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(71) Applicant (for all designated States except US):
SCHERING CORPORATION [US/US]; 2000 Gallop-
ing Hill Road, Kenilworth, New Jersey 07033 (US).

(72) Inventors; and

(71) Applicants (for NZ, US only): **HEDRICK, Joseph, A.** [US/US]; 6 David Street, South River, New Jersey 08882 (US). **PRESTA, Leonard, G.** [US/US]; 901 S. California Avenue, Palo Alto, California 94304 (US). **HOLLEN-BAUGH, Diane** [US/US]; 1534 Fordham Way, Mountainview, California 94040 (US). **MURGOLO, Nicholas** [US/US]; 2000 Galloping Hill Road, Kenilworth, New Jersey 07033 (US). **LU, Jun** [CN/US]; 770 Sumneytown Pike, West Point, Pennsylvania 19486 (US). **PARTHASARATHY, Gopalakrishnan** [US/US]; 770 Sumneytown Pike, West Point, Pennsylvania 19486 (US). **BYRNE, Noel** [US/US]; 770 Sumneytown Pike, West Point, Pennsylvania 19486 (US).

(74) Agent: **TRIOLO, Thomas, A.**; Merck Sharp & Dohme Corp., 126 East Lincoln Avenue, Rahway, New Jersey 07065-0907 (US).

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(54) Title: ANTI-PCSK9

(57) Abstract: The present invention provides, in part, an anti-PCSK9 antibody and methods for treating medical disorders, such as elevated LDL, using such an antibody.



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Anti-PCSK9

This application claims the benefit of U.S. provisional patent application no.
5 61/405,938, filed October 22, 2010, which is herein incorporated by reference in its entirety.

Field of the Invention

The present invention relates to anti-PCSK9 antibodies and methods of treatment
using such antibodies.

10

Background of the Invention

Proprotein convertase subtilisin-kexin type 9 (PCSK9), also known as neural
apoptosis- regulated convertase 1 (NARC-1), is a proteinase K-like subtilase identified as the
9th member of the secretory subtilase family. The gene for PCSK9 localizes to human
15 chromosome 1p33-p34.3. PCSK9 is expressed in cells capable of proliferation and
differentiation including, for example, hepatocytes, kidney mesenchymal cells, intestinal
ileum, and colon epithelia as well as embryonic brain telencephalon neurons.

The gene sequence for human PCSK9, which is ~22-kb long with 12 exons encoding
a 692 amino acid protein, can be found, for example, at Deposit No. NP_777596.2. Human,
20 mouse and rat PCSK9 nucleic acid sequences have been deposited; see, e.g., GenBank
Accession Nos.: AX127530 (also AX207686), AX207688, and AX207690, respectively.

PCSK9 is a natural inhibitor of the low density lipoprotein receptor (LDLr) (Costet *et al.*
Trends Biochem Sci 33 (2008): 426–434) and the hepatic form plays a major role in
controlling cholesterolemia (Lagace *et al.*, J Clin Invest 116 (2006): 2995–3005; Rashid *et al.*,
25 Proc Natl Acad Sci USA 102 (2005): 5374–5379; Zaid *et al.*, Hepatology 48 (2008): 646–
654). PCSK9 gain-of-function mutations are associated to hypercholesterolemia and
premature atherosclerosis. In contrast, PCSK9 loss-of-function mutations result in lower
plasma LDL-cholesterol concentrations and a reduced risk for coronary heart disease.

Because LDL particles can transport cholesterol into the artery wall, increased levels
30 are associated with atherosclerosis. Over time vulnerable plaques rupture, activate blood
clotting and produce heart attack, stroke, and peripheral vascular disease symptoms and
major debilitating events.

Thus, effective therapies to lower LDL levels in a patient are valuable. One therapy to
reduce LDL is administration of a therapeutic antibody that targets PCSK9.

35

Summary of the Invention

The present invention provides an isolated antibody or antigen-binding fragment thereof (e.g., a humanized antibody, a recombinant antibody a monoclonal antibody, a labeled antibody, a bivalent antibody, a polyclonal antibody, a bispecific antibody, a chimeric antibody, an anti-idiotypic antibody, a bispecific antibody a camelized single domain antibody, a diabody, an scfv, an scfv dimer, a dsfv, a (dsfv)₂, a dsFv-dsfv', a bispecific ds diabody, an Fv, an Fab, an Fab', an F(ab')₂, or a domain antibody) comprising one or more members selected from the group consisting of: a polypeptide comprising CDR-H1, CDR-H2 and CDR-H3 of the variable region the LPD1462 heavy chain immunoglobulin which comprises the amino acid sequence of SEQ ID NO: 1; and a polypeptide comprising CDR-L1, CDR-L2 and CDR-L3 of the variable region the LPD1640 light chain immunoglobulin which comprises the amino acid sequence of SEQ ID NO: 4 (e.g., both). For example, in an embodiment of the invention, the isolated antibody or antigen-binding fragment thereof of claim 1 comprising one or more members selected from the group consisting of: HCDR1 comprising the amino acid sequence GYTFTDYMN (SEQ ID NO: 12), HCDR2 comprising the amino acid sequence DINPNNGGAIYNQKFKG (SEQ ID NO: 13) and HCDR3 comprising the amino acid sequence GIITEIAEDF (SEQ ID NO: 14); and LCDR1 comprises the amino acid sequence KASQNVGTNVV (amino acids 24-34 or SEQ ID NO: 7), LCDR2 comprises the amino acid sequence SASYRYS (amino acids 50-56 of SEQ ID NO: 7) and LCDR3 comprises the amino acid sequence QQYKTYPYT (amino acids 89-97 of SEQ ID NO: 7) (e.g., both). In an embodiment of the invention, the isolated antibody or antigen-binding fragment thereof of claim 1 comprising one or more members selected from the group consisting of: QVQLVQSGAEVKKPGASVKVSCKVS GYTFTDYMN WVRQAPGQGLEWIG DINPNNGGAIYNQKFKG RATLTVDKSTSTAYMELRSLRSDDTAVYYCTS GIITEIAEDF WGQGTTLVTVSS (SEQ ID NO: 2) and DIQMTQSPSSLSASVGDRVTITC KASQNVGTNVV WYQQKPGKAPKALIH SASYRYS GVPSRFSGSGSGTDFTLTISLQPEDFATYYC QQYKTYPYT FGQGTKVEIKR (SEQ ID NO: 7). In an embodiment of the invention, the antibody or antigen-binding fragment thereof of claim 1 is linked to an immunoglobulin constant region such as a κ light chain, γ 1 heavy chain, γ 2 heavy chain, γ 3 heavy chain or γ 4 heavy chain. In an embodiment of the invention, the antibody or antigen-binding fragment is in a pharmaceutical composition comprising the antibody or fragment in association with a pharmaceutically acceptable carrier. The present invention also provides a composition comprising the antibody or antigen-binding fragment thereof of claim 1 in association with a further chemotherapeutic agent; e.g., wherein the further chemotherapeutic agent is a cardiovascular agent, an adrenergic blocker, an antihypertensive agent, an angiotensin

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system inhibitor, an angiotensin-converting enzyme inhibitor, a coronary vasodilator, a diuretic, an adrenergic stimulant or an HMG-CoA reductase inhibitor, or e.g., wherein the further chemotherapeutic agent is ezetimibe, lovastatin, atorvastatin, pravastatin, rosuvastatin, fluvastatin, rivastatin, simvastatin, an azetidinone, bunolol hydrochloride,

5 acebutolol, alprenolol hydrochloride, atenolol, carteolol hydrochloride, celiprolol hydrochloride; cetamolol hydrochloride, labetalol hydrochloride, esmolol hydrochloride, levobetaxolol hydrochloride, levobunolol hydrochloride, nadolol, practolol, propranolol hydrochloride, sotalol hydrochloride, timolol, timolol maleate, bisoprolol; bisoprolol fumarate, nebivalol, cicloprolol hydrochloride, dexpropranolol hydrochloride, diacetolol hydrochloride,

10 dilevalol hydrochloride, exaprolol hydrochloride, flestolol sulfate, metalol hydrochloride, metoprolol 2-Propanol, metoprolol tartrate, pamatolol sulfate, penbutolol sulfate, practolol, tiprenolol hydrochloride, tolamolol fenspiride hydrochloride, proroxxan, alfuzosin hydrochloride, labetalol hydrochloride, bretylium tosylate, dihydroergtamine mesylate, carvedilol, labetalol, bretylium tosylate, phentolamine mesylate, solypertine tartrate,

15 zolertine hydrochloride, candesartan cilexetil, telmisartan, candesartan; losartan potassium, benazepril hydrochloride, captopril, fosinopril, moexipril hydrochloride, perindopril erbumine, quinapril, ramipril, enalapril maleate, lisinopril, delapril, spirapril, delapril hydrochloride, libenzapril, pentopril, perindopril 1H-Indole-2-carboxylic acid, quinaprilat, spirapril hydrochloride, spiraprilat, teprotide, zofenopril, amlodipine besylate, clentiazem maleate,

20 isradipine, nimodipine, felodipine, nilvadipine; diltiazem hydrochloride, verapamil hydrochloride, teludipine hydrochloride, belfosdil, fostedil, ranolazine, butopropine hydrochloride, tosifen, molsidomine, ranolazine hydrochloride, tosifen, diltiazem hydrochloride, isosorbide dinitrate, sosorbide mononitrate, nitroglycerin, verapamil hydrochloride, chromonar, clonitate, droprenilamine, lidoflazine, prenylamine, propatyl nitrate,

25 mioflazine hydrochloride, mixidine, molsidomine, isosorbide mononitrate, erythrityl tetranitrate, clonitrate, dipyridamole; nicorandil, pyridinecarboxamide, nifedipine; perhexiline maleate; oxprenolol, pentrinitrol, verapamil, althiazide, benzthiazide, buthiazide, chlorothiazide, spironolactone, triamterene, guanfacine hydrochloride, methyl dopa-hydrochlorothiazide combined with Hydrochlorothiazide, methyl dopa-chlorothiazide, clonidine

30 hydrochloride, chlorthalidone, clonidine hydrochloride, clonidine, althiazide, benzthiazide, captopril, carvedilol, chlorothiazide, clonidine hydrochloride, cyclothiazide, delapril hydrochloride, dilevalol hydrochloride, delapril hydrochloride, doxazosin mesylate, fosinopril sodium, moexipril hydrochloride, monatepil maleate, metoprolol succinate, guanfacine hydrochloride, methyl dopa, quinaprilat, quinapril hydrochloride, primidolol, prazosin

35 hydrochloride, pelanserine hydrochloride, phenoxybenzamine hydrochloride, candesartan

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cilexetil, telmisartan, candesartan, amlodipine maleate, terazosin hydrochloride, bevantolol hydrochloride or ramipril.

The present invention further includes an isolated polypeptide comprising an amino acid sequence that comprises CDR-L1, CDR-L2 and CDR-L3 of the variable region the LPD1282 light chain immunoglobulin which comprises the amino acid sequence of SEQ ID NO:7; as well a polypeptide comprising any 1, 2 or 3 CDRs of any of the immunoglobulin chains disclosed herein. Also included is an isolated polynucleotide encoding any of the polypeptides set forth herein, e.g., a polypeptide comprising CDR-H1, CDR-H2 and CDR-H3 of the variable region the LPD1462 heavy chain immunoglobulin which comprises the amino acid sequence of SEQ ID NO: 2; and/or a polypeptide comprising CDR-L1, CDR-L2 and CDR-L3 of the variable region the LPD1282 light chain immunoglobulin which comprises the amino acid sequence of SEQ ID NO: 7. A composition comprising: an isolated polynucleotide encoding any polypeptide set forth herein, e.g., comprising CDR-H1, CDR-H2 and CDR-H3 of the variable region the LPD1462 heavy chain immunoglobulin which comprises the amino acid sequence of SEQ ID NO: 2; and/or an isolated polynucleotide encoding encoding a polypeptide comprising CDR-L1, CDR-L2 and CDR-L3 of the variable region the LPD1282 light chain immunoglobulin which comprises the amino acid sequence of SEQ ID NO: 7 also forms part of the present invention. The scope of the present invention also includes an isolated vector comprising any of the foregoing polynucleotides (e.g., a plasmid vector); as well as an isolated host cell comprising any of the foregoing polynucleotides (e.g., wherein the polynucleotide is in a vector); e.g., a Chinese hamster ovary cell, a *Pichia* cell or a *P.pastoris* cell.

