	342	15.907	-8.265	46.675	1.00	32.67	6
ATOM	2567	O	GLN	A	342	15.036	-7.990	45.844	1.00	32.86	8
ATOM	2568	N	VAL	A	343	16.603	-7.339	47.333	1.00	33.09	7
ATOM	2569	CA	VAL	A	343	16.420	-5.911	47.090	1.00	33.29	6
ATOM	2570	CB	VAL	A	343	17.059	-5.050	48.225	1.00	33.39	6
ATOM	2571	CG1	VAL	A	343	18.577	-4.920	48.041	1.00	33.38	6
ATOM	2572	CG2	VAL	A	343	16.400	-3.684	48.298	1.00	33.43	6
ATOM	2573	C	VAL	A	343	16.948	-5.495	45.707	1.00	33.47	6
ATOM	2574	O	VAL	A	343	16.491	-4.500	45.137	1.00	33.44	8
ATOM	2575	N	ARG	A	344	17.900	-6.267	45.177	1.00	33.65	7
ATOM	2576	CA	ARG	A	344	18.460	-6.028	43.844	1.00	34.02	6
ATOM	2577	CB	ARG	A	344	19.572	-7.031	43.530	1.00	34.01	6
ATOM	2578	CG	ARG	A	344	20.754	-7.037	44.475	1.00	33.95	6
ATOM	2579	CD	ARG	A	344	21.813	-7.993	43.936	1.00	34.05	6
ATOM	2580	NE	ARG	A	344	22.876	-8.292	44.893	1.00	33.29	7
ATOM	2581	CZ	ARG	A	344	23.918	-7.500	45.129	1.00	33.06	6
ATOM	2582	NH1	ARG	A	344	24.031	-6.334	44.504	1.00	32.76	7
ATOM	2583	NH2	ARG	A	344	24.842	-7.867	46.008	1.00	32.74	7
ATOM	2584	C	ARG	A	344	17.384	-6.156	42.775	1.00	34.29	6
ATOM	2585	O	ARG	A	344	17.299	-5.333	41.865	1.00	34.31	8
ATOM	2586	N	GLU	A	345	16.575	-7.208	42.889	1.00	34.65	7
ATOM	2587	CA	GLU	A	345	15.495	-7.473	41.946	1.00	35.00	6
ATOM	2588	CB	GLU	A	345	14.923	-8.866	42.192	1.00	34.98	6
ATOM	2589	CG	GLU	A	345	14.387	-9.552	40.954	1.00	35.52	6
ATOM	2590	CD	GLU	A	345	13.661	-10.839	41.285	1.00	35.71	6
ATOM	2591	OE1	GLU	A	345	12.439	-10.782	41.546	1.00	35.80	8
ATOM	2592	OE2	GLU	A	345	14.314	-11.904	41.288	1.00	35.68	8
ATOM	2593	C	GLU	A	345	14.394	-6.423	42.079	1.00	35.09	6
ATOM	2594	O	GLU	A	345	13.767	-6.038	41.092	1.00	35.27	8
ATOM	2595	N	LYS	A	346	14.182	-5.962	43.309	1.00	35.32	7
ATOM	2596	CA	LYS	A	346	13.179	-4.952	43.619	1.00	35.52	6
ATOM	2597	CB	LYS	A	346	13.117	-4.729	45.128	1.00	35.51	6
ATOM	2598	CG	LYS	A	346	11.720	-4.700	45.701	1.00	35.58	6
ATOM	2599	CD	LYS	A	346	11.774	-4.667	47.215	1.00	35.76	6
ATOM	2600	CE	LYS	A	346	10.646	-5.469	47.830	1.00	36.00	6
ATOM	2601	NZ	LYS	A	346	10.636	-5.347	49.314	1.00	35.94	7
ATOM	2602	C	LYS	A	346	13.460	-3.625	42.909	1.00	35.67	6
ATOM	2603	O	LYS	A	346	12.565	-3.049	42.292	1.00	35.78	8

ATOM	2604	N	VAL	A	347	14.704	-3.150	42.996	1.00	35.88	7
ATOM	2605	CA	VAL	A	347	15.076	-1.857	42.401	1.00	36.07	6
ATOM	2606	CB	VAL	A	347	16.398	-1.269	42.992	1.00	36.04	6
ATOM	2607	CG1	VAL	A	347	16.185	-0.808	44.429	1.00	36.01	6
ATOM	2608	CG2	VAL	A	347	17.550	-2.272	42.898	1.00	35.88	6
ATOM	2609	C	VAL	A	347	15.140	-1.890	40.870	1.00	36.33	6
ATOM	2610	O	VAL	A	347	14.891	-0.874	40.215	1.00	36.41	8
ATOM	2611	N	VAL	A	348	15.472	-3.052	40.307	1.00	36.52	7
ATOM	2612	CA	VAL	A	348	15.461	-3.233	38.854	1.00	36.81	6
ATOM	2613	CB	VAL	A	348	16.093	-4.590	38.428	1.00	36.85	6
ATOM	2614	CG1	VAL	A	348	15.800	-4.894	36.958	1.00	36.84	6
ATOM	2615	CG2	VAL	A	348	17.587	-4.578	38.667	1.00	36.61	6
ATOM	2616	C	VAL	A	348	14.027	-3.129	38.331	1.00	37.13	6
ATOM	2617	O	VAL	A	348	13.776	-2.488	37.305	1.00	37.13	8
ATOM	2618	N	ALA	A	349	13.094	-3.740	39.063	1.00	37.45	7
ATOM	2619	CA	ALA	A	349	11.675	-3.731	38.701	1.00	37.83	6
ATOM	2620	CB	ALA	A	349	10.880	-4.597	39.660	1.00	37.72	6
ATOM	2621	C	ALA	A	349	11.096	-2.316	38.648	1.00	38.08	6
ATOM	2622	O	ALA	A	349	10.208	-2.035	37.843	1.00	38.12	8
ATOM	2623	N	ILE	A	350	11.609	-1.435	39.507	1.00	38.41	7
ATOM	2624	CA	ILE	A	350	11.217	-0.023	39.509	1.00	38.79	6
ATOM	2625	CB	ILE	A	350	11.884	0.754	40.677	1.00	38.76	6
ATOM	2626	CG1	ILE	A	350	11.542	0.109	42.024	1.00	38.80	6
ATOM	2627	CD1	ILE	A	350	12.390	0.607	43.182	1.00	38.67	6
ATOM	2628	CG2	ILE	A	350	11.469	2.233	40.658	1.00	38.85	6
ATOM	2629	C	ILE	A	350	11.577	0.652	38.184	1.00	39.08	6
ATOM	2630	O	ILE	A	350	10.773	1.394	37.616	1.00	39.19	8
ATOM	2631	N	PHE	A	351	12.785	0.378	37.695	1.00	39.46	7
ATOM	2632	CA	PHE	A	351	13.306	1.025	36.490	1.00	39.78	6
ATOM	2633	CB	PHE	A	351	14.798	1.340	36.658	1.00	39.67	6
ATOM	2634	CG	PHE	A	351	15.094	2.312	37.767	1.00	39.46	6
ATOM	2635	CD1	PHE	A	351	15.440	1.857	39.038	1.00	39.40	6
ATOM	2636	CE1	PHE	A	351	15.715	2.752	40.069	1.00	39.18	6
ATOM	2637	CZ	PHE	A	351	15.647	4.120	39.834	1.00	39.41	6
ATOM	2638	CE2	PHE	A	351	15.304	4.590	38.569	1.00	39.12	6
ATOM	2639	CD2	PHE	A	351	15.030	3.685	37.543	1.00	39.35	6
ATOM	2640	C	PHE	A	351	13.072	0.199	35.220	1.00	40.14	6
ATOM	2641	O	PHE	A	351	13.471	0.608	34.123	1.00	40.10	8
ATOM	2642	N	ALA	A	352	12.420	-0.955	35.375	1.00	40.59	7
ATOM	2643	CA	ALA	A	352	12.122	-1.847	34.248	1.00	41.09	6
ATOM	2644	CB	ALA	A	352	11.628	-3.201	34.751	1.00	41.04	6
ATOM	2645	C	ALA	A	352	11.113	-1.235	33.271	1.00	41.44	6
ATOM	2646	O	ALA	A	352	11.161	-1.508	32.067	1.00	41.51	8
ATOM	2647	N	GLU	A	353	10.202	-0.418	33.798	1.00	41.79	7
ATOM	2648	CA	GLU	A	353	9.239	0.306	32.970	1.00	42.19	6
ATOM	2649	CB	GLU	A	353	7.818	0.137	33.515	1.00	42.19	6
ATOM	2650	CG	GLU	A	353	6.732	0.761	32.632	1.00	42.62	6
ATOM	2651	CD	GLU	A	353	5.417	0.987	33.368	1.00	42.93	6
ATOM	2652	OE1	GLU	A	353	5.393	0.879	34.616	1.00	43.76	8
ATOM	2653	OE2	GLU	A	353	4.405	1.282	32.695	1.00	43.62	8
ATOM	2654	C	GLU	A	353	9.602	1.788	32.889	1.00	42.15	6
ATOM	2655	O	GLU	A	353	9.853	2.432	33.908	1.00	42.24	8
ATOM	2656	N	SER	A	360	5.006	15.462	24.991	1.00	33.60	7
ATOM	2657	CA	SER	A	360	4.227	16.498	24.316	1.00	33.33	6
ATOM	2658	CB	SER	A	360	4.624	17.890	24.826	1.00	33.56	6
ATOM	2659	OG	SER	A	360	5.972	18.190	24.507	1.00	34.29	8
ATOM	2660	C	SER	A	360	4.386	16.417	22.798	1.00	32.91	6
ATOM	2661	O	SER	A	360	5.261	15.706	22.292	1.00	32.93	8
ATOM	2662	N	ASP	A	361	3.536	17.149	22.078	1.00	32.32	7
ATOM	2663	CA	ASP	A	361	3.544	17.133	20.613	1.00	31.78	6
ATOM	2664	CB	ASP	A	361	2.160	17.514	20.061	1.00	32.17	6
ATOM	2665	CG	ASP	A	361	1.741	18.933	20.441	1.00	33.38	6
ATOM	2666	OD1	ASP	A	361	2.355	19.524	21.362	1.00	34.59	8
ATOM	2667	OD2	ASP	A	361	0.788	19.455	19.818	1.00	34.63	8

ATOM	2668	C	ASP	A	361	4.624	18.041	20.018	1.00	30.91	6
ATOM	2669	O	ASP	A	361	4.754	18.144	18.793	1.00	31.02	8
ATOM	2670	N	ASN	A	362	5.388	18.698	20.892	1.00	29.69	7
ATOM	2671	CA	ASN	A	362	6.452	19.606	20.475	1.00	28.43	6
ATOM	2672	CB	ASN	A	362	6.709	20.655	21.566	1.00	28.33	6
ATOM	2673	CG	ASN	A	362	7.528	21.849	21.072	1.00	28.33	6
ATOM	2674	OD1	ASN	A	362	7.667	22.847	21.779	1.00	28.67	8
ATOM	2675	ND2	ASN	A	362	8.072	21.749	19.867	1.00	28.47	7
ATOM	2676	C	ASN	A	362	7.729	18.837	20.158	1.00	27.58	6
ATOM	2677	O	ASN	A	362	8.379	18.295	21.059	1.00	27.24	8
ATOM	2678	N	VAL	A	363	8.078	18.792	18.871	1.00	26.42	7
ATOM	2679	CA	VAL	A	363	9.273	18.081	18.399	1.00	25.51	6
ATOM	2680	CB	VAL	A	363	9.370	18.085	16.837	1.00	25.64	6
ATOM	2681	CG1	VAL	A	363	9.858	19.438	16.309	1.00	25.68	6
ATOM	2682	CG2	VAL	A	363	10.260	16.947	16.337	1.00	25.67	6
ATOM	2683	C	VAL	A	363	10.575	18.605	19.043	1.00	24.70	6
ATOM	2684	O	VAL	A	363	11.533	17.853	19.200	1.00	24.39	8
ATOM	2685	N	ASP	A	364	10.585	19.885	19.427	1.00	23.77	7
ATOM	2686	CA	ASP	A	364	11.713	20.488	20.159	1.00	22.98	6
ATOM	2687	CB	ASP	A	364	11.452	21.975	20.424	1.00	22.81	6
ATOM	2688	CG	ASP	A	364	11.733	22.855	19.213	1.00	22.40	6
ATOM	2689	OD1	ASP	A	364	12.408	22.402	18.269	1.00	22.47	8
ATOM	2690	OD2	ASP	A	364	11.278	24.017	19.213	1.00	22.46	8
ATOM	2691	C	ASP	A	364	11.987	19.792	21.496	1.00	22.98	6
ATOM	2692	O	ASP	A	364	13.103	19.848	22.017	1.00	22.61	8
ATOM	2693	N	ALA	A	365	10.960	19.147	22.045	1.00	22.74	7
ATOM	2694	CA	ALA	A	365	11.042	18.546	23.371	1.00	22.77	6
ATOM	2695	CB	ALA	A	365	9.782	18.881	24.175	1.00	22.69	6
ATOM	2696	C	ALA	A	365	11.256	17.032	23.315	1.00	22.89	6
ATOM	2697	O	ALA	A	365	11.188	16.354	24.344	1.00	22.67	8
ATOM	2698	N	GLN	A	366	11.551	16.515	22.123	1.00	22.86	7
ATOM	2699	CA	GLN	A	366	11.510	15.069	21.875	1.00	23.42	6
ATOM	2700	CB	GLN	A	366	10.559	14.761	20.713	1.00	23.34	6
ATOM	2701	CG	GLN	A	366	9.085	14.743	21.110	1.00	23.19	6
ATOM	2702	CD	GLN	A	366	8.141	14.648	19.915	1.00	23.54	6
ATOM	2703	OE1	GLN	A	366	8.548	14.312	18.805	1.00	24.15	8
ATOM	2704	NE2	GLN	A	366	6.872	14.952	20.145	1.00	23.82	7
ATOM	2705	C	GLN	A	366	12.869	14.390	21.638	1.00	23.76	6
ATOM	2706	O	GLN	A	366	12.915	13.258	21.150	1.00	23.61	8
ATOM	2707	N	LEU	A	367	13.961	15.060	22.010	1.00	24.33	7
ATOM	2708	CA	LEU	A	367	15.310	14.488	21.860	1.00	24.97	6
ATOM	2709	CB	LEU	A	367	16.363	15.382	22.541	1.00	24.97	6
ATOM	2710	CG	LEU	A	367	17.811	14.873	22.685	1.00	24.94	6
ATOM	2711	CD1	LEU	A	367	18.431	14.477	21.343	1.00	24.94	6
ATOM	2712	CD2	LEU	A	367	18.672	15.907	23.386	1.00	24.99	6
ATOM	2713	C	LEU	A	367	15.416	13.047	22.381	1.00	25.45	6
ATOM	2714	O	LEU	A	367	15.978	12.173	21.707	1.00	25.48	8
ATOM	2715	N	TYR	A	368	14.861	12.803	23.567	1.00	26.04	7
ATOM	2716	CA	TYR	A	368	15.042	11.518	24.250	1.00	26.75	6
ATOM	2717	CB	TYR	A	368	15.254	11.731	25.751	1.00	26.76	6
ATOM	2718	CG	TYR	A	368	16.489	12.544	26.073	1.00	27.28	6
ATOM	2719	CD1	TYR	A	368	17.758	12.082	25.726	1.00	27.42	6
ATOM	2720	CE1	TYR	A	368	18.896	12.825	26.008	1.00	27.53	6
ATOM	2721	CZ	TYR	A	368	18.775	14.044	26.648	1.00	27.37	6
ATOM	2722	OH	TYR	A	368	19.908	14.772	26.926	1.00	27.63	8
ATOM	2723	CE2	TYR	A	368	17.528	14.530	27.007	1.00	27.01	6
ATOM	2724	CD2	TYR	A	368	16.390	13.779	26.715	1.00	27.03	6
ATOM	2725	C	TYR	A	368	13.912	10.521	23.997	1.00	27.12	6
ATOM	2726	O	TYR	A	368	13.786	9.525	24.708	1.00	27.07	8
ATOM	2727	N	ASN	A	369	13.105	10.784	22.970	1.00	27.74	7
ATOM	2728	CA	ASN	A	369	12.064	9.842	22.549	1.00	28.40	6
ATOM	2729	CB	ASN	A	369	11.006	10.545	21.698	1.00	28.44	6
ATOM	2730	CG	ASN	A	369	9.994	11.311	22.532	1.00	29.10	6
ATOM	2731	OD1	ASN	A	369	10.304	11.803	23.621	1.00	29.89	8

ATOM	2732	ND2	ASN	A	369	8.773	11.423	22.019	1.00	29.54	7
ATOM	2733	C	ASN	A	369	12.628	8.622	21.811	1.00	28.68	6
ATOM	2734	O	ASN	A	369	11.880	7.834	21.233	1.00	29.02	8
ATOM	2735	N	GLY	A	370	13.950	8.471	21.847	1.00	29.10	7
ATOM	2736	CA	GLY	A	370	14.612	7.307	21.268	1.00	29.41	6
ATOM	2737	C	GLY	A	370	15.756	7.670	20.345	1.00	29.60	6
ATOM	2738	O	GLY	A	370	15.851	8.808	19.867	1.00	29.84	8
ATOM	2739	N	PHE	A	371	16.636	6.701	20.103	1.00	29.62	7
ATOM	2740	CA	PHE	A	371	17.723	6.874	19.151	1.00	29.63	6
ATOM	2741	CB	PHE	A	371	18.865	5.896	19.442	1.00	29.99	6
ATOM	2742	CG	PHE	A	371	19.574	6.155	20.745	1.00	30.35	6
ATOM	2743	CD1	PHE	A	371	20.516	7.177	20.851	1.00	30.97	6
ATOM	2744	CE1	PHE	A	371	21.179	7.416	22.057	1.00	30.97	6
ATOM	2745	CZ	PHE	A	371	20.904	6.620	23.170	1.00	31.41	6
ATOM	2746	CE2	PHE	A	371	19.969	5.595	23.074	1.00	30.97	6
ATOM	2747	CD2	PHE	A	371	19.312	5.364	21.864	1.00	30.71	6
ATOM	2748	C	PHE	A	371	17.205	6.668	17.733	1.00	29.29	6
ATOM	2749	O	PHE	A	371	16.379	5.788	17.487	1.00	29.33	8
ATOM	2750	N	PHE	A	372	17.681	7.496	16.808	1.00	29.08	7
ATOM	2751	CA	PHE	A	372	17.369	7.324	15.393	1.00	28.88	6
ATOM	2752	CB	PHE	A	372	17.803	8.556	14.594	1.00	28.77	6
ATOM	2753	CG	PHE	A	372	17.118	9.831	15.013	1.00	28.94	6
ATOM	2754	CD1	PHE	A	372	15.859	10.160	14.514	1.00	29.09	6
ATOM	2755	CE1	PHE	A	372	15.225	11.344	14.894	1.00	29.05	6
ATOM	2756	CZ	PHE	A	372	15.855	12.213	15.776	1.00	29.07	6
ATOM	2757	CE2	PHE	A	372	17.112	11.898	16.277	1.00	29.09	6
ATOM	2758	CD2	PHE	A	372	17.739	10.713	15.892	1.00	28.80	6
ATOM	2759	C	PHE	A	372	18.090	6.089	14.868	1.00	28.71	6
ATOM	2760	O	PHE	A	372	19.146	5.720	15.381	1.00	28.76	8
ATOM	2761	N	SER	A	373	17.517	5.451	13.850	1.00	28.68	7
ATOM	2762	CA	SER	A	373	18.163	4.308	13.206	1.00	28.51	6
ATOM	2763	CB	SER	A	373	17.193	3.605	12.251	1.00	28.57	6
ATOM	2764	OG	SER	A	373	16.772	4.476	11.216	1.00	28.59	8
ATOM	2765	C	SER	A	373	19.420	4.755	12.460	1.00	28.51	6
ATOM	2766	O	SER	A	373	19.623	5.953	12.227	1.00	28.35	8
ATOM	2767	N	ASP	A	374	20.265	3.794	12.101	1.00	28.35	7
ATOM	2768	CA	ASP	A	374	21.471	4.077	11.325	1.00	28.40	6
ATOM	2769	CB	ASP	A	374	22.252	2.788	11.048	1.00	28.57	6
ATOM	2770	CG	ASP	A	374	23.128	2.362	12.219	1.00	28.94	6
ATOM	2771	OD1	ASP	A	374	23.078	3.008	13.291	1.00	29.85	8
ATOM	2772	OD2	ASP	A	374	23.874	1.373	12.062	1.00	29.40	8
ATOM	2773	C	ASP	A	374	21.132	4.779	10.009	1.00	28.18	6
ATOM	2774	O	ASP	A	374	21.797	5.741	9.624	1.00	28.04	8
ATOM	2775	N	ALA	A	375	20.088	4.293	9.334	1.00	28.00	7
ATOM	2776	CA	ALA	A	375	19.644	4.859	8.058	1.00	27.81	6
ATOM	2777	CB	ALA	A	375	18.574	3.976	7.427	1.00	27.84	6
ATOM	2778	C	ALA	A	375	19.133	6.293	8.217	1.00	27.59	6
ATOM	2779	O	ALA	A	375	19.440	7.161	7.399	1.00	27.70	8
ATOM	2780	N	ASP	A	376	18.362	6.535	9.277	1.00	27.48	7
ATOM	2781	CA	ASP	A	376	17.840	7.875	9.567	1.00	27.20	6
ATOM	2782	CB	ASP	A	376	16.904	7.848	10.780	1.00	27.40	6
ATOM	2783	CG	ASP	A	376	15.481	7.445	10.415	1.00	27.81	6
ATOM	2784	OD1	ASP	A	376	15.093	7.582	9.235	1.00	27.89	8
ATOM	2785	OD2	ASP	A	376	14.746	6.996	11.317	1.00	29.32	8
ATOM	2786	C	ASP	A	376	18.952	8.909	9.766	1.00	26.85	6
ATOM	2787	O	ASP	A	376	18.857	10.027	9.261	1.00	26.80	8
ATOM	2788	N	ARG	A	377	20.004	8.521	10.487	1.00	26.44	7
ATOM	2789	CA	ARG	A	377	21.169	9.388	10.708	1.00	26.42	6
ATOM	2790	CB	ARG	A	377	22.107	8.781	11.766	1.00	26.71	6
ATOM	2791	CG	ARG	A	377	23.458	9.518	11.965	1.00	28.22	6
ATOM	2792	CD	ARG	A	377	23.281	10.986	12.387	1.00	30.39	6
ATOM	2793	NE	ARG	A	377	22.424	11.120	13.564	1.00	31.49	7
ATOM	2794	CZ	ARG	A	377	21.860	12.257	13.961	1.00	31.86	6
ATOM	2795	NH1	ARG	A	377	22.055	13.378	13.277	1.00	32.25	7

ATOM	2796	NH2	ARG	A	377	21.093	12.271	15.043	1.00	31.79	7
ATOM	2797	C	ARG	A	377	21.924	9.671	9.407	1.00	25.85	6
ATOM	2798	O	ARG	A	377	22.355	10.802	9.166	1.00	25.70	8
ATOM	2799	N	ALA	A	378	22.076	8.641	8.574	1.00	25.25	7
ATOM	2800	CA	ALA	A	378	22.675	8.801	7.250	1.00	24.71	6
ATOM	2801	CB	ALA	A	378	22.779	7.450	6.541	1.00	24.87	6
ATOM	2802	C	ALA	A	378	21.869	9.795	6.410	1.00	24.39	6
ATOM	2803	O	ALA	A	378	22.442	10.626	5.699	1.00	24.49	8
ATOM	2804	N	ALA	A	379	20.542	9.706	6.512	1.00	23.71	7
ATOM	2805	CA	ALA	A	379	19.635	10.619	5.816	1.00	23.08	6
ATOM	2806	CB	ALA	A	379	18.191	10.109	5.912	1.00	23.21	6
ATOM	2807	C	ALA	A	379	19.739	12.045	6.363	1.00	22.67	6
ATOM	2808	O	ALA	A	379	19.781	13.009	5.599	1.00	21.90	8
ATOM	2809	N	MET	A	380	19.794	12.168	7.690	1.00	22.16	7
ATOM	2810	CA	MET	A	380	19.915	13.475	8.343	1.00	22.18	6
ATOM	2811	CB	MET	A	380	19.674	13.346	9.852	1.00	22.10	6
ATOM	2812	CG	MET	A	380	18.234	12.968	10.214	1.00	22.50	6
ATOM	2813	SD	MET	A	380	17.978	12.667	11.988	1.00	24.18	16
ATOM	2814	CE	MET	A	380	17.743	14.328	12.597	1.00	24.12	6
ATOM	2815	C	MET	A	380	21.275	14.129	8.062	1.00	21.74	6
ATOM	2816	O	MET	A	380	21.386	15.355	8.022	1.00	21.39	8
ATOM	2817	N	LYS	A	381	22.297	13.297	7.857	1.00	21.31	7
ATOM	2818	CA	LYS	A	381	23.625	13.768	7.458	1.00	21.13	6
ATOM	2819	CB	LYS	A	381	24.644	12.623	7.534	1.00	20.93	6
ATOM	2820	CG	LYS	A	381	26.078	13.025	7.195	1.00	21.65	6
ATOM	2821	CD	LYS	A	381	27.047	11.864	7.401	1.00	21.67	6
ATOM	2822	CE	LYS	A	381	28.488	12.305	7.191	1.00	22.46	6
ATOM	2823	NZ	LYS	A	381	29.396	11.150	6.934	1.00	22.12	7
ATOM	2824	C	LYS	A	381	23.606	14.379	6.049	1.00	20.78	6
ATOM	2825	O	LYS	A	381	24.323	15.345	5.773	1.00	20.57	8
ATOM	2826	N	ILE	A	382	22.790	13.810	5.164	1.00	20.48	7
ATOM	2827	CA	ILE	A	382	22.581	14.394	3.836	1.00	20.43	6
ATOM	2828	CB	ILE	A	382	21.766	13.455	2.901	1.00	20.56	6
ATOM	2829	CG1	ILE	A	382	22.596	12.212	2.545	1.00	20.26	6
ATOM	2830	CD1	ILE	A	382	21.828	11.133	1.794	1.00	20.99	6
ATOM	2831	CG2	ILE	A	382	21.327	14.196	1.635	1.00	19.44	6
ATOM	2832	C	ILE	A	382	21.924	15.780	3.947	1.00	20.55	6
ATOM	2833	O	ILE	A	382	22.313	16.716	3.244	1.00	20.65	8
ATOM	2834	N	VAL	A	383	20.952	15.914	4.849	1.00	20.73	7
ATOM	2835	CA	VAL	A	383	20.307	17.211	5.083	1.00	20.72	6
ATOM	2836	CB	VAL	A	383	19.166	17.118	6.137	1.00	20.92	6
ATOM	2837	CG1	VAL	A	383	18.723	18.510	6.571	1.00	20.94	6
ATOM	2838	CG2	VAL	A	383	17.988	16.330	5.582	1.00	20.80	6
ATOM	2839	C	VAL	A	383	21.336	18.246	5.525	1.00	20.80	6
ATOM	2840	O	VAL	A	383	21.402	19.347	4.979	1.00	20.54	8
ATOM	2841	N	LEU	A	384	22.147	17.871	6.509	1.00	21.06	7
ATOM	2842	CA	LEU	A	384	23.175	18.742	7.050	1.00	21.36	6
ATOM	2843	CB	LEU	A	384	23.929	18.009	8.166	1.00	21.22	6
ATOM	2844	CG	LEU	A	384	25.140	18.682	8.804	1.00	21.34	6
ATOM	2845	CD1	LEU	A	384	24.724	19.968	9.490	1.00	20.96	6
ATOM	2846	CD2	LEU	A	384	25.800	17.728	9.785	1.00	20.69	6
ATOM	2847	C	LEU	A	384	24.154	19.222	5.972	1.00	21.96	6
ATOM	2848	O	LEU	A	384	24.540	20.394	5.945	1.00	21.43	8
ATOM	2849	N	GLU	A	385	24.533	18.318	5.075	1.00	22.80	7
ATOM	2850	CA	GLU	A	385	25.612	18.590	4.139	1.00	24.07	6
ATOM	2851	CB	GLU	A	385	26.560	17.385	4.052	1.00	23.85	6
ATOM	2852	CG	GLU	A	385	27.179	17.028	5.418	1.00	24.42	6
ATOM	2853	CD	GLU	A	385	28.210	15.910	5.358	1.00	25.16	6
ATOM	2854	OE1	GLU	A	385	28.292	15.205	4.328	1.00	26.14	8
ATOM	2855	OE2	GLU	A	385	28.935	15.732	6.361	1.00	26.19	8
ATOM	2856	C	GLU	A	385	25.116	19.044	2.764	1.00	24.64	6
ATOM	2857	O	GLU	A	385	25.911	19.297	1.865	1.00	24.84	8
ATOM	2858	N	THR	A	386	23.798	19.160	2.620	1.00	25.75	7
ATOM	2859	CA	THR	A	386	23.194	19.748	1.424	1.00	26.53	6

ATOM	2860	CB	THR	A	386	21.802	19.114	1.111	1.00	26.26	6
ATOM	2861	OG1	THR	A	386	21.964	17.718	0.831	1.00	25.28	8
ATOM	2862	CG2	THR	A	386	21.144	19.786	-0.090	1.00	26.38	6
ATOM	2863	C	THR	A	386	23.064	21.265	1.585	1.00	27.66	6
ATOM	2864	O	THR	A	386	22.743	21.764	2.668	1.00	27.98	8
ATOM	2865	N	GLU	A	387	23.334	21.991	0.503	1.00	29.12	7
ATOM	2866	CA	GLU	A	387	23.162	23.445	0.473	1.00	30.48	6
ATOM	2867	CB	GLU	A	387	23.592	24.009	-0.887	1.00	30.60	6
ATOM	2868	CG	GLU	A	387	24.936	23.485	-1.374	1.00	31.46	6
ATOM	2869	CD	GLU	A	387	25.792	24.560	-2.009	1.00	33.21	6
ATOM	2870	OE1	GLU	A	387	25.768	25.713	-1.519	1.00	34.12	8
ATOM	2871	OE2	GLU	A	387	26.507	24.247	-2.985	1.00	33.67	8
ATOM	2872	C	GLU	A	387	21.712	23.831	0.767	1.00	31.33	6
ATOM	2873	O	GLU	A	387	20.785	23.220	0.228	1.00	31.57	8
ATOM	2874	N	PRO	A	388	21.512	24.849	1.628	1.00	32.04	7
ATOM	2875	CA	PRO	A	388	20.176	25.261	2.074	1.00	32.56	6
ATOM	2876	CB	PRO	A	388	20.451	26.558	2.834	1.00	32.54	6
ATOM	2877	CG	PRO	A	388	21.848	26.410	3.319	1.00	32.35	6
ATOM	2878	CD	PRO	A	388	22.571	25.678	2.237	1.00	32.36	6
ATOM	2879	C	PRO	A	388	19.217	25.517	0.910	1.00	32.99	6
ATOM	2880	O	PRO	A	388	18.030	25.181	0.996	1.00	33.09	8
ATOM	2881	N	ARG	A	389	19.741	26.090	-0.172	1.00	33.52	7
ATOM	2882	CA	ARG	A	389	18.949	26.379	-1.369	1.00	34.09	6
ATOM	2883	CB	ARG	A	389	19.723	27.302	-2.322	1.00	34.15	6
ATOM	2884	CG	ARG	A	389	21.085	26.770	-2.763	1.00	34.53	6
ATOM	2885	CD	ARG	A	389	21.702	27.661	-3.831	1.00	34.96	6
ATOM	2886	NE	ARG	A	389	23.133	27.407	-4.015	1.00	36.37	7
ATOM	2887	CZ	ARG	A	389	23.642	26.430	-4.766	1.00	36.73	6
ATOM	2888	NH1	ARG	A	389	22.844	25.585	-5.410	1.00	36.62	7
ATOM	2889	NH2	ARG	A	389	24.958	26.295	-4.869	1.00	37.32	7
ATOM	2890	C	ARG	A	389	18.499	25.112	-2.107	1.00	34.18	6
ATOM	2891	O	ARG	A	389	17.590	25.162	-2.938	1.00	34.13	8
ATOM	2892	N	ASN	A	390	19.133	23.982	-1.789	1.00	34.27	7
ATOM	2893	CA	ASN	A	390	18.845	22.708	-2.452	1.00	34.26	6
ATOM	2894	CB	ASN	A	390	20.147	22.026	-2.878	1.00	34.43	6
ATOM	2895	CG	ASN	A	390	20.818	22.720	-4.048	1.00	34.48	6
ATOM	2896	OD1	ASN	A	390	20.181	23.453	-4.805	1.00	35.38	8
ATOM	2897	ND2	ASN	A	390	22.114	22.482	-4.206	1.00	34.81	7
ATOM	2898	C	ASN	A	390	18.005	21.740	-1.617	1.00	34.15	6
ATOM	2899	O	ASN	A	390	17.795	20.593	-2.017	1.00	34.10	8
ATOM	2900	N	LEU	A	391	17.526	22.204	-0.463	1.00	34.05	7
ATOM	2901	CA	LEU	A	391	16.720	21.365	0.436	1.00	33.90	6
ATOM	2902	CB	LEU	A	391	16.736	21.908	1.874	1.00	33.73	6
ATOM	2903	CG	LEU	A	391	17.985	21.612	2.712	1.00	32.85	6
ATOM	2904	CD1	LEU	A	391	17.889	22.297	4.073	1.00	32.38	6
ATOM	2905	CD2	LEU	A	391	18.201	20.109	2.880	1.00	31.92	6
ATOM	2906	C	LEU	A	391	15.275	21.116	-0.035	1.00	34.07	6
ATOM	2907	O	LEU	A	391	14.740	20.031	0.197	1.00	34.10	8
ATOM	2908	N	PRO	A	392	14.634	22.122	-0.679	1.00	34.29	7
ATOM	2909	CA	PRO	A	392	13.293	21.895	-1.235	1.00	34.54	6
ATOM	2910	CB	PRO	A	392	12.980	23.219	-1.942	1.00	34.58	6
ATOM	2911	CG	PRO	A	392	13.819	24.222	-1.250	1.00	34.49	6
ATOM	2912	CD	PRO	A	392	15.082	23.511	-0.899	1.00	34.40	6
ATOM	2913	C	PRO	A	392	13.248	20.739	-2.240	1.00	34.86	6
ATOM	2914	O	PRO	A	392	12.278	19.979	-2.262	1.00	34.92	8
ATOM	2915	N	ALA	A	393	14.299	20.607	-3.049	1.00	35.12	7
ATOM	2916	CA	ALA	A	393	14.345	19.599	-4.111	1.00	35.33	6
ATOM	2917	CB	ALA	A	393	15.112	20.136	-5.318	1.00	35.30	6
ATOM	2918	C	ALA	A	393	14.927	18.255	-3.659	1.00	35.50	6
ATOM	2919	O	ALA	A	393	14.965	17.300	-4.438	1.00	35.59	8
ATOM	2920	N	LEU	A	394	15.370	18.181	-2.404	1.00	35.73	7
ATOM	2921	CA	LEU	A	394	15.972	16.953	-1.867	1.00	35.99	6
ATOM	2922	CB	LEU	A	394	16.553	17.197	-0.467	1.00	35.98	6
ATOM	2923	CG	LEU	A	394	17.430	16.108	0.171	1.00	35.86	6

ATOM	2924	CD1	LEU	A	394	18.642	15.763	-0.696	1.00	35.75	6
ATOM	2925	CD2	LEU	A	394	17.873	16.533	1.563	1.00	35.96	6
ATOM	2926	C	LEU	A	394	14.970	15.795	-1.852	1.00	36.28	6
ATOM	2927	O	LEU	A	394	13.812	15.967	-1.466	1.00	36.29	8
ATOM	2928	N	ASP	A	395	15.433	14.619	-2.274	1.00	36.61	7
ATOM	2929	CA	ASP	A	395	14.552	13.483	-2.555	1.00	36.96	6
ATOM	2930	CB	ASP	A	395	14.614	13.124	-4.052	1.00	37.19	6
ATOM	2931	CG	ASP	A	395	16.049	12.907	-4.553	1.00	37.77	6
ATOM	2932	OD1	ASP	A	395	17.012	13.263	-3.829	1.00	38.34	8
ATOM	2933	OD2	ASP	A	395	16.210	12.383	-5.679	1.00	38.22	8
ATOM	2934	C	ASP	A	395	14.858	12.247	-1.698	1.00	36.85	6
ATOM	2935	O	ASP	A	395	14.892	11.120	-2.207	1.00	36.99	8
ATOM	2936	N	ILE	A	396	15.053	12.458	-0.398	1.00	36.67	7
ATOM	2937	CA	ILE	A	396	15.412	11.362	0.513	1.00	36.40	6
ATOM	2938	CB	ILE	A	396	16.673	11.688	1.359	1.00	36.50	6
ATOM	2939	CG1	ILE	A	396	16.477	12.981	2.158	1.00	36.43	6
ATOM	2940	CD1	ILE	A	396	17.479	13.165	3.279	1.00	36.78	6
ATOM	2941	CG2	ILE	A	396	17.917	11.758	0.460	1.00	36.55	6
ATOM	2942	C	ILE	A	396	14.257	10.913	1.419	1.00	36.12	6
ATOM	2943	O	ILE	A	396	13.197	11.545	1.454	1.00	36.03	8
ATOM	2944	N	THR	A	397	14.482	9.824	2.154	1.00	35.81	7
ATOM	2945	CA	THR	A	397	13.424	9.159	2.913	1.00	35.49	6
ATOM	2946	CB	THR	A	397	13.129	7.752	2.333	1.00	35.54	6
ATOM	2947	OG1	THR	A	397	12.949	7.841	0.913	1.00	36.23	8
ATOM	2948	CG2	THR	A	397	11.879	7.159	2.957	1.00	35.57	6
ATOM	2949	C	THR	A	397	13.769	9.030	4.399	1.00	35.06	6
ATOM	2950	O	THR	A	397	14.891	8.660	4.756	1.00	35.10	8
ATOM	2951	N	PHE	A	398	12.796	9.340	5.255	1.00	34.49	7
ATOM	2952	CA	PHE	A	398	12.927	9.145	6.702	1.00	33.98	6
ATOM	2953	CB	PHE	A	398	12.780	10.475	7.455	1.00	34.19	6
ATOM	2954	CG	PHE	A	398	13.592	11.599	6.881	1.00	34.43	6
ATOM	2955	CD1	PHE	A	398	14.972	11.660	7.086	1.00	34.71	6
ATOM	2956	CE1	PHE	A	398	15.725	12.708	6.557	1.00	34.76	6
ATOM	2957	CZ	PHE	A	398	15.097	13.710	5.820	1.00	34.92	6
ATOM	2958	CE2	PHE	A	398	13.720	13.660	5.613	1.00	34.74	6
ATOM	2959	CD2	PHE	A	398	12.976	12.610	6.146	1.00	34.51	6
ATOM	2960	C	PHE	A	398	11.863	8.176	7.204	1.00	33.50	6
ATOM	2961	O	PHE	A	398	10.778	8.079	6.622	1.00	33.42	8
ATOM	2962	N	VAL	A	399	12.169	7.473	8.292	1.00	32.78	7
ATOM	2963	CA	VAL	A	399	11.183	6.622	8.952	1.00	32.26	6
ATOM	2964	CB	VAL	A	399	11.723	5.187	9.219	1.00	32.22	6
ATOM	2965	CG1	VAL	A	399	10.639	4.312	9.848	1.00	32.33	6
ATOM	2966	CG2	VAL	A	399	12.227	4.553	7.923	1.00	32.59	6
ATOM	2967	C	VAL	A	399	10.707	7.268	10.253	1.00	31.72	6
ATOM	2968	O	VAL	A	399	9.505	7.380	10.490	1.00	31.85	8
ATOM	2969	N	ASP	A	400	11.659	7.707	11.078	1.00	31.03	7
ATOM	2970	CA	ASP	A	400	11.350	8.326	12.367	1.00	30.39	6
ATOM	2971	CB	ASP	A	400	12.633	8.762	13.080	1.00	30.47	6
ATOM	2972	CG	ASP	A	400	12.404	9.105	14.539	1.00	30.50	6
ATOM	2973	OD1	ASP	A	400	11.746	10.131	14.819	1.00	29.80	8
ATOM	2974	OD2	ASP	A	400	12.889	8.352	15.408	1.00	31.06	8
ATOM	2975	C	ASP	A	400	10.406	9.511	12.195	1.00	29.85	6
ATOM	2976	O	ASP	A	400	10.649	10.397	11.375	1.00	29.84	8
ATOM	2977	N	LYS	A	401	9.332	9.513	12.981	1.00	29.15	7
ATOM	2978	CA	LYS	A	401	8.240	10.477	12.829	1.00	28.50	6
ATOM	2979	CB	LYS	A	401	7.026	10.042	13.662	1.00	28.69	6
ATOM	2980	CG	LYS	A	401	6.427	8.690	13.246	1.00	29.56	6
ATOM	2981	CD	LYS	A	401	5.299	8.849	12.222	1.00	31.12	6
ATOM	2982	CE	LYS	A	401	3.947	9.071	12.908	1.00	31.76	6
ATOM	2983	NZ	LYS	A	401	2.831	9.216	11.932	1.00	32.57	7
ATOM	2984	C	LYS	A	401	8.646	11.908	13.187	1.00	27.77	6
ATOM	2985	O	LYS	A	401	8.044	12.867	12.701	1.00	27.88	8
ATOM	2986	N	ARG	A	402	9.673	12.045	14.027	1.00	26.67	7
ATOM	2987	CA	ARG	A	402	10.144	13.360	14.470	1.00	25.83	6

ATOM	2988	CB	ARG	A	402	11.170	13.215	15.595	1.00	25.44	6
ATOM	2989	CG	ARG	A	402	10.636	12.604	16.876	1.00	24.77	6
ATOM	2990	CD	ARG	A	402	11.769	12.361	17.865	1.00	22.45	6
ATOM	2991	NE	ARG	A	402	12.590	11.208	17.496	1.00	20.66	7
ATOM	2992	CZ	ARG	A	402	13.667	10.809	18.167	1.00	19.71	6
ATOM	2993	NH1	ARG	A	402	14.073	11.475	19.242	1.00	18.90	7
ATOM	2994	NH2	ARG	A	402	14.340	9.742	17.763	1.00	19.13	7
ATOM	2995	C	ARG	A	402	10.769	14.169	13.333	1.00	25.37	6
ATOM	2996	O	ARG	A	402	10.671	15.399	13.315	1.00	25.39	8
ATOM	2997	N	ILE	A	403	11.411	13.476	12.395	1.00	24.74	7
ATOM	2998	CA	ILE	A	403	12.288	14.129	11.411	1.00	24.21	6
ATOM	2999	CB	ILE	A	403	13.160	13.113	10.620	1.00	24.36	6
ATOM	3000	CG1	ILE	A	403	13.896	12.177	11.586	1.00	24.46	6
ATOM	3001	CD1	ILE	A	403	14.659	11.041	10.908	1.00	23.96	6
ATOM	3002	CG2	ILE	A	403	14.170	13.854	9.730	1.00	24.51	6
ATOM	3003	C	ILE	A	403	11.565	15.102	10.458	1.00	23.96	6
ATOM	3004	O	ILE	A	403	12.099	16.171	10.148	1.00	23.88	8
ATOM	3005	N	GLU	A	404	10.360	14.737	10.013	1.00	23.47	7
ATOM	3006	CA	GLU	A	404	9.563	15.613	9.138	1.00	22.96	6
ATOM	3007	CB	GLU	A	404	8.213	14.966	8.788	1.00	23.13	6
ATOM	3008	CG	GLU	A	404	7.498	15.584	7.560	1.00	24.03	6
ATOM	3009	CD	GLU	A	404	6.828	16.938	7.853	1.00	25.31	6
ATOM	3010	OE1	GLU	A	404	6.226	17.101	8.942	1.00	26.78	8
ATOM	3011	OE2	GLU	A	404	6.912	17.842	6.991	1.00	24.96	8
ATOM	3012	C	GLU	A	404	9.342	16.980	9.784	1.00	22.57	6
ATOM	3013	O	GLU	A	404	9.489	18.018	9.131	1.00	21.94	8
ATOM	3014	N	LYS	A	405	8.991	16.966	11.069	1.00	22.05	7
ATOM	3015	CA	LYS	A	405	8.772	18.189	11.833	1.00	21.97	6
ATOM	3016	CB	LYS	A	405	8.099	17.866	13.175	1.00	22.00	6
ATOM	3017	CG	LYS	A	405	6.824	17.030	13.051	1.00	22.65	6
ATOM	3018	CD	LYS	A	405	6.321	16.543	14.417	1.00	23.92	6
ATOM	3019	CE	LYS	A	405	5.144	15.581	14.255	1.00	26.28	6
ATOM	3020	NZ	LYS	A	405	4.636	15.069	15.564	1.00	26.95	7
ATOM	3021	C	LYS	A	405	10.092	18.923	12.069	1.00	21.21	6
ATOM	3022	O	LYS	A	405	10.158	20.153	11.963	1.00	21.26	8
ATOM	3023	N	LEU	A	406	11.144	18.166	12.373	1.00	20.28	7
ATOM	3024	CA	LEU	A	406	12.463	18.758	12.575	1.00	19.71	6
ATOM	3025	CB	LEU	A	406	13.491	17.703	13.001	1.00	20.01	6
ATOM	3026	CG	LEU	A	406	13.441	17.215	14.454	1.00	19.85	6
ATOM	3027	CD1	LEU	A	406	14.268	15.952	14.615	1.00	19.87	6
ATOM	3028	CD2	LEU	A	406	13.897	18.293	15.446	1.00	20.53	6
ATOM	3029	C	LEU	A	406	12.925	19.462	11.313	1.00	19.32	6
ATOM	3030	O	LEU	A	406	13.421	20.589	11.370	1.00	19.21	8
ATOM	3031	N	LEU	A	407	12.742	18.805	10.172	1.00	18.83	7
ATOM	3032	CA	LEU	A	407	13.170	19.370	8.902	1.00	18.57	6
ATOM	3033	CB	LEU	A	407	13.028	18.348	7.768	1.00	18.53	6
ATOM	3034	CG	LEU	A	407	13.509	18.842	6.397	1.00	18.48	6
ATOM	3035	CD1	LEU	A	407	14.974	19.258	6.440	1.00	19.88	6
ATOM	3036	CD2	LEU	A	407	13.270	17.799	5.307	1.00	18.90	6
ATOM	3037	C	LEU	A	407	12.405	20.648	8.571	1.00	18.84	6
ATOM	3038	O	LEU	A	407	12.995	21.618	8.089	1.00	18.90	8
ATOM	3039	N	PHE	A	408	11.095	20.647	8.819	1.00	18.64	7
ATOM	3040	CA	PHE	A	408	10.287	21.827	8.534	1.00	19.04	6
ATOM	3041	CB	PHE	A	408	8.797	21.578	8.735	1.00	19.21	6
ATOM	3042	CG	PHE	A	408	7.962	22.812	8.531	1.00	19.93	6
ATOM	3043	CD1	PHE	A	408	7.833	23.374	7.257	1.00	20.23	6
ATOM	3044	CE1	PHE	A	408	7.092	24.536	7.059	1.00	20.75	6
ATOM	3045	CZ	PHE	A	408	6.477	25.158	8.138	1.00	19.52	6
ATOM	3046	CE2	PHE	A	408	6.609	24.617	9.422	1.00	19.66	6
ATOM	3047	CD2	PHE	A	408	7.358	23.451	9.611	1.00	19.92	6
ATOM	3048	C	PHE	A	408	10.712	23.013	9.385	1.00	18.98	6
ATOM	3049	O	PHE	A	408	10.918	24.108	8.861	1.00	18.89	8
ATOM	3050	N	ASN	A	409	10.812	22.785	10.700	1.00	18.64	7
ATOM	3051	CA	ASN	A	409	11.253	23.812	11.654	1.00	18.84	6

ATOM	3052	CB	ASN	A	409	11.259	23.252	13.075	1.00	19.12	6
ATOM	3053	CG	ASN	A	409	9.876	23.187	13.688	1.00	19.32	6
ATOM	3054	OD1	ASN	A	409	8.886	23.611	13.089	1.00	20.07	8
ATOM	3055	ND2	ASN	A	409	9.805	22.668	14.908	1.00	19.67	7
ATOM	3056	C	ASN	A	409	12.634	24.348	11.318	1.00	18.74	6
ATOM	3057	O	ASN	A	409	12.894	25.548	11.433	1.00	18.69	8
ATOM	3058	N	TYR	A	410	13.508	23.444	10.885	1.00	18.82	7
ATOM	3059	CA	TYR	A	410	14.873	23.781	10.511	1.00	18.34	6
ATOM	3060	CB	TYR	A	410	15.638	22.487	10.222	1.00	18.67	6
ATOM	3061	CG	TYR	A	410	17.043	22.648	9.702	1.00	18.88	6
ATOM	3062	CD1	TYR	A	410	18.090	23.044	10.545	1.00	19.44	6
ATOM	3063	CE1	TYR	A	410	19.389	23.173	10.063	1.00	18.92	6
ATOM	3064	CZ	TYR	A	410	19.652	22.882	8.727	1.00	18.31	6
ATOM	3065	OH	TYR	A	410	20.931	22.991	8.232	1.00	19.44	8
ATOM	3066	CE2	TYR	A	410	18.632	22.473	7.883	1.00	19.61	6
ATOM	3067	CD2	TYR	A	410	17.340	22.352	8.374	1.00	18.93	6
ATOM	3068	C	TYR	A	410	14.898	24.744	9.315	1.00	18.15	6
ATOM	3069	O	TYR	A	410	15.539	25.796	9.365	1.00	18.32	8
ATOM	3070	N	ARG	A	411	14.160	24.405	8.263	1.00	17.91	7
ATOM	3071	CA	ARG	A	411	14.062	25.278	7.093	1.00	17.70	6
ATOM	3072	CB	ARG	A	411	13.369	24.553	5.928	1.00	17.55	6
ATOM	3073	CG	ARG	A	411	14.069	23.272	5.485	1.00	17.37	6
ATOM	3074	CD	ARG	A	411	13.507	22.730	4.162	1.00	18.08	6
ATOM	3075	NE	ARG	A	411	13.321	23.806	3.195	1.00	19.85	7
ATOM	3076	CZ	ARG	A	411	12.218	24.013	2.478	1.00	20.73	6
ATOM	3077	NH1	ARG	A	411	11.185	23.184	2.559	1.00	20.45	7
ATOM	3078	NH2	ARG	A	411	12.166	25.046	1.653	1.00	20.58	7
ATOM	3079	C	ARG	A	411	13.343	26.595	7.424	1.00	17.61	6
ATOM	3080	O	ARG	A	411	13.824	27.670	7.082	1.00	18.08	8
ATOM	3081	N	ALA	A	412	12.188	26.501	8.079	1.00	17.49	7
ATOM	3082	CA	ALA	A	412	11.402	27.685	8.447	1.00	17.63	6
ATOM	3083	CB	ALA	A	412	10.116	27.268	9.124	1.00	17.68	6
ATOM	3084	C	ALA	A	412	12.171	28.665	9.334	1.00	17.94	6
ATOM	3085	O	ALA	A	412	12.152	29.873	9.095	1.00	18.32	8
ATOM	3086	N	ARG	A	413	12.856	28.140	10.347	1.00	18.19	7
ATOM	3087	CA	ARG	A	413	13.562	28.993	11.309	1.00	17.94	6
ATOM	3088	CB	ARG	A	413	13.883	28.226	12.585	1.00	18.37	6
ATOM	3089	CG	ARG	A	413	12.677	27.928	13.429	1.00	17.52	6
ATOM	3090	CD	ARG	A	413	13.075	27.092	14.622	1.00	18.65	6
ATOM	3091	NE	ARG	A	413	11.943	26.813	15.494	1.00	19.98	7
ATOM	3092	CZ	ARG	A	413	11.836	25.720	16.235	1.00	20.14	6
ATOM	3093	NH1	ARG	A	413	12.784	24.787	16.185	1.00	20.05	7
ATOM	3094	NH2	ARG	A	413	10.776	25.552	17.016	1.00	20.78	7
ATOM	3095	C	ARG	A	413	14.832	29.598	10.745	1.00	18.29	6
ATOM	3096	O	ARG	A	413	15.133	30.762	11.006	1.00	18.74	8
ATOM	3097	N	ASN	A	414	15.576	28.811	9.968	1.00	18.54	7
ATOM	3098	CA	ASN	A	414	16.899	29.227	9.522	1.00	19.31	6
ATOM	3099	CB	ASN	A	414	17.873	28.050	9.558	1.00	19.40	6
ATOM	3100	CG	ASN	A	414	18.164	27.577	10.965	1.00	21.04	6
ATOM	3101	OD1	ASN	A	414	17.837	26.450	11.329	1.00	23.62	8
ATOM	3102	ND2	ASN	A	414	18.768	28.442	11.773	1.00	21.00	7
ATOM	3103	C	ASN	A	414	16.897	29.864	8.142	1.00	19.66	6
ATOM	3104	O	ASN	A	414	17.654	30.807	7.885	1.00	19.89	8
ATOM	3105	N	PHE	A	415	16.037	29.348	7.262	1.00	19.68	7
ATOM	3106	CA	PHE	A	415	16.052	29.712	5.842	1.00	20.51	6
ATOM	3107	CB	PHE	A	415	16.673	28.567	5.027	1.00	20.04	6
ATOM	3108	CG	PHE	A	415	17.913	27.971	5.654	1.00	20.86	6
ATOM	3109	CD1	PHE	A	415	19.077	28.729	5.795	1.00	20.73	6
ATOM	3110	CE1	PHE	A	415	20.223	28.181	6.379	1.00	20.29	6
ATOM	3111	CZ	PHE	A	415	20.213	26.861	6.826	1.00	19.99	6
ATOM	3112	CE2	PHE	A	415	19.069	26.096	6.688	1.00	21.34	6
ATOM	3113	CD2	PHE	A	415	17.922	26.649	6.100	1.00	20.91	6
ATOM	3114	C	PHE	A	415	14.641	30.052	5.313	1.00	21.15	6
ATOM	3115	O	PHE	A	415	14.144	29.397	4.388	1.00	21.43	8

ATOM	3116	N	PRO	A	416	13.996	31.086	5.896	1.00	22.16	7
ATOM	3117	CA	PRO	A	416	12.593	31.376	5.550	1.00	22.37	6
ATOM	3118	CB	PRO	A	416	12.203	32.507	6.514	1.00	22.54	6
ATOM	3119	CG	PRO	A	416	13.488	33.086	7.002	1.00	22.48	6
ATOM	3120	CD	PRO	A	416	14.540	32.029	6.895	1.00	21.91	6
ATOM	3121	C	PRO	A	416	12.376	31.793	4.084	1.00	22.77	6
ATOM	3122	O	PRO	A	416	11.300	31.563	3.547	1.00	22.99	8
ATOM	3123	N	GLY	A	417	13.402	32.367	3.451	1.00	23.02	7
ATOM	3124	CA	GLY	A	417	13.334	32.769	2.037	1.00	23.31	6
ATOM	3125	C	GLY	A	417	13.267	31.608	1.052	1.00	23.43	6
ATOM	3126	O	GLY	A	417	13.128	31.816	-0.161	1.00	23.99	8
ATOM	3127	N	THR	A	418	13.367	30.386	1.576	1.00	23.63	7
ATOM	3128	CA	THR	A	418	13.331	29.168	0.759	1.00	23.57	6
ATOM	3129	CB	THR	A	418	14.425	28.154	1.190	1.00	23.50	6
ATOM	3130	OG1	THR	A	418	14.070	27.560	2.443	1.00	23.59	8
ATOM	3131	CG2	THR	A	418	15.786	28.831	1.310	1.00	23.19	6
ATOM	3132	C	THR	A	418	11.966	28.475	0.824	1.00	23.55	6
ATOM	3133	O	THR	A	418	11.746	27.461	0.160	1.00	23.89	8
ATOM	3134	N	LEU	A	419	11.061	29.019	1.638	1.00	23.34	7
ATOM	3135	CA	LEU	A	419	9.722	28.450	1.799	1.00	22.71	6
ATOM	3136	CB	LEU	A	419	9.135	28.813	3.166	1.00	22.30	6
ATOM	3137	CG	LEU	A	419	9.888	28.432	4.447	1.00	21.68	6
ATOM	3138	CD1	LEU	A	419	9.022	28.766	5.653	1.00	21.75	6
ATOM	3139	CD2	LEU	A	419	10.271	26.955	4.450	1.00	19.91	6
ATOM	3140	C	LEU	A	419	8.773	28.922	0.708	1.00	22.56	6
ATOM	3141	O	LEU	A	419	8.732	30.112	0.382	1.00	22.76	8
ATOM	3142	N	ASP	A	420	8.001	27.991	0.154	1.00	22.56	7
ATOM	3143	CA	ASP	A	420	6.935	28.350	-0.783	1.00	22.05	6
ATOM	3144	CB	ASP	A	420	6.623	27.199	-1.758	1.00	22.46	6
ATOM	3145	CG	ASP	A	420	6.020	25.979	-1.072	1.00	22.60	6
ATOM	3146	OD1	ASP	A	420	5.596	26.075	0.103	1.00	23.08	8
ATOM	3147	OD2	ASP	A	420	5.965	24.918	-1.721	1.00	23.60	8
ATOM	3148	C	ASP	A	420	5.688	28.811	-0.019	1.00	21.92	6
ATOM	3149	O	ASP	A	420	5.678	28.805	1.215	1.00	21.76	8
ATOM	3150	N	TYR	A	421	4.648	29.214	-0.749	1.00	21.37	7
ATOM	3151	CA	TYR	A	421	3.454	29.789	-0.127	1.00	21.07	6
ATOM	3152	CB	TYR	A	421	2.402	30.151	-1.179	1.00	20.95	6
ATOM	3153	CG	TYR	A	421	1.164	30.799	-0.597	1.00	21.02	6
ATOM	3154	CD1	TYR	A	421	1.121	32.172	-0.362	1.00	21.22	6
ATOM	3155	CE1	TYR	A	421	-0.013	32.774	0.172	1.00	21.77	6
ATOM	3156	CZ	TYR	A	421	-1.120	32.001	0.484	1.00	21.08	6
ATOM	3157	OH	TYR	A	421	-2.238	32.601	1.016	1.00	21.11	8
ATOM	3158	CE2	TYR	A	421	-1.104	30.633	0.262	1.00	20.96	6
ATOM	3159	CD2	TYR	A	421	0.034	30.039	-0.281	1.00	20.97	6
ATOM	3160	C	TYR	A	421	2.842	28.882	0.942	1.00	21.18	6
ATOM	3161	O	TYR	A	421	2.588	29.324	2.066	1.00	20.82	8
ATOM	3162	N	ALA	A	422	2.608	27.620	0.583	1.00	21.26	7
ATOM	3163	CA	ALA	A	422	2.016	26.649	1.499	1.00	21.65	6
ATOM	3164	CB	ALA	A	422	1.841	25.303	0.814	1.00	21.74	6
ATOM	3165	C	ALA	A	422	2.853	26.502	2.767	1.00	22.07	6
ATOM	3166	O	ALA	A	422	2.311	26.408	3.865	1.00	22.27	8
ATOM	3167	N	GLU	A	423	4.176	26.497	2.606	1.00	22.51	7
ATOM	3168	CA	GLU	A	423	5.094	26.386	3.741	1.00	23.04	6
ATOM	3169	CB	GLU	A	423	6.519	26.106	3.258	1.00	23.15	6
ATOM	3170	CG	GLU	A	423	6.761	24.658	2.867	1.00	23.80	6
ATOM	3171	CD	GLU	A	423	8.049	24.455	2.086	1.00	24.72	6
ATOM	3172	OE1	GLU	A	423	8.510	25.404	1.418	1.00	26.01	8
ATOM	3173	OE2	GLU	A	423	8.598	23.334	2.133	1.00	25.39	8
ATOM	3174	C	GLU	A	423	5.056	27.626	4.638	1.00	23.24	6
ATOM	3175	O	GLU	A	423	5.173	27.517	5.859	1.00	23.72	8
ATOM	3176	N	GLN	A	424	4.882	28.796	4.026	1.00	23.33	7
ATOM	3177	CA	GLN	A	424	4.737	30.051	4.773	1.00	23.64	6
ATOM	3178	CB	GLN	A	424	4.725	31.247	3.819	1.00	23.81	6
ATOM	3179	CG	GLN	A	424	6.064	31.540	3.152	1.00	24.01	6