The present invention also provides a method for reducing total cholesterol level; low density lipoprotein cholesterol level; apolipoprotein B level; total cholesterol/high density lipoprotein ratio; or low density lipoprotein/high density lipoprotein ratio; or for treating or preventing hypercholesterolemia (e.g., primary hypercholesterolemia, e.g., wherein the subject has elevated serum LDL, e.g., wherein the subject has previously taken one or more LDL lowering drugs and, for example, has not achieved normal levels of LDL), hyperlipidemia, hypertriglyceridaemia, sitosterolemia, atherosclerosis, arteriosclerosis, coronary heart disease, vascular inflammation or xanthoma, in a subject, comprising administering, to said subject, a therapeutically effective amount of the antibody or antigen-binding fragment thereof; optionally in association with a further chemotherapeutic agent. For example, in an embodiment of the invention, the further chemotherapeutic agent is a cardiovascular agent, an adrenergic blocker, an antihypertensive agent, an angiotensin system inhibitor, an angiotensin-converting enzyme inhibitor, a coronary vasodilator, a diuretic, an adrenergic stimulant or an HMG-CoA reductase inhibitor; or the further chemotherapeutic agent is

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ezetimibe, lovastatin, atorvastatin, pravastatin, rosuvastatin, fluvastatin, rivastatin, simvastatin, an azetidinone, bunolol hydrochloride, acebutolol, alprenolol hydrochloride, atenolol, carteolol hydrochloride, celiprolol hydrochloride; cetamolol hydrochloride, labetalol hydrochloride, esmolol hydrochloride, levobetaxolol hydrochloride, levobunolol hydrochloride, nadolol, practolol, propranolol hydrochloride, sotalol hydrochloride, timolol, timolol maleate, bisoprolol; bisoprolol fumarate, nebivalol, cicloprolol hydrochloride, dextropropranolol hydrochloride, diacetolol hydrochloride, dilevalol hydrochloride, exaprolol hydrochloride, fleistolol sulfate, metalol hydrochloride, metoprolol 2-Propanol, metoprolol tartrate, pamatolol sulfate, penbutolol sulfate, practolol, tiprenolol hydrochloride, tolamolol fenspiride hydrochloride, proroxxan, alfuzosin hydrochloride, labetalol hydrochloride, bretylium tosylate, dihydroergtamine mesylate, carvedilol, labetalol, bretylium tosylate, phentolamine mesylate, solypertine tartrate, zolertine hydrochloride, candesartan cilexetil, telmisartan, candesartan; losartan potassium, benazepril hydrochloride, captopril, fosinopril, moexipril hydrochloride, perindopril erbumine, quinapril, ramipril, enalapril maleate, lisinopril, delapril, spirapril, delapril hydrochloride, libenzapril, pentopril, perindopril 1H-Indole-2-carboxylic acid, quinaprilat, spirapril hydrochloride, spiraprilat, teprotide, zofenopril, amlodipine besylate, clientiazem maleate, isradipine, nimodipine, felodipine, nilvadipine; diltiazem hydrochloride, verapamil hydrochloride, teludipine hydrochloride, belfosdil, fostedil, ranolazine, butoprozone hydrochloride, tosifen, molsidomine, ranolazine hydrochloride, tosifen, diltiazem hydrochloride, isosorbide dinitrate, sosorbide mononitrate, nitroglycerin, verapamil hydrochloride, chromonar, clonitate, droprenilamine, lidoflazine, prenylamine, propatyl nitrate, mioflazine hydrochloride, mixidine, molsidomine, isosorbide mononitrate, erythrityl tetranitrate, clonitrate, dipyridamole; nicorandil, pyridinecarboxamide, nifedipine; perhexiline maleate; oxprenolol, pentrinitrol, verapamil, althiazide, benzthiazide, buthiazide, chlorothiazide, spironolactone, triamterene, guanfacine hydrochloride, methyldopa-hydrochlorothiazide combined with Hydrochlorothiazide, methyldopa-chlorothiazide, clonidine hydrochloride, chlorthalidone, clonidine hydrochloride, clonidine, althiazide, benzthiazide, captopril, carvedilol, chlorothiazide, clonidine hydrochloride, cyclothiazide, delapril hydrochloride, dilevalol hydrochloride, delapril hydrochloride, doxazosin mesylate, fosinopril sodium, moexipril hydrochloride, monatepil maleate, metoprolol succinate, guanfacine hydrochloride, methyldopa, quinaprilat, quinapril hydrochloride, primidolol, prazosin hydrochloride, pelanserine hydrochloride, phenoxybenzamine hydrochloride, candesartan cilexetil, telmisartan, candesartan, amlodipine maleate, terazosin hydrochloride, bevantolol hydrochloride or ramipril.

The present invention also provides a method for producing the antibody or antigen-binding fragment thereof comprising introducing one or more polynucleotides into one or more

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host cells; which polynucleotides encodes and direct expression of said heavy and/or light chain immunoglobulins; and growing said host cells under conditions whereby said heavy and light chain immunoglobulins are expressed. For example, in an embodiment of the invention, said polynucleotide encoding and directing expression of said light chain and said polynucleotide encoding and directing expression of said heavy chain are in separate host cells.

The scope of the present invention also includes a crystalline composition comprising an a Fab/PCSK9 complex: in space group $P2_12_12$ comprising unit cell dimensions $a=114.007$ Å, $b=135.131$ Å, $c=106.710$ Å and $\alpha=90^\circ$, $\beta=90^\circ$, $\gamma=90^\circ$; e.g., wherein the Fab is derived from any antibody set forth herein (e.g., human $V_H1462/V_L1640/IgG2$), for example by papain digestion. The present invention also encompasses a crystalline composition comprising PCSK9 complexed with a Fab with a three dimensional structure characterized by structural coordinates comprising a root mean square deviation of common residue backbone atoms or alpha carbon atoms of less than about 1.5 Å when superimposed on backbone atoms or alpha carbon atoms described by structural coordinates of Table 5 (e.g., wherein the crystalline composition has a three dimensional structure characterized by the structural coordinates of Table 5).

Brief Description of the Figures

Figure 1 (A & B). Relative LDL-c lowering in cynomolgous monkeys with LPD1282/LPD1462-IgG2 (1F11-IgG2) (A) or LPD1282/LPD1462-IgG4 (1F11-IgG4) (B).

Figure 2. Three dimensional representation of a human PCSK9/Fab (SEQ ID NO: 18 and 19) complex.

Figure 3. Three dimensional representation of the binding region between PCSK9 and the Fab. The region is characterized by a lasso and post arrangement and a hydrophobic lock and key arrangement as shown.

Figure 4. Close up of the polar interactions between the PCSK9 lasso and the Fab tyrosine 33 post.

Figure 5. Close up of the hydrophobic lock and key interactions.

Detailed Description of the Invention

The antibodies of the present invention are particularly advantageous. Mouse antibodies possessing superior PCSK9 inhibitory activity must be humanized before use in human subjects. Typically, however, the binding affinity associated with a mouse antibody is reduced when moved into a human framework. As a result, the frameworks typically must be modified so as to restore binding affinity to levels comparable to that of the parental mouse

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antibody. If the binding energy associated with binding between antibody CDRs and an antigen is derived mainly from a few CDR residues, then the optimization process is usually straight-forward. If the interaction between the antigen and CDRs is extensive, e.g., involving multiple residues, then optimization can be a very difficult and complex process.

- 5 Optimization of the humanized anti-PCSK9 antibodies of the present invention was very difficult. The reason for this difficulty is likely due to a complex interface between the CDRs and the antigen. Dozens of modifications to the initially humanized antibodies were made before identification of a suitable antibody with binding affinity near that of the parental mouse antibody, 1462/1640. Furthermore, 1462/1640 exhibits an enhanced level of affinity
10 for PCSK9 due to a mutation introduced into a light chain CDR at residue 93, T93Q. Changing antibody CDR amino acids from the sequence that was generated *in vivo*, in general, would be expected to have a negative effect on binding. The T93Q mutation, however, surprising and unexpectedly increased binding.

- The antibodies of the present invention are also extraordinary in that they bind to
15 PCSK9 in a rather unusual place-at the furin processing site of PCSK9; accordingly, the scope of the present invention also includes any antibody or antigen-binding fragment thereof that binds to PCSK9 at the linear epitope EDGTRFHRQASKC (amino acids 211-223 of SEQ ID NO:8) or at the furin processing site; along with a composition thereof comprising such an antibody or fragment in association with a further therapeutic agent (e.g., any of those
20 discussed herein) or a pharmaceutical composition comprising such an antibody or fragment combined with a pharmaceutically acceptable carrier (e.g., any of those discussed herein) as well as method for treating any of the medical conditions discussed herein. The epitope set forth above appears in each of these species of PCSK9. This facilitates animal model experimentation with the antibody or an antigen-binding fragment thereof of the present
25 invention in mice and chimpanzees.

In addition, the LPD1282/LPD1462 (*i.e.*, antibody 1F11) antibody has been demonstrated to be a highly effective agent for lowering LDL in animal models, exhibiting up to 70% LDL reduction under the conditions tested.

- In an embodiment of the invention, the antibody or antigen-binding fragment thereof of
30 the present invention cross-reacts with human, mouse and chimpanzee PCSK9.

- The present invention also includes a polypeptide (e.g., an oligopeptide) consisting of or consisting essentially of the amino acid sequence EDGTRFHRQASKC (amino acids 211-223 of SEQ ID NO:8) optionally fused to a heterologous protein or further comprising one or several additional PCSK9 residues (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10) that are naturally
35 contiguous with the N- or C-terminal end of EDGTRFHRQASKC (amino acids 211-223 of

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SEQ ID NO:8). A method for producing an anti-PCSK9 antibody or antigen-binding fragment thereof comprising immunizing a host animal with such a peptide also form part of the present invention.

An antibody or antigen-binding fragment thereof characterized as

5 "LPD1282/LPD1462", which is also known as 1F11, or the like comprises the LPD1282 and LPD1462 variable domain chain sequences. "LPD1282/LPD1462-IgG2" or the like indicates that the LPD1282/LPD1462 antibody heavy chain is conjugated to an IgG2 constant domain, e.g., wherein the light chain is conjugated to a kappa light chain constant domain. Other antibodies or antigen-binding fragments thereof with other chain combinations may also be
10 named using this convention (e.g., LPD1282/LPD1462-IgG4).

The term "subject" or "patient" or the like includes any mammal such as a human, chimpanzee, monkey (e.g., cynomolgous monkey), rat, mouse, dog, cat, horse, cow, goat or sheep. The term also includes humans that are HIV-positive and receiving highly active antiretroviral therapy (HAART; e.g., CCR5 receptor antagonist, entry inhibitor, nucleoside
15 and nucleotide reverse transcriptase inhibitor (NRTI), Non-nucleoside reverse transcriptase inhibitors (NNRTI), protease inhibitor, integrase inhibitor, and/or maturation inhibitor); is intolerant of HMG Co-A reductase inhibitor therapy; suffers from acute coronary syndrome; is on immunosuppressive therapy (e.g., wherein the subject has received an organ transplant); is diabetic; and/or, will, in the future, receive percutaneous coronary intervention.

20

Molecular Biology

In accordance with the present invention there may be employed conventional molecular biology, microbiology, and recombinant DNA techniques within the skill of the art. Such techniques are explained fully in the literature. See, e.g., Sambrook, Fritsch &
25 Maniatis, Molecular Cloning: A Laboratory Manual, Second Edition (1989) Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York (herein "Sambrook, *et al.*, 1989"); DNA Cloning: A Practical Approach, Volumes I and II (D.N. Glover ed. 1985); Oligonucleotide Synthesis (M.J. Gait ed. 1984); Nucleic Acid Hybridization (B.D. Hames & S.J. Higgins eds. (1985)); Transcription And Translation (B.D. Hames & S.J. Higgins, eds. (1984)); Animal Cell Culture (R.I. Freshney, ed. (1986)); Immobilized Cells And Enzymes
30 (IRL Press, (1986)); B. Perbal, A Practical Guide To Molecular Cloning (1984); F.M. Ausubel, *et al.* (eds.), Current Protocols in Molecular Biology, John Wiley & Sons, Inc. (1994).

Polynucleotides discussed herein form part of the present invention. A
"polynucleotide", "nucleic acid" or "nucleic acid molecule" DNA and RNA, single or double
35 stranded.

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The polynucleotides of the present invention may, in an embodiment of the invention, be flanked by natural regulatory (expression control) sequences, or may be associated with heterologous sequences, including promoters, internal ribosome entry sites (IRES) and other ribosome binding site sequences, enhancers, response elements, suppressors, signal
5 sequences, polyadenylation sequences, introns, 5'- and 3'- non-coding regions, and the like.