ATOM	3180	CD	GLN	A	424	5.937	32.505	1.979	1.00	24.45	6
ATOM	3181	OE1	GLN	A	424	4.842	32.949	1.636	1.00	25.87	8
ATOM	3182	NE2	GLN	A	424	7.065	32.834	1.363	1.00	25.39	7
ATOM	3183	C	GLN	A	424	3.466	30.052	5.625	1.00	23.40	6
ATOM	3184	O	GLN	A	424	3.464	30.548	6.748	1.00	23.59	8
ATOM	3185	N	GLN	A	425	2.388	29.501	5.071	1.00	23.22	7
ATOM	3186	CA	GLN	A	425	1.113	29.407	5.779	1.00	23.02	6
ATOM	3187	CB	GLN	A	425	-0.008	29.014	4.811	1.00	23.05	6
ATOM	3188	CG	GLN	A	425	-0.342	30.106	3.805	1.00	23.06	6
ATOM	3189	CD	GLN	A	425	-0.763	31.408	4.476	1.00	23.69	6
ATOM	3190	OE1	GLN	A	425	-0.058	32.417	4.399	1.00	24.45	8
ATOM	3191	NE2	GLN	A	425	-1.903	31.382	5.156	1.00	24.12	7
ATOM	3192	C	GLN	A	425	1.185	28.434	6.955	1.00	22.88	6
ATOM	3193	O	GLN	A	425	0.577	28.671	8.005	1.00	23.24	8
ATOM	3194	N	ARG	A	426	1.949	27.358	6.779	1.00	22.56	7
ATOM	3195	CA	ARG	A	426	2.153	26.371	7.830	1.00	22.54	6
ATOM	3196	CB	ARG	A	426	2.895	25.142	7.290	1.00	22.35	6
ATOM	3197	CG	ARG	A	426	3.003	24.000	8.294	1.00	22.51	6
ATOM	3198	CD	ARG	A	426	3.884	22.869	7.796	1.00	22.62	6
ATOM	3199	NE	ARG	A	426	4.286	21.983	8.891	1.00	21.79	7
ATOM	3200	CZ	ARG	A	426	4.929	20.829	8.730	1.00	22.00	6
ATOM	3201	NH1	ARG	A	426	5.258	20.407	7.511	1.00	20.70	7
ATOM	3202	NH2	ARG	A	426	5.245	20.095	9.791	1.00	20.99	7
ATOM	3203	C	ARG	A	426	2.923	26.999	8.993	1.00	22.53	6
ATOM	3204	O	ARG	A	426	2.602	26.758	10.160	1.00	22.93	8
ATOM	3205	N	TRP	A	427	3.918	27.821	8.663	1.00	22.67	7
ATOM	3206	CA	TRP	A	427	4.717	28.532	9.671	1.00	22.89	6
ATOM	3207	CB	TRP	A	427	5.958	29.159	9.026	1.00	23.11	6
ATOM	3208	CG	TRP	A	427	6.907	29.791	10.005	1.00	23.53	6
ATOM	3209	CD1	TRP	A	427	7.222	31.114	10.102	1.00	23.91	6
ATOM	3210	NE1	TRP	A	427	8.119	31.316	11.118	1.00	23.46	7
ATOM	3211	CE2	TRP	A	427	8.403	30.111	11.707	1.00	24.42	6
ATOM	3212	CD2	TRP	A	427	7.654	29.125	11.031	1.00	24.10	6
ATOM	3213	CE3	TRP	A	427	7.761	27.789	11.445	1.00	24.38	6
ATOM	3214	CZ3	TRP	A	427	8.613	27.486	12.503	1.00	23.53	6
ATOM	3215	CH2	TRP	A	427	9.341	28.495	13.160	1.00	23.89	6
ATOM	3216	CZ2	TRP	A	427	9.255	29.808	12.770	1.00	24.49	6
ATOM	3217	C	TRP	A	427	3.900	29.596	10.406	1.00	23.13	6
ATOM	3218	O	TRP	A	427	4.038	29.765	11.625	1.00	23.22	8
ATOM	3219	N	LEU	A	428	3.052	30.312	9.668	1.00	23.41	7
ATOM	3220	CA	LEU	A	428	2.164	31.304	10.278	1.00	23.78	6
ATOM	3221	CB	LEU	A	428	1.357	32.068	9.217	1.00	23.93	6
ATOM	3222	CG	LEU	A	428	2.116	33.127	8.403	1.00	25.03	6
ATOM	3223	CD1	LEU	A	428	1.188	33.838	7.424	1.00	25.26	6
ATOM	3224	CD2	LEU	A	428	2.819	34.138	9.306	1.00	25.54	6
ATOM	3225	C	LEU	A	428	1.242	30.663	11.312	1.00	23.87	6
ATOM	3226	O	LEU	A	428	1.048	31.215	12.395	1.00	23.81	8
ATOM	3227	N	GLU	A	429	0.704	29.486	10.981	1.00	23.88	7
ATOM	3228	CA	GLU	A	429	-0.114	28.714	11.919	1.00	23.99	6
ATOM	3229	CB	GLU	A	429	-0.745	27.504	11.231	1.00	24.08	6
ATOM	3230	CG	GLU	A	429	-1.851	26.828	12.052	1.00	25.69	6
ATOM	3231	CD	GLU	A	429	-2.977	27.792	12.447	1.00	28.08	6
ATOM	3232	OE1	GLU	A	429	-3.300	28.707	11.653	1.00	29.53	8
ATOM	3233	OE2	GLU	A	429	-3.539	27.630	13.553	1.00	29.02	8
ATOM	3234	C	GLU	A	429	0.693	28.267	13.141	1.00	23.68	6
ATOM	3235	O	GLU	A	429	0.221	28.367	14.276	1.00	23.61	8
ATOM	3236	N	HIS	A	430	1.905	27.777	12.894	1.00	23.62	7
ATOM	3237	CA	HIS	A	430	2.829	27.400	13.958	1.00	23.67	6
ATOM	3238	CB	HIS	A	430	4.187	27.003	13.366	1.00	23.58	6
ATOM	3239	CG	HIS	A	430	5.289	26.917	14.377	1.00	23.49	6
ATOM	3240	ND1	HIS	A	430	5.461	25.824	15.199	1.00	23.55	7
ATOM	3241	CE1	HIS	A	430	6.508	26.025	15.980	1.00	23.00	6
ATOM	3242	NE2	HIS	A	430	7.019	27.208	15.696	1.00	22.62	7
ATOM	3243	CD2	HIS	A	430	6.277	27.786	14.696	1.00	23.79	6

ATOM	3244	C	HIS	A	430	2.999	28.529	14.975	1.00	23.90	6
ATOM	3245	O	HIS	A	430	2.923	28.299	16.188	1.00	24.00	8
ATOM	3246	N	ARG	A	431	3.228	29.744	14.479	1.00	24.05	7
ATOM	3247	CA	ARG	A	431	3.474	30.896	15.351	1.00	24.65	6
ATOM	3248	CB	ARG	A	431	4.016	32.080	14.552	1.00	24.67	6
ATOM	3249	CG	ARG	A	431	5.363	31.811	13.895	1.00	25.11	6
ATOM	3250	CD	ARG	A	431	5.835	32.995	13.068	1.00	25.85	6
ATOM	3251	NE	ARG	A	431	6.238	34.130	13.895	1.00	25.71	7
ATOM	3252	CZ	ARG	A	431	5.668	35.332	13.850	1.00	27.06	6
ATOM	3253	NH1	ARG	A	431	4.674	35.568	13.001	1.00	27.51	7
ATOM	3254	NH2	ARG	A	431	6.103	36.305	14.640	1.00	26.77	7
ATOM	3255	C	ARG	A	431	2.230	31.309	16.136	1.00	24.89	6
ATOM	3256	O	ARG	A	431	2.334	31.778	17.275	1.00	24.94	8
ATOM	3257	N	ARG	A	432	1.060	31.131	15.525	1.00	25.45	7
ATOM	3258	CA	ARG	A	432	-0.215	31.423	16.191	1.00	25.97	6
ATOM	3259	CB	ARG	A	432	-1.370	31.410	15.187	1.00	26.24	6
ATOM	3260	CG	ARG	A	432	-1.419	32.632	14.289	1.00	27.84	6
ATOM	3261	CD	ARG	A	432	-2.578	32.558	13.308	1.00	30.85	6
ATOM	3262	NE	ARG	A	432	-2.375	33.459	12.175	1.00	32.77	7
ATOM	3263	CZ	ARG	A	432	-3.129	33.478	11.077	1.00	33.96	6
ATOM	3264	NH1	ARG	A	432	-4.158	32.648	10.949	1.00	34.46	7
ATOM	3265	NH2	ARG	A	432	-2.854	34.335	10.103	1.00	34.72	7
ATOM	3266	C	ARG	A	432	-0.507	30.456	17.336	1.00	25.97	6
ATOM	3267	O	ARG	A	432	-1.142	30.830	18.324	1.00	25.98	8
ATOM	3268	N	GLN	A	433	-0.044	29.216	17.200	1.00	25.92	7
ATOM	3269	CA	GLN	A	433	-0.272	28.195	18.222	1.00	26.14	6
ATOM	3270	CB	GLN	A	433	-0.145	26.793	17.627	1.00	26.15	6
ATOM	3271	CG	GLN	A	433	-1.275	26.422	16.676	1.00	27.27	6
ATOM	3272	CD	GLN	A	433	-1.112	25.035	16.081	1.00	28.02	6
ATOM	3273	OE1	GLN	A	433	-0.274	24.244	16.528	1.00	30.66	8
ATOM	3274	NE2	GLN	A	433	-1.914	24.730	15.066	1.00	29.12	7
ATOM	3275	C	GLN	A	433	0.673	28.359	19.408	1.00	25.65	6
ATOM	3276	O	GLN	A	433	0.375	27.903	20.513	1.00	25.91	8
ATOM	3277	N	VAL	A	434	1.816	29.002	19.169	1.00	25.30	7
ATOM	3278	CA	VAL	A	434	2.733	29.370	20.249	1.00	24.78	6
ATOM	3279	CB	VAL	A	434	4.155	29.668	19.719	1.00	24.94	6
ATOM	3280	CG1	VAL	A	434	5.073	30.116	20.858	1.00	24.75	6
ATOM	3281	CG2	VAL	A	434	4.730	28.448	19.007	1.00	25.19	6
ATOM	3282	C	VAL	A	434	2.209	30.605	20.971	1.00	24.51	6
ATOM	3283	O	VAL	A	434	2.075	30.614	22.200	1.00	24.62	8
ATOM	3284	N	PHE	A	435	1.911	31.644	20.200	1.00	24.08	7
ATOM	3285	CA	PHE	A	435	1.487	32.918	20.751	1.00	24.09	6
ATOM	3286	CB	PHE	A	435	1.928	34.070	19.834	1.00	23.80	6
ATOM	3287	CG	PHE	A	435	3.424	34.098	19.564	1.00	24.00	6
ATOM	3288	CD1	PHE	A	435	4.343	33.950	20.610	1.00	23.54	6
ATOM	3289	CE1	PHE	A	435	5.721	33.978	20.363	1.00	22.80	6
ATOM	3290	CZ	PHE	A	435	6.189	34.160	19.061	1.00	23.69	6
ATOM	3291	CE2	PHE	A	435	5.284	34.315	18.017	1.00	23.32	6
ATOM	3292	CD2	PHE	A	435	3.909	34.286	18.273	1.00	23.76	6
ATOM	3293	C	PHE	A	435	-0.026	32.933	21.023	1.00	24.14	6
ATOM	3294	O	PHE	A	435	-0.774	33.721	20.441	1.00	24.23	8
ATOM	3295	N	THR	A	436	-0.452	32.042	21.917	1.00	24.33	7
ATOM	3296	CA	THR	A	436	-1.854	31.937	22.342	1.00	24.39	6
ATOM	3297	CB	THR	A	436	-2.076	30.703	23.258	1.00	24.49	6
ATOM	3298	OG1	THR	A	436	-1.265	30.820	24.437	1.00	25.08	8
ATOM	3299	CG2	THR	A	436	-1.736	29.417	22.531	1.00	24.96	6
ATOM	3300	C	THR	A	436	-2.295	33.184	23.109	1.00	24.29	6
ATOM	3301	O	THR	A	436	-1.452	33.977	23.537	1.00	24.55	8
ATOM	3302	N	PRO	A	437	-3.624	33.362	23.287	1.00	24.19	7
ATOM	3303	CA	PRO	A	437	-4.166	34.436	24.131	1.00	24.01	6
ATOM	3304	CB	PRO	A	437	-5.668	34.135	24.150	1.00	24.02	6
ATOM	3305	CG	PRO	A	437	-5.915	33.385	22.890	1.00	23.90	6
ATOM	3306	CD	PRO	A	437	-4.698	32.557	22.671	1.00	24.00	6
ATOM	3307	C	PRO	A	437	-3.607	34.413	25.558	1.00	23.91	6

ATOM	3308	O	PRO	A	437	-3.292	35.469	26.112	1.00	23.67	8
ATOM	3309	N	GLU	A	438	-3.483	33.215	26.138	1.00	23.83	7
ATOM	3310	CA	GLU	A	438	-2.983	33.055	27.507	1.00	23.91	6
ATOM	3311	CB	GLU	A	438	-3.169	31.610	27.989	1.00	24.06	6
ATOM	3312	CG	GLU	A	438	-3.118	31.433	29.509	1.00	23.80	6
ATOM	3313	CD	GLU	A	438	-4.375	31.932	30.208	1.00	23.67	6
ATOM	3314	OE1	GLU	A	438	-5.493	31.658	29.715	1.00	22.83	8
ATOM	3315	OE2	GLU	A	438	-4.243	32.595	31.261	1.00	24.20	8
ATOM	3316	C	GLU	A	438	-1.516	33.459	27.605	1.00	23.96	6
ATOM	3317	O	GLU	A	438	-1.119	34.168	28.535	1.00	23.84	8
ATOM	3318	N	PHE	A	439	-0.725	33.019	26.626	1.00	23.86	7
ATOM	3319	CA	PHE	A	439	0.700	33.338	26.562	1.00	23.64	6
ATOM	3320	CB	PHE	A	439	1.351	32.632	25.369	1.00	23.93	6
ATOM	3321	CG	PHE	A	439	2.821	32.891	25.248	1.00	24.27	6
ATOM	3322	CD1	PHE	A	439	3.729	32.162	26.005	1.00	25.20	6
ATOM	3323	CE1	PHE	A	439	5.094	32.405	25.909	1.00	26.17	6
ATOM	3324	CZ	PHE	A	439	5.560	33.390	25.050	1.00	25.59	6
ATOM	3325	CE2	PHE	A	439	4.663	34.133	24.295	1.00	25.83	6
ATOM	3326	CD2	PHE	A	439	3.298	33.884	24.396	1.00	25.12	6
ATOM	3327	C	PHE	A	439	0.966	34.843	26.483	1.00	23.38	6
ATOM	3328	O	PHE	A	439	1.742	35.382	27.273	1.00	23.11	8
ATOM	3329	N	LEU	A	440	0.332	35.507	25.521	1.00	23.00	7
ATOM	3330	CA	LEU	A	440	0.542	36.937	25.291	1.00	23.12	6
ATOM	3331	CB	LEU	A	440	-0.229	37.408	24.051	1.00	23.50	6
ATOM	3332	CG	LEU	A	440	0.087	36.722	22.716	1.00	24.05	6
ATOM	3333	CD1	LEU	A	440	-0.761	37.307	21.594	1.00	25.69	6
ATOM	3334	CD2	LEU	A	440	1.564	36.829	22.388	1.00	25.16	6
ATOM	3335	C	LEU	A	440	0.151	37.778	26.504	1.00	22.94	6
ATOM	3336	O	LEU	A	440	0.883	38.687	26.905	1.00	22.98	8
ATOM	3337	N	GLN	A	441	-1.000	37.467	27.092	1.00	22.46	7
ATOM	3338	CA	GLN	A	441	-1.467	38.202	28.256	1.00	22.12	6
ATOM	3339	CB	GLN	A	441	-2.877	37.763	28.659	1.00	22.48	6
ATOM	3340	CG	GLN	A	441	-3.569	38.745	29.592	1.00	22.58	6
ATOM	3341	CD	GLN	A	441	-3.574	40.165	29.040	1.00	23.12	6
ATOM	3342	OE1	GLN	A	441	-4.206	40.444	28.020	1.00	24.29	8
ATOM	3343	NE2	GLN	A	441	-2.863	41.065	29.710	1.00	23.68	7
ATOM	3344	C	GLN	A	441	-0.497	38.019	29.414	1.00	21.78	6
ATOM	3345	O	GLN	A	441	-0.095	38.991	30.054	1.00	22.11	8
ATOM	3346	N	GLY	A	442	-0.103	36.772	29.655	1.00	21.20	7
ATOM	3347	CA	GLY	A	442	0.842	36.448	30.719	1.00	20.66	6
ATOM	3348	C	GLY	A	442	2.172	37.161	30.546	1.00	20.25	6
ATOM	3349	O	GLY	A	442	2.773	37.619	31.520	1.00	20.34	8
ATOM	3350	N	TYR	A	443	2.628	37.262	29.301	1.00	19.78	7
ATOM	3351	CA	TYR	A	443	3.902	37.914	29.004	1.00	19.42	6
ATOM	3352	CB	TYR	A	443	4.300	37.673	27.550	1.00	19.04	6
ATOM	3353	CG	TYR	A	443	5.784	37.827	27.293	1.00	18.78	6
ATOM	3354	CD1	TYR	A	443	6.646	36.746	27.437	1.00	18.27	6
ATOM	3355	CE1	TYR	A	443	8.011	36.879	27.205	1.00	18.70	6
ATOM	3356	CZ	TYR	A	443	8.521	38.103	26.817	1.00	18.74	6
ATOM	3357	OH	TYR	A	443	9.870	38.232	26.585	1.00	18.29	8
ATOM	3358	CE2	TYR	A	443	7.681	39.201	26.669	1.00	18.28	6
ATOM	3359	CD2	TYR	A	443	6.323	39.057	26.909	1.00	18.09	6
ATOM	3360	C	TYR	A	443	3.825	39.414	29.283	1.00	19.44	6
ATOM	3361	O	TYR	A	443	4.714	39.983	29.918	1.00	19.42	8
ATOM	3362	N	ALA	A	444	2.758	40.047	28.795	1.00	19.73	7
ATOM	3363	CA	ALA	A	444	2.507	41.459	29.064	1.00	20.07	6
ATOM	3364	CB	ALA	A	444	1.228	41.906	28.374	1.00	20.31	6
ATOM	3365	C	ALA	A	444	2.431	41.722	30.571	1.00	20.42	6
ATOM	3366	O	ALA	A	444	3.015	42.687	31.072	1.00	20.26	8
ATOM	3367	N	ASP	A	445	1.731	40.841	31.288	1.00	20.66	7
ATOM	3368	CA	ASP	A	445	1.575	40.962	32.744	1.00	21.16	6
ATOM	3369	CB	ASP	A	445	0.588	39.920	33.274	1.00	21.25	6
ATOM	3370	CG	ASP	A	445	-0.843	40.198	32.854	1.00	22.08	6
ATOM	3371	OD1	ASP	A	445	-1.124	41.306	32.333	1.00	23.14	8

ATOM	3372	OD2	ASP	A	445	-1.695	39.304	33.053	1.00	23.52	8
ATOM	3373	C	ASP	A	445	2.901	40.846	33.494	1.00	21.07	6
ATOM	3374	O	ASP	A	445	3.149	41.603	34.436	1.00	21.11	8
ATOM	3375	N	GLU	A	446	3.746	39.898	33.077	1.00	21.09	7
ATOM	3376	CA	GLU	A	446	5.042	39.683	33.731	1.00	21.14	6
ATOM	3377	CB	GLU	A	446	5.730	38.406	33.219	1.00	20.98	6
ATOM	3378	CG	GLU	A	446	6.973	38.013	34.044	1.00	21.95	6
ATOM	3379	CD	GLU	A	446	7.739	36.816	33.490	1.00	22.88	6
ATOM	3380	OE1	GLU	A	446	7.189	36.067	32.648	1.00	25.21	8
ATOM	3381	OE2	GLU	A	446	8.905	36.626	33.909	1.00	24.54	8
ATOM	3382	C	GLU	A	446	5.962	40.889	33.549	1.00	20.73	6
ATOM	3383	O	GLU	A	446	6.628	41.317	34.492	1.00	20.06	8
ATOM	3384	N	LEU	A	447	5.993	41.430	32.334	1.00	20.30	7
ATOM	3385	CA	LEU	A	447	6.818	42.599	32.036	1.00	20.56	6
ATOM	3386	CB	LEU	A	447	6.743	42.943	30.551	1.00	20.01	6
ATOM	3387	CG	LEU	A	447	7.458	42.024	29.560	1.00	19.89	6
ATOM	3388	CD1	LEU	A	447	7.258	42.554	28.158	1.00	19.01	6
ATOM	3389	CD2	LEU	A	447	8.948	41.907	29.879	1.00	19.15	6
ATOM	3390	C	LEU	A	447	6.394	43.807	32.866	1.00	20.96	6
ATOM	3391	O	LEU	A	447	7.237	44.503	33.446	1.00	21.08	8
ATOM	3392	N	GLN	A	448	5.082	44.041	32.929	1.00	21.54	7
ATOM	3393	CA	GLN	A	448	4.522	45.144	33.715	1.00	22.06	6
ATOM	3394	CB	GLN	A	448	3.022	45.308	33.429	1.00	22.25	6
ATOM	3395	CG	GLN	A	448	2.700	45.943	32.066	1.00	22.77	6
ATOM	3396	CD	GLN	A	448	1.223	45.818	31.684	1.00	23.39	6
ATOM	3397	OE1	GLN	A	448	0.771	44.764	31.221	1.00	24.95	8
ATOM	3398	NE2	GLN	A	448	0.471	46.901	31.865	1.00	23.35	7
ATOM	3399	C	GLN	A	448	4.770	44.944	35.212	1.00	22.26	6
ATOM	3400	O	GLN	A	448	5.030	45.901	35.941	1.00	21.92	8
ATOM	3401	N	MET	A	449	4.702	43.694	35.658	1.00	22.38	7
ATOM	3402	CA	MET	A	449	5.014	43.362	37.042	1.00	23.27	6
ATOM	3403	CB	MET	A	449	4.647	41.915	37.339	1.00	23.26	6
ATOM	3404	CG	MET	A	449	4.629	41.583	38.812	1.00	24.06	6
ATOM	3405	SD	MET	A	449	5.150	39.896	39.132	1.00	27.08	16
ATOM	3406	CE	MET	A	449	6.874	40.005	38.673	1.00	27.87	6
ATOM	3407	C	MET	A	449	6.492	43.604	37.354	1.00	22.38	6
ATOM	3408	O	MET	A	449	6.825	44.222	38.367	1.00	22.47	8
ATOM	3409	N	LEU	A	450	7.368	43.135	36.465	1.00	21.90	7
ATOM	3410	CA	LEU	A	450	8.810	43.242	36.677	1.00	21.35	6
ATOM	3411	CB	LEU	A	450	9.590	42.378	35.672	1.00	20.75	6
ATOM	3412	CG	LEU	A	450	9.503	40.847	35.842	1.00	19.52	6
ATOM	3413	CD1	LEU	A	450	10.124	40.136	34.662	1.00	17.72	6
ATOM	3414	CD2	LEU	A	450	10.146	40.363	37.157	1.00	16.51	6
ATOM	3415	C	LEU	A	450	9.299	44.689	36.644	1.00	21.44	6
ATOM	3416	O	LEU	A	450	10.203	45.055	37.395	1.00	21.74	8
ATOM	3417	N	VAL	A	451	8.685	45.516	35.797	1.00	21.64	7
ATOM	3418	CA	VAL	A	451	9.071	46.930	35.704	1.00	21.97	6
ATOM	3419	CB	VAL	A	451	8.458	47.626	34.445	1.00	22.18	6
ATOM	3420	CG1	VAL	A	451	7.007	48.035	34.687	1.00	22.69	6
ATOM	3421	CG2	VAL	A	451	9.299	48.823	34.030	1.00	22.54	6
ATOM	3422	C	VAL	A	451	8.750	47.702	36.999	1.00	22.09	6
ATOM	3423	O	VAL	A	451	9.425	48.677	37.337	1.00	22.08	8
ATOM	3424	N	GLN	A	452	7.725	47.246	37.716	1.00	22.24	7
ATOM	3425	CA	GLN	A	452	7.392	47.772	39.039	1.00	22.88	6
ATOM	3426	CB	GLN	A	452	5.929	47.478	39.382	1.00	22.95	6
ATOM	3427	CG	GLN	A	452	4.921	48.254	38.554	1.00	23.68	6
ATOM	3428	CD	GLN	A	452	3.485	47.946	38.935	1.00	23.99	6
ATOM	3429	OE1	GLN	A	452	3.173	47.727	40.105	1.00	25.35	8
ATOM	3430	NE2	GLN	A	452	2.598	47.943	37.944	1.00	25.72	7
ATOM	3431	C	GLN	A	452	8.299	47.162	40.105	1.00	22.83	6
ATOM	3432	O	GLN	A	452	8.748	47.856	41.021	1.00	22.95	8
ATOM	3433	N	GLN	A	453	8.561	45.860	39.981	1.00	22.86	7
ATOM	3434	CA	GLN	A	453	9.429	45.147	40.919	1.00	23.22	6
ATOM	3435	CB	GLN	A	453	9.505	43.660	40.559	1.00	23.09	6

ATOM	3436	CG	GLN	A	453	10.409	42.841	41.473	1.00	23.75	6
ATOM	3437	CD	GLN	A	453	10.227	41.346	41.299	1.00	24.12	6
ATOM	3438	OE1	GLN	A	453	9.308	40.891	40.613	1.00	26.13	8
ATOM	3439	NE2	GLN	A	453	11.108	40.570	41.920	1.00	25.32	7
ATOM	3440	C	GLN	A	453	10.830	45.753	40.954	1.00	23.23	6
ATOM	3441	O	GLN	A	453	11.395	45.975	42.036	1.00	22.72	8
ATOM	3442	N	TYR	A	454	11.374	46.027	39.769	1.00	23.30	7
ATOM	3443	CA	TYR	A	454	12.735	46.545	39.631	1.00	23.90	6
ATOM	3444	CB	TYR	A	454	13.531	45.686	38.648	1.00	24.07	6
ATOM	3445	CG	TYR	A	454	13.745	44.278	39.142	1.00	24.27	6
ATOM	3446	CD1	TYR	A	454	14.619	44.017	40.198	1.00	24.54	6
ATOM	3447	CE1	TYR	A	454	14.814	42.730	40.664	1.00	24.49	6
ATOM	3448	CZ	TYR	A	454	14.129	41.684	40.078	1.00	24.69	6
ATOM	3449	OH	TYR	A	454	14.323	40.406	40.540	1.00	25.29	8
ATOM	3450	CE2	TYR	A	454	13.251	41.915	39.031	1.00	24.39	6
ATOM	3451	CD2	TYR	A	454	13.061	43.208	38.574	1.00	24.13	6
ATOM	3452	C	TYR	A	454	12.757	48.012	39.217	1.00	24.19	6
ATOM	3453	O	TYR	A	454	13.678	48.463	38.520	1.00	24.02	8
ATOM	3454	N	ALA	A	455	11.749	48.754	39.676	1.00	24.70	7
ATOM	3455	CA	ALA	A	455	11.597	50.178	39.366	1.00	25.24	6
ATOM	3456	CB	ALA	A	455	10.389	50.753	40.107	1.00	24.90	6
ATOM	3457	C	ALA	A	455	12.850	50.992	39.687	1.00	25.55	6
ATOM	3458	O	ALA	A	455	13.196	51.922	38.957	1.00	26.17	8
ATOM	3459	N	ASP	A	456	13.525	50.636	40.777	1.00	26.19	7
ATOM	3460	CA	ASP	A	456	14.702	51.376	41.227	1.00	26.41	6
ATOM	3461	CB	ASP	A	456	14.826	51.315	42.754	1.00	26.75	6
ATOM	3462	CG	ASP	A	456	13.680	52.025	43.458	1.00	27.82	6
ATOM	3463	OD1	ASP	A	456	13.581	53.269	43.341	1.00	28.98	8
ATOM	3464	OD2	ASP	A	456	12.876	51.339	44.130	1.00	29.60	8
ATOM	3465	C	ASP	A	456	16.001	50.929	40.544	1.00	26.25	6
ATOM	3466	O	ASP	A	456	17.055	51.545	40.733	1.00	26.14	8
ATOM	3467	N	ASP	A	457	15.917	49.871	39.740	1.00	25.98	7
ATOM	3468	CA	ASP	A	457	17.060	49.404	38.965	1.00	25.84	6
ATOM	3469	CB	ASP	A	457	17.166	47.876	39.027	1.00	26.05	6
ATOM	3470	CG	ASP	A	457	18.527	47.357	38.573	1.00	27.14	6
ATOM	3471	OD1	ASP	A	457	19.009	47.759	37.485	1.00	26.99	8
ATOM	3472	OD2	ASP	A	457	19.109	46.521	39.300	1.00	28.05	8
ATOM	3473	C	ASP	A	457	16.926	49.881	37.518	1.00	25.36	6
ATOM	3474	O	ASP	A	457	16.162	49.319	36.735	1.00	25.31	8
ATOM	3475	N	LYS	A	458	17.674	50.927	37.177	1.00	24.98	7
ATOM	3476	CA	LYS	A	458	17.531	51.600	35.881	1.00	24.54	6
ATOM	3477	CB	LYS	A	458	18.289	52.932	35.881	1.00	24.70	6
ATOM	3478	CG	LYS	A	458	17.809	53.912	36.944	1.00	25.23	6
ATOM	3479	CD	LYS	A	458	16.310	54.183	36.810	1.00	26.62	6
ATOM	3480	CE	LYS	A	458	15.741	54.837	38.067	1.00	27.52	6
ATOM	3481	NZ	LYS	A	458	15.771	53.929	39.240	1.00	29.10	7
ATOM	3482	C	LYS	A	458	17.953	50.740	34.689	1.00	24.45	6
ATOM	3483	O	LYS	A	458	17.380	50.857	33.603	1.00	23.97	8
ATOM	3484	N	GLU	A	459	18.944	49.875	34.899	1.00	24.33	7
ATOM	3485	CA	GLU	A	459	19.410	48.960	33.851	1.00	24.57	6
ATOM	3486	CB	GLU	A	459	20.708	48.271	34.273	1.00	24.62	6
ATOM	3487	CG	GLU	A	459	21.930	49.172	34.239	1.00	26.21	6
ATOM	3488	CD	GLU	A	459	23.172	48.502	34.802	1.00	27.01	6
ATOM	3489	OE1	GLU	A	459	23.326	47.269	34.629	1.00	29.74	8
ATOM	3490	OE2	GLU	A	459	23.998	49.214	35.416	1.00	29.82	8
ATOM	3491	C	GLU	A	459	18.358	47.913	33.492	1.00	23.75	6
ATOM	3492	O	GLU	A	459	18.090	47.672	32.315	1.00	23.90	8
ATOM	3493	N	LYS	A	460	17.775	47.289	34.515	1.00	23.14	7
ATOM	3494	CA	LYS	A	460	16.705	46.308	34.320	1.00	22.28	6
ATOM	3495	CB	LYS	A	460	16.317	45.652	35.656	1.00	22.25	6
ATOM	3496	CG	LYS	A	460	17.458	44.923	36.364	1.00	22.79	6
ATOM	3497	CD	LYS	A	460	16.929	44.006	37.465	1.00	23.87	6
ATOM	3498	CE	LYS	A	460	18.037	43.542	38.403	1.00	25.80	6
ATOM	3499	NZ	LYS	A	460	18.924	42.520	37.785	1.00	26.75	7