The polynucleotides of the present invention may be operably associated with a promoter. A "promoter" or "promoter sequence" is, in an embodiment of the invention, a DNA regulatory region capable of binding an RNA polymerase in a cell (e.g., directly or through other promoter-bound proteins or substances) and initiating transcription of a coding
10 sequence. A promoter sequence is, in general, bounded at its 3' terminus by the transcription initiation site and extends upstream (5' direction) to include the minimum number of bases or elements necessary to initiate transcription at any level. Within the promoter sequence may be found a transcription initiation site (conveniently defined, for example, by mapping with nuclease S1), as well as protein binding domains (consensus
15 sequences) responsible for the binding of RNA polymerase. The promoter may be operably associated with other expression control sequences, including enhancer and repressor sequences or with a nucleic acid of the invention. Promoters which may be used to control gene expression include, but are not limited to, cytomegalovirus (CMV) promoter (U.S. Patent Nos. 5,385,839 and 5,168,062), the SV40 early promoter region (Benoist, *et al.*,
20 (1981) *Nature* 290:304-310), the promoter contained in the 3' long terminal repeat of Rous sarcoma virus (Yamamoto, *et al.*, (1980) *Cell* 22:787-797), the herpes thymidine kinase promoter (Wagner, *et al.*, (1981) *Proc. Natl. Acad. Sci. USA* 78:1441-1445), the regulatory sequences of the metallothionein gene (Brinster, *et al.*, (1982) *Nature* 296:39-42); prokaryotic expression vectors such as the β -lactamase promoter (Villa-Komaroff, *et al.*,
25 (1978) *Proc. Natl. Acad. Sci. USA* 75:3727-3731), or the *tac* promoter (DeBoer, *et al.*, (1983) *Proc. Natl. Acad. Sci. USA* 80:21-25); see also "Useful proteins from recombinant bacteria" in *Scientific American* (1980) 242:74-94; and promoter elements from yeast or other fungi such as the *Gal 4* promoter, the *ADC* (alcohol dehydrogenase) promoter, *PGK* (phosphoglycerol kinase) promoter or the alkaline phosphatase promoter.

30 The terms "vector", "cloning vector" and "expression vector" include a vehicle (e.g., a plasmid) by which a DNA or RNA sequence can be introduced into a host cell, so as to transform the host and, optionally, promote expression and/or replication of the introduced sequence.

The term "host cell" includes any cell of any organism that is selected, modified,
35 transfected, transformed, grown, or used or manipulated in any way, for the production of a substance by the cell, for example the expression or replication, by the cell, of a gene, a DNA

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or RNA sequence, a protein or an enzyme. A host cell can be a eukaryotic cell or prokaryotic cell. A eukaryotic cell can be, for example, a Chinese hamster ovary cell (*e.g.*, CHO-K1 or DXB11), a HeLa cell, an NIH 3T3 cell, or a yeast or fungal cell, such as *S. cerevisiae*, any *Pichia* cell, *Pichia pastoris*, *Pichia finlandica*, *Pichia trehalophila*, *Pichia koclamae*, *Pichia membranaefaciens*, *Pichia minuta* (*Ogataea minuta*, *Pichia lindneri*), *Pichia opuntiae*, *Pichia thermotolerans*, *Pichia salictaria*, *Pichia guercuum*, *Pichia pipperi*, *Pichia stiptis*, *Pichia methanolica*, *Pichia*, *Saccharomyces cerevisiae*, *Saccharomyces*, *Hansβnula polymorpha*, *Kluyveromyces*, *Kluyveromyces lactis*, *Candida albicans*, *Aspergillus nidulans*, *Aspergillus niger*, *Aspergillus oryzae*, *Trichoderma reesei*, *Chrysosporium lucknowense*, *Fusarium*, *Fusarium gramineum*, *Fusarium venenatum* or *Neurasporea crassa*. A prokaryotic cell can be, for example, a bacterial cell such as *E. coli* (*e.g.*, BL21 or BL21 DE3); see U.S. Patent Nos. 4,952,496, 5,693,489 and 5,869,320 and in Davanloo, P., *et al.*, (1984) Proc. Natl. Acad. Sci. USA 81, 2035-2039; Studier, F. W., *et al.*, (1986) J. Mol. Biol. 189: 113-130; Rosenberg, A. H., *et al.*, (1987) Gene 56: 125-135; and Dunn, J. J., *et al.*, (1988) Gene 68: 259 which are herein incorporated by reference.

The present invention contemplates any superficial or slight modification to the amino acid or nucleotide sequences which correspond to the immunoglobulin chains of the antibodies or antigen-binding fragments thereof of the invention. Antibodies and antigen-binding fragments thereof comprising one or more of such modified chains form part of the present invention. In particular, the present invention contemplates sequence-conservative variants and function-conservative variants. "Sequence-conservative variants" of immunoglobulin chains are those in which a change of one or more nucleotides in a given codon results in no alteration in the amino acid encoded at that position. Function-conservative variants of the immunoglobulin chains of the invention are also contemplated by the present invention. "Function-conservative variants" are those in which one or more amino acid residues in a protein have been changed without altering the overall conformation and function of the polypeptide, including, but, by no means, limited to, replacement of an amino acid with one having similar properties. Amino acids with similar properties are well known in the art. For example, polar/hydrophilic amino acids which may be interchangeable include asparagine, glutamine, serine, cysteine, threonine, lysine, arginine, histidine, aspartic acid and glutamic acid; nonpolar/hydrophobic amino acids which may be interchangeable include glycine, alanine, valine, leucine, isoleucine, proline, tyrosine, phenylalanine, tryptophan and methionine; acidic amino acids which may be interchangeable include aspartic acid and glutamic acid and basic amino acids which may be interchangeable include histidine, lysine and arginine. Conservative substitutions of an amino acid sequence refer to those wherein an amino acid of one subtype (*e.g.*, polar/hydrophilic) is replaced with another

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amino acid of the same subtype; and, in an embodiment of the invention, wherein the conservatively substituted polypeptide retains essentially the same level of biological activity (e.g., binding affinity of a substituted anti-PCSK9 antibody for PCSK9).

The present invention includes nucleic acids encoding immunoglobulin chains of the present invention as well as nucleic acids which hybridize thereto. In an embodiment of the invention, the nucleic acids hybridize under low stringency conditions, more preferably under moderate stringency conditions and most preferably under high stringency conditions and, in an embodiment of the invention, exhibit PCSK9 binding activity when part of an antibody or antigen-binding fragment thereof. A nucleic acid molecule is "hybridizable" to another nucleic acid molecule, when a single stranded form of the nucleic acid molecule can anneal to the other nucleic acid molecule under the appropriate conditions of temperature and solution ionic strength (see Sambrook, *et al.*, *supra*). The conditions of temperature and ionic strength determine the "stringency" of the hybridization. An example, of a non-stringent wash condition under which a membrane comprising hybridized nucleic acids may be washed of excess, non-hybridizing nucleic acids is 2XSSC at 65°C; whereas a stringent wash would be 0.1X SSC at 65°C. Alternatively, a stringent wash can include a series of washes at 65°C in decreasing salt concentrations (e.g., 3XSSC/0.2% SDS, then 1x SSC/0.2% SDS). A hybridization condition may be 6XSSC; 0.2% SDS; 1XDenhardt's blocking solution, or 1% w/v milk; 10-50 ng/ml probe (denatured first); 65°C incubation, with agitation, for 18-24 hours. A recipe for 20X SSC per liter is NaCl 175.3 g (3 molar final in 20X) Sodium Citrate 88.2 g (0.3 molar final in 20X) (Adjust pH to 7.0 with a few drops of 10 N NaOH).

Also included in the present invention are nucleic acids comprising immunoglobulin chain nucleotide sequences and immunoglobulin chain polypeptides comprising amino acid sequences which are at least about 70% identical, preferably at least about 80% identical, more preferably at least about 90% identical and most preferably at least about 95% identical (e.g., 95%, 96%, 97%, 98%, 99%, 100%) to the reference immunoglobulin chain nucleotide and immunoglobulin chain amino acid sequences of the present invention (*i.e.*, as discussed herein) when the comparison is performed by a BLAST algorithm wherein the parameters of the algorithm are selected to give the largest match between the respective sequences over the entire length of the respective reference sequences. Immunoglobulin chain polypeptides comprising amino acid sequences which are at least about 70% similar, preferably at least about 80% similar, more preferably at least about 90% similar and most preferably at least about 95% similar (e.g., 95%, 96%, 97%, 98%, 99%, 100%) to the reference immunoglobulin chain amino acid sequences of the present invention when the comparison is performed with a BLAST algorithm wherein the parameters of the algorithm are selected to give the

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largest match between the respective sequences over the entire length of the respective reference sequences, are also included in the present invention.

Sequence identity refers to exact matches between the nucleotides or amino acids of two sequences which are being compared. Sequence similarity refers to both exact matches
 5 between the amino acids of two polypeptides which are being compared in addition to matches between nonidentical, biochemically related amino acids. Biochemically related amino acids which share similar properties and may be interchangeable are discussed above.

The term "oligopeptide" refers to a peptide, generally of no more than about 100
 10 amino acids (*e.g.*, 10, 20, 30, 40, 50, 60, 70, 80, or 90).

The following references regarding the BLAST algorithm are herein incorporated by reference: **BLAST ALGORITHMS**: Altschul, S.F., *et al.*, (1990) J. Mol. Biol. 215:403-410; Gish, W., *et al.*, (1993) Nature Genet. 3:266-272; Madden, T.L., *et al.*, (1996) Meth. Enzymol. 266:131-141; Altschul, S.F., *et al.*, (1997) Nucleic Acids Res. 25:3389-3402; Zhang, J., *et al.*,
 15 (1997) Genome Res. 7:649-656; Wootton, J.C., *et al.*, (1993) Comput. Chem. 17:149-163; Hancock, J.M. *et al.*, (1994) Comput. Appl. Biosci. 10:67-70; **ALIGNMENT SCORING SYSTEMS**: Dayhoff, M.O., *et al.*, "A model of evolutionary change in proteins." in Atlas of Protein Sequence and Structure, (1978) vol. 5, suppl. 3. M.O. Dayhoff (ed.), pp. 345-352, Natl. Biomed. Res. Found., Washington, DC; Schwartz, R.M., *et al.*, "Matrices for detecting
 20 distant relationships." in Atlas of Protein Sequence and Structure, (1978) vol. 5, suppl. 3." M.O. Dayhoff (ed.), pp. 353-358, Natl. Biomed. Res. Found., Washington, DC; Altschul, S.F., (1991) J. Mol. Biol. 219:555-565; States, D.J., *et al.*, (1991) Methods 3:66-70; Henikoff, S., *et al.*, (1992) Proc. Natl. Acad. Sci. USA 89:10915-10919; Altschul, S.F., *et al.*, (1993) J. Mol. Evol. 36:290-300; **ALIGNMENT STATISTICS**: Karlin, S., *et al.*, (1990) Proc. Natl. Acad. Sci.
 25 USA 87:2264-2268; Karlin, S., *et al.*, (1993) Proc. Natl. Acad. Sci. USA 90:5873-5877; Dembo, A., *et al.*, (1994) Ann. Prob. 22:2022-2039; and Altschul, S.F. "Evaluating the statistical significance of multiple distinct local alignments." in Theoretical and Computational Methods in Genome Research (S. Suhai, ed.), (1997) pp. 1-14, Plenum, New York.

30 Antibodies

The present invention includes methods and compositions comprising anti-PCSK9 antibodies and antigen-binding fragments thereof (*e.g.*, LPD1282/LPD1462; 1F11). The term "anti-PCSK9 antibody" or the like refers to a full antibody that binds specifically to PCSK9 (*e.g.*, human PCSK9); for example, monoclonal antibodies, polyclonal antibodies, bispecific
 35 antibodies, chimeric antibodies, recombinant antibodies, anti-idiotypic antibodies, humanized antibodies and bispecific antibodies. The term "antigen-binding fragment" of an antibody

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encompasses a fragment or a derivative of an antibody, typically including at least a portion of the antigen-binding or variable regions (e.g., one or more CDRs) of the parental antibody, that retains at least some of the binding specificity of the parental antibody. Examples of antigen-binding fragments of an antibody include, but are not limited to, Fab, Fab', F(ab')₂, and Fv fragments; dsFv; (dsFv)₂, ds diabodies; dsFv-dsFv'; single-chain antibody molecules, e.g., sc-Fv, sc-Fv dimers (bivalent diabodies); and bispecific diabodies. Thus, the invention includes any antibody or antigen-binding fragment thereof comprising one or more of the light chain and/or heavy chain immunoglobulin CDRs set forth herein. In an embodiment of the invention, the antibody or fragment comprises all 3 light chain and/or all 3 heavy chain CDRs.

The scope of the present invention includes embodiments wherein any of the antibodies and antigen-binding fragments that are discussed anywhere herein are further characterized by possessing one or more functional characteristics such as inhibiting the ability of PCSK9 to associate with LDL (low density lipoprotein) receptor, *i.e.*, by competing with LDL receptor for PCSK9 binding; or lowering LDL levels in rhesus monkeys (e.g., under the conditions described below in Example 2), e.g., to a similar degree; or binding to the PCSK9 furin processing site, e.g., at the specific PCSK9 peptide epitope discussed herein; or binding to PCSK9 with a K_D of about 10⁻⁸ M or a higher affinity (e.g., 10⁻⁹ M or 10⁻¹⁰ M) (any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic).

The scope of the present invention also includes any antibody or antigen-binding fragment thereof that binds to PCSK9 at the linear epitope EDGTRFHRQASKC (amino acids 211-223 of SEQ ID NO:8) or at the PCSK9 furin processing site; along with a composition thereof comprising such an antibody or fragment in association with a further therapeutic agent (e.g., any of those discussed herein) or a pharmaceutical composition comprising such an antibody or fragment combined with a pharmaceutically acceptable carrier (e.g., any of those discussed herein) as well as method for treating any of the medical conditions discussed herein (any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic). In an embodiment of the invention, the antibody or antigen-binding fragment thereof has a linear epitope in PCSK9 including residues EDGTRFHRQASKC (amino acids 211-223 of SEQ ID NO:8); optionally, excluding residue D212; optionally including residues S188, R251 and/or C255 (any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic). Accordingly, the present invention also encompasses any antibody or antigen-binding fragment thereof that contacts PCSK9 in a similar manner. In an

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embodiment of the invention, the antibody or antigen-binding fragment thereof of the present invention contacts the following specific atoms in the PCSK9 antigen:

Atom	Residue	res #
CB	SER	188
OG	SER	188
N	GLU	211
CB	GLU	211
CG	GLU	211
CD	GLU	211
OE1	GLU	211
OE2	GLU	211
O	GLU	211
CA	GLY	213
O	GLY	213
N	THR	214
CA	THR	214
CB	THR	214
OG1	THR	214
CG2	THR	214
N	ARG	215
CA	ARG	215
CB	ARG	215
CG	ARG	215
CD	ARG	215
NE	ARG	215
CZ	ARG	215
NH1	ARG	215
NH2	ARG	215
C	ARG	215
O	ARG	215
N	PHE	216
CA	PHE	216
CB	PHE	216
CG	PHE	216
CD1	PHE	216
CE1	PHE	216
CZ	PHE	216
CE2	PHE	216
CD2	PHE	216
O	PHE	216
N	HIS	217
CA	HIS	217
CB	HIS	217
CG	HIS	217
ND1	HIS	217
CE1	HIS	217
NE2	HIS	217
CD2	HIS	217
C	HIS	217
O	HIS	217
N	ARG	218

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CA	ARG	218
CB	ARG	218
CG	ARG	218
CD	ARG	218
NH2	ARG	218
C	ARG	218
O	ARG	218
N	GLN	219
CA	GLN	219
CB	GLN	219
CG	GLN	219
CD	GLN	219
OE1	GLN	219
NE2	GLN	219
O	GLN	219
N	ALA	220
CA	ALA	220
CB	ALA	220
O	ALA	220
N	SER	221
CB	SER	221
OG	SER	221
O	SER	221
CA	LYS	222
CD	LYS	222
CE	LYS	222
NZ	LYS	222
O	LYS	222
CB	CYS	223
SG	CYS	223
CZ	ARG	251
NH1	ARG	251
NH2	ARG	251
CB	CYS	255
SG	CYS	255

(any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic). In an embodiment of the invention, the following specific atoms in the heavy chain of the antibody or antigen-binding fragment thereof of the present invention contact PCSK9:

5

Atom	Residue	Residue #
O	THR	30
CA	ASP	31
CB	ASP	31
CG	ASP	31
OD1	ASP	31
OD2	ASP	31
C	ASP	31
O	ASP	31

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CA	TYR	32
OH	TYR	32
CE2	TYR	32
CD2	TYR	32
C	TYR	32
N	TYR	33
CB	TYR	33
CG	TYR	33
CD1	TYR	33
CE1	TYR	33
CZ	TYR	33
OH	TYR	33
CE2	TYR	33
CD2	TYR	33
O	TYR	33
CB	ASN	35
CG	ASN	35
OD1	ASN	35
ND2	ASN	35
CG2	VAL	37
CD1	TRP	47
CB	ASP	50
CG	ASP	50
OD1	ASP	50
OD2	ASP	50
CA	ILE	51
C	ILE	51
N	ASN	52
CB	ASN	52
CG	ASN	52
OD1	ASN	52
ND2	ASN	52
CD	PRO	53
CB	ASN	54
CG	ASN	54
OD1	ASN	54
ND2	ASN	54
C	ASN	54
O	ASN	54
CB	ASN	55
CG	ASN	55
OD1	ASN	55
ND2	ASN	55
CA	GLY	57
C	GLY	57
O	GLY	57
O	ALA	58
CG1	ILE	59
CD1	ILE	59
NZ	LYS	74
OG1	THR	97
CG2	THR	97

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CA	SER	98
C	SER	98
O	SER	98
N	GLY	99
CA	GLY	99
C	GLY	99
O	GLY	99
N	ILE	100
CA	ILE	100
CG1	ILE	100
CD1	ILE	100
N	ILE	101
CB	ILE	101
CG1	ILE	101
CD1	ILE	101
O	ILE	101
CB	ASP	107
NE1	TRP	109
CH2	TRP	109
CZ2	TRP	109

(any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic). In an embodiment of the invention, the heavy chain tyrosine 32 contacts PCSK9, for example at the specific tyrosine 32 atom set forth in the table above (any antibody or antigen-binding

5 fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic). In an embodiment of the invention, tyrosine 32 interacts with PCSK9 in a lasso-post arrangement; wherein, the post, tyrosine 32, is situated inside of a flexible loop comprising PCSK9 residues 210-222 (any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the

10 invention, be further characterized as possessing this characteristic). In an embodiment of the invention, the following specific atoms in the light chain of the antibody or antigen-binding fragment thereof of the present invention contact PCSK9:

Atom	Residue	Residue #
ND2	ASN	32
CB	VAL	34
CG1	VAL	34
CZ	TYR	36
OH	TYR	36
CE2	TYR	36
CB	ALA	46
OH	TYR	55
OE1	GLN	89
NE2	GLN	89
CB	TYR	91
CG	TYR	91
CD1	TYR	91

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CE1	TYR	91
CE2	TYR	91
CD2	TYR	91
O	TYR	91
C	LYS	92
O	LYS	92
CA	THR	93
C	THR	93
N	TYR	94
CD1	TYR	94
CE1	TYR	94
CZ	TYR	94
OH	TYR	94
CE1	TYR	96
CZ	TYR	96
OH	TYR	96
CE2	TYR	96
CD2	TYR	96
CZ	PHE	98
CE2	PHE	98

(any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic). In an embodiment of the invention, five tyrosines, 36, 55, 91, 94 and 96, of the light chain of an antibody or antigen-binding fragment thereof of the present invention make hydrophobic interactions with PCSK9; for example, between PCSK9 and the specific atoms of the five tyrosines (any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic). For example, antibodies and immunoglobulin chains of the present invention include those wherein the light chain variable domain is LPD1640 comprising the following amino acid sequence wherein the five tyrosines are numbered:

DIQMTQSPSSLSASVGDRVITITC KASQNVGTAVV WY₃₆QQKPGKAPKALIH SASYRY₅₅S
GVPSRFSGSGSGTDFTLTISLQPEDFATYYC QQY₉₁KQY₉₄PY₉₆T FGQGTKVEIKR

(SEQ ID NO: 5); or antibodies of the present invention include those wherein the light chain variable domain is LPD1282 comprising the following amino acid sequence wherein the five tyrosines are numbered:

DIQMTQSPSSLSASVGDRVITITCKASQNVGTNVVWY₃₆QQKPGKAPKALIHSASYRY₅₅SGVPSRFSGSG
SGTDFTLTISLQPEDFATYYCQQY₉₁KTY₉₄PY₉₆TFGQGTKVEIKR

(SEQ ID NO: 7). The scope of the present invention encompasses antibodies and antigen-binding fragments thereof comprising tyrosines at amino acid positions 36, 55, 91, 94 and 96 wherein the light chain residue numbering is as set forth above for SEQ ID NO: 5 or 7, *i.e.*, wherein residue 1 is the first residue of the mature light chain variable region (any antibody or

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antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic).

Any antibody or antigen-binding fragment thereof that, when converted to a Fab antigen-binding fragment format, binds to human PCSK9 in a manner characterized by a three dimensional structure which structure is characterized by atoms positioned in space as described in a set of structural coordinates that has a RMSD of conserved residue backbone atoms (N, C α , C, O) or of alpha carbon atoms (C α) only of less than about 1.5 Å when superimposed--using backbone atoms or alpha carbon atoms --on the relevant structure coordinates of Table 5 are considered within the scope of the present invention. In an embodiment, the root mean square deviation is about 1.5 Å or about 1.0 Å or about 0.75 Å or about 0.5 Å or about 0.25 Å or about 0.10 Å; forms part of the present invention. In an embodiment of the invention, the coordinates are exactly as set forth in Table 5.

Furthermore, any antibody or antigen-binding fragment thereof that, when converted to a Fab antigen-binding fragment format, is, itself, characterized by a three dimensional structure, which structure is characterized by atoms positioned in space as described in the portion of the structural coordinates set forth in Table 5 (or a set of structural coordinates coordinates that has a RMSD of conserved residue backbone atoms (N, C α , C, O) or of alpha carbon atoms (C α) only of less than about 1.5 Å (e.g., 1.0 Å, 0.75 Å, 0.5 Å, 0.25 Å, 0.1 Å) when superimposed--using backbone atoms or alpha carbon atoms --on the relevant structure coordinates of Table 5) that relates to the Fab moiety is part of the present invention (any antibody or antigen-binding fragment thereof described anywhere herein may, in an embodiment of the invention, be further characterized as possessing this characteristic).

The anti-PCSK9 antibodies and antigen-binding fragments thereof used in the present invention include antibodies and fragments which were raised against or bind to the whole PCSK9 protein as well as antibodies raised against or that bind to particular short epitopes within PCSK9.

Specific isolated anti-human PCSK9 antibody immunoglobulin sequences of the present invention are set forth below. CDR sequences for each immunoglobulin chain are underscored.

The present invention includes isolated polypeptides (e.g., antibodies and antigen-binding fragments thereof) comprising one or more (e.g., 3) CDRs taken from any light and/or heavy chain immunoglobulin set forth herein as defined by the convention set forth in Kabat, "Sequences of Proteins of Immunological Interest" (National Institutes of Health, Bethesda, Md., 1987 and 1991) or in Chothia *et al.*, J. Mol. Biol. 196:901 (1987); Nature 342:878 (1989); and J. Mol. Biol. 186:651 (1989) (Kabat or Chothia) or Al-Lazikani *et al.*, J. Mol. Biol. 273: 927-948 (1997).

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The present invention includes anti-PCSK9 antibodies and antigen-binding fragments thereof which bind specifically to PCSK9, for example, human PCSK9. In an embodiment of the invention, an anti-human PCSK9 antibody binds to human PCSK9 without any detectable binding to any other species of PCSK9 (e.g., no detectable binding to a rat PCSK9). In an
5 embodiment of the invention, specific anti-PCSK9 binding refers to binding of the antibody to PCSK9 or an antigenic fragment thereof with a K_D of about 10^{-8} M or greater affinity. In an embodiment of the invention, an anti-PCSK9 antibody or antigen-binding fragment of the present invention binds to human PCSK9 with a K_D of about 6, 6.4, 7, 8, 9, 10 or 10.7 nM. In an embodiment of the invention, an antibody or antigen-binding fragment thereof of the
10 present invention inhibits human PCSK9-mediated functional effects in a HepG2 cell-based LDL-c uptake assay with an IC_{50} for human PCSK9 of about 9.8 nM. In an embodiment of the invention, an anti-PCSK9 antibody or antigen-binding fragment thereof of the present invention binds to human, cynomolgous monkey, rat and mouse PCSK9. In an embodiment of the invention, an anti-PCSK9 antibody or antigen-binding fragment of the present invention
15 does not bind significantly to the Fc Gamma Receptor (e.g., wherein the antibody comprises the kappa and IgG2 constant domains). In an embodiment of the invention, an anti-PCSK9 antibody or antigen-binding fragment thereof of the present invention has an *in vivo* half life of about 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 days.

Any suitable method for generating antibodies may be used. For example, a recipient
20 may be immunized with PCSK9 or an immunogenic fragment thereof. Any suitable method of immunization can be used. Such methods can include adjuvants, other immunostimulants, repeated booster immunizations, and the use of one or more immunization routes. Any suitable source of PCSK9 can be used as the immunogen for the generation of the antibodies and fragments of the compositions and methods disclosed
25 herein. Such forms include, but are not limited whole protein, peptide(s), and epitopes generated through recombinant, synthetic, chemical or enzymatic degradation means known in the art.

The present invention also includes an isolated polypeptide consisting of or consisting essentially of the amino acid sequence EDGTRFHRQASKC (amino acids 211-223 of SEQ ID
30 NO:8) optionally fused to a heterologous protein or molecule (e.g., keyhole limpet hemocyanin (KLH)) or further comprising one or several additional PCSK9 residues (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10) that are naturally contiguous with the N- or C-terminal end of EDGTRFHRQASKC (amino acids 211-223 of SEQ ID NO:8). Multimers comprising more than one (e.g., 2, 3, 4, 5, 6, 7, 8, 9, 10) of such peptides forms part of the present invention.
35 A method for producing an anti-PCSK9 antibody or antigen-binding fragment thereof comprising immunizing a host animal (goat, rat, rabbit) with such a peptide also form part of

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the present invention. A composition comprising such a peptide, *e.g.*, a vaccine, including an adjuvant or carrier forms part of the present invention.