ATOM	3500	C	LYS	A	460	15.474	46.948	33.660	1.00	21.70	6
ATOM	3501	O	LYS	A	460	14.875	46.364	32.750	1.00	20.70	8
ATOM	3502	N	VAL	A	461	15.108	48.149	34.113	1.00	20.71	7
ATOM	3503	CA	VAL	A	461	13.976	48.879	33.518	1.00	20.36	6
ATOM	3504	CB	VAL	A	461	13.731	50.253	34.207	1.00	20.51	6
ATOM	3505	CG1	VAL	A	461	12.753	51.103	33.399	1.00	20.47	6
ATOM	3506	CG2	VAL	A	461	13.200	50.045	35.621	1.00	20.69	6
ATOM	3507	C	VAL	A	461	14.170	49.050	32.005	1.00	20.06	6
ATOM	3508	O	VAL	A	461	13.252	48.788	31.224	1.00	19.80	8
ATOM	3509	N	ALA	A	462	15.373	49.455	31.601	1.00	19.89	7
ATOM	3510	CA	ALA	A	462	15.692	49.622	30.175	1.00	19.77	6
ATOM	3511	CB	ALA	A	462	17.050	50.298	30.000	1.00	19.84	6
ATOM	3512	C	ALA	A	462	15.646	48.299	29.413	1.00	20.08	6
ATOM	3513	O	ALA	A	462	15.192	48.254	28.266	1.00	20.07	8
ATOM	3514	N	LEU	A	463	16.104	47.224	30.057	1.00	19.97	7
ATOM	3515	CA	LEU	A	463	16.035	45.887	29.469	1.00	20.08	6
ATOM	3516	CB	LEU	A	463	16.808	44.870	30.315	1.00	20.26	6
ATOM	3517	CG	LEU	A	463	18.344	44.897	30.255	1.00	20.34	6
ATOM	3518	CD1	LEU	A	463	18.921	43.995	31.322	1.00	19.89	6
ATOM	3519	CD2	LEU	A	463	18.871	44.505	28.875	1.00	20.59	6
ATOM	3520	C	LEU	A	463	14.584	45.432	29.293	1.00	19.87	6
ATOM	3521	O	LEU	A	463	14.236	44.839	28.281	1.00	20.39	8
ATOM	3522	N	LEU	A	464	13.742	45.748	30.271	1.00	19.79	7
ATOM	3523	CA	LEU	A	464	12.333	45.364	30.231	1.00	19.47	6
ATOM	3524	CB	LEU	A	464	11.681	45.549	31.605	1.00	19.53	6
ATOM	3525	CG	LEU	A	464	12.159	44.519	32.643	1.00	18.88	6
ATOM	3526	CD1	LEU	A	464	11.937	45.000	34.074	1.00	19.80	6
ATOM	3527	CD2	LEU	A	464	11.510	43.149	32.413	1.00	17.25	6
ATOM	3528	C	LEU	A	464	11.547	46.097	29.139	1.00	19.49	6
ATOM	3529	O	LEU	A	464	10.701	45.497	28.468	1.00	19.63	8
ATOM	3530	N	LYS	A	465	11.836	47.384	28.952	1.00	19.77	7
ATOM	3531	CA	LYS	A	465	11.227	48.150	27.857	1.00	20.15	6
ATOM	3532	CB	LYS	A	465	11.588	49.641	27.952	1.00	20.63	6
ATOM	3533	CG	LYS	A	465	11.212	50.318	29.285	1.00	22.22	6
ATOM	3534	CD	LYS	A	465	9.700	50.442	29.473	1.00	23.96	6
ATOM	3535	CE	LYS	A	465	9.346	51.051	30.830	1.00	23.54	6
ATOM	3536	NZ	LYS	A	465	9.485	52.540	30.838	1.00	25.59	7
ATOM	3537	C	LYS	A	465	11.649	47.573	26.500	1.00	20.03	6
ATOM	3538	O	LYS	A	465	10.858	47.550	25.548	1.00	19.79	8
ATOM	3539	N	ALA	A	466	12.892	47.092	26.433	1.00	20.19	7
ATOM	3540	CA	ALA	A	466	13.414	46.404	25.246	1.00	20.37	6
ATOM	3541	CB	ALA	A	466	14.896	46.098	25.425	1.00	20.51	6
ATOM	3542	C	ALA	A	466	12.634	45.114	24.952	1.00	20.34	6
ATOM	3543	O	ALA	A	466	12.311	44.816	23.792	1.00	20.41	8
ATOM	3544	N	LEU	A	467	12.331	44.361	26.007	1.00	20.46	7
ATOM	3545	CA	LEU	A	467	11.548	43.133	25.882	1.00	20.44	6
ATOM	3546	CB	LEU	A	467	11.554	42.345	27.189	1.00	20.75	6
ATOM	3547	CG	LEU	A	467	12.911	41.784	27.607	1.00	20.77	6
ATOM	3548	CD1	LEU	A	467	12.872	41.353	29.061	1.00	20.29	6
ATOM	3549	CD2	LEU	A	467	13.311	40.630	26.702	1.00	22.45	6
ATOM	3550	C	LEU	A	467	10.121	43.416	25.435	1.00	20.78	6
ATOM	3551	O	LEU	A	467	9.573	42.685	24.610	1.00	20.48	8
ATOM	3552	N	TRP	A	468	9.526	44.484	25.968	1.00	20.99	7
ATOM	3553	CA	TRP	A	468	8.208	44.918	25.508	1.00	21.63	6
ATOM	3554	CB	TRP	A	468	7.714	46.127	26.302	1.00	22.17	6
ATOM	3555	CG	TRP	A	468	6.287	46.499	25.973	1.00	22.71	6
ATOM	3556	CD1	TRP	A	468	5.849	47.222	24.890	1.00	23.71	6
ATOM	3557	NE1	TRP	A	468	4.481	47.343	24.923	1.00	23.94	7
ATOM	3558	CE2	TRP	A	468	4.003	46.701	26.038	1.00	23.95	6
ATOM	3559	CD2	TRP	A	468	5.114	46.151	26.722	1.00	23.90	6
ATOM	3560	CE3	TRP	A	468	4.892	45.431	27.907	1.00	23.41	6
ATOM	3561	CZ3	TRP	A	468	3.582	45.283	28.367	1.00	23.80	6
ATOM	3562	CH2	TRP	A	468	2.495	45.842	27.662	1.00	23.71	6
ATOM	3563	CZ2	TRP	A	468	2.685	46.552	26.501	1.00	23.80	6

ATOM	3564	C	TRP	A	468	8.217	45.246	24.013	1.00	21.67	6
ATOM	3565	O	TRP	A	468	7.337	44.807	23.270	1.00	21.85	8
ATOM	3566	N	GLN	A	469	9.210	46.023	23.585	1.00	21.78	7
ATOM	3567	CA	GLN	A	469	9.334	46.424	22.183	1.00	22.07	6
ATOM	3568	CB	GLN	A	469	10.508	47.388	22.001	1.00	22.69	6
ATOM	3569	CG	GLN	A	469	10.198	48.841	22.349	1.00	24.91	6
ATOM	3570	CD	GLN	A	469	11.391	49.564	22.970	1.00	27.79	6
ATOM	3571	OE1	GLN	A	469	12.547	49.188	22.755	1.00	28.89	8
ATOM	3572	NE2	GLN	A	469	11.110	50.603	23.755	1.00	28.75	7
ATOM	3573	C	GLN	A	469	9.499	45.223	21.253	1.00	21.80	6
ATOM	3574	O	GLN	A	469	8.918	45.188	20.172	1.00	21.45	8
ATOM	3575	N	TYR	A	470	10.286	44.235	21.685	1.00	21.34	7
ATOM	3576	CA	TYR	A	470	10.520	43.040	20.871	1.00	21.34	6
ATOM	3577	CB	TYR	A	470	11.647	42.194	21.454	1.00	20.73	6
ATOM	3578	CG	TYR	A	470	12.023	41.005	20.592	1.00	20.38	6
ATOM	3579	CD1	TYR	A	470	12.753	41.179	19.417	1.00	20.34	6
ATOM	3580	CE1	TYR	A	470	13.114	40.092	18.623	1.00	19.64	6
ATOM	3581	CZ	TYR	A	470	12.743	38.814	18.998	1.00	19.36	6
ATOM	3582	OH	TYR	A	470	13.108	37.746	18.207	1.00	19.18	8
ATOM	3583	CE2	TYR	A	470	12.017	38.606	20.169	1.00	20.34	6
ATOM	3584	CD2	TYR	A	470	11.664	39.705	20.961	1.00	19.79	6
ATOM	3585	C	TYR	A	470	9.255	42.202	20.719	1.00	21.88	6
ATOM	3586	O	TYR	A	470	8.938	41.733	19.621	1.00	21.16	8
ATOM	3587	N	ALA	A	471	8.537	42.023	21.825	1.00	22.90	7
ATOM	3588	CA	ALA	A	471	7.269	41.307	21.811	1.00	24.35	6
ATOM	3589	CB	ALA	A	471	6.738	41.119	23.232	1.00	24.27	6
ATOM	3590	C	ALA	A	471	6.245	42.034	20.944	1.00	25.46	6
ATOM	3591	O	ALA	A	471	5.509	41.400	20.194	1.00	25.50	8
ATOM	3592	N	ASP	A	472	6.215	43.365	21.036	1.00	26.95	7
ATOM	3593	CA	ASP	A	472	5.311	44.173	20.212	1.00	28.53	6
ATOM	3594	CB	ASP	A	472	5.456	45.668	20.527	1.00	28.64	6
ATOM	3595	CG	ASP	A	472	4.520	46.131	21.640	1.00	30.11	6
ATOM	3596	OD1	ASP	A	472	4.284	45.356	22.596	1.00	32.36	8
ATOM	3597	OD2	ASP	A	472	4.023	47.282	21.562	1.00	32.11	8
ATOM	3598	C	ASP	A	472	5.537	43.910	18.721	1.00	29.26	6
ATOM	3599	O	ASP	A	472	4.578	43.751	17.965	1.00	29.51	8
ATOM	3600	N	GLU	A	473	6.806	43.839	18.314	1.00	30.31	7
ATOM	3601	CA	GLU	A	473	7.164	43.542	16.923	1.00	31.47	6
ATOM	3602	CB	GLU	A	473	8.662	43.793	16.681	1.00	31.31	6
ATOM	3603	CG	GLU	A	473	9.119	43.550	15.228	1.00	31.98	6
ATOM	3604	CD	GLU	A	473	10.629	43.342	15.084	1.00	32.05	6
ATOM	3605	OE1	GLU	A	473	11.400	43.875	15.912	1.00	32.71	8
ATOM	3606	OE2	GLU	A	473	11.044	42.648	14.127	1.00	32.42	8
ATOM	3607	C	GLU	A	473	6.805	42.101	16.540	1.00	32.31	6
ATOM	3608	O	GLU	A	473	6.126	41.867	15.537	1.00	32.39	8
ATOM	3609	N	ILE	A	474	7.264	41.149	17.351	1.00	33.34	7
ATOM	3610	CA	ILE	A	474	7.190	39.725	17.016	1.00	34.42	6
ATOM	3611	CB	ILE	A	474	8.296	38.902	17.780	1.00	34.32	6
ATOM	3612	CG1	ILE	A	474	9.700	39.344	17.342	1.00	34.34	6
ATOM	3613	CD1	ILE	A	474	10.074	38.977	15.901	1.00	34.40	6
ATOM	3614	CG2	ILE	A	474	8.119	37.383	17.592	1.00	34.61	6
ATOM	3615	C	ILE	A	474	5.799	39.132	17.253	1.00	35.23	6
ATOM	3616	O	ILE	A	474	5.382	38.222	16.533	1.00	35.39	8
ATOM	3617	N	VAL	A	475	5.080	39.659	18.245	1.00	36.28	7
ATOM	3618	CA	VAL	A	475	3.804	39.061	18.675	1.00	37.41	6
ATOM	3619	CB	VAL	A	475	3.989	38.175	19.949	1.00	37.31	6
ATOM	3620	CG1	VAL	A	475	5.244	37.354	19.846	1.00	37.72	6
ATOM	3621	CG2	VAL	A	475	4.037	39.025	21.222	1.00	37.83	6
ATOM	3622	C	VAL	A	475	2.663	40.069	18.917	1.00	37.93	6
ATOM	3623	O	VAL	A	475	1.500	39.772	18.628	1.00	38.21	8
ATOM	3624	N	GLU	A	476	3.017	41.257	19.420	1.00	38.57	7
ATOM	3625	CA	GLU	A	476	2.078	42.200	20.072	1.00	39.02	6
ATOM	3626	CB	GLU	A	476	0.719	42.274	19.363	1.00	39.13	6
ATOM	3627	CG	GLU	A	476	-0.230	43.320	19.974	1.00	40.06	6

ATOM	3628	CD	GLU	A	476	-1.711	42.991	19.790	1.00	41.26	6
ATOM	3629	OE1	GLU	A	476	-2.038	41.853	19.381	1.00	41.94	8
ATOM	3630	OE2	GLU	A	476	-2.551	43.875	20.071	1.00	41.62	8
ATOM	3631	C	GLU	A	476	1.884	41.853	21.549	1.00	38.98	6
ATOM	3632	O	GLU	A	476	2.722	42.182	22.392	1.00	39.17	8
ATOM	3633	O3	XXX	B	1	36.620	0.299	53.346	1.00	31.59	8
ATOM	3634	C16	XXX	B	1	36.394	-0.943	53.264	1.00	30.79	6
ATOM	3635	O2	XXX	B	1	37.256	-1.724	52.792	1.00	32.22	8
ATOM	3636	C6	XXX	B	1	35.034	-1.437	53.555	1.00	29.59	6
ATOM	3637	C5	XXX	B	1	34.807	-2.745	53.216	1.00	29.56	6
ATOM	3638	C4	XXX	B	1	33.540	-3.262	53.396	1.00	29.83	6
ATOM	3639	O1	XXX	B	1	33.336	-4.577	53.106	1.00	30.11	8
ATOM	3640	C2	XXX	B	1	33.810	-5.534	54.078	1.00	30.31	6
ATOM	3641	C3	XXX	B	1	32.508	-2.454	53.901	1.00	29.73	6
ATOM	3642	C8	XXX	B	1	32.754	-1.115	54.228	1.00	29.61	6
ATOM	3643	C7	XXX	B	1	34.038	-0.587	54.034	1.00	29.31	6
ATOM	3644	N1	XXX	B	1	34.363	0.697	54.335	1.00	34.18	7
ATOM	3645	C9	XXX	B	1	33.570	1.759	54.668	1.00	34.35	6
ATOM	3646	C10	XXX	B	1	34.206	2.952	54.992	1.00	34.37	6
ATOM	3647	CL1	XXX	B	1	35.990	3.017	54.990	1.00	35.08	17
ATOM	3648	C11	XXX	B	1	33.491	4.090	55.340	1.00	34.31	6
ATOM	3649	C12	XXX	B	1	32.105	4.031	55.375	1.00	34.37	6
ATOM	3650	C15	XXX	B	1	32.179	1.702	54.697	1.00	34.22	6
ATOM	3651	C13	XXX	B	1	31.458	2.834	55.071	1.00	34.29	6
ATOM	3652	C14	XXX	B	1	29.980	2.811	55.031	1.00	34.34	6
ATOM	3653	F2	XXX	B	1	29.542	1.620	54.665	1.00	34.23	9
ATOM	3654	F1	XXX	B	1	29.423	3.256	56.133	1.00	34.40	9
ATOM	3655	F3	XXX	B	1	29.667	3.628	54.034	1.00	33.85	9
ATOM	3656	OW0	HOH	Z	1	37.822	13.622	53.680	1.00	15.33	8
ATOM	3657	OW0	HOH	Z	2	18.685	32.491	19.622	1.00	13.60	8
ATOM	3658	OW0	HOH	Z	3	38.854	5.704	44.654	1.00	15.09	8
ATOM	3659	OW0	HOH	Z	4	27.903	21.019	56.001	1.00	19.13	8
ATOM	3660	OW0	HOH	Z	5	18.488	29.463	56.125	1.00	12.99	8
ATOM	3661	OW0	HOH	Z	6	25.385	26.563	45.292	1.00	19.53	8
ATOM	3662	OW0	HOH	Z	7	25.083	10.850	37.888	1.00	17.27	8
ATOM	3663	OW0	HOH	Z	8	18.171	25.457	23.312	1.00	13.96	8
ATOM	3664	OW0	HOH	Z	9	34.748	0.785	58.071	1.00	25.49	8
ATOM	3665	OW0	HOH	Z	10	15.402	20.878	20.971	1.00	18.20	8
ATOM	3666	OW0	HOH	Z	11	33.766	11.435	36.799	1.00	14.84	8
ATOM	3667	OW0	HOH	Z	12	31.486	26.934	49.667	1.00	15.39	8
ATOM	3668	OW0	HOH	Z	13	26.745	31.060	32.322	1.00	17.29	8
ATOM	3669	OW0	HOH	Z	14	36.010	-0.330	50.274	1.00	35.76	8
ATOM	3670	OW0	HOH	Z	15	21.934	32.232	30.615	1.00	26.33	8
ATOM	3671	OW0	HOH	Z	16	41.814	32.600	33.985	1.00	19.62	8
ATOM	3672	OW0	HOH	Z	17	30.209	26.754	31.566	1.00	17.55	8
ATOM	3673	OW0	HOH	Z	18	28.352	15.062	17.636	1.00	21.36	8
ATOM	3674	OW0	HOH	Z	19	14.792	24.142	14.382	1.00	20.89	8
ATOM	3675	OW0	HOH	Z	20	31.192	-0.541	44.151	1.00	17.74	8
ATOM	3676	OW0	HOH	Z	21	37.963	2.333	50.889	1.00	28.89	8
ATOM	3677	OW0	HOH	Z	22	28.011	36.495	16.475	1.00	18.28	8
ATOM	3678	OW0	HOH	Z	23	13.139	25.476	21.409	1.00	22.29	8
ATOM	3679	OW0	HOH	Z	24	43.167	10.915	31.847	1.00	19.40	8
ATOM	3680	OW0	HOH	Z	25	12.632	21.429	15.684	1.00	23.33	8
ATOM	3681	OW0	HOH	Z	26	28.232	21.780	25.905	1.00	15.83	8
ATOM	3682	OW0	HOH	Z	27	41.619	18.732	53.427	1.00	18.13	8
ATOM	3683	OW0	HOH	Z	28	28.934	28.618	10.813	1.00	22.82	8
ATOM	3684	OW0	HOH	Z	29	25.750	28.578	31.056	1.00	16.06	8
ATOM	3685	OW0	HOH	Z	30	14.431	17.847	23.211	1.00	23.94	8
ATOM	3686	OW0	HOH	Z	31	28.500	29.572	34.250	1.00	16.88	8
ATOM	3687	OW0	HOH	Z	32	26.444	20.176	36.005	1.00	19.45	8
ATOM	3688	OW0	HOH	Z	33	45.495	23.199	49.991	1.00	17.53	8
ATOM	3689	OW0	HOH	Z	34	31.253	29.028	33.200	1.00	19.70	8
ATOM	3690	OW0	HOH	Z	35	25.130	11.609	53.672	1.00	15.27	8
ATOM	3691	OW0	HOH	Z	36	14.722	21.507	13.868	1.00	15.75	8

ATOM	3692	OW0	HOH	Z	37	22.718	22.669	10.485	1.00	21.08	8
ATOM	3693	OW0	HOH	Z	38	43.259	18.983	21.022	1.00	28.09	8
ATOM	3694	OW0	HOH	Z	39	17.542	43.226	16.007	1.00	21.00	8
ATOM	3695	OW0	HOH	Z	40	17.230	25.687	14.371	1.00	18.65	8
ATOM	3696	OW0	HOH	Z	41	47.216	23.783	52.019	1.00	18.04	8
ATOM	3697	OW0	HOH	Z	42	18.267	27.408	27.308	1.00	19.35	8
ATOM	3698	OW0	HOH	Z	43	18.176	9.114	40.214	1.00	28.57	8
ATOM	3699	OW0	HOH	Z	44	39.197	3.317	39.068	1.00	28.47	8
ATOM	3700	OW0	HOH	Z	45	17.803	30.035	18.612	1.00	16.42	8
ATOM	3701	OW0	HOH	Z	46	24.483	29.548	46.805	1.00	28.93	8
ATOM	3702	OW0	HOH	Z	47	18.064	30.991	14.064	1.00	18.70	8
ATOM	3703	OW0	HOH	Z	48	35.800	12.559	38.381	1.00	14.71	8
ATOM	3704	OW0	HOH	Z	49	16.166	37.300	36.944	1.00	22.52	8
ATOM	3705	OW0	HOH	Z	50	27.074	15.074	12.960	1.00	22.10	8
ATOM	3706	OW0	HOH	Z	51	35.244	15.402	38.632	1.00	20.62	8
ATOM	3707	OW0	HOH	Z	52	29.144	19.248	2.533	1.00	32.02	8
ATOM	3708	OW0	HOH	Z	53	30.023	19.663	48.274	1.00	20.38	8
ATOM	3709	OW0	HOH	Z	54	16.485	32.550	4.015	1.00	22.22	8
ATOM	3710	OW0	HOH	Z	55	34.237	-3.231	38.221	1.00	22.14	8
ATOM	3711	OW0	HOH	Z	56	32.859	13.776	16.407	1.00	33.97	8
ATOM	3712	OW0	HOH	Z	57	16.387	28.781	14.798	1.00	20.46	8
ATOM	3713	OW0	HOH	Z	58	23.463	21.736	38.714	1.00	20.50	8
ATOM	3714	OW0	HOH	Z	59	28.599	13.684	40.844	1.00	22.55	8
ATOM	3715	OW0	HOH	Z	60	25.509	22.712	46.019	1.00	18.42	8
ATOM	3716	OW0	HOH	Z	61	15.655	29.984	17.139	1.00	15.72	8
ATOM	3717	OW0	HOH	Z	62	19.467	31.603	31.434	1.00	36.87	8
ATOM	3718	OW0	HOH	Z	63	40.126	14.067	26.325	1.00	18.04	8
ATOM	3719	OW0	HOH	Z	64	36.413	28.366	54.314	1.00	27.75	8
ATOM	3720	OW0	HOH	Z	65	30.152	16.353	37.179	1.00	25.23	8
ATOM	3721	OW0	HOH	Z	66	15.155	50.449	26.574	1.00	23.49	8
ATOM	3722	OW0	HOH	Z	67	24.302	14.378	11.006	1.00	35.27	8
ATOM	3723	OW0	HOH	Z	68	40.627	16.095	54.612	1.00	20.22	8
ATOM	3724	OW0	HOH	Z	69	24.088	20.337	-2.432	1.00	26.18	8
ATOM	3725	OW0	HOH	Z	70	48.658	20.278	25.536	1.00	28.46	8
ATOM	3726	OW0	HOH	Z	71	32.047	10.197	32.662	1.00	20.68	8
ATOM	3727	OW0	HOH	Z	72	19.918	36.104	27.470	1.00	22.48	8
ATOM	3728	OW0	HOH	Z	73	22.987	21.121	45.859	1.00	19.68	8
ATOM	3729	OW0	HOH	Z	74	18.380	34.430	53.619	1.00	25.04	8
ATOM	3730	OW0	HOH	Z	75	28.549	32.967	26.882	1.00	22.48	8
ATOM	3731	OW0	HOH	Z	76	41.296	9.330	52.172	1.00	22.60	8
ATOM	3732	OW0	HOH	Z	77	10.988	35.127	33.410	1.00	18.15	8
ATOM	3733	OW0	HOH	Z	78	35.295	10.622	40.452	1.00	15.95	8
ATOM	3734	OW0	HOH	Z	79	17.949	27.440	50.589	1.00	19.93	8
ATOM	3735	OW0	HOH	Z	80	10.767	39.966	24.397	1.00	23.87	8
ATOM	3736	OW0	HOH	Z	81	45.901	11.280	42.434	1.00	19.40	8
ATOM	3737	OW0	HOH	Z	82	7.978	31.749	23.537	1.00	21.58	8
ATOM	3738	OW0	HOH	Z	83	24.952	25.325	47.596	1.00	20.04	8
ATOM	3739	OW0	HOH	Z	84	25.229	23.737	10.203	1.00	13.90	8
ATOM	3740	OW0	HOH	Z	85	10.484	27.190	22.207	1.00	23.26	8
ATOM	3741	OW0	HOH	Z	86	10.102	29.856	27.603	1.00	29.94	8
ATOM	3742	OW0	HOH	Z	87	8.946	32.409	26.777	1.00	36.89	8
ATOM	3743	OW0	HOH	Z	88	35.821	10.369	29.087	1.00	31.98	8
ATOM	3744	OW0	HOH	Z	89	8.443	28.533	19.890	1.00	28.09	8
ATOM	3745	OW0	HOH	Z	90	45.395	30.512	31.462	1.00	19.93	8
ATOM	3746	OW0	HOH	Z	91	7.807	22.983	17.578	1.00	33.34	8
ATOM	3747	OW0	HOH	Z	92	32.197	33.701	29.608	1.00	33.95	8
ATOM	3748	OW0	HOH	Z	93	33.089	16.643	36.962	1.00	29.54	8
ATOM	3749	OW0	HOH	Z	94	31.422	22.669	11.824	1.00	31.11	8
ATOM	3750	OW0	HOH	Z	95	9.295	11.972	9.825	1.00	31.39	8
ATOM	3751	OW0	HOH	Z	96	27.520	29.277	38.934	1.00	17.79	8
ATOM	3752	OW0	HOH	Z	97	22.829	-0.768	32.759	1.00	30.73	8
ATOM	3753	OW0	HOH	Z	98	13.120	14.386	25.369	1.00	29.64	8
ATOM	3754	OW0	HOH	Z	99	12.752	33.382	12.039	1.00	46.98	8
ATOM	3755	OW0	HOH	Z	100	39.623	25.028	17.741	1.00	37.05	8