Any form of the antigen can be used to generate the antibody that is sufficient to generate a biologically active antibody. Thus, the eliciting antigen may be a single epitope, multiple epitopes, or the entire PCSK9 protein alone or in combination with one or more immunogenicity enhancing agents known in the art.

Other suitable techniques involve selection of libraries of antibodies in phage or similar vectors. See, *e.g.*, Huse *et al. supra*; and Ward *et al.* (1989) *Nature* 341:544-546. The polypeptides and antibodies of the present invention may be used with or without modification, including chimeric or humanized antibodies. Frequently, the polypeptides and antibodies will be labeled by joining, either covalently or non-covalently, a substance that provides for a detectable signal. A wide variety of labels and conjugation techniques are known and are reported extensively in both the scientific and patent literature. Suitable labels include radionuclides, enzymes, substrates, cofactors, inhibitors, fluorescent moieties, chemiluminescent moieties, magnetic particles, and the like. Patents teaching the use of such labels include U.S. Patent Nos. 3,817,837; 3,850,752; 3,939,350; 3,996,345; 4,277,437; 4,275,149; and 4,366,241.

Fab fragment are known in the art. The fragments contain the region on an antibody that binds to antigens. It contains one constant and one variable domain of each of the heavy and the light chain. Fab fragments can be generated in the laboratory. The enzyme papain can be used to cleave an antibody into two Fab fragments and an Fc fragment. The enzyme pepsin cleaves below hinge region, so a F(ab')₂ fragment and a pFc' fragment is formed. The F(ab')₂ fragment can be split into two Fab' fragments by mild reduction.

"Disulfide stabilized Fv fragments" and "dsFv" include molecules having a variable heavy chain (V_H) and a variable light chain (V_L) which are linked by a disulfide bridge.

The "Fv region" comprises the variable regions from both the heavy and light chains, but lacks the constant regions.

The term "single-chain Fv" or "scFv" antibody refers to antibody fragments comprising the V_H and V_L domains of an antibody, wherein these domains are present in a single polypeptide chain. Generally, the Fv polypeptide further comprises a polypeptide linker between the V_H and V_L domains which enables the V_H and V_L chains to pair and form a binding site (*e.g.*, 5-12 residues long). For a review of scFv, see Pluckthun (1994) *THE PHARMACOLOGY OF MONOCLONAL ANTIBODIES*, vol. 113, Rosenberg

and Moore eds. Springer-Verlag, New York, pp. 269-315. See also, International Patent Application Publication No. WO 88/01649 and U.S. Pat. Nos. 4,946, 778 and 5,260,203.

A domain antibody is either the variable domain of an antibody heavy chain (V_H domain) or the variable domain of an antibody light chain (V_L domain). Each domain
5 antibody contains three of the six naturally occurring complementarity determining regions (CDRs) from an antibody.

A "bivalent antibody" comprises two antigen-binding sites. In some instances, the two binding sites have the same antigen specificities. However, bivalent antibodies may be bispecific. For example, the present invention comprises scfv dimers and dsfv
10 dimers, each of which scfv and dsfv moieties may have a common or different antigen binding specificity.

In an embodiment of the invention, a $(dsfv)_2$ comprises three peptide chains: two V_H moieties linked by a peptide linker and bound by disulfide bridges to two linked V_L moieties. In an embodiment of the invention, a bispecific ds diabody comprises a VH_1 -
15 VL_2 (tethered by a peptide linker) linked, by a disulfide bridge between the VH_1 and VL_1 , to a VL_1 - VH_2 moiety (also tethered by a peptide linker). In an embodiment of the invention, a bispecific dsfv-dsfv' also comprises three peptide chains: a VH_1 - VH_2 moiety wherein the heavy chains are linked by a peptide linker (e.g., a long flexible linker) and are bound to VL_1 and VL_2 moieties, respectively, by disulfide bridges; wherein each
20 disulfide paired heavy and light chain has a different antigen specificity. In an embodiment of the invention, an scfv dimer (a bivalent diabody) comprises a V_H - V_L moiety wherein the heavy and light chains are bound to by a peptide linker and dimerized with another such moiety such that V_H s of one chain coordinate with the V_L s of another chain and form two identical binding sites. In an embodiment of the invention a bispecific
25 diabody comprises VH_1 - VL_2 moiety (linked by a peptide linker) associated with a VL_1 - VH_2 (linked by a peptide linker), wherein the VH_1 and VL_1 coordinate and the VH_2 and VL_2 coordinate and each coordinated set has diverse antigen specificities.

The term "monoclonal antibody", as used herein, refers to an antibody obtained from a population of substantially homogeneous antibodies, *i.e.*, the individual antibodies
30 comprising the population are identical except for possible naturally occurring mutations that may be present in minor amounts. Monoclonal antibodies are highly specific, being directed against a single antigenic epitope. In contrast, conventional (polyclonal) antibody preparations typically include a multitude of antibodies directed against (or specific for) different epitopes. Monoclonal antibodies to be used in accordance with the

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present invention may be made recombinantly or by the hybridoma method first described by Kohler *et al.* (1975) *Nature* 256: 495, or may be made by recombinant DNA methods (see, e.g., U.S. Pat. No. 4,816,567). The "monoclonal antibodies" may also be isolated from phage antibody libraries using the techniques described in Clackson *et al.* (1991) *Nature* 352: 624-628 and Marks *et al.* (1991) *J. Mol. Biol.* 222: 581-597. See also Presta (2005) *J. Allergy Clin. Immunol.* 116:731.

Any suitable method can be used to elicit an antibody with the desired biologic properties to inhibit PCSK9. Monoclonal antibodies (mAbs) may be prepared from various mammalian hosts, such as mice, rats, other rodents, humans, other primates, *etc.*

Description of techniques for preparing such monoclonal antibodies may be found in, e.g., Stites *et al.* (eds.) BASIC AND CLINICAL IMMUNOLOGY (4th ed.) Lange Medical Publications, Los Altos, CA, and references cited therein; Harlow and Lane (1988) ANTIBODIES: A LABORATORY MANUAL CSH Press; Goding (1986) MONOCLONAL ANTIBODIES: PRINCIPLES AND PRACTICE (2d ed.) Academic Press, New York, NY.

Thus, monoclonal antibodies may be obtained by a variety of techniques familiar to researchers skilled in the art. Typically, spleen cells from an animal immunized with a desired antigen are immortalized, commonly by fusion with a myeloma cell. See Kohler and Milstein (1976) *Eur. J. Immunol.* 6:511-519. Alternative methods of immortalization include transformation with Epstein Barr Virus, oncogenes, or retroviruses, or other methods known in the art. See, e.g., Doyle *et al.* (eds. 1994 and periodic supplements) CELL AND TISSUE CULTURE: LABORATORY PROCEDURES, John Wiley and Sons, New York, NY. Colonies arising from single immortalized cells are screened for production of antibodies of the desired specificity and affinity for the antigen, and yield of the monoclonal antibodies produced by such cells may be enhanced by various techniques, including injection into the peritoneal cavity of a vertebrate host. Alternatively, one may isolate DNA sequences that encode a monoclonal antibody or an antigen binding fragment thereof by screening a DNA library from human B cells according, e.g., to the general protocol outlined by Huse *et al.* (1989) *Science* 246:1275-1281.

Antibodies of the present invention include "chimeric" antibodies (immunoglobulins) in which a portion of the heavy and/or light chain is identical with or homologous to corresponding sequences in antibodies derived from a particular species or belonging to a particular antibody class or subclass, while the remainder of the chain(s) is identical with or homologous to corresponding sequences in antibodies derived from another species or belonging to another antibody class or subclass, as well as fragments of such antibodies, so long as they exhibit the desired biological activity

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(U.S. Pat. No. 4,816,567; and Morrison *et al.*, (1984) *Proc. Natl. Acad. Sci. USA* 81: 6851-6855). For example, variable domains are obtained from an antibody from an experimental animal (the "parental antibody"), such as a mouse, and the constant domain sequences are obtained from human antibodies, so that the resulting chimeric antibody
5 will be less likely to elicit an adverse immune response in a human subject than the parental mouse antibody.

A recombinant antibody or antigen-binding fragment thereof of the invention is, in an embodiment of the invention, an antibody which is produced recombinantly, *e.g.*, expressed from a polynucleotide which has been introduced into an organism (*e.g.*, a
10 plasmid containing a polynucleotide encoding the antibody or fragment transformed into a bacterial cell (*e.g.*, *E.coli*) or a mammalian cell (*e.g.*, CHO cell)), followed by isolation of the antibody or fragment from the organism. Recombinant immunoglobulins may be produced by the methods set forth in Cabilly U.S. Patent No. 4,816,567.

The present invention comprises methods for expressing any antibody or antigen-
15 binding fragment thereof or polypeptide of the present invention. For example, an embodiment of the present invention comprises a process for producing an immunoglobulin molecule or an immunologically functional immunoglobulin fragment comprising at least the variable domains of the immunoglobulin heavy and/or light chains, in a host cell (*e.g.*, a single host cell), such as a CHO cell (*e.g.*, CHO-K1 or DXB11 cell),
20 comprising the steps of (i) transforming said host cell with a first polynucleotide encoding an immunoglobulin heavy chain and a second polynucleotide encoding an immunoglobulin light chain, and (ii) expressing said first polynucleotide and said second polynucleotide so that said immunoglobulin heavy and light chains are produced as separate molecules in said transformed host cell. In an embodiment of the invention, the
25 polynucleotides are operably linked to a promoter such as a CMV promoter. The present invention also comprises a process for producing an immunoglobulin molecule or an immunologically functional immunoglobulin fragment comprising introducing transforming a first haploid yeast host cell (*e.g.*, *Pichia* such as *Pichia pastoris*) with a first polynucleotide encoding at least the variable domain of the immunoglobulin heavy chain
30 or light chain and transforming a second haploid yeast host cell (*e.g.*, *Pichia* such as *Pichia pastoris*) with a second polynucleotide encoding the other chain, allowing the haploid cells to form polyploids, such as diploids, (*e.g.*, via mating), selecting the polyploids from the haploids, and growing the polyploids under conditions wherein the

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heavy and light chains are expressed in the polyploids and, optionally, secreted into the culture medium.

In an embodiment of the invention, polynucleotides introduced into a host cell remain ectopic whereas in another embodiment of the invention, the polynucleotide is integrated into the chromosomal DNA of the host cell.

In an embodiment of the invention, a method for producing an antibody or fragment or polypeptide further comprises isolating the chains that are expressed from the host cell and/or culture medium.

As used herein, the term "diabodies" refers to small antibody fragments with two antigen-binding sites, which fragments comprise a heavy chain variable domain (V_H) connected to a light chain variable domain (V_L) in the same polypeptide chain (V_H - V_L or V_L - V_H). By using a linker that is too short to allow pairing between the two domains on the same chain, the domains are forced to pair with the complementary domains of another chain and create two antigen-binding sites. Diabodies are described more fully in, e.g., EP 404,097; WO 93/11161; and Holliger *et al.* (1993) *Proc. Natl. Acad. Sci. USA* 90: 6444-6448. For a review of engineered antibody variants generally see Holliger and Hudson (2005) *Nat. Biotechnol.* 23:1126-1136.

A humanized antibody typically comprises a FR region having, substantially, the amino acid sequence of a human immunoglobulin and CDRs having, substantially, the amino acid sequence of a non-human immunoglobulin. These non-human amino acid residues are referred to as "import" residues, which are typically taken from an "import" antibody or antibody domain, e.g., a variable domain of an antibody. An import antibody typically has a desired affinity and/or specificity, or other desirable biological activity. The humanized antibody typically also will comprise at least a portion of a human immunoglobulin constant domain. For example, an embodiment of the invention includes humanized anti-PCSK9 (e.g., anti-human PCSK9) antibodies comprising mouse immunoglobulin CDRs and human immunoglobulin framework regions fused to a human immunoglobulin constant domain. See the following U.S. patents which are herein incorporated by reference: 5,585,089; 5,693,761; 5,693,762; and, 6,180,370.

The present invention also includes isolated polypeptides comprising the amino acid sequences of any of the immunoglobulin chains set forth herein as well as variants thereof, e.g., as discussed herein, along with isolated polynucleotides encoding said polypeptides and variants, vectors comprising the polynucleotides and isolated host cells comprising the polynucleotides and vectors (e.g., CHO cells, bacterial cells such as *E. coli* and fungal cells such as *S.cerevisiae* and *Pichia* such as *Pichia pastoris*). Such polypeptides, variants and

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polynucleotides, *etc.*, may be used, for example, as intermediates in the generation of an anti-PCSK9 antibody or antigen-binding fragment thereof. Methods for making the polypeptides are also included: comprising introducing the polynucleotide or vector into a host cell and culturing the host cell under conditions whereby the polypeptide is expressed and, optionally, secreted and, optionally, isolating the polypeptide.