ATOM	3756	OW0	HOH	Z	101	44.001	32.051	35.403	1.00	28.33	8
ATOM	3757	OW0	HOH	Z	102	34.319	12.395	29.727	1.00	26.70	8
ATOM	3758	OW0	HOH	Z	103	40.241	29.254	21.534	1.00	19.18	8
ATOM	3759	OW0	HOH	Z	104	34.506	14.424	18.601	1.00	31.18	8
ATOM	3760	OW0	HOH	Z	105	43.862	13.985	47.722	1.00	20.99	8
ATOM	3761	OW0	HOH	Z	106	22.975	17.226	40.496	1.00	30.41	8
ATOM	3762	OW0	HOH	Z	107	38.656	10.110	28.761	1.00	31.21	8
ATOM	3763	OW0	HOH	Z	108	25.585	29.128	33.955	1.00	16.75	8
ATOM	3764	OW0	HOH	Z	109	2.167	36.413	33.710	1.00	28.37	8
ATOM	3765	OW0	HOH	Z	110	17.638	2.594	57.322	1.00	26.05	8
ATOM	3766	OW0	HOH	Z	111	11.751	19.947	2.718	1.00	27.71	8
ATOM	3767	OW0	HOH	Z	112	16.958	32.577	12.152	1.00	14.35	8
ATOM	3768	OW0	HOH	Z	113	21.418	43.736	24.993	1.00	31.71	8
ATOM	3769	OW0	HOH	Z	114	42.968	11.107	45.905	1.00	27.38	8
ATOM	3770	OW0	HOH	Z	115	10.369	20.726	5.200	1.00	22.98	8
ATOM	3771	OW0	HOH	Z	116	12.841	38.505	13.745	1.00	29.31	8
ATOM	3772	OW0	HOH	Z	117	23.993	27.166	34.757	1.00	37.52	8
ATOM	3773	OW0	HOH	Z	118	4.067	22.772	11.599	1.00	33.53	8
ATOM	3774	OW0	HOH	Z	119	36.685	36.532	34.585	1.00	28.02	8
ATOM	3775	OW0	HOH	Z	120	13.334	5.898	18.696	1.00	37.68	8
ATOM	3776	OW0	HOH	Z	121	12.697	35.375	18.933	1.00	17.13	8
ATOM	3777	OW0	HOH	Z	122	8.129	28.979	22.405	1.00	28.71	8
ATOM	3778	OW0	HOH	Z	123	24.067	10.544	58.129	1.00	23.85	8
ATOM	3779	OW0	HOH	Z	124	12.618	46.765	19.149	1.00	35.48	8
ATOM	3780	OW0	HOH	Z	125	34.377	27.461	14.842	1.00	30.14	8
ATOM	3781	OW0	HOH	Z	126	39.812	7.571	55.629	1.00	27.98	8
ATOM	3782	OW0	HOH	Z	127	23.824	12.244	55.913	1.00	20.56	8
ATOM	3783	OW0	HOH	Z	128	24.421	14.594	57.356	1.00	30.28	8
ATOM	3784	OW0	HOH	Z	129	13.103	25.051	32.881	1.00	32.37	8
ATOM	3785	OW0	HOH	Z	130	41.353	8.304	32.306	1.00	24.37	8
ATOM	3786	OW0	HOH	Z	131	24.902	18.010	57.781	1.00	24.38	8
ATOM	3787	OW0	HOH	Z	132	43.169	32.138	31.595	1.00	25.80	8
ATOM	3788	OW0	HOH	Z	133	13.080	36.914	15.756	1.00	26.12	8
ATOM	3789	OW0	HOH	Z	134	32.686	32.912	15.360	1.00	44.56	8
ATOM	3790	OW0	HOH	Z	135	30.118	-5.020	39.780	1.00	43.54	8
ATOM	3791	OW0	HOH	Z	136	46.349	28.908	43.950	1.00	25.34	8
ATOM	3792	OW0	HOH	Z	137	15.834	53.176	32.767	1.00	24.36	8
ATOM	3793	OW0	HOH	Z	138	15.758	45.060	16.791	1.00	29.03	8
ATOM	3794	OW0	HOH	Z	139	35.319	1.432	48.753	1.00	21.30	8
ATOM	3795	OW0	HOH	Z	140	9.445	25.069	20.886	1.00	20.28	8
ATOM	3796	OW0	HOH	Z	141	21.792	9.271	58.485	1.00	32.74	8
ATOM	3797	OW0	HOH	Z	142	42.205	25.913	54.888	1.00	27.36	8
ATOM	3798	OW0	HOH	Z	143	26.020	16.812	41.060	1.00	25.66	8
ATOM	3799	OW0	HOH	Z	144	9.426	18.328	6.516	1.00	26.81	8
ATOM	3800	OW0	HOH	Z	145	29.345	18.825	37.732	1.00	32.18	8
ATOM	3801	OW0	HOH	Z	146	27.286	8.358	20.729	1.00	34.20	8
ATOM	3802	OW0	HOH	Z	147	5.192	29.609	-3.540	1.00	29.15	8
ATOM	3803	OW0	HOH	Z	148	43.225	30.320	40.375	1.00	26.17	8
ATOM	3804	OW0	HOH	Z	149	23.005	33.152	9.707	1.00	20.56	8
ATOM	3805	OW0	HOH	Z	150	1.301	24.310	14.139	1.00	27.77	8
ATOM	3806	OW0	HOH	Z	151	14.773	22.679	33.210	1.00	47.52	8
ATOM	3807	OW0	HOH	Z	152	14.441	16.781	25.645	1.00	29.72	8
ATOM	3808	OW0	HOH	Z	153	15.832	25.353	2.636	1.00	32.00	8
ATOM	3809	OW0	HOH	Z	154	33.917	27.535	31.100	1.00	24.90	8
ATOM	3810	OW0	HOH	Z	155	16.573	18.337	26.993	1.00	30.65	8
ATOM	3811	OW0	HOH	Z	156	49.083	24.041	35.174	1.00	50.65	8
ATOM	3812	OW0	HOH	Z	157	25.656	28.124	58.668	1.00	25.06	8
ATOM	3813	OW0	HOH	Z	158	29.025	35.725	30.500	1.00	29.89	8
ATOM	3814	OW0	HOH	Z	159	29.404	33.380	29.383	1.00	27.48	8
ATOM	3815	OW0	HOH	Z	160	3.036	33.894	29.099	1.00	34.64	8
ATOM	3816	OW0	HOH	Z	161	36.806	20.478	13.785	1.00	31.35	8
ATOM	3817	OW0	HOH	Z	162	22.710	28.005	-0.360	1.00	40.32	8
ATOM	3818	OW0	HOH	Z	163	49.395	29.484	44.215	1.00	27.87	8
ATOM	3819	OW0	HOH	Z	164	38.195	7.496	21.008	1.00	35.78	8

ATOM	3820	OW0	HOH	Z	165	27.362	27.286	32.830	1.00	24.87	8
ATOM	3821	OW0	HOH	Z	166	35.178	20.590	11.628	1.00	41.69	8
ATOM	3822	OW0	HOH	Z	167	1.900	24.512	11.600	1.00	27.52	8
ATOM	3823	OW0	HOH	Z	168	17.133	32.107	33.189	1.00	51.63	8
ATOM	3824	OW0	HOH	Z	169	23.236	28.962	8.047	1.00	22.58	8
ATOM	3825	OW0	HOH	Z	170	48.158	23.950	55.109	1.00	25.58	8
ATOM	3826	OW0	HOH	Z	171	3.245	43.682	24.450	1.00	52.57	8
ATOM	3827	OW0	HOH	Z	172	48.636	28.997	19.770	1.00	31.29	8
ATOM	3828	OW0	HOH	Z	173	29.325	21.740	10.162	1.00	38.25	8
ATOM	3829	OW0	HOH	Z	174	43.154	38.981	44.762	1.00	31.59	8
ATOM	3830	OW0	HOH	Z	175	40.336	27.024	19.307	1.00	40.82	8
ATOM	3831	OW0	HOH	Z	176	22.845	32.080	46.844	1.00	29.32	8
ATOM	3832	OW0	HOH	Z	177	18.470	17.527	50.146	1.00	26.02	8
ATOM	3833	OW0	HOH	Z	178	35.329	23.084	10.710	1.00	57.72	8
ATOM	3834	OW0	HOH	Z	179	16.593	37.497	10.415	1.00	51.98	8
ATOM	3835	OW0	HOH	Z	180	14.291	50.563	24.073	1.00	47.83	8
ATOM	3836	OW0	HOH	Z	181	27.396	3.187	67.249	1.00	33.61	8
ATOM	3837	OW0	HOH	Z	182	27.769	27.390	8.617	1.00	26.03	8
ATOM	3838	OW0	HOH	Z	183	7.562	9.332	53.022	1.00	32.97	8
ATOM	3839	OW0	HOH	Z	184	22.829	34.060	48.715	1.00	35.59	8
ATOM	3840	OW0	HOH	Z	185	50.459	15.517	43.604	1.00	35.09	8
ATOM	3841	OW0	HOH	Z	186	33.695	8.260	29.443	1.00	32.85	8
ATOM	3842	OW0	HOH	Z	187	14.359	48.227	42.474	1.00	45.87	8
ATOM	3843	OW0	HOH	Z	188	24.143	19.814	40.471	1.00	35.57	8
ATOM	3844	OW0	HOH	Z	189	38.593	8.163	17.010	1.00	39.72	8
ATOM	3845	OW0	HOH	Z	190	7.857	26.087	19.027	1.00	36.57	8
ATOM	3846	OW0	HOH	Z	191	9.017	7.035	14.732	1.00	44.76	8
ATOM	3847	OW0	HOH	Z	192	19.795	51.849	39.250	1.00	33.06	8
ATOM	3848	OW0	HOH	Z	193	45.205	9.722	39.677	1.00	36.05	8
ATOM	3849	OW0	HOH	Z	194	24.718	9.870	4.590	1.00	28.64	8
ATOM	3850	OW0	HOH	Z	195	37.810	24.483	15.049	1.00	40.21	8
ATOM	3851	OW0	HOH	Z	196	38.824	18.936	57.170	1.00	27.46	8
ATOM	3852	OW0	HOH	Z	197	40.110	3.376	43.825	1.00	31.70	8
ATOM	3853	OW0	HOH	Z	198	28.698	16.252	10.769	1.00	38.76	8
ATOM	3854	OW0	HOH	Z	199	9.187	32.983	4.147	1.00	38.86	8
ATOM	3855	OW0	HOH	Z	200	51.813	20.350	42.847	1.00	29.38	8
ATOM	3856	OW0	HOH	Z	201	28.748	15.079	63.026	1.00	35.69	8
ATOM	3857	OW0	HOH	Z	202	20.468	37.756	10.039	1.00	48.67	8
ATOM	3858	OW0	HOH	Z	203	17.990	8.848	56.759	1.00	35.68	8
ATOM	3859	OW0	HOH	Z	204	5.145	25.229	19.650	1.00	34.82	8
ATOM	3860	OW0	HOH	Z	205	31.863	11.213	29.933	1.00	39.80	8
ATOM	3861	OW0	HOH	Z	206	22.608	-5.570	37.559	1.00	36.84	8
ATOM	3862	OW0	HOH	Z	207	48.062	25.072	37.444	1.00	44.17	8
ATOM	3863	OW0	HOH	Z	208	13.541	20.150	31.969	1.00	57.25	8
ATOM	3864	OW0	HOH	Z	209	31.863	0.830	25.886	1.00	39.37	8
ATOM	3865	OW0	HOH	Z	210	35.449	17.282	62.211	1.00	38.11	8
ATOM	3866	OW0	HOH	Z	211	19.296	9.780	18.915	1.00	74.89	8
ATOM	3867	OW0	HOH	Z	212	9.113	8.119	43.855	1.00	42.78	8
ATOM	3868	OW0	HOH	Z	213	25.316	26.074	8.860	1.00	30.16	8
ATOM	3869	OW0	HOH	Z	214	20.140	29.894	48.350	1.00	43.12	8
ATOM	3870	OW0	HOH	Z	215	29.660	14.503	15.123	1.00	48.14	8
ATOM	3871	OW0	HOH	Z	216	41.481	8.331	18.292	1.00	39.82	8
ATOM	3872	OW0	HOH	Z	217	-3.523	31.903	18.867	1.00	35.80	8
ATOM	3873	OW0	HOH	Z	218	51.266	25.888	25.263	1.00	23.86	8
ATOM	3874	OW0	HOH	Z	219	36.513	7.196	56.549	1.00	27.66	8
ATOM	3875	OW0	HOH	Z	220	12.213	18.423	27.309	1.00	37.25	8
ATOM	3876	OW0	HOH	Z	221	32.240	1.474	62.119	1.00	53.64	8
ATOM	3877	OW0	HOH	Z	222	33.674	8.526	60.220	1.00	37.38	8
ATOM	3878	OW0	HOH	Z	223	21.183	22.012	5.098	1.00	47.51	8
ATOM	3879	OW0	HOH	Z	224	17.780	33.381	9.563	1.00	33.21	8
ATOM	3880	OW0	HOH	Z	225	32.481	11.769	63.015	1.00	53.06	8
ATOM	3881	OW0	HOH	Z	226	21.211	10.090	17.270	1.00	48.88	8
ATOM	3882	OW0	HOH	Z	227	3.413	13.486	25.700	1.00	57.93	8
ATOM	3883	OW0	HOH	Z	228	41.372	7.528	49.259	1.00	57.18	8

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ATOM   3884  OW0 HOH Z 229      44.091  13.172  15.975  1.00 48.72   8
ATOM   3885  OW0 HOH Z 230      22.649  45.181  28.556  1.00 38.14   8
ATOM   3886  OW0 HOH Z 231      32.314  27.093  54.668  1.00 34.77   8
ATOM   3887  OW0 HOH Z 232      -2.290  26.794  20.664  1.00 42.85   8
ATOM   3888  OW0 HOH Z 233      37.329  -3.664  39.804  1.00 35.89   8
ATOM   3889  OW0 HOH Z 234       5.340  32.703   7.314  1.00 45.25   8
ATOM   3890  OW0 HOH Z 235       2.333  33.544   2.954  1.00 35.13   8
ATOM   3891  OW0 HOH Z 236      25.900  13.080  40.172  1.00 43.16   8
ATOM   3892  OW0 HOH Z 237      19.138  14.576  49.299  1.00 42.79   8
ATOM   3893  OW0 HOH Z 238      25.567  26.472  40.031  1.00 39.97   8
ATOM   3894  OW0 HOH Z 239      17.546  -9.985  43.762  1.00 58.18   8
ATOM   3895  OW0 HOH Z 240      -1.672  29.072  26.286  1.00 52.04   8
ATOM   3896  OW0 HOH Z 241       6.097  34.431   9.544  1.00 38.91   8
ATOM   3897  OW0 HOH Z 242      50.812  22.728  44.664  1.00 36.96   8
ATOM   3898  OW0 HOH Z 243      45.963  17.701  32.633  1.00 34.09   8
ATOM   3899  OW0 HOH Z 244      22.571  15.881  32.301  1.00 39.52   8
ATOM   3900  OW0 HOH Z 245      29.466  34.586  49.675  1.00 30.29   8
ATOM   3901  OW0 HOH Z 246      -0.096  25.184   4.188  1.00 30.65   8
ATOM   3902  OW0 HOH Z 247      18.238  39.484  37.998  1.00 39.98   8
ATOM   3903  OW0 HOH Z 248      23.712  15.984  61.484  1.00 44.49   8
ATOM   3904  OW0 HOH Z 249      42.851  17.446  27.926  1.00 29.01   8
ATOM   3905  OW0 HOH Z 250      21.804  38.564  12.235  1.00 49.41   8
ATOM   3906  OW0 HOH Z 251      36.403  39.596  28.126  1.00 44.13   8
END
```

[00129] Table 8 illustrates the number and identity of known protein interactions with bacterial SSBs.

Table 8. Protein interactions with bacterial SSBs

SSB-interacting protein	SSB-Ct required?	References
Chi (DNA polymerase III)	Yes	Butland *et al.*, 2005, *Nature* 433: 531-537
DNA polymerase II	Yes	Molineux and Gefter, 1974, *Proc. Natl. Acad. Sci. USA* 71: 3858-3862
DNA polymerase V	Yes	Arad *et al.*, 2008, *J. Biol. Chem.* 283: 8274-8282
Exonuclease I	Yes	Butland *et al.*, 2005, *Nature* 433: 531-537
Exonuclease IX	Unknown	Hodskinson *et al.*, 2007, *Nucl. Acids Res.* 35: 4094-4102

PriA	Yes	Butland *et al.*, 2005, *Nature* 433: 531-537
PriB	Unknown	Low *et al.*, 1982, *J. Biol.* 257: 6242-6250
Primase	Yes	Yuzhakov *et al.*, 1999, *Cell* 96: 153-163
RecG	Unknown	Butland *et al.*, 2005, *Nature* 433: 531-537
RecJ	Unknown	Butland *et al.*, 2005, *Nature* 433: 531-537
RecO	Unknown	Umezu *et al.*, 1993, *Proc. Natl. Acad. Sci.* 90: 3875-3879
RecQ	Yes	Butland *et al.*, 2005, *Nature* 433: 531-537
Topoisomerase III	Unknown	Butland *et al.*, 2005, *Nature* 433: 531-537
Uracil DNA glycosylase	Yes	Purnapatre *et al.*, 1999, *Nucl. Acids Res.* 27: 3487-3492

[00130] Table 9 illustrates the crystallographic data collection and structure refinement statistics.

Table 9. Crystallographic data collection and structure refinement statistics

Space group	$P2_12_12_1$	$P2_12_12_1$
Unit cell parameters (a, b, c (Å)) (α, β, γ (°))	52,63, 92.08, 102.79 90, 90, 90	67.15, 92.19, 91.28 90, 90, 90
Resolution range (High resolution) (Å)	20-1.7 (1.77-1.70)	20-2.7 (2.77-2.70)
R_{sym} (%)*	6.1 (47.9)	7.9 (38.3)
Completeness (%)	92.5 (91.5)	98.0 (88.2)

Redundancy	4.0 (4.0)	3.7 (3.8)
<I/σ>	37.7 (4.0)	25.9 (4.0)
Refinement		
Resolution (Å)	20-1.7	20-2.7
R_{work}/R_{free} (%)**	18.0/21.3	19.8/25.2
Residues	446	465
Protein atoms***	3740	3782
Solvent atoms	436	42
<B factor> protein	23.9	52.5
<B factor> peptide A	Not applicable	50.4
<B factor> peptide B	Not applicable	80.4
<B factor> solvent	37.0	43.1
RMSD bond lengths (Å)	0.013	0.013
RMSD bond angles (°)	1.10	1.05
Ramachandran statistics, % core	92.7	90.4
% allowed	7.3	9.6
% generously allowed	0	0
% disallowed	0	0

*$R_{sym} = \Sigma\Sigma_j|I_j - \langle I\rangle|/\Sigma I_j$, where I_j is the intensity measurement for reflection j and <I> is the mean intensity for multiply recorded reflections.

**$R_{work,\ free} = \Sigma||F_{obs}| - |F_{calc}||/|F_{obs}|$, where the working and free R factors are calculated using the working and free reflection sets, respectively. The free R reflections (5% of the total) were held aside throughout refinement.

***Note that for the apo-ExoI structure, several side-chains and one loop sequence were modeled in multiple rotamers/conformations; in cases where atoms have been modeled in multiple conformations, each modeled position is counted in the number of protein atoms (i.e. if a given atom is modeled in two positions it is counted as two protein atoms rather than one in the SI Table 9).

[00131] Table 10 shows $K_{d,\ app}$ values for F-SSB-Ct binding by ExoI and variants.

Table 10. $K_{d,\ app}$ values for F-SSB-Ct binding by ExoI and variants

Protein	Role of mutated residue in ExoI	$K_{d,\ app}$ (nM)
ExoI	----	136 +/- 11
Arg148Ala	peptide A binding	>> 1000
Tyr207Ala	peptide A binding	> 1000
Gln311Ala	peptide A binding	304 +/- 14
Arg316Ala	flanks peptide A	> 1000
Arg327Ala	peptide B binding	270 +/- 22
Leu331Ala	peptide B binding	193 +/- 3
Lys227Ala	basic ridge	~ 1000
Arg338Ala	basic ridge	398 +/- 15
Glu150Ala	Mg^{2+} binding	72 +/- 1
Glu318Ala	Mg^{2+} binding	80 +/- 6
Asp319Ala	Mg^{2+} binding	299 +/- 8
Gln448Ala	helical domain	181 +/- 25
Gln452Ala	helical domain	212 +/- 6

Topoisomerase III Peptide Binding

[00132] Topoisomerase III binding assays were conducted (Figure 24) to determine if the candidate compounds can inhibit the binding of the C-terminal tail of *E. coli* SSB to other proteins that are known SSB binding partners. One such binding partner is Topoisomerase III (TopoIII), one of a number of proteins that interact with the C-terminal tail of SSB (Shereda, Bernstein, and Keck, unpublished observation). TopoIII was titrated into 10 nM fluorescent peptide, as described above for the ExoI binding assays. The buffer conditions for this binding assay were: 300 mM NaCl, 20 mM Tris pH 8.0, 10% Glycerol, 1 mM BME (Beta-Mercaptoethanol), and 1% DMSO. Concentrations of TopoIII used are

given on the graph in Figure 24. Changes in anisotropy upon binding were read using PanVera Beacon 2000 FP.

[00133] The data indicate that peptide binding is much weaker in the case of TopoIII/peptide, making it difficult to accurately determine a binding constant (K_d). In order to determine if the compounds had an effect on peptide binding to TopoIII, a similar set of experiments as stated above was set up, except for the omission of DMSO from the buffer solution. Either unlabeled peptide or various compounds were then added to a final concentration of 100 μM. These compounds and unlabeled peptide were dissolved in DMSO and their addition brought the final concentration of DMSO to 1%.

[00134] Some of the candidate compounds were able to inhibit binding of the peptide to TopoIII, lowering the observed anisotropy value. As shown in Figure 24, even addition of 100 μM unlabeled peptide did not bring the anisotropy values down to the baseline (the values that would be expected with no binding of fluorescently labeled peptide). This is due to the very high concentrations of TopoIII that need to be used in order to observe binding. Thus, some of the compounds such as 10 can not only inhibit binding of the fluorescent peptide to ExoI but also to other known binding partners, such TopoIII. Therefore, at least some of the identified inhibitors can actually inhibit binding of the C-terminal tail of SSB to more than one of its binding partners, and not just ExoI.

Mammalian Cell Toxicity

[00135] The toxicity of the identified antimicrobial candidate compounds was tested using human colorectal adenocarcinoma cells *in vitro*. The tested compounds are significantly less toxic to HT-29 (human colorectal adenocarcinoma) than to Gram-positive bacterial cells or the cell wall compromised *E. coli* cells. The mammalian cells were tested using a CellTiter-Glo cell viability assay (Promega, Madison, WI).

[00136] According to the data obtained with this assay compound 3 had an IC_{50} >100 μM, compound 8 had an IC_{50} >100 μM, compound 9 had an IC_{50} = 38 μM, compound 10 had an IC_{50} = 60 μM, compounds 28, 29, 32, and 37 all had an IC_{50} >100 μM, compound 42 had an IC_{50} = 51 μM, and compound 46 had an IC_{50}

= 55 μM. Comparing these data to the IC_{50} from the bacterial growth curves, the conclusion is that the compounds are much more effective at killing bacteria than mammalian cells.

Hemolysis

[00137] *In vitro* hemolysis experiments were carried out to determine if the identified drug candidates merely inhibited bacterial growth by causing cell lysis. The identified small molecules were incubated with red blood cells to see what percentage of cells would lyse after 1 hour. The results from these experiments are shown in Table 11. Estimated hemolysis data are due to problem with reading absorbance, when the compound absorbs at the same wavelength as heme or if the compound precipitates. In such instances it is difficult to quantitate the absorbance readings; however, visual determination of how many cells have lysed can then be performed, which provides an estimate of cell lysis.

Table 11. Results from hemolysis experiments

Inhibitor	% hemolysis at given concentration	% hemolysis at given concentration
3	20% 100 μM	
8	estimated 0% 200 μM	estimated 90% 400uM
9	0% >800 μM	
10	0% 400 μM	85% at 800 μM
32	0% >800 μM	
37	estimated 0% 800 μM	
28	0% > 800 μM	
29	0% > 800 μM	
31	0% > 800 μM	
46	0 %>800 μM	
42	0% >800 μM	