In an embodiment of the invention, the heavy chain and/or light chain immunoglobulin sequences of the anti-PCSK9 antibodies of the present invention are set forth below. CDR sequences are underscored. The present invention also includes antibodies and antigen-binding fragments thereof comprising the CDRs of the heavy and/or light chain immunoglobulins set forth below as well as isolated polypeptides comprising such CDRs (*e.g.*, 3 light chain CDRs and/or 3 heavy chain CDRs); polynucleotides encoding such polypeptides; vectors comprising such polynucleotides and isolated host cells comprising such vectors. The present invention also includes antibodies and antigen-binding fragments thereof comprising any combination of the heavy and light chain immunoglobulins set forth herein. For example, antibodies and antigen-binding fragments thereof (*e.g.*, a humanized antibody) comprising the light chain LPD1282 (*e.g.*, fused to a kappa light chain constant domain) and the heavy chain LPD1462 (*e.g.*, fused to a gamma-2 or 4 heavy chain constant domain) are within the scope of the present invention. An antibody comprising a light chain variable region of LPD1282 and a heavy chain variable region of LPD1462 is designated as LPD1282/LPD1462.

Heavy chain sequences

LPD1462 humanized 1F11 IgG1:

MAVLGLLFCLVTFPSCVLSQVQLVQSGAEVKKPGASVKVSCKVSGYTFTDYYMNWVRQAPGQGLEWIG
DINPNNGGAIYNQKFKGRATLTVDKSTSTAYMELRSLRSDDTAVYYCTSGIITEIAEDFWGQGTTLTV
SSASTKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLS
SVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTL
MISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY
KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK
(SEQ ID NO: 1)

LPD1462 variable domain:

QVQLVQSGAEVKKPGASVKVSCKVS GYTFTDYYMN WVRQAPGQGLEWIG
DINPNNGGAIYNQKFKG RATLTVDKSTSTAYMELRSLRSDDTAVYYCTS GIITEIAEDF
WGQGTTLTVSS
(SEQ ID NO: 2)

LPD1259 humanized IgG1 CDR-swap (= version 1):

QVQLVQSGAEVKKPGASVKVSCKASGYTFTDYYMNWVRQAPGQGLEWMGDINPNNGGAIYNQKFKGRV
TMTTDTSTSTAYMELRSLRSDDTAVYYCARGIITEIAEDFWGQGTTLTVSS
(SEQ ID NO: 3)

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Light chain sequences

5 LPD1640 humanized Light Chain full-length:

MDMRVPAQLLGLLLLWLRGARCIDIQMTQSPSSLSASVGDRVTITCKASQNVGTAVVWYQQKPGKAPKA
 LIHSASYRYSQVPSRFRSGSGSGTDFTLTISSLPEDFATYYCQQYKQYPYTFGQGTKVEIKRTVAAPS
 VFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKSTYSLSSTLTLS
 KADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

10 (SEQ ID NO: 4)

LPD1640 variable domain:

DIQMTQSPSSLSASVGDRVTITC KASQNVGTAVV WY₃₆QQKPGKAPKALIH SASYRY₅₅S
 15 GVPSRFRSGSGSGTDFTLTISSLPEDFATYYC QQY₉₁KQY₉₄PY₉₆T FGQGTKVEIKR

(SEQ ID NO: 5)

LPD1260 humanized Light Chain CDR-swap (= version 1):

20 DIQMTQSPSSLSASVGDRVTITCKASQNVGTNNVWYQQKPGKAPKLLIYSASYRYSQVPSRFRSGSGSG
 TDFTLTISSLPEDFATYYCQQYKTYPYTFGQGTKVEIKR

(SEQ ID NO: 6)

LPD1282 humanized 1F11 Light Chain:

25 DIQMTQSPSSLSASVGDRVTITCKASQNVGTNNVWYQQKPGKAPKALIH SASYRYSQVPSRFRSGSGSG
 TDFTLTISSLPEDFATYYC QQYKTYPYTFGQGTKVEIKR

(SEQ ID NO: 7)

30 The present invention also encompasses an anti-PCSK9 Fab comprising the heavy
 chain amino acid sequence:

qvqlvqsgae vkkpgasvkv sckvsgytft dyymnwvrqa pgqglewigd inpnnggaiy
 nqkfkgratl tvdkststay melrslrsdd tavyyctsgi iteiaedfwg qgtltvtvssa
 stkgpsvfpl apsskstsgg taalgcclvkd yfpepvtvsw nsgaltsgvh tfpavlqssg
 35 lyslssvvtv pssslgtqty icnvnhkpsn tkvdkkvepk scdkthtaaa ypydvpyag
 ghhhhhh

(SEQ ID NO: 18) ;

and the light chain amino acid sequence:

diqmtqspss lsasvgdrvt itckasqnvgt tnnvwyqqkp gkapkalihs asyrysgvps
 40 rfrsgsgsgtd ftltisslqp edfatyyccq yktyptfqq gtkveikrtv aapsvfifpp
 sdeqlksgta svvcllnnfy preakvqwkvdnalqsgnsq esvteqdskd styslsstlt
 lskadyekhk vyacevthqg lsspvtksf nrgec

(SEQ ID NO: 19).

As discussed, an isolated polypeptide or variant thereof (as discussed herein)
 45 comprising the amino acid sequence of SEQ ID NO: 18 or 19 is part of the present invention.

The scope of the present invention includes any antibody or antigen-binding fragment
 thereof or light chain immunoglobulin or isolated polypeptide comprising the consensus

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amino acid sequence set forth below (SEQ ID NO: 20). Positions in the consensus sequence wherein the three chains differ are indicated with an X. The chain may be, at these X positions, any of the corresponding residues of the three chains, *e.g.*, the residue possessed by two of the three chains at that position. The present invention includes

5 consensus sequences comprising any possible combination of the indicated residues at the X positions.

10
 LPD1260 DIQMTQSPSSLSASVGDRVTITCKASQNVGTNVVWYQQKPGKAPKLLIYSASYRYSYSGVPS
 LPD1282 DIQMTQSPSSLSASVGDRVTITCKASQNVGTNVVWYQQKPGKAPKALIHSAASYRYSYSGVPS
 LPD1640 DIQMTQSPSSLSASVGDRVTITCKASQNVGTAVVWYQQKPGKAPKALIHSAASYRYSYSGVPS
 consensus DIQMTQSPSSLSASVGDRVTITCKASQNVGTXXVWYQQKPGKAPKXLIHSAASYRYSYSGVPS

15
 LPD1260 RFSGSGSGTDFTLTISSLQPEDFATYYCQQYKTYPYTFGGGTKVEIKR
 LPD1282 RFSGSGSGTDFTLTISSLQPEDFATYYCQQYKTYPYTFGGGTKVEIKR
 LPD1640 RFSGSGSGTDFTLTISSLQPEDFATYYCQQYKQYPYTFGGGTKVEIKR
 consensus RFSGSGSGTDFTLTISSLQPEDFATYYCQQYKXYPYTFGGGTKVEIKR

The scope of the present invention includes any antibody or antigen-binding fragment thereof or heavy chain immunoglobulin or isolated polypeptide comprising the consensus

20 amino acid sequence set forth below (SEQ ID NO: 21). Positions in the consensus sequence wherein the three chains differ are indicated with an X. The chain may be, at these X positions, any of the corresponding residues of the three chains, *e.g.*, the residue possessed by two of the three chains at that position. The present invention includes consensus sequences comprising any possible combination of the indicated residues at the

25 X positions.

30
 LPD1462 QVQLVQSGAEVKKPGASVKVSCKVSGYTFDDYYMNWVRQAPGGGLEWIGDINPNNGGAIY
 LPD1259 QVQLVQSGAEVKKPGASVKVSCKASGYTFDDYYMNWVRQAPGGGLEWMDINPNNGGAIY
 consensus QVQLVQSGAEVKKPGASVKVSCXSGYTFDDYYMNWVRQAPGGGLEWXXGINPNNGGAIY

35
 LPD1462 NQKFKGGRATLTVDKSTSTAYMELRSLRSDDTAVYYCTSGIITEIAEDFWGQGTLLVTVSS
 LPD1259 NQKFKGGRVTMTTDTSTAYMELRSLRSDDTAVYYCARGIITEIAEDFWGQGTLLVTVSS
 consensus NQKFKGGRXTTXDXSTSTAYMELRSLRSDDTAVYYCXGIIITEIAEDFWGQGTLLVTVSS

PCSK9

The present invention includes compositions and methods comprising antibodies and antigen-binding fragments thereof (*e.g.*, LPD1282/LPD1462) which bind specifically to PCSK9, for example, human PCSK9. The present invention includes a complex between

40 any isolated antibody or antigen-binding fragment thereof bound to PCSK9 (*e.g.*, human PCSK9) (*e.g.*, PCSK9 such as human PCSK9 in a cell in the body of a subject such as a human). In some embodiments of the invention, specific PCSK9 polypeptide sequences or antigenic fragments thereof from various species set forth below may be used as an antigen:

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**HUMAN gi|31317307|ref|NP_777596.2| preprotein convertase subtilisin/kexin type 9
preproprotein [*Homo sapiens*]**

MGTVSSRRSWWPLPLLLLLLLLLLGPAGARAQEDDGDYEELVLALRSEEDGLAEAPEHGTTATFHRC AKD
5 PWRLPGTYVVVLKEETHLSQSERTARRLQAQAARRGYLTKILHVFHGLLPGLVKMSGDLLELALKLPHV
DYIEEDSSVFAQSIPWNLERITPPRYRADEYQPPDGGSLVEVYLLDTSIQSDHREIEGRVMVTD FENVPE
EDGTRFHRQASKCDSHGTHLAGVVSGRDAGVAKGASMRSLRVLNCQGKGTVSGTLIGLEFIRKSQ LVPV
GPLVVLLPLAGGYSRVLNAACQRLARAGVVLVTAAGNFRDDACLYSPASAPEVITVGATNAQDQ PVTLGT
10 LGTNFGRCVDLFAPGEDIIGASSDCSTCFVSQSGTSQAAAHVAGIAAMMLSAEPELTLAELRQRLIH FSA
KDVINEAWFPEDQRVLT PNLVAALPPSTHGAGWQLFCRTVWSAHSGPTRMATAVARCAPDEELLSCSSFS
RSGKRRGERMEAQGGKLVCAHNAFGGEGVYAIARCCLLPQANCSVHTAPPAEASMGTRVHCHQQGHVLT
GCSSHWEVEDLGTHKPPVLRPRGQPNQCVGHREASIHASCCHAPGLECKVKEHGIPAPQEQVT VACEEGW
TLTGCSALPGTSHVLGAYAVDNTCVVRSRDVSTTGSTSEGAVTAVAICCRSRHLAQASQELQ

(SEQ ID NO: 8)

**CHIMP gi|114556790|ref|XP_001154126.1| PREDICTED: preprotein convertase
subtilisin/kexin type 9 [*Pan troglodytes*]**

MGTVSSRRSWWPLPLLLLLLLLLLGPAGARAQEDDGLAEAPEHGTTATFHRC AKDPWRLPGTYVVVLKEE
THLSQSERTARRLQAQAARRGYLTKILHVFHGLLPGLVKMSGDLLELALKLPHVDYIEEDSSVFAQSIP
20 WNLERITPPRYRADEYQPPDGGSLVEVYLLDTSIQSDHREIEGRVMVTD FENVPEEDGTRFHRQASKCDS
HGTHLAGVVSGRDAGVAKGASMRSLRVLNCQGKGTVSGTLIGLEFIRKSQ LVPVGPLVVLLPLAGGYSR
VLNAACQRLARAGVVLVTAAGNFRDDACLYSPASAPEVITVGATNAQDQ PVTLGT LGTNFGRCVDLFAPG
EDIIGASSDCSTCFVSQSGTSQAAAHVAGIAAMMLSAEPELTLAELRQRLIH FSAKDVINEAWFPEDQRV
LTPNLVAALPPSTHGAGWQLFCRTVWSAHSGPTRMATAVARCAPDEELLSCSSFSRSGKRRGERMEAQGG
25 KLVCAHNAFGGEGVYAIARCCLLPQANCSIH TAPPAEAGMGTRVHCHQQGHVLTGCSSHWEVEDLGTHK
PPMLRPRGQPNQCVGHREASIHASCCRAPGLECKVKEHGIPAPQEQVT VACEEGWTLTGCSALPGTSHVL
GAYAVDNTCVVRSRDVSTAGSTSEEAVAAVAICCRSRHLAQASQELQ

(SEQ ID NO: 9)