[00138] It is to be understood that this invention is not limited to the particular devices, methodology, protocols, subjects, or reagents described, and as such may vary. It is also to be understood that the terminology used herein is for the purpose of describing particular embodiments only, and is not intended to limit the scope of the present invention, which is limited only by the claims. Other suitable modifications and adaptations of a variety of conditions and parameters, obvious to those skilled in the art of biochemistry and pharmaceutical chemistry, are within the scope of this invention. All publications, patents, and patent applications cited herein are incorporated by reference in their entirety for all purposes.

CLAIMS

What is claimed is:

1. A method for screening a candidate compound for antimicrobial activity, comprising:

a) reacting a first polypeptide comprising a prokaryotic SSB, a second polypeptide that binds to the prokaryotic SSB, and a candidate compound; and

b) determining whether the candidate compound inhibits binding of the first polypeptide to the second polypeptide, relative to binding in the absence of the candidate compound,

wherein inhibition in binding, relative to binding in absence of the candidate compound, identifies the candidate compound as an antimicrobial compound.

2. The method of claim 1, wherein the first polypeptide comprising the prokaryotic SSB comprises a carboxy-tail that is at least 90% identical to the carboxy-tail of the polypeptide having the amino acid sequence of SEQ ID NO:2.

3. The method of claim 1, wherein the first polypeptide comprising the prokaryotic SSB comprises a carboxy-tail of the polypeptide having the amino acid sequence of SEQ ID NO:2 having 1 to 4 conservative amino acid substitutions.

4. The method of claim 1, wherein the second polypeptide comprising the prokaryotic SSB-binding protein comprises a carboxy-tail comprising the amino acid sequence Asp-Ile-Pro-Phe (SEQ ID NO:5) having 1 to 2 conservative amino acid substitutions.

5. The method of claim 1, wherein the polypeptide comprising the prokaryotic SSB comprises a carboxy-tail comprising the amino acid sequence Asp-Ile-Pro-Phe (SEQ ID NO:5).

6. The method of claim 1, wherein the polypeptide that binds to the prokaryotic SSB is a prokaryotic exonuclease, a prokaryotic DNA polymerase subunit, a prokaryotic primase, a prokaryotic helicase, a prokaryotic topoisomerase, or a prokaryotic DNA repair enzyme.

7. The method of claim 1, wherein the polypeptide that binds to the prokaryotic SSB is a prokaryotic exonuclease.

8. The method of claim 1, wherein the polypeptide that binds to the prokaryotic SSB is at least 90% identical to the amino acid sequence of SEQ ID NO:4.

9. The method of claim 1, wherein the identifying step comprises measuring fluorescence polarization.

10. A method of inhibiting the binding of an SSB-binding protein to the C-terminal tail of a prokaryotic SSB, comprising contacting the antimicrobial compound identified according to the method of claim 1 with the SSB-binding protein and with the C-terminal tail of a prokaryotic SSB, wherein the antimicrobial compound inhibits the binding of the prokaryotic SSB to the SSB-binding protein.

11. The method of claim 10 wherein the SSB-binding protein is a prokaryotic exonuclease I.

12. A method of inhibiting the growth of a microorganism, comprising contacting a microorganism with the antimicrobial compound identified according to the method of claim 1, thereby inhibiting the growth of the microorganism.

13. The method of claim 12, wherein the microorganism is a bacterium.

14. A three-dimensional model of a crystal structure of a prokaryotic exonuclease I bound to the C-terminal tail of a prokaryotic SSB, wherein the model substantially represents the atomic coordinates specified in the Protein Data Bank under the accession code 3C94.

15. A method, comprising:

a) identifying a candidate compound having atomic coordinates substantially similar to the atomic coordinates specified in the Protein Data Bank under the accession code 3C94;

b) contacting the candidate compound with a first polypeptide comprising the prokaryotic SSB and with a second polypeptide that binds to the prokaryotic SSB; and

c) assaying for binding of the first polypeptide to the second polypeptide;

wherein a decrease in binding, relative to the binding of the first polypeptide to the second polypeptide in absence of the candidate compound, identifies the candidate compound as an antimicrobial compound.

16. The method of claim 15, wherein the contacting is performed in solution.

17. The method of claim 15, wherein the contacting is simulated *in silico*.

18. The method of claim 17, further comprising the step (d) of administering the identified antimicrobial compound to a subject to determine if the compound reduces growth of microorganisms in the subject.

19. A three-dimensional model of a crystal structure of a prokaryotic exonuclease I bound to compound 9, wherein the model substantially represents the atomic coordinates specified in Table 6.

20. A method, comprising:

a) identifying a candidate compound having atomic coordinates substantially similar to the atomic coordinates of compound 9 specified in Table 6;

b) contacting the candidate compound with a polypeptide comprising the prokaryotic SSB and with a polypeptide that binds to the prokaryotic SSB; and

c) assaying for binding of the polypeptide comprising the prokaryotic SSB to the polypeptide that binds to the prokaryotic SSB;

wherein a decrease in binding, relative to the binding of the polypeptide comprising the prokaryotic SSB to the polypeptide that binds to the prokaryotic SSB in absence of the candidate compound, identifies the candidate compound as an antimicrobial compound.

21. The method of claim 20, wherein the contacting is performed in solution.

22. The method of claim 20, wherein the contacting is simulated *in silico*.

23. The method of claim 20, further comprising the step (d) of administering the identified antimicrobial compound to a subject to determine if the compound reduces growth of microorganisms in the subject.

24. A three-dimensional model of a crystal structure of a prokaryotic exonuclease I bound to compound 10, wherein the model substantially represents the atomic coordinates specified in Table 7.

25. A method, comprising:

a) identifying a candidate compound having atomic coordinates substantially similar to the atomic coordinates of compound 10 specified in Table 7;

b) contacting the candidate compound with a polypeptide comprising the prokaryotic SSB and with a polypeptide that binds to the prokaryotic SSB; and

c) assaying for binding of the polypeptide comprising the prokaryotic SSB to the polypeptide that binds to the prokaryotic SSB;

wherein a decrease in binding, relative to the binding of the polypeptide comprising the prokaryotic SSB to the polypeptide that binds to the prokaryotic SSB in absence of the candidate compound, identifies the candidate compound as an antimicrobial compound.

26. The method of claim 25, wherein the contacting is performed in solution.

27. The method of claim 25, wherein the contacting is simulated *in silico*.

28. The method of claim 25, further comprising the step (d) of administering the identified antimicrobial compound to a subject to determine if the compound reduces growth of microorganisms in the subject.

29. A method of inhibiting the binding of a prokaryotic exonuclease I to a C-terminal tail of a prokaryotic SSB, comprising:

a) designing a candidate compound having atomic coordinates substantially similar to the atomic coordinates specified in the Protein Data Bank under the accession code 3C94; and

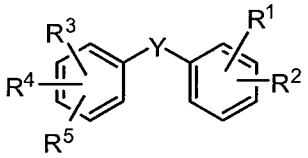
b) contacting the candidate compound with the prokaryotic exonuclease I and with the prokaryotic SSB;

wherein the candidate compound inhibits the binding of the prokaryotic exonuclease I to the prokaryotic SSB.

30. The method of claim 29, wherein the contacting is performed in solution.

31. The method of claim 29, wherein the contacting is simulated *in silico*.

32. A method of inhibiting the growth of a microorganism, comprising contacting the microorganism with a compound of the formula



wherein Y is selected from the group consisting of: CH_2, O, and NH;

R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

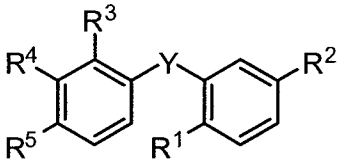
R^2 is selected from the group consisting of: H and CF_3;

R^3 is selected from the group consisting of: H and CO_2H;

R^4 is selected from the group consisting of: H and OH; and

R^5 is selected from the group consisting of: H, alkoxy [OCH_3], and NO_2.

33. The method according to claim 32, comprising contacting the microorganism with a compound of the formula



wherein Y is selected from the group consisting of: CH_2, O, and NH;

R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H and CF_3;

R^3 is selected from the group consisting of: H and CO_2H;

R^4 is selected from the group consisting of: H and OH; and

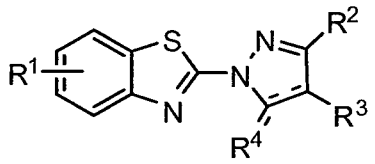
R^5 is selected from the group consisting of H, alkoxy, and NO_2.

34. The method according to claim 32 wherein Y represents NH, R^1 represents Cl, R^2 represents CF_3, R^3 represents CO_2H, R^4 represents H, and R^5 represents OCH_3.

35. The method according to claim 32 wherein Y represents NH, R^1 represents H, R^2 represents CF_3, R^3 represents CO_2H, R^4 represents H, and R^5 represents H.

36. The method according to claim 32 wherein Y represents O, R^1 represents Cl, R^2 represents CF_3, R^3 represents H, R^4 represents OH, and R^5 represents NO_2.

37. A method of inhibiting the growth of a microorganism, comprising contacting the microorganism with a compound of the formula



wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

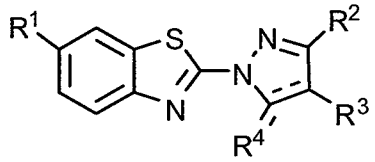
R^2 is selected from the group consisting of: H, alkyl, and CF_3;

R^3 is selected from the group consisting of: H and alkyl; and

R^4 is selected from the group consisting of: H, O, and OH;

wherein when R^4 is O, then R^3 is H and only a single bond is between the carbons geminal with R^3 and R^4 and when R^4 is H or OH, then a double bond is between the carbons geminal with R^3 and R^4.