**MOUSE gi|23956352|ref|NP_705793.1| preprotein convertase subtilisin/kexin type 9 [*Mus
musculus*]**

MGTHCSAWLRWPLPLPLPLLLLLLLLLLCPGAGAQDEEDGDYEELMLALPSQEDGLADEAAHVATATFRRC
SKEAWRLPGTYIVVLMEETQRLQIEQTAHRLQTRAARRGYVIKVLHIFYDLFPGFLVKMSSDLLGLALKL
PHVEYIEEDSFVFAQSIPWNLERII PAWHQTEEDRSPDGSSQVEVYLLDTSIQGAHREIEGRVTITDFNS
35 VPEEDGTRFHRQASKCDSHGTHLAGVVSGRDAGVAKGTSLSLRLVNCQGKGTVSGTLIGLEFIRKSQ LI
QPSGPLVVLLPLAGGYSRI LNAACRHLARTGVVLVAAAGNFRDDACLYSPASAPEVITVGATNAQDQ PVT
LGT LGTNFGRCVDLFAPGKDIIGASSDCSTCFMSQSGTSQAAAHVAGIVARML SREPTLT LAELRQRLIH
FSTKDVINMAWFPEDQQVLT PNLVATLPPSTHETGGQLLCRTVWSAHSGPTRTATATARCAPEEELLSCS
SFSRSGRRRGDWIEAIGGQQVCKALNAFGGEGVYAVARCCLVPRANCSIHNT PAARAGLETHVHCHQKDH
40 VLTGCSFHWEEVDLSVRRQPALRSRRQPGQCVGHQAASVYASCCHAPGLECKIKEHGISGPSEQVT VACE

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AGWTLTGCVNLPGASLTGAYSVDNLCVARVHDTARADRTSGEATVAAAICCRSRPSAKASWVQ
(SEQ ID NO: 10)

RAT gi|77020250|ref|NP_954862.2| proprotein convertase subtilisin/kexin type 9 [*Rattus norvegicus*]

MGIRCSTWLRWPLSPQLLLLLLLLCPTGSRAQDEEDGDYEELMLALPSQEDSLVDEASHVATATFRRCSKEA
WRLPGTYVVVLMEETQRLQVEQTAHRLQTWAARRGYVIKVLHVFDLFPGLVKMSSDLLGLALKLPHVE
YIEEDSLVFAQSI PNLERI I PAWQQTEEDSSPDGSSQVEVYLLDTSIQSGHREIEGRVTITDFNSVPEE
DGTRFHRQASKCDSHGTHLAGVVSGRDAGVAKGTSLSLRLVNCQGKGTVSGTLIGLEFIRKSQLIQPSG
PLVVLPLAGGYSRILNTACQRLARTGVVLVAAAGNFRDDACLYSPASAPEVITVGATNAQDQPVTLGTL
GTNFGRCVDLFAPGKDIIGASSDCSTCYMSQSGTSQAAAHVAGIVAMMLNRDPALTLAELRQRLILFSTK
DVINMAWFPEDQRVLT PNRVATLPPSTQETGGQLLCRTVWSAHSGPTRTATATARCAPEEELLSCSSF SR
SGRRRGDRIEAI GGQVCKALNAFGGEGVYAVARCCLLPRVNC SIHNTPAARAGPQTPVHCHQKDHVLTG
CSFHWEVENLRAQQQPLLSRHRQPGQCQVGHQEQASVHASCCHAPGLECKIKEHGIAGPAEQVTVACEAGWT
LTGCVNLPGASLPLGAYSVDNVCVARIRDAGRADRTSEEATVAAAICCRSRPSAKASWVHQ

(SEQ ID NO: 11)

Therapeutic Methods, Administration and Pharmaceutical Formulations

The present invention provides methods for treating or preventing disorders of cholesterol or lipid homeostasis that are mediated, at least in part, by PCSK9, and disorders and complications associated therewith, e.g., hypercholesterolemia, hyperlipidemia, hypertriglyceridaemia, atherosclerosis, primary heterogeneous familial hypercholesterolemia, arteriosclerosis, coronary heart disease, vascular inflammation and elevated serum LDL by administering a therapeutically effective amount of an anti-PCSK9 antibody (e.g., as set forth herein, e.g., LPD1462/LPD1282; 1F11) or antigen-binding fragment thereof optionally in association with a further therapeutic agent such as a HMG Co-A reductase inhibitor such as atorvastatin or simvastatin or rosuvastatin and thereby antagonizing PCSK9 and, thus, lowering serum LDL in the subject. Disorders and complications associated with disorders of cholesterol or lipid homeostasis include, for example, heart attacks (cardiac arrest) and death, e.g., sudden cardiac death (SCD). In an embodiment of the invention, the antibody or fragment is administered to reduce serum LDL levels by at least about 25% or 50% (e.g., about 25-50%) (for at least about 20 to 30 days following a dose).

In an embodiment of the invention, a subject with a disorder of cholesterol or lipid homeostasis that are mediated, at least in part, by PCSK9, or a disorder or complication associated therewith is administered a therapeutically effective amount of the anti-PCSK9 antibody or antigen-binding fragment thereof to lower the serum LDL wherein the subject is HIV-positive and receiving highly active antiretroviral therapy (HAART; e.g., CCR5 receptor antagonist, entry inhibitor, nucleoside and nucleotide reverse transcriptase inhibitor (NRTI),

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Non-nucleoside reverse transcriptase inhibitors (NNRTI), protease inhibitor, integrase inhibitor, and/or maturation inhibitor); is intolerant of HMG Co-A reductase inhibitor therapy; suffers from acute coronary syndrome; is on immunosuppressive therapy (e.g., wherein the subject has received an organ transplant); is diabetic; and/or, will, in the future, receive percutaneous coronary intervention.

The term hypercholesterolemia includes, e.g., familial and non-familial hypercholesterolemia. Familial hypercholesterolemia (FHC) is an autosomal dominant disorder characterized by elevation of serum cholesterol bound to low density lipoprotein (LDL). Familial hypercholesterolemia includes both heterozygous FHC and homozygous FHC; methods for treating or preventing any of which by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (e.g., LPD1462/LPD1282) form part of the present invention.

Hyperlipidemia is an elevation of lipids in the bloodstream. These lipids include cholesterol, cholesterol esters, phospholipids and triglycerides. Hyperlipidemia includes for example, type I, IIa, IIb, III, IV and V; methods for treating or preventing any of which by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (e.g., LPD1462/LPD1282) form part of the present invention.

Sitosterolemia is a rare inherited plant sterol storage disease. In general, the metabolic defect in the affected patient causes hyperabsorption of sitosterol from the gastrointestinal tract, decreased hepatic secretion of sitosterol with subsequent decreased elimination, and altered cholesterol synthesis. Methods for treating or preventing sitosterolemia by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (e.g., LPD1462/LPD1282) form part of the present invention

Atherosclerosis includes hardening of arteries associated with deposition of fatty substances, cholesterol, cellular waste products, calcium and fibrin in the inner lining of an artery. The buildup that results is called plaque. Methods for treating or preventing atherosclerosis by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (e.g., LPD1462/LPD1282) form part of the present invention

Arteriosclerosis includes the diffuse build-up and deposition of calcium in artery walls which leads to hardening. Methods for treating or preventing arteriosclerosis by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (e.g., LPD1462/LPD1282) form part of the present invention

The present invention also provides methods for improving blood cholesterol markers associated with increased risk of heart disease. These markers include, but are not limited to, high total cholesterol, high LDL, high total cholesterol to HDL ratio and high LDL to HDL ratio.

5 In general, a total cholesterol of less than 200 mg/dL is considered desirable, 200-239 mg/dL is considered borderline high and 240 mg/dL and above is considered high. For example, the present invention comprises methods for reducing total cholesterol, *e.g.*, to less than or equal to about 200 mg/dL by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (*e.g.*,
10 LPD1462/LPD1282).

In general, a blood LDL level of less than 100 mg/dL is considered optimal; 100-129 mg/dL is considered near optimal/above optimal, 130-159 mg/dL is considered borderline high, 160-189 mg/dL is considered high and 190 mg/dL and above is considered very high. For example, the present invention comprises methods for reducing LDL, *e.g.*, to less than
15 about 100 mg/dL by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (*e.g.*, LPD1462/LPD1282).

In general, HDL levels considered normal are at least 35 - 40 mg/dL. For example, the present invention comprises methods for increasing HDL, *e.g.*, to greater than or equal to about 35-40 mg/dL by administering a therapeutically effective amount of anti-PCSK9
20 antibody or antigen binding fragment thereof of the present invention (*e.g.*, LPD1462/LPD1282).

Another indicator of heart disease risk is the ratio of total cholesterol to HDL. In general, a very low risk of heart disease correlates with a ratio of <3.4 (men) or <3.3 (women); a low risk is associated with a ratio of 4.0 (men) or 3.8 (women), an average risk is
25 associated with a ratio of 5.0 (men) or 4.5 (women), a moderate risk is associated with a ratio of 9.5 (men) or 7.0 (women) and a high risk is associated with a ratio of >23 (men) or >11 (women). For example, the present invention comprises methods for reducing the ratio of total cholesterol to HDL, *e.g.*, to less than about 4.5 or 5.0 by administering a therapeutically effective amount of anti-PCSK9 antibody or antigen binding fragment thereof of the present
30 invention (*e.g.*, LPD1462/LPD1282).

A further indicator of heart disease risk is the ratio of LDL to HDL. In general, a very low risk is associated with a ratio of 1 (men) or 1.5 (women), an average risk is associated with a ratio of 3.6 (men) or 3.2 (women), a moderate risk is associated with a ratio of 6.3 (men) or 5.0 (women) and a high risk is associated with a ratio of 8 (men) or 6.1 (women).
35 For example, the present invention comprises methods for the ratio of LDL to HDL, *e.g.*, to less than or equal to about 3.2 or 3.6 by administering a therapeutically effective amount of

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anti-PCSK9 antibody or antigen binding fragment thereof of the present invention (e.g., LPD1462/LPD1282).

In an embodiment of the invention, anti-PCSK9 antibodies and antigen-binding fragments thereof of the invention (e.g., LPD1462/LPD1282) are formulated into a pharmaceutical formulation which comprises a pharmaceutically acceptable carrier. For general information concerning formulations, see, e.g., Gilman, *et al.*, (eds.) (1990), The Pharmacological Bases of Therapeutics, 8th Ed., Pergamon Press; A. Gennaro (ed.), Remington's Pharmaceutical Sciences, 18th Edition, (1990), Mack Publishing Co., Easton, Pennsylvania.; Avis, *et al.*, (eds.) (1993) Pharmaceutical Dosage Forms: Parenteral Medications Dekker, New York; Lieberman, *et al.*, (eds.) (1990) Pharmaceutical Dosage Forms: Tablets Dekker, New York; and Lieberman, *et al.*, (eds.) (1990), Pharmaceutical Dosage Forms: Disperse Systems Dekker, New York, Kenneth A. Walters (ed.) (2002) Dermatological and Transdermal Formulations (Drugs and the Pharmaceutical Sciences), Vol 119, Marcel Dekker.

In an embodiment of the invention, an anti-PCSK9 antibody or antigen-binding fragment thereof of the invention (e.g., LPD1462/LPD1282) is formulated with a pharmaceutically acceptable carrier that includes a buffer (e.g., water and a buffer). In an embodiment of the invention, in an anti-PCSK9 antibody or fragment of the invention (e.g., LPD1462/LPD1282), for example, such a formulation (or any other pharmaceutical formulation including an anti-PCSK9 antibody or fragment of the invention and a pharmaceutically acceptable carrier) is administered to lower serum LDL in a mammalian subject, such as a human, suffering from elevated LDL (e.g., a subject suffering from heterogenous familial hypercholesterolemia), at a dosage of about 0.5, 0.75, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 or 20 mg/kg of body weight, e.g., in a volume of about 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 or 20 ml, e.g., at a rate of once every week, 2 weeks, 3 weeks, 4 weeks, month or 6 weeks, e.g, subcutaneously, e.g, by injection device such as a needle and syringe or an injection pump. In an embodiment of the invention, the formulation is lyophilized or aqueous.

The anti-PCSK9 antibodies and antigen-binding fragments thereof of the present invention (e.g., LPD1462/LPD1282) can be formulated according to known methods to prepare pharmaceutically useful compositions, whereby the antibody or fragment is combined in admixture with a pharmaceutically acceptable carrier, e.g., following antibody immunoglobulin synthesis, for example, as discussed herein. Carriers, excipients or stabilizers are nontoxic to recipients at the dosages and concentrations employed, and include buffers such as phosphate, citrate and other organic acids; antioxidants including

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ascorbic acid; low molecular weight polypeptides; proteins, such as serum albumin, gelatin or immunoglobulins; hydrophilic polymers such as polyvinylpyrrolidone, amino acids such as glycine, glutamine, asparagine, arginine or lysine; monosaccharides, disaccharides and other carbohydrates including glucose, mannose, or dextrans; chelating agents such as EDTA; sugar alcohols such as mannitol or sorbitol; salt-forming counterions such as sodium; and/or nonionic surfactants such as Tween, Pluronic or PEG. The formulations to be used for *in vivo* administration must be sterile. This is readily accomplished by filtration through sterile filtration membranes, prior to or following lyophilization and reconstitution. Therapeutic or pharmaceutical compositions or formulations herein generally are placed into a container having a sterile access port, for example, an intravenous solution bag or vial having a stopper pierceable by a hypodermic injection needle.