38. The method according to claim 37, comprising contacting the microorganism with a compound of the formula



wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H, alkyl, and CF_3;

R^3 is selected from the group consisting of: H and alkyl; and

R^4 is selected from the group consisting of: H, O, and OH;

wherein when R^4 is O, then R^3 is H and only a single bond is between the carbons geminal with R^3 and R^4 and when R^4 is H or OH, then a double bond is between the carbons geminal with R^3 and R^4.

39. The method according to claim 37 wherein R^1 represents Cl, R^2 represents alkyl, R^3 represents H, and R^4 represents O.

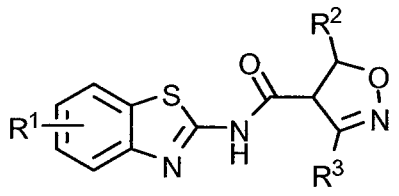
40. The method according to claim 37 wherein R^1 represents H, R^2 represents alkyl, R^3 represents alkyl, and R^4 represents OH.

41. The method according to claim 37 wherein R^1 represents H, R^2 represents alkyl, R^3 represents H, and R^4 represents O.

42. The method according to claim 37 wherein R^1 represents H, R^2 represents alkyl, R^3 represents H, and R^4 represents OH.

43. The method according to claim 37 wherein R^1 represents Cl, R^2 represents alkyl, R^3 represents H, and R^4 represents O.

44. A method of inhibiting the growth of a microorganism, comprising contacting the microorganism with a compound of the formula

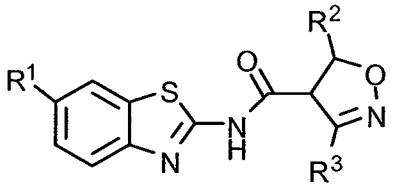


wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H, alkyl, and CF_3; and

R^3 is selected from the group consisting of: H alkyl, and CF_3.

45. The method according to claim 44, comprising contacting the microorganism with a compound of the formula



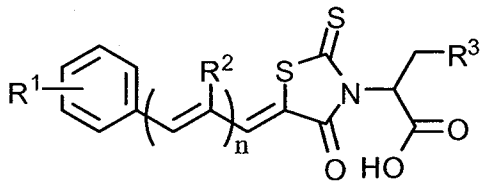
wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H, alkyl, and CF_3; and

R^3 is selected from the group consisting of: H alkyl, and CF_3.

46. The method according to claim 44 wherein R^1 represents Cl, R^2 represents alkyl, and R^3 represents alkyl.

47. A method of inhibiting the growth of a microorganism, comprising contacting the microorganism with a compound of the formula

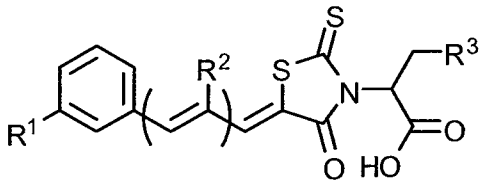


wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H, alkyl, and CF_3; and

R^3 is selected from the group consisting of: phenyl and benzyl.

48. The method according to claim 47, comprising contacting the microorganism with a compound of the formula



wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

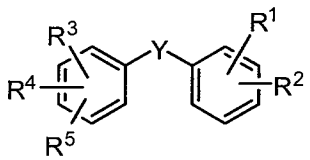
R^2 is selected from the group consisting of: H, alkyl, and CF_3; and

R^3 is selected from the group consisting of: phenyl and benzyl.

49. The method according to claim 47 wherein R^1 represents Br, R^2 represents H, and R^3 represents phenyl.

50. The method according to claim 47 wherein R^1 represents H, R^2 represents alkyl, and R^3 represents phenyl.

51. An antimicrobial pharmaceutical composition comprising as the active agent a compound of the formula



wherein Y is selected from the group consisting of: CH_2, O, and NH;

R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H and CF_3;

R^3 is selected from the group consisting of: H and CO_2H;

R^4 is selected from the group consisting of: H and OH; and

R^5 is selected from the group consisting of: H, alkoxy [OCH_3], and NO_2.

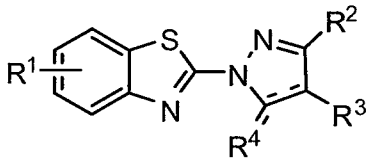
52. The antimicrobial pharmaceutical composition according to claim 51 wherein Y represents NH, R^1 represents Cl, R^2 represents CF_3, R^3 represents CO_2H, R^4 represents H, and R^5 represents OCH_3.

53. The antimicrobial pharmaceutical composition according to claim 51 wherein Y represents NH, R^1 represents H, R^2 represents CF_3, R^3 represents CO_2H, R^4 represents H, and R^5 represents H.

54. The antimicrobial pharmaceutical composition according to claim 51 wherein Y represents O, R^1 represents Cl, R^2 represents CF_3, R^3 represents H, R^4 represents OH, and R^5 represents NO_2.

55. A method of treating a subject having a microbial infection comprising the step of administering to the subject a therapeutically effective amount of the pharmaceutical composition of claim 51.

56. An antimicrobial pharmaceutical composition comprising as the active agent a compound of the formula



wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H, alkyl, and CF_3;

R^3 is selected from the group consisting of: H and alkyl; and

R^4 is selected from the group consisting of: H, O, and OH;

wherein when R^4 is O, then R^3 is H and only a single bond is between the carbons geminal with R^3 and R^4 and when R^4 is H or OH, then a double bond is between the carbons geminal with R^3 and R^4.

57. The antimicrobial pharmaceutical composition according to claim 56 wherein R^1 represents Cl, R^2 represents alkyl, R^3 represents H, and R^4 represents O.

58. The method antimicrobial pharmaceutical composition according to claim 56 wherein R^1 represents H, R^2 represents alkyl, R^3 represents alkyl, and R^4 represents OH.

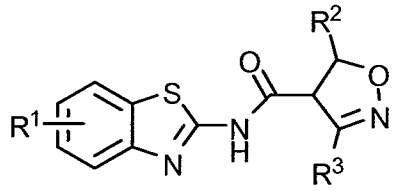
59. The antimicrobial pharmaceutical composition according to claim 56 wherein R^1 represents H, R^2 represents alkyl, R^3 represents H, and R^4 represents O.

60. The antimicrobial pharmaceutical composition according to claim 56 wherein R^1 represents H, R^2 represents alkyl, R^3 represents H, and R^4 represents OH.

61. The antimicrobial pharmaceutical composition according to claim 56 wherein R^1 represents Cl, R^2 represents alkyl, R^3 represents H, and R^4 represents O.

62. A method of treating a subject having a microbial infection comprising the step of administering to the subject a therapeutically effective amount of the pharmaceutical composition of claim 56.

63. An antimicrobial pharmaceutical composition comprising as the active agent a compound of the formula



wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

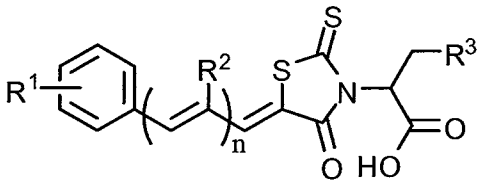
R^2 is selected from the group consisting of: H, alkyl, and CF_3; and

R^3 is selected from the group consisting of: H alkyl, and CF_3.

64. The antimicrobial pharmaceutical composition according to claim 63 wherein R^1 represents Cl, R^2 represents alkyl, and R^3 represents alkyl.

65. A method of treating a subject having a microbial infection comprising the step of administering to the subject a therapeutically effective amount of the pharmaceutical composition of claim 63.

66. An antimicrobial pharmaceutical composition comprising as the active agent a compound of the formula



wherein R^1 is selected from the group consisting of: H, F, Cl, Br, and I;

R^2 is selected from the group consisting of: H, alkyl, and CF_3; and

R^3 is selected from the group consisting of: phenyl and benzyl.

67. The antimicrobial pharmaceutical composition according to claim 66 wherein R^1 represents Br, R^2 represents H, and R^3 represents phenyl.

68. The antimicrobial pharmaceutical composition according to claim 66 wherein R^1 represents H, R^2 represents alkyl, and R^3 represents phenyl.

69. A method of treating a subject having a microbial infection comprising the step of administering to the subject a therapeutically effective amount of the pharmaceutical composition of claim 66.

FIGURE 1

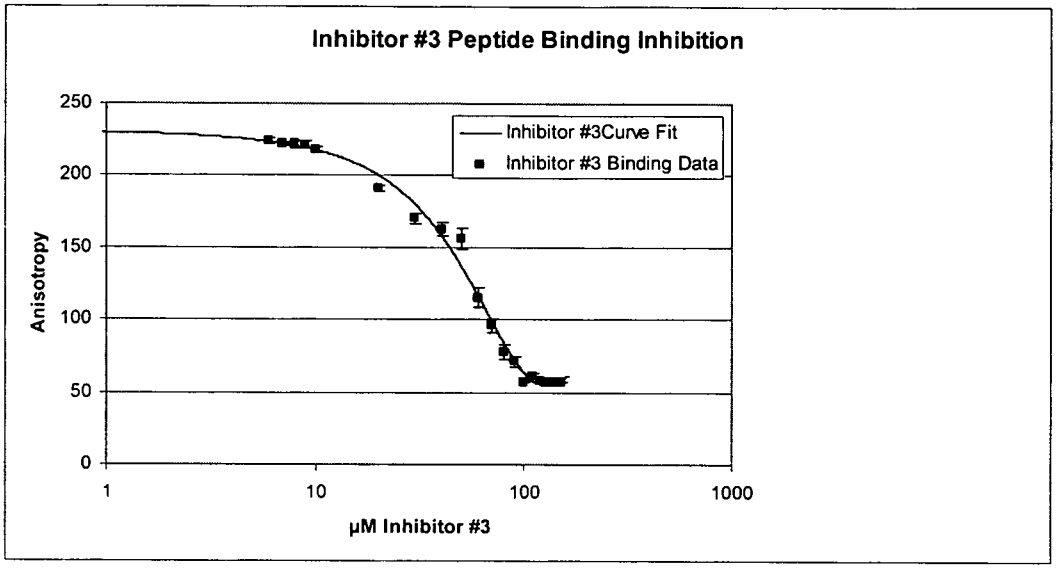


FIGURE 2

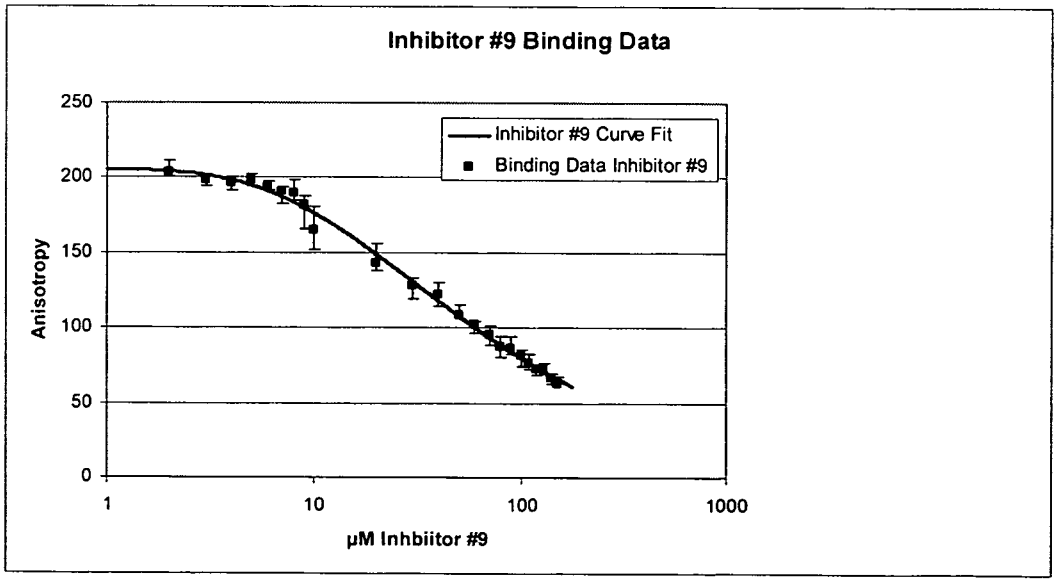


FIGURE 3

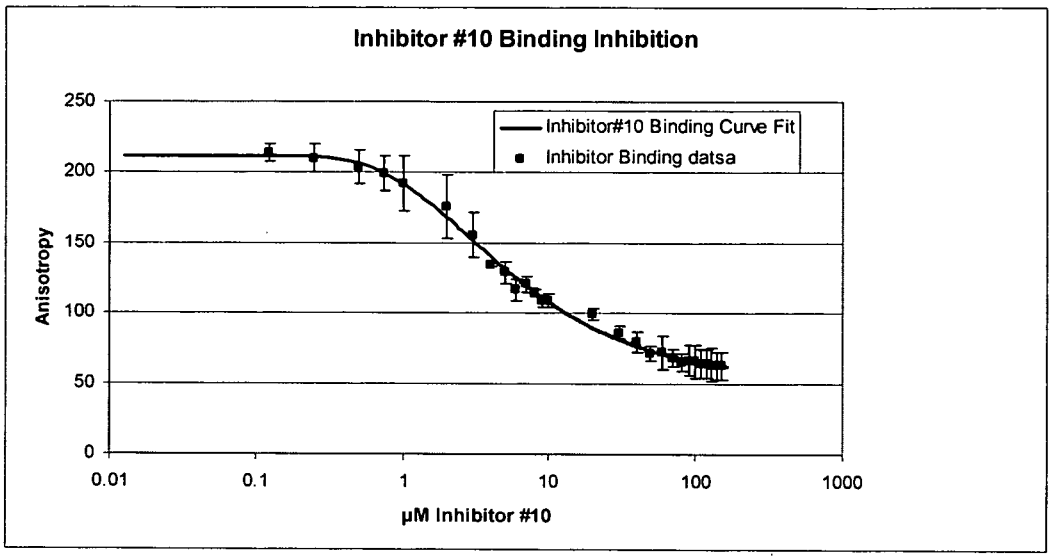


FIGURE 4

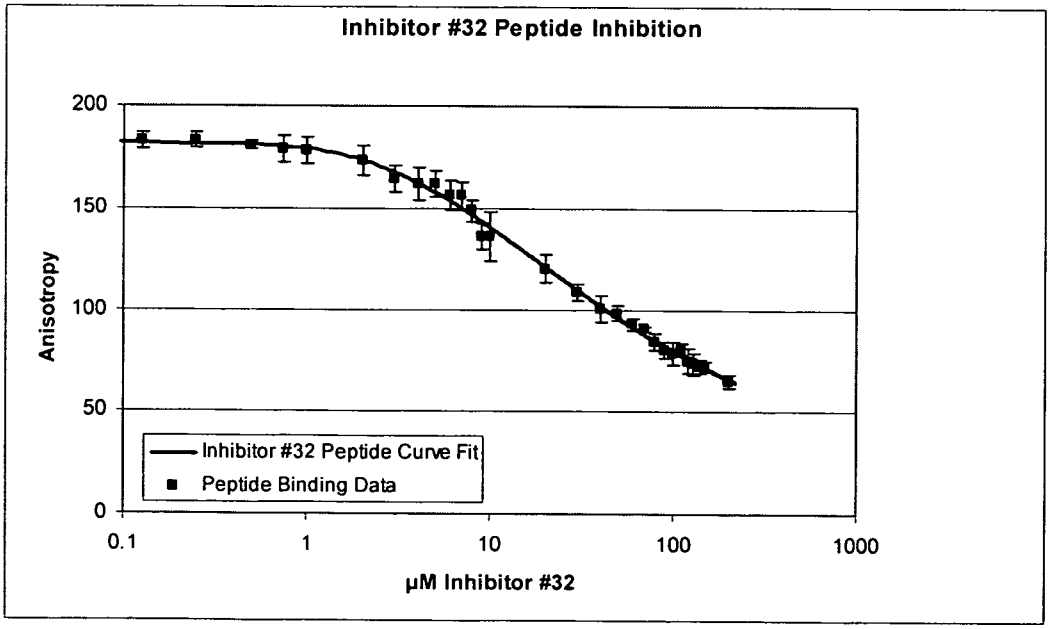


FIGURE 5

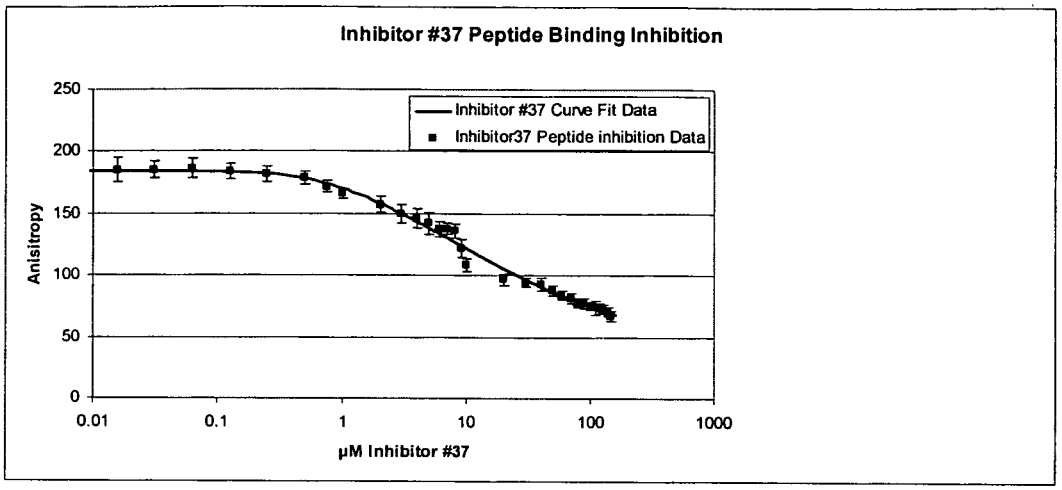


FIGURE 6

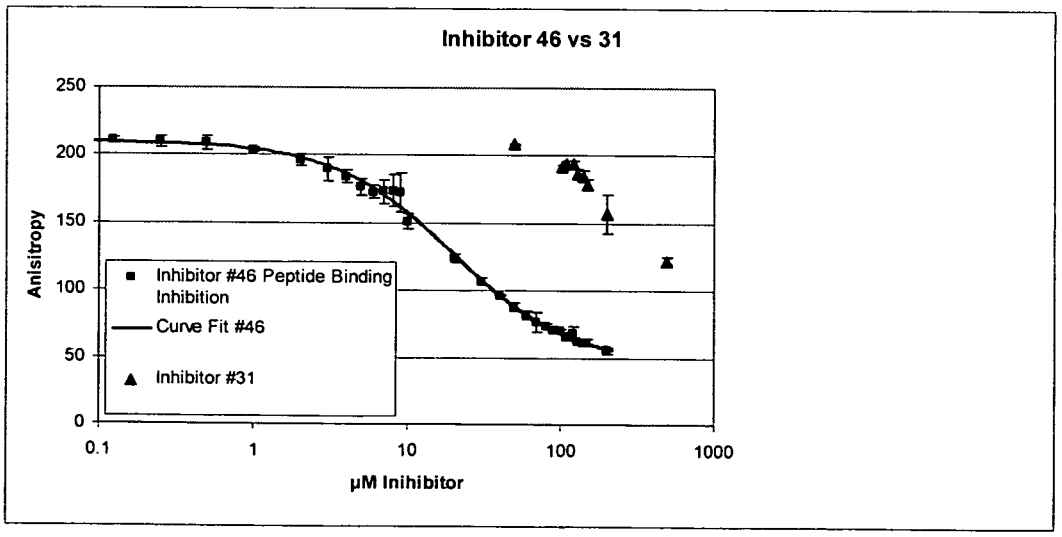


FIGURE 7

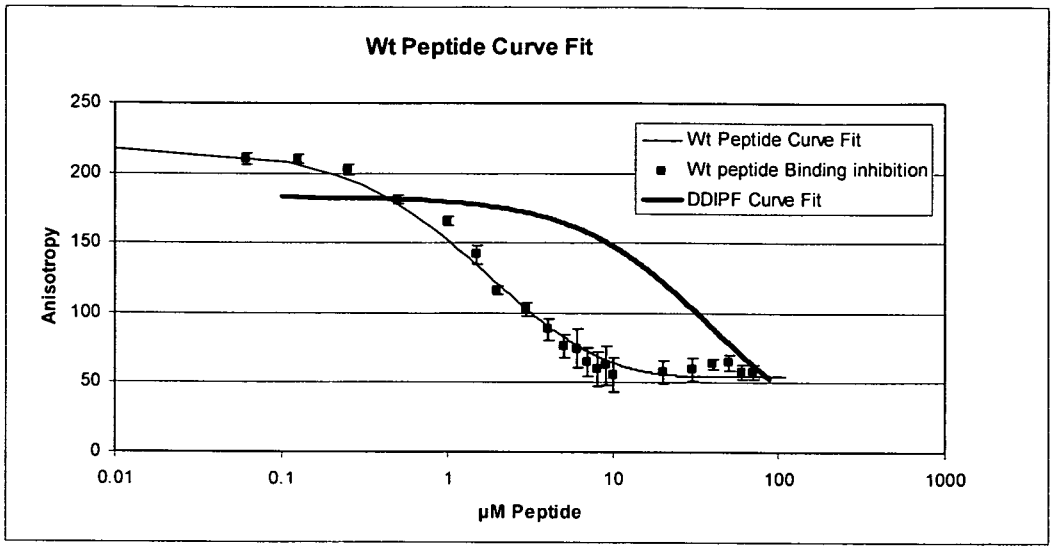


FIGURE 8

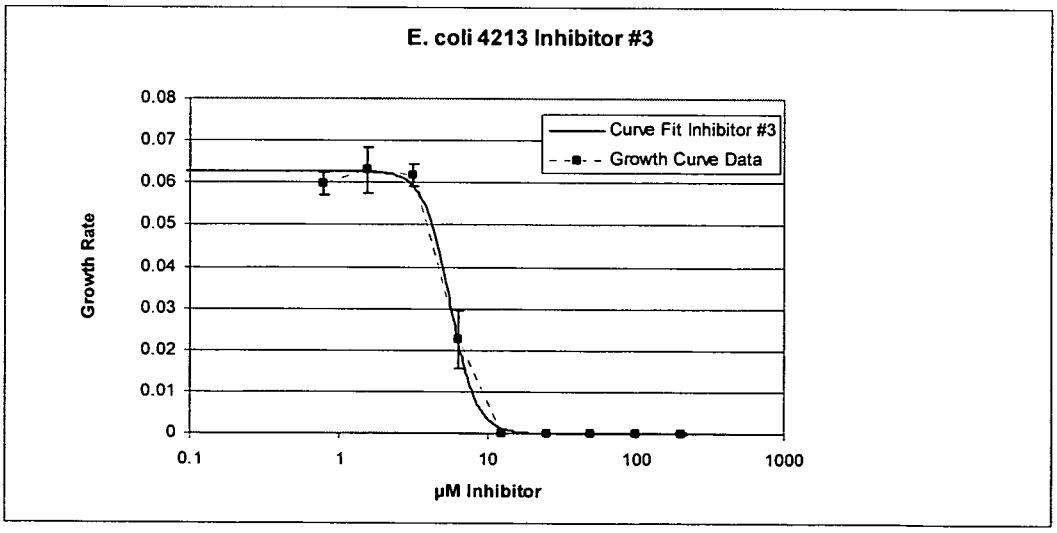


FIGURE 9

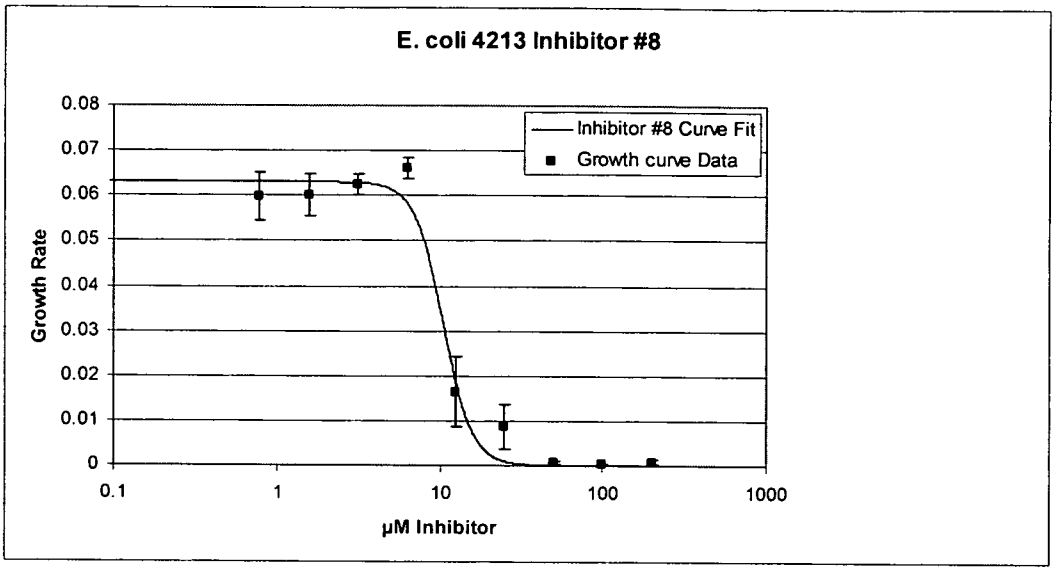


FIGURE 10

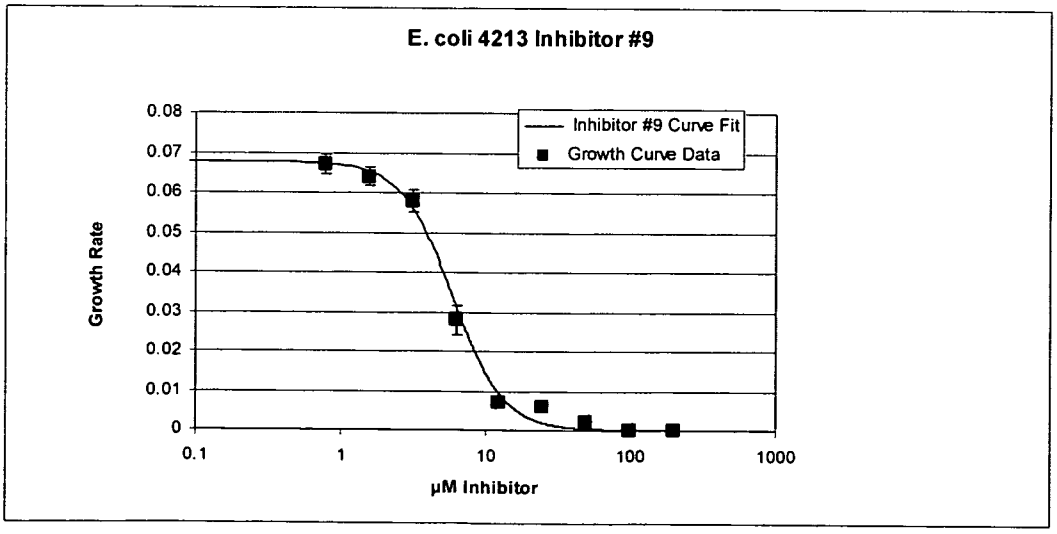


FIGURE 11

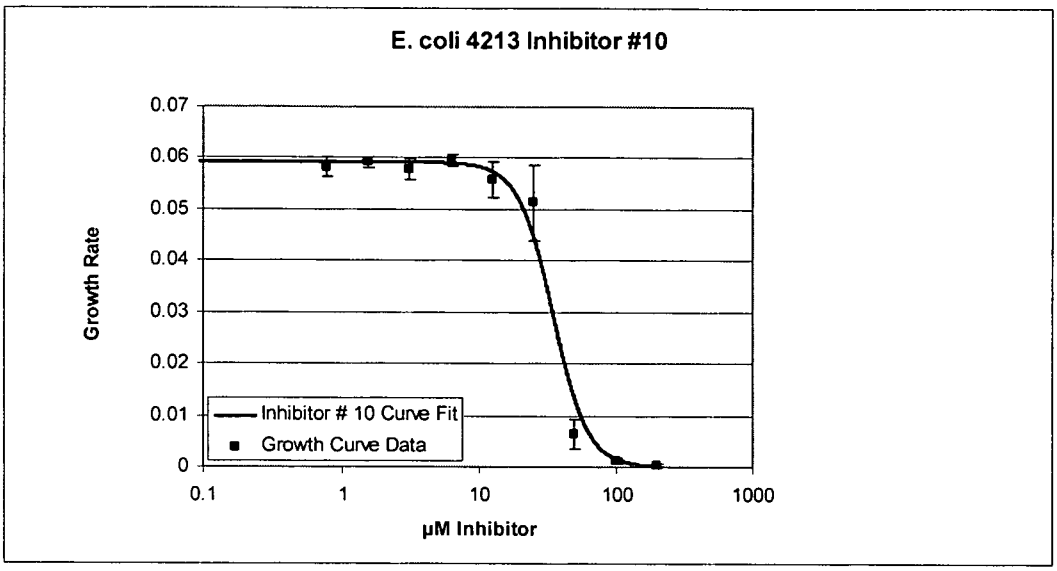


FIGURE 12

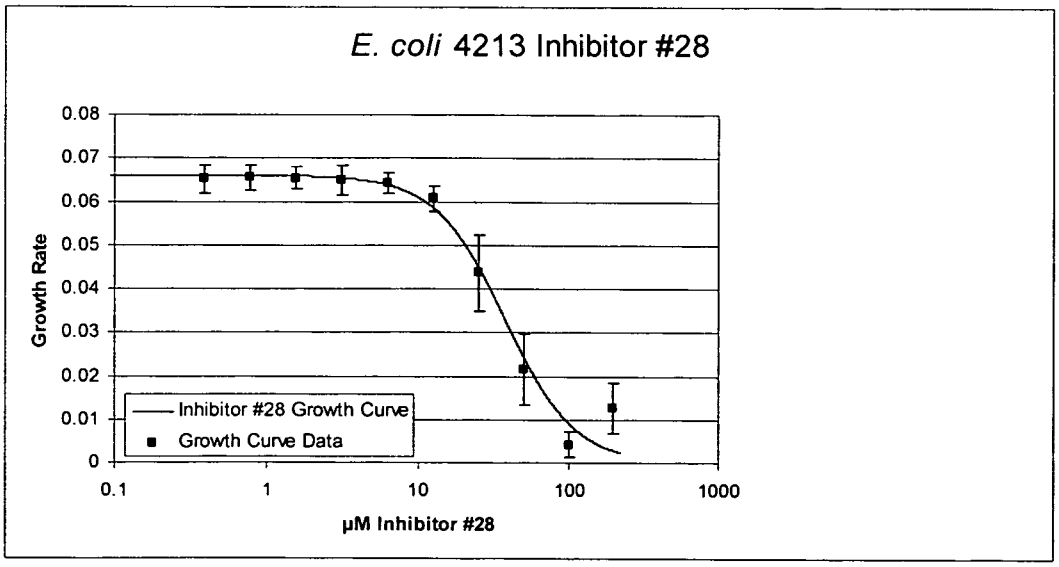


FIGURE 13

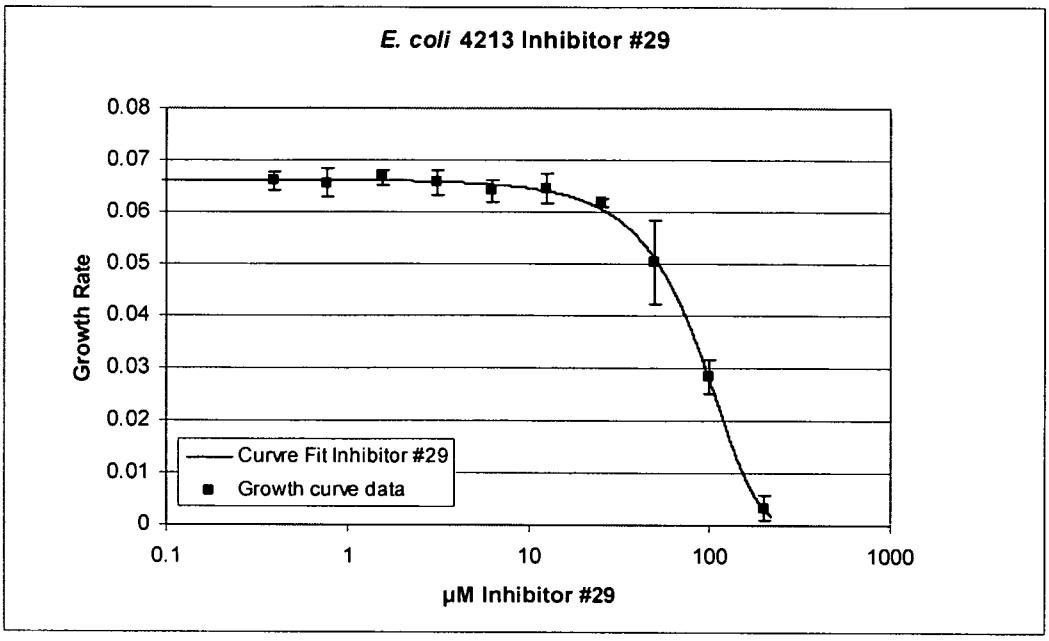


FIGURE 14

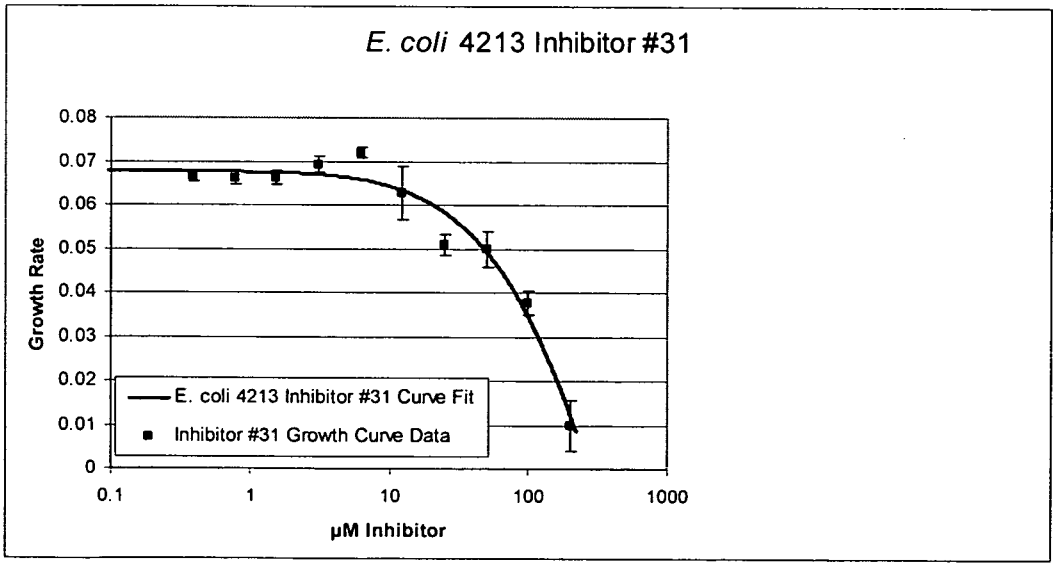


FIGURE 15

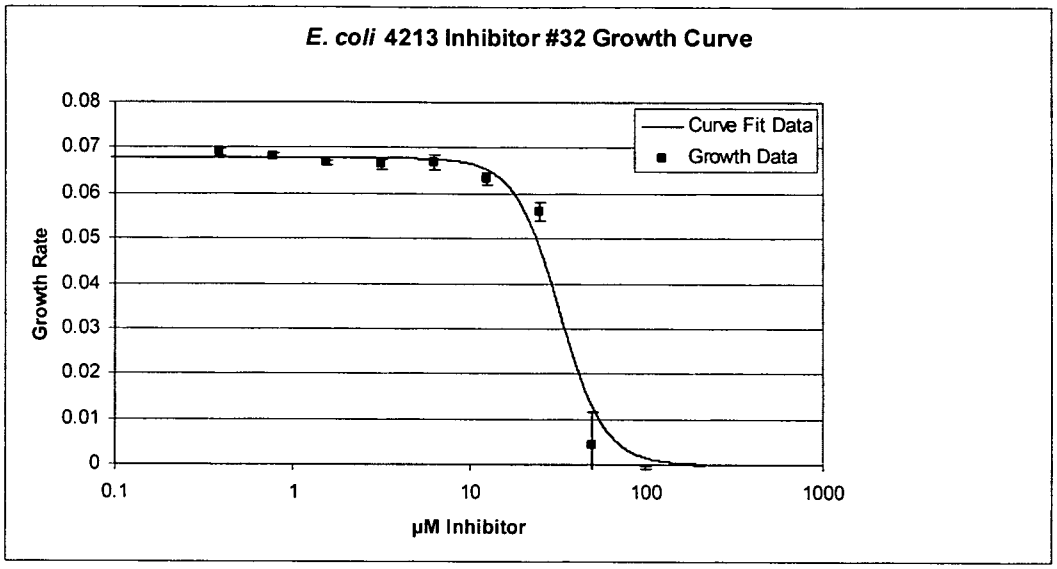


FIGURE 16

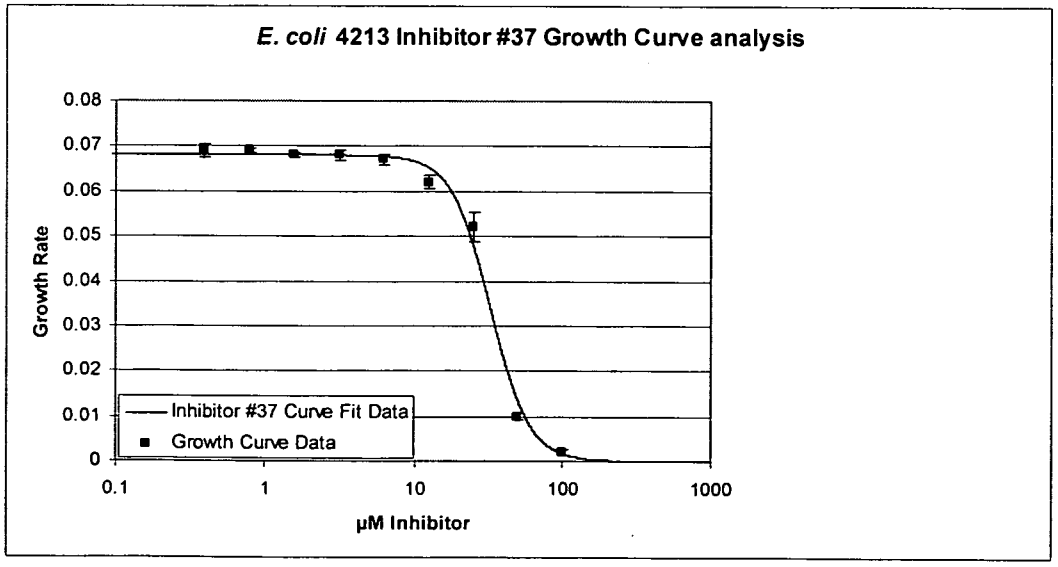


FIGURE 17

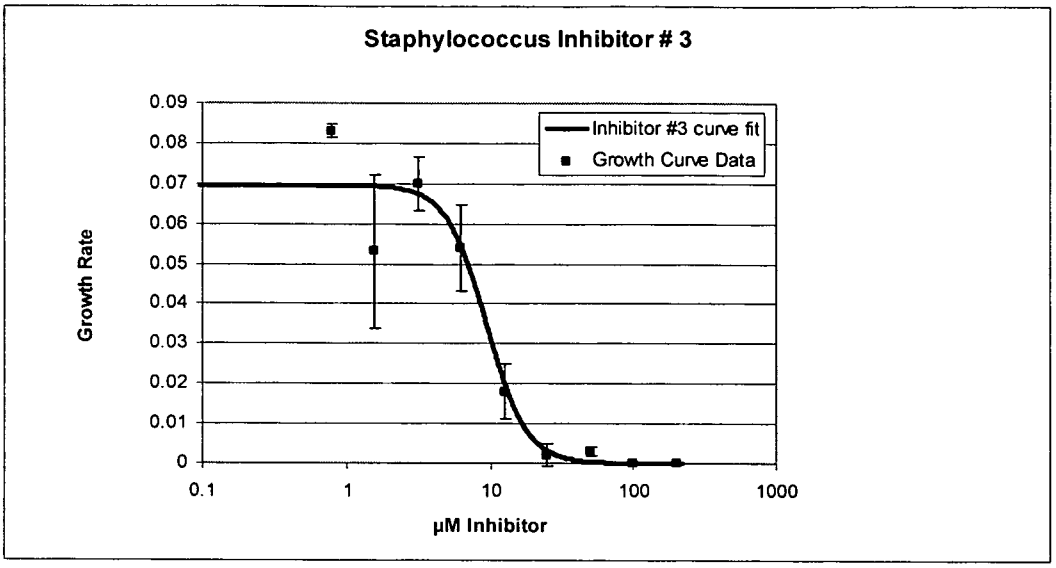


FIGURE 18

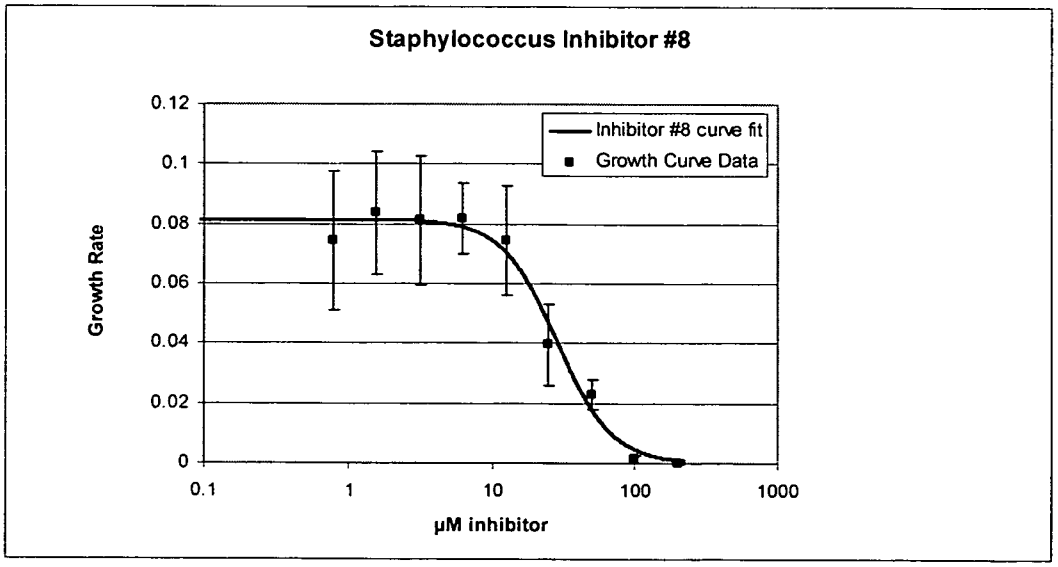


FIGURE 19

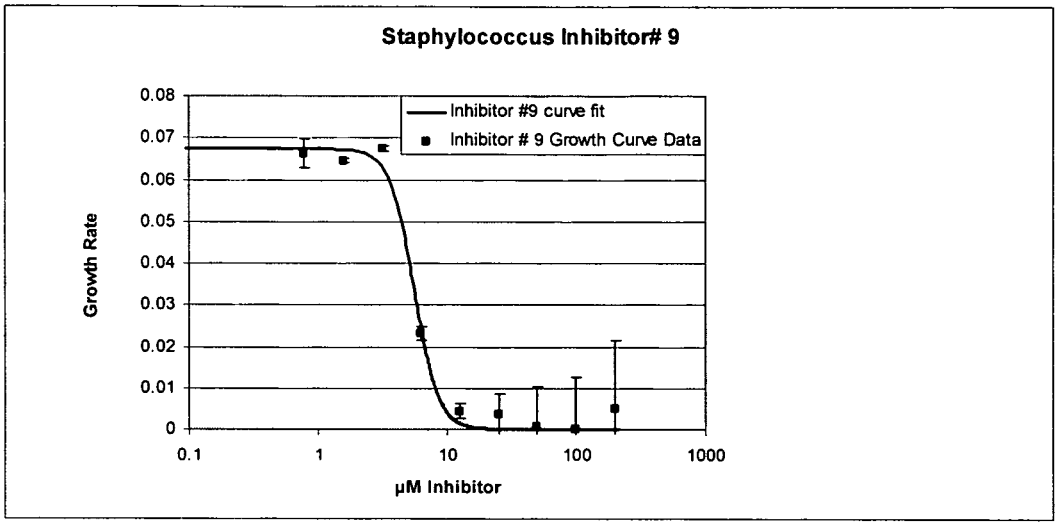


FIGURE 20

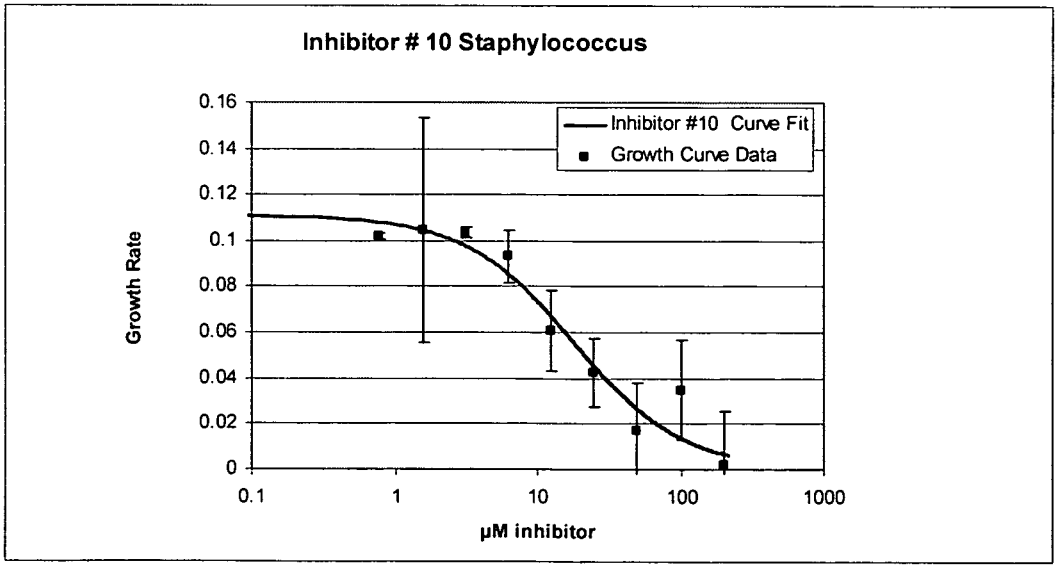


FIGURE 21

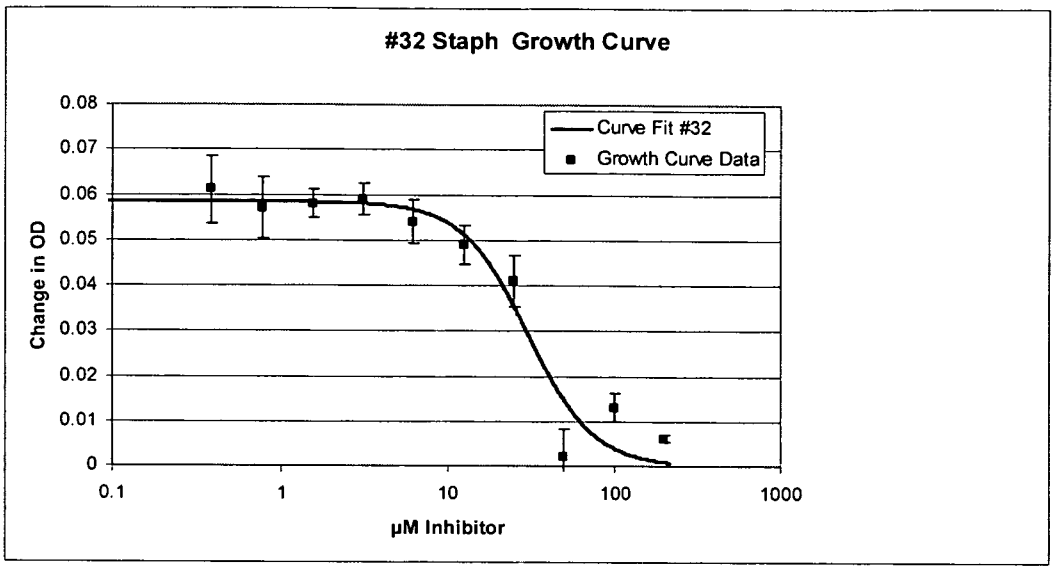


FIGURE 22

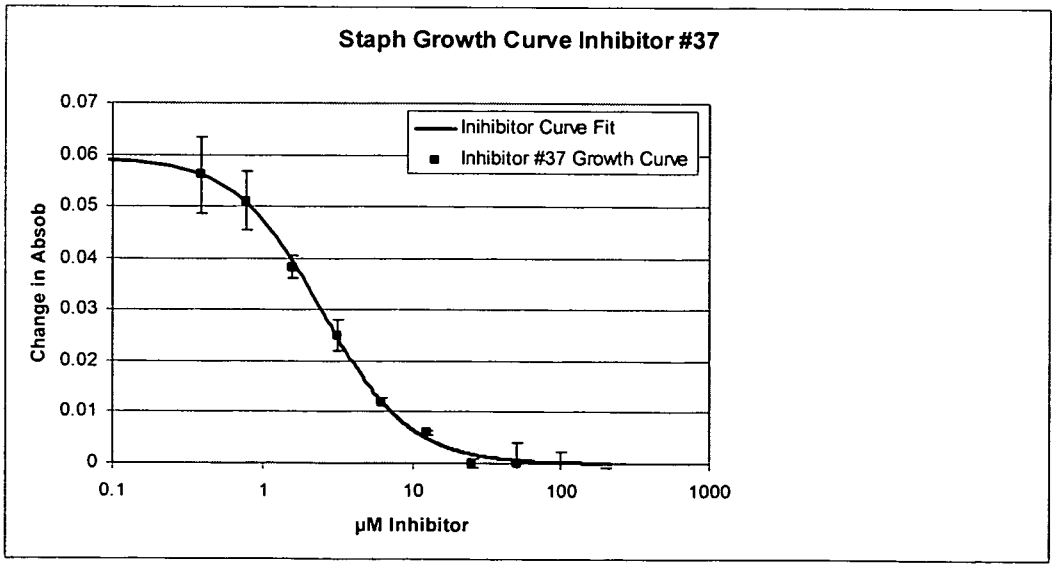


FIGURE 23

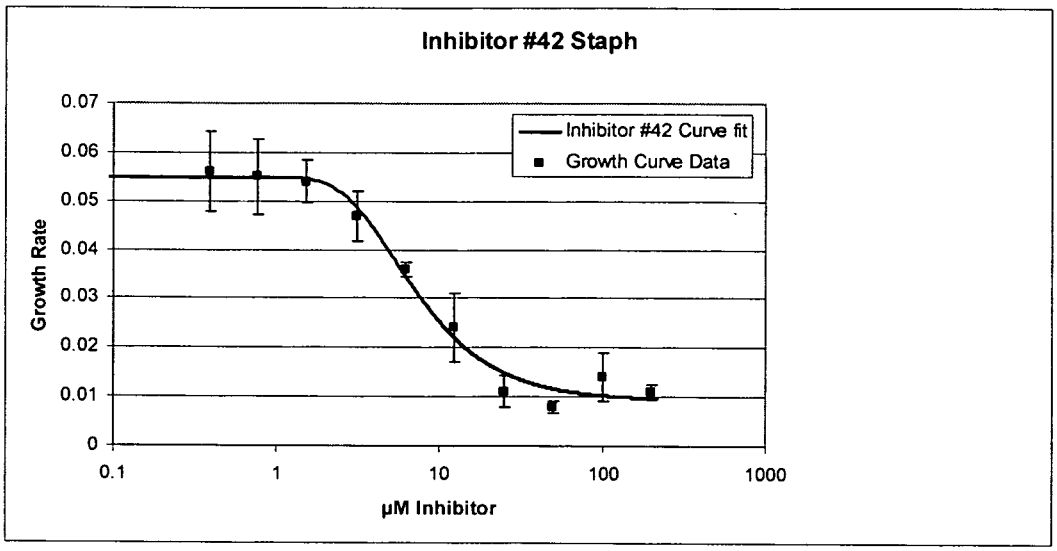


FIGURE 24

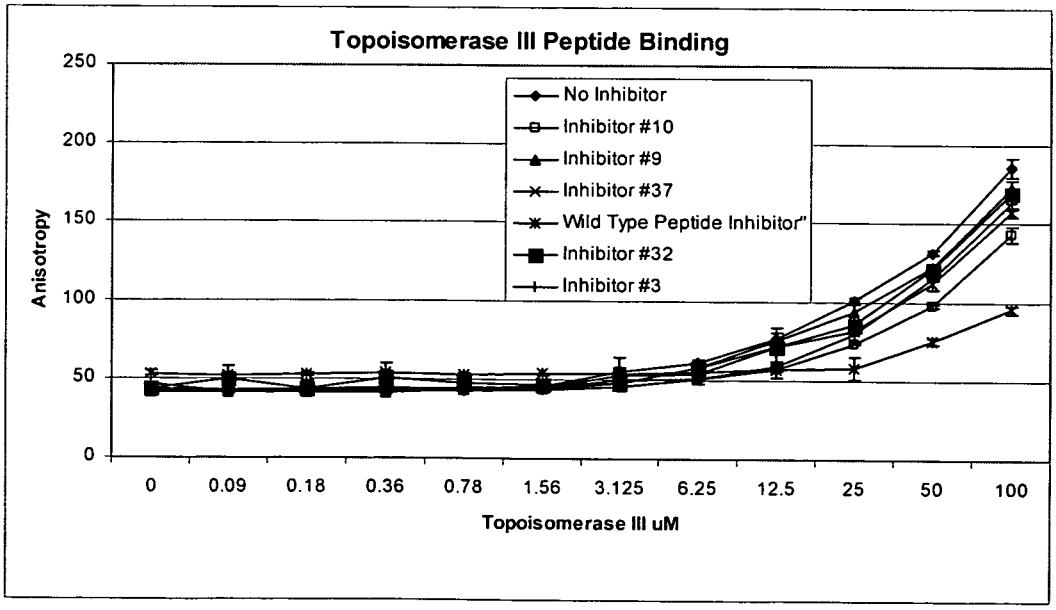


FIGURE 28

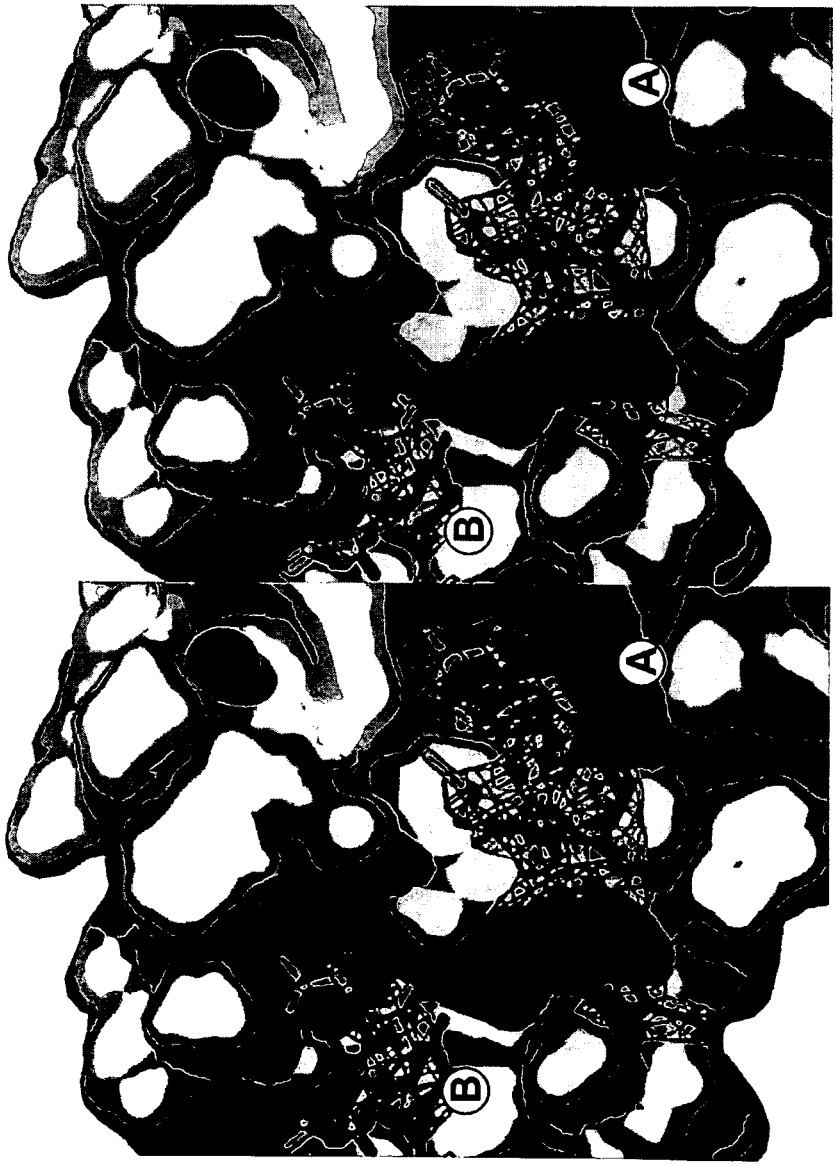


FIGURE 25A

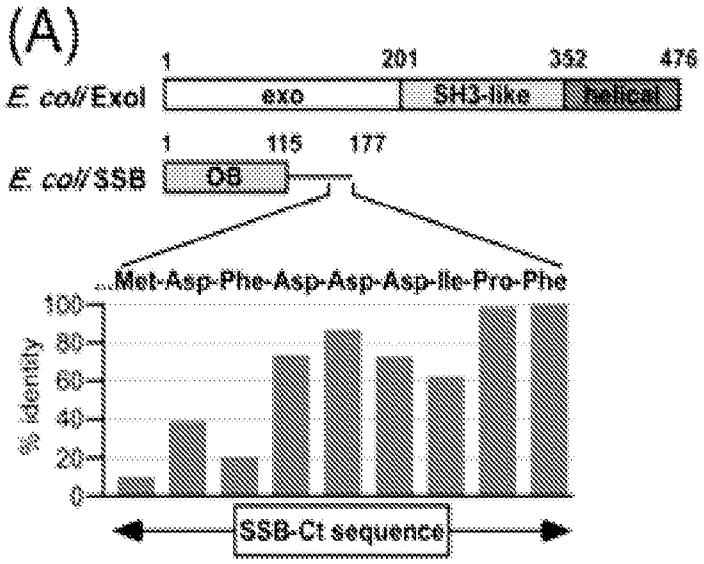


FIGURE 25B

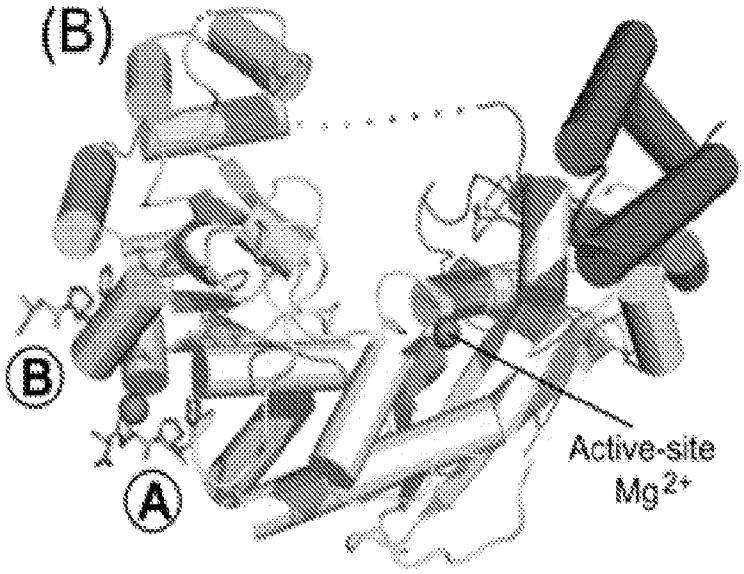


FIGURE 25C

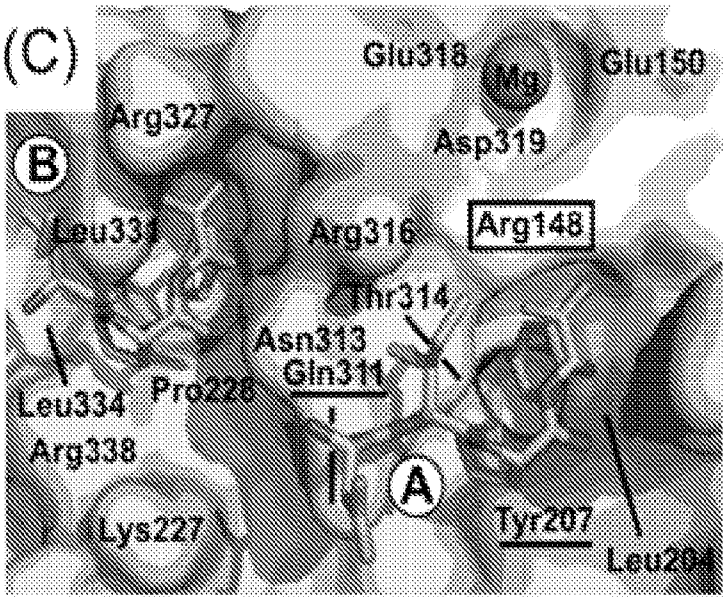


FIGURE 25D

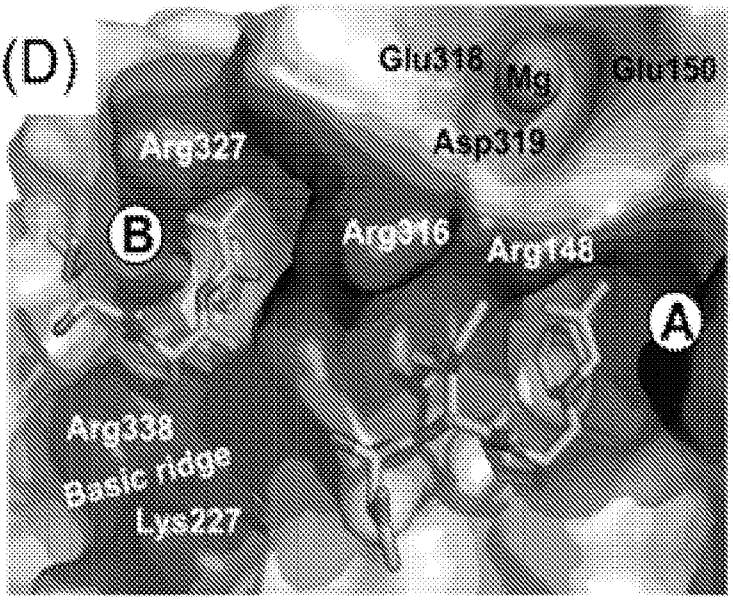


FIGURE 25E

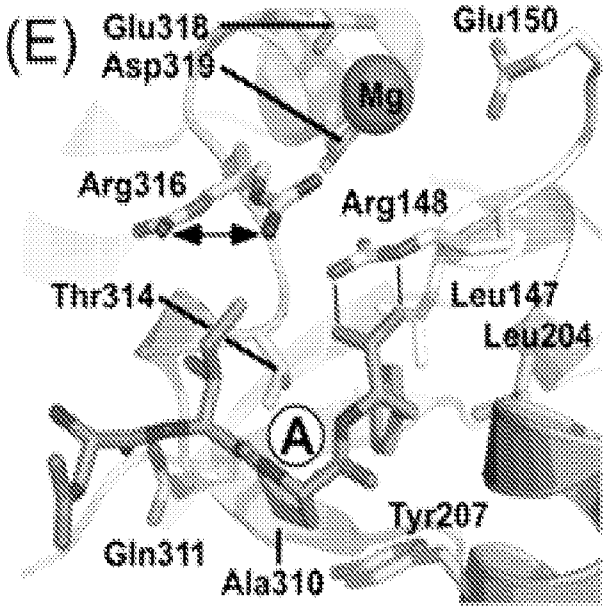


FIGURE 25F

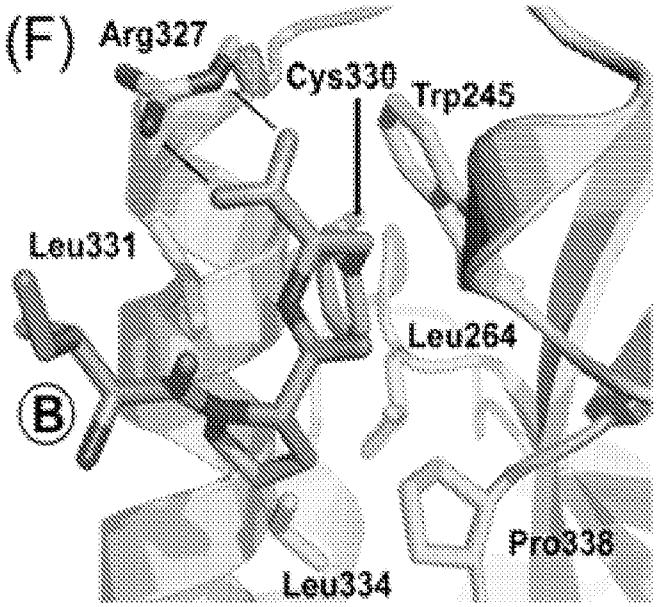


FIGURE 26A

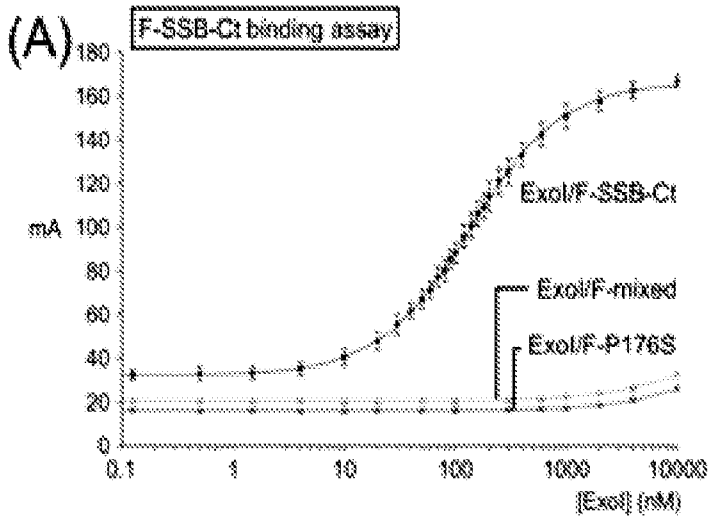


FIGURE 26B

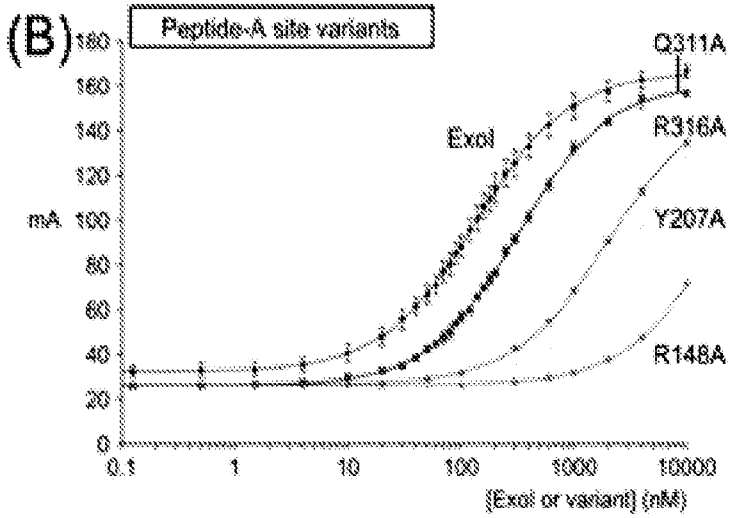


FIGURE 26C

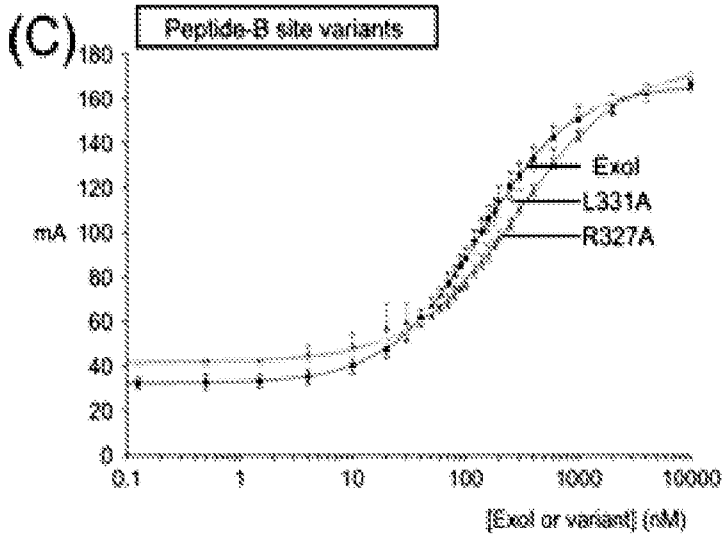


FIGURE 26D

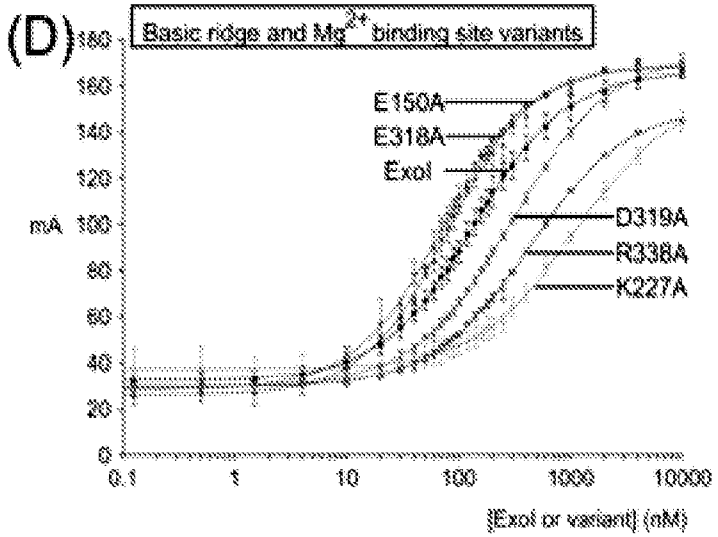
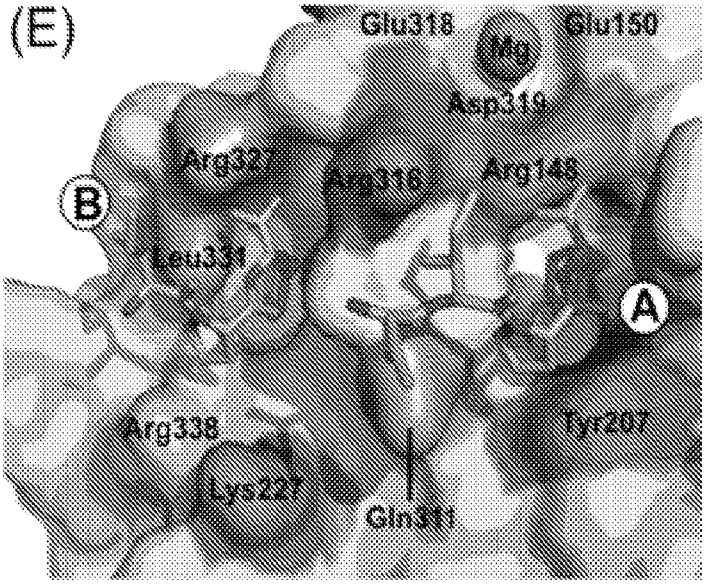


FIGURE 26E



Relative F-SSB-Ct binding in Ala variant

- < 1 (higher binding affinity)
- 1-2 (~wild type binding)
- >2-5 (modestly lowered binding affinity)
- >5 (greatly lowered binding affinity)

FIGURE 27A

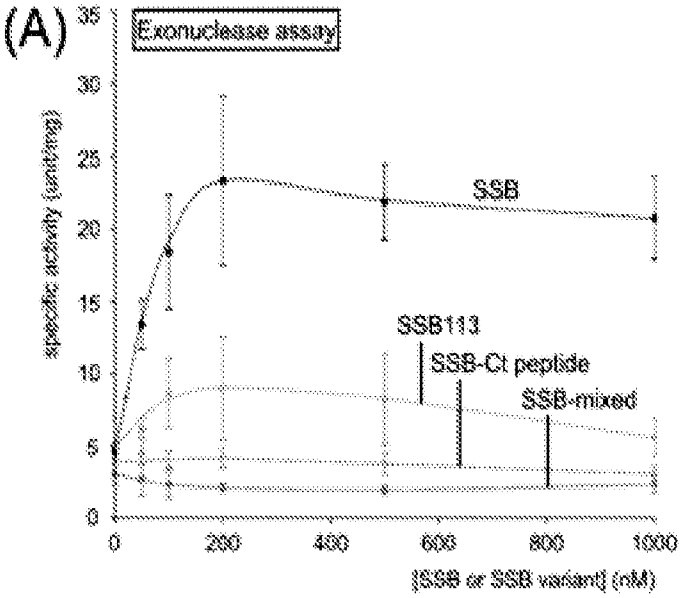


FIGURE 27B

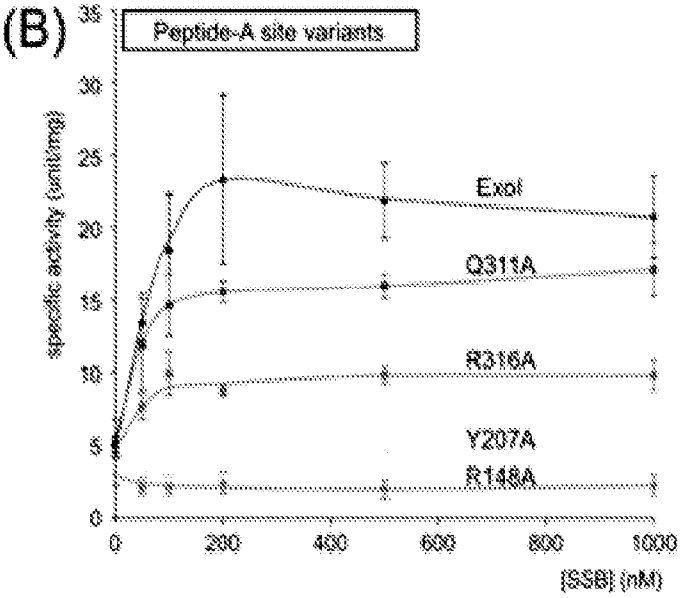


FIGURE 27C

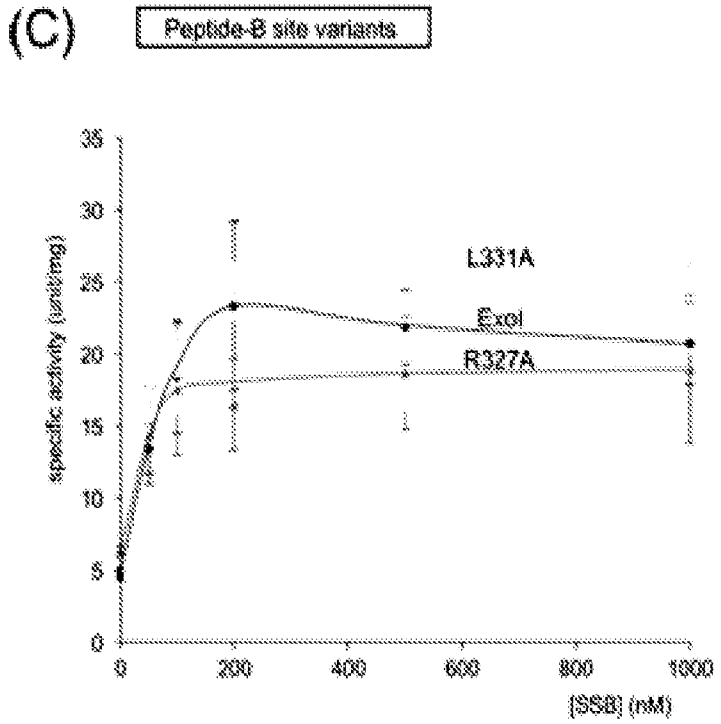


FIGURE 27D

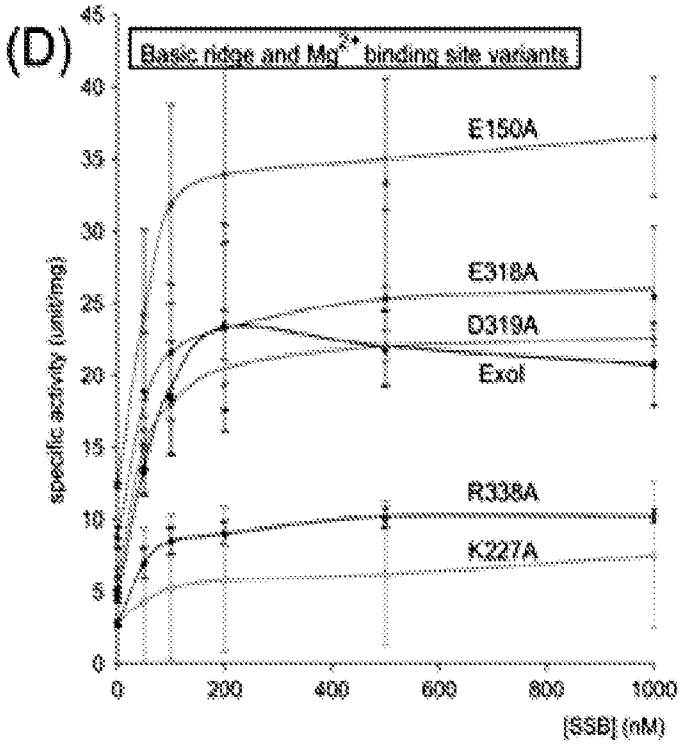
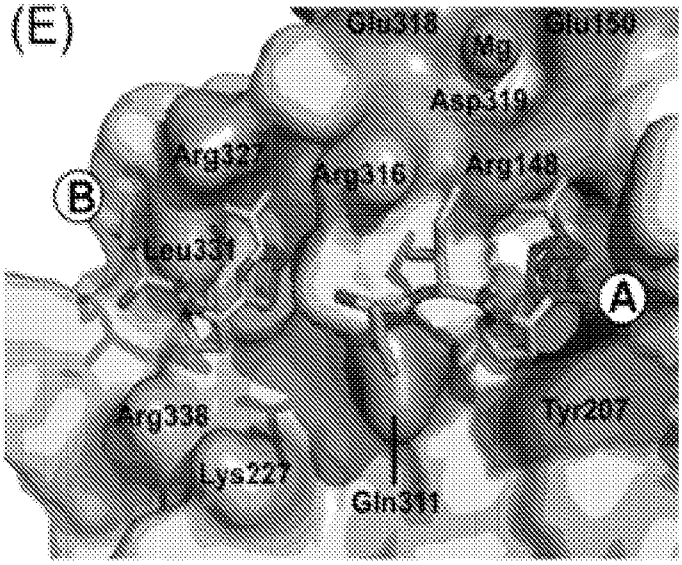


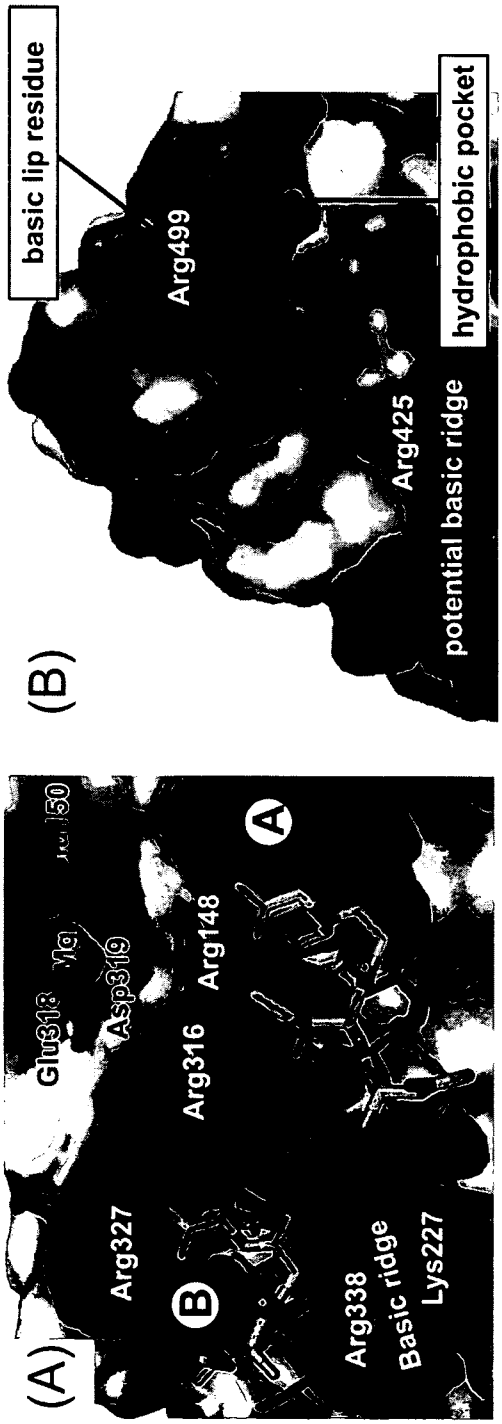
FIGURE 27E



Stimulation of nuclease activity by SSB

- ~wild type
- limited
- none

FIGURE 30



ExoI/SSB-Ct complex

E. coli RecQ winged-helix domain

FIGURE 29A

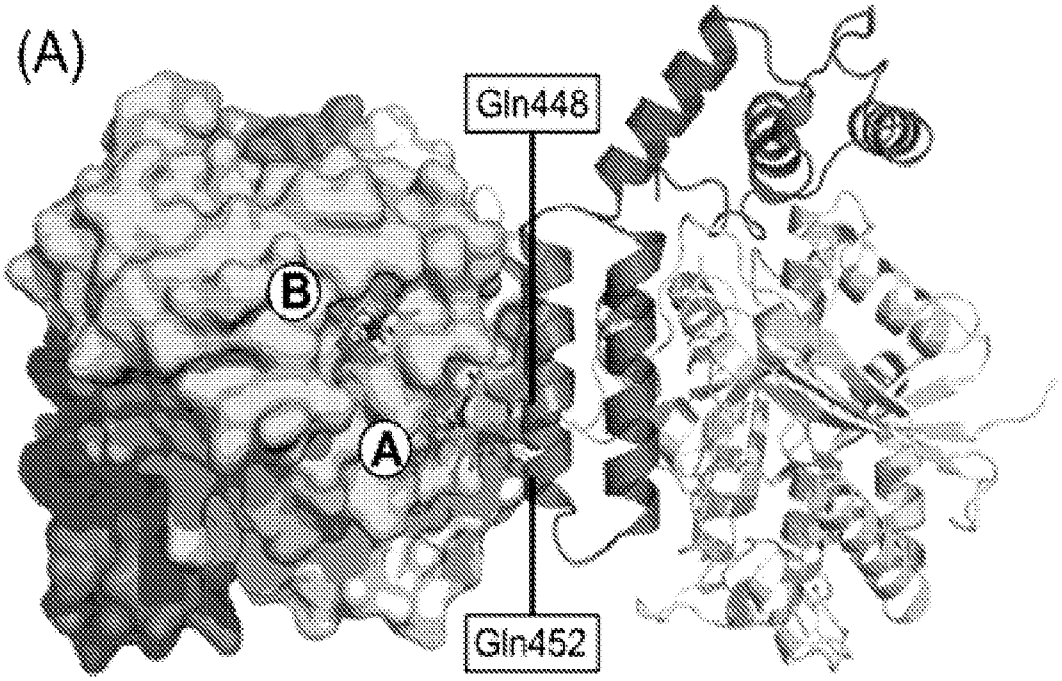


FIGURE 29B

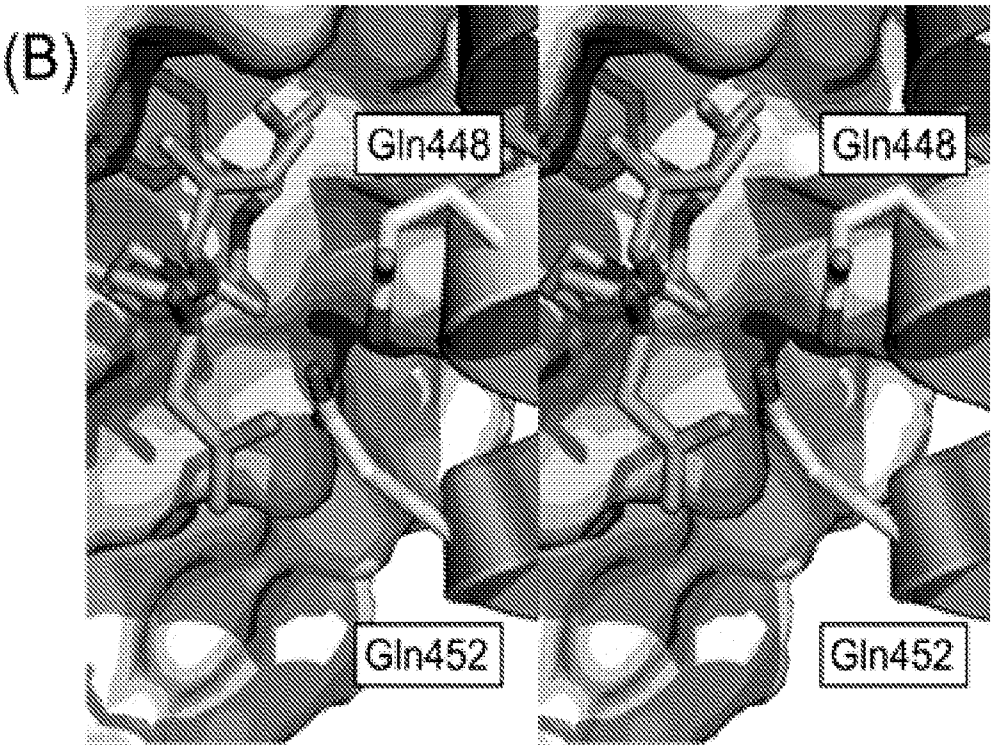


FIGURE 29C

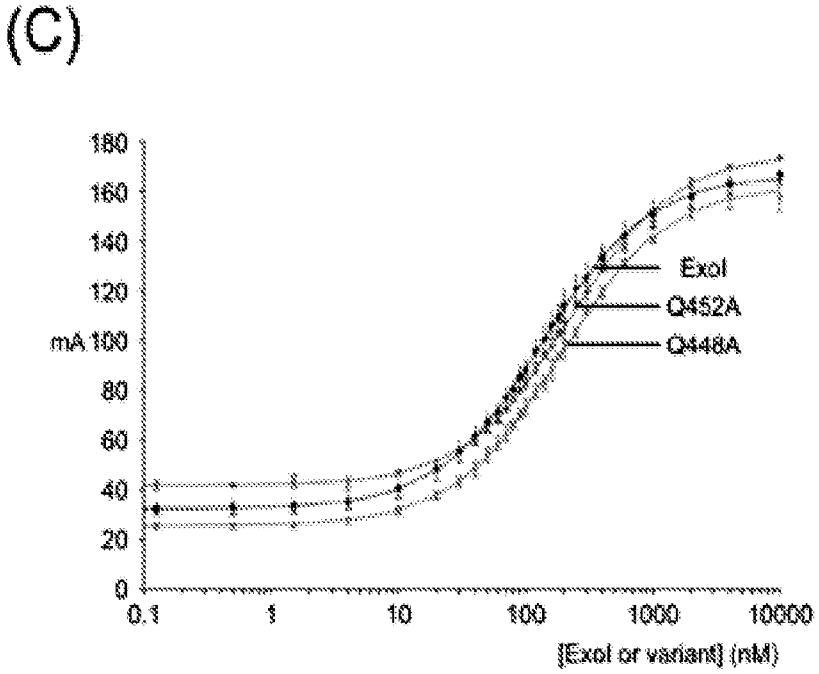
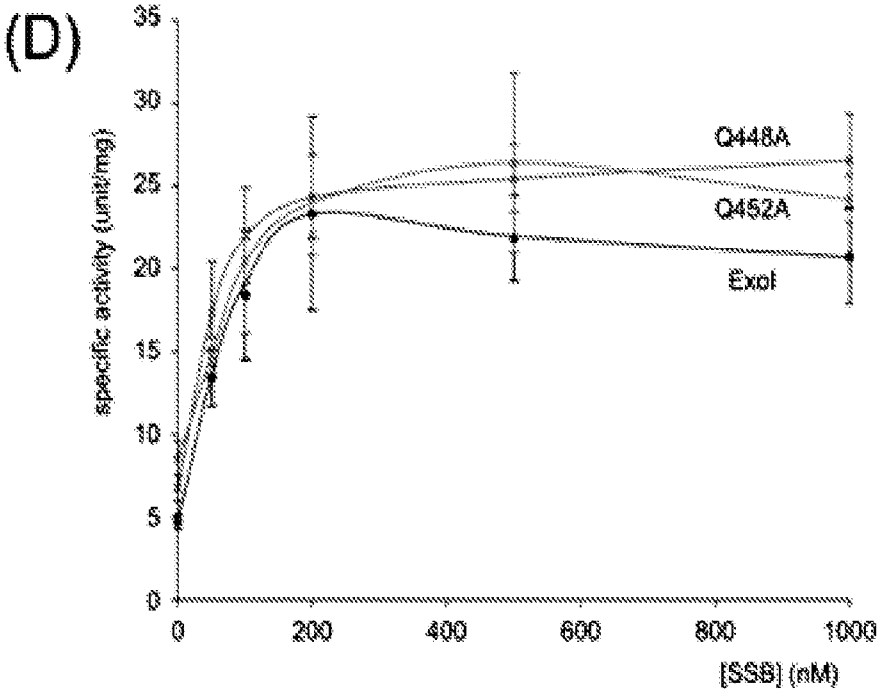



FIGURE 29D