The route of administration of the antibodies and antigen-binding fragments thereof of the invention (*e.g.*, LPD1462/LPD1282) are, in an embodiment of the invention, by a parenteral route (*e.g.*, intravenous, subcutaneous, intraarterial, intratumoral, intramuscular, intraperitoneal).

Dosages and desired anti-PCSK9 concentrations of pharmaceutical compositions of the present invention may vary depending on the particular use envisioned. The determination of the appropriate dosage or route of administration is well within the skill of an ordinary physician. Animal experiments provide reliable guidance for the determination of effective doses for human therapy. Interspecies scaling of effective doses can be performed following the principles laid down by Mordenti, J. and Chappell, W. "The use of interspecies scaling in toxicokinetics" In Toxicokinetics and New Drug Development, Yacobi *et al.*, Eds., Pergamon Press, New York 1989, pp. 42-96.

When used to treat a disorder in a subject (*e.g.*, as discussed herein), a therapeutically effective dosage or amount of anti-PCSK9 antibody or antigen-binding fragment thereof (*e.g.*, LPD1462/LPD1282) is administered to the subject. In an embodiment of the invention, a therapeutically effective dosage is a dosage sufficient to decrease serum LDL to any detectable degree, *e.g.*, by about 25% to about 50%. In an embodiment of the invention, a therapeutically effective dosage of anti-PCSK9 antibody or antigen-binding fragment thereof (*e.g.*, as set forth herein, *e.g.*, LPD1462/LPD1282) for treatment of hypercholesterolemia, heterogeneous familial hypercholesterolemia, hyperlipidemia, hypertriglyceridaemia, sitosterolemia, atherosclerosis, arteriosclerosis, coronary heart disease, vascular inflammation or xanthoma or for treatment of any blood marker of heart disease risk (*e.g.*, as discussed herein) is about 0.5, 0.75, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 or 20 mg/kg of body weight, *e.g.*, in a volume of about 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 or 20 ml, *e.g.*, at a rate of once every week, 2

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weeks, 3 weeks, 4 weeks, month or 6 weeks, *e.g.*, which can be administered subcutaneously, *e.g.*, by injection device such as a needle and syringe or an injection pump.

When possible, administration and dosage of an agent (*e.g.*, further therapeutic agents discussed herein) is done according to the schedule listed in the product information sheet of the agents, in the Physicians' Desk Reference 2003 (Physicians' Desk Reference, 57th Ed); Medical Economics Company; ISBN: 1563634457; 57th edition (November 2002), as well as therapeutic protocols well known in the art.

A physician or clinician may monitor the blood cholesterol HDL or LDL levels or other marker levels associated with a cholesterol or lipid homeostasis disorder or disorder or complication associated therewith, in a subject being treated or about to be treated with an anti-PCSK9 antibody or antigen-binding fragment thereof (*e.g.*, LPD1462/LPD1282), and make adjustments to the subject's treatment regimen as needed to reach a positive medical outcome.

Further chemotherapeutic agents

The present invention provides methods and compositions for treating disorders of lipid and cholesterol metabolism (*e.g.*, any set forth herein) by administering an anti-PCSK9 antibody or antigen-binding fragment thereof. Any antibody or antigen-binding fragment thereof of the present invention (*e.g.*, LPD1462/LPD1282; 1F11) that is described anywhere herein may, in an embodiment of the invention, be provided in a composition in association with; or, administered to a subject (*e.g.*, a human) in association with, any additional or further chemotherapeutic agent (*e.g.*, any that is discussed herein). In an embodiment of the invention, the further chemotherapeutic agent is a cardiovascular agent, an adrenergic blocker, an antihypertensive agent, an angiotensin system inhibitor, an angiotensin-converting enzyme (ACE) inhibitor, a coronary vasodilator, a diuretic or an adrenergic stimulant. In an embodiment of the invention, the further therapeutic agent is a cholesterol lowering medication such as an HMG-CoA reductase inhibitor.

The scope of the present invention also encompasses methods for treating or preventing a disorder of cholesterol or lipid homeostasis or any disorder or complication associated therewith by administering a therapeutically effective amount of the anti-PCSK9 antibody or antigen-binding fragment thereof (*e.g.*, LPD1462/LPD1282); wherein, the subject also suffers from a further medical condition such as, for example, hypertension, angina, cardiac arrhythmia, renal disease, congestive heart disease, myocardial infarction, enlarged heart, alcoholic cardiomyopathy, congenital heart disease, ischemic cardiomyopathy, hypertensive cardiomyopathy, valvular cardiomyopathy, inflammatory cardiomyopathy, myocardiodystrophy, dilated cardiomyopathy, hypertrophic cardiomyopathy, arrhythmogenic

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right ventricular cardiomyopathy, restrictive cardiomyopathy, noncompaction cardiomyopathy, thrombosis or pericarditis; comprising further administering a further chemotherapeutic agent that treats or prevents such a further medical condition. Some of such further chemotherapeutic agents are discussed herein.

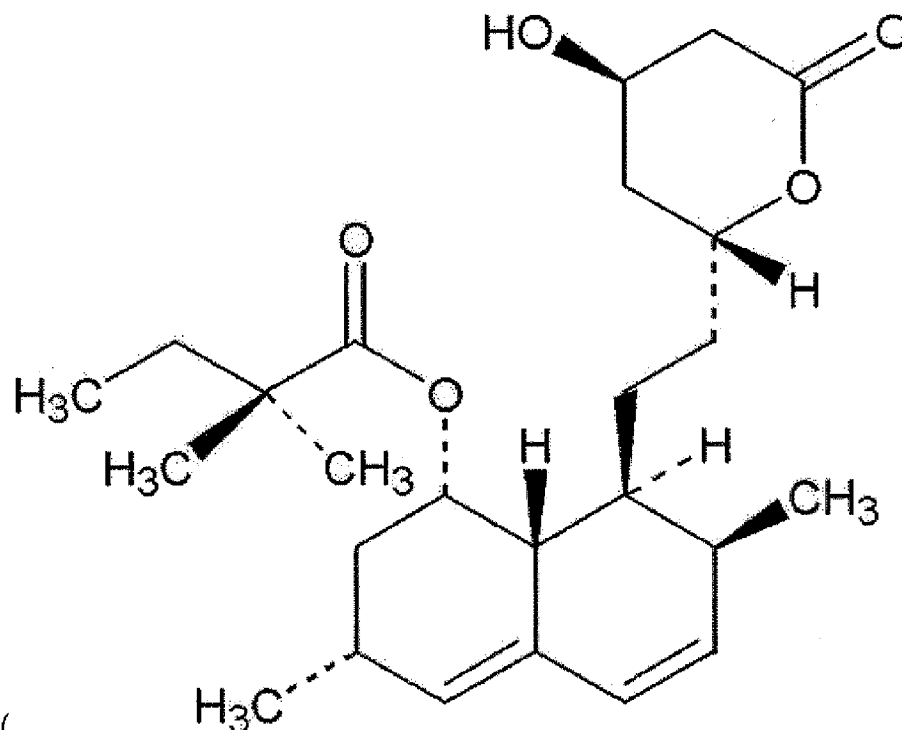
- 5 Cardiovascular agents which may used in connection with the present invention include those for treatment or prevention of lipid and/or cholesterol disorders or hypertension and other cardiovascular disorders and diseases. Disorders of lipid or cholesterol metabolism may be caused or aggravated by hypertension. Hypertension is defined as persistently high blood pressure. Generally, adults are classified as being
- 10 hypertensive when systolic blood pressure is persistently above 140 mmHg or when diastolic blood pressure is above 90 mmHg. Long-term risks for cardiovascular mortality increase in a direct relationship with persistent blood pressure. Examples of antihypertensive agents which may be used in the present invention include e.g., calcium channel blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin-II
- 15 receptor antagonists, diuretics, adrenergic blockers including beta-adrenergic receptor blockers and alpha-adrenergic receptor blockers or diuretics.

Other cardiac drugs that may be provided in association with an anti-PCSK9 antibody or antigen-binding fragment thereof includes anti-anginal agents, such as adrenergic stimulants or coronary vasodilators and HMG-CoA reductase inhibitors.

- 20 HMG-CoA reductase inhibitors inhibit the HMG-CoA reductase enzyme and, thus, reduce production of cholesterol in the body of a subject. HMG-CoA reductase inhibitors

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include, e.g., lovastatin, atorvastatin, pravastatin, rosuvastatin, fluvastatin, rivastatin and



simvastatin ().

Adrenergic blockers include those compounds which are β -receptor inhibitors and/or α -receptor inhibitors. Adrenergic blockers which are β -receptor inhibitors include a class of drugs that antagonize the cardiovascular effects of catecholamines in hypertension, angina pectoris, and cardiac arrhythmias. β -adrenergic receptor blockers include, but are not limited to, bunolol hydrochloride (1(2H)-Naphthalenone, 5-[3-(1,1-dimethylethyl)amino]-2-hydroxypropoxy]-3,4-dihydro-, hydrochloride, CAS RN 31969-05-8 which can be obtained from Parke-Davis); acebutolol ($\pm$ N-[3-Acetyl-4-[2-hydroxy-3-[(1

methylethyl)amino]propoxy]phenyl]-

butanamide, or ($\pm$)-3'-Acetyl-4'-[2-hydroxy-3-(isopropylamino)propoxy]butyranilide);

acebutolol hydrochloride (such as N-[3-acetyl-4-[2-hydroxy-3-[1-methyl-

ethyle)amino]propoxy]phenyl]-, monohydrochloride, ($\pm$;-3'-Acetyl-4'-[2-hydroxy-3-(isopropylamino)propoxy]butyranilide monohydrochloride, for example, SECTRAL Capsules

available from Wyeth-Ayerst); alprenolol hydrochloride (2-Propanol, 1-[(1-methylethyl)amino]-3-[2-(2-propenyl)phenoxy]-, hydrochloride, CAS RN 13707-88-5 see Netherlands Patent Application No. 6,605,692); atenolol (such as benzeneacetamide 4-[2'-hydroxy-3'-[(1-

methylethyl)amino]propoxy]-, for example, TENORMIN I.V. Injection available from AstraZeneca); carteolol hydrochloride (such as 5-[3-[(1,1-dimethylethyl)amino]-2-

hydroxypropoxy]-3,4-dihydro-2(1H)-quinolinone monohydrochloride, for example, Cartrol Filmtab Tablets available from Abbott); Celiprolol hydrochloride (3-[3-Acetyl-4-[3-(*tert*-

butylamino)-2-hydroxypropoxy]phenyl]-1,1-diethylurea monohydrochloride, CAS RN 57470-78-7, also see in US Patent No. 4,034,009); cetamolol hydrochloride (Acetamide, 2-[2-[3-[(1,1-dimethylethyl)amino]-2-hydroxypropoxy]-phenoxy]-N-methyl-, monohydrochloride, CAS RN 77590-95-5, see also US Patent No. 4,059,622); labetalol hydrochloride (such as 5-[1-hydroxy-2-[(1-methyl-3-phenylpropyl) amino] ethyl]salicylamide monohydrochloride, for example, NORMODYNE Tablets available from Schering; esmolol hydrochloride (±)-Methyl p-[2-hydroxy-3-(isopropylamino) propoxy] hydrocinnamate hydrochloride, for example, BREVIBLOC Injection available from Baxter); levobetaxolol hydrochloride (such as (S)-1-[p-[2-(cyclopropylmethoxy)ethyl]phenoxy]-3-(isopropylamino)-2-propanol hydrochloride, for example, BETAXON Ophthalmic Suspension available from Alcon); levobunolol hydrochloride (such as (-)-5-[3-(tert-Butylamino)-2-hydroxypropoxy]-3,4-dihydro-1(2H)-naphthalenone hydrochloride, for example, BETAGAN Liquifilm with C CAP Compliance Cap available from Allergan); nadolol (such as 1-(tert-butylamino)-3-[(5,6,7,8-tetrahydro-cis-6,7-dihydroxy-1-naphthyl)oxy]-2-propanol, for example, Nadolol Tablets available from Mylan); practolol (Acetamide, N-[4-[2-hydroxy-3-[1-methylethyl)amino]-propoxy]phenyl]-, CAS RN 6673-35-4, see also US Patent No. 3,408,387); propranolol hydrochloride (1-(Isopropylamino)-3-(1-naphthyloxy)-2-propanol hydrochloride CAS RN 318-98-9); sotalol hydrochloride (such as d,l-N-[4-[1-hydroxy-2-[(1-methylethyl)amino]ethyl]-phenyl]methane-sulfonamide monohydrochloride, for example, BETAPACE AF Tablets available from Berlex); timolol (2-Propanol, 1-[(1,1-dimethylethyl)amino]-3-[[4-(4-morpholinyl)-1,2,5-thiadiazol-3-yl]oxy]-, hemihydrate, (S)-, CAS RN 91524-16-2); timolol maleate (S)-1-[(1, 1-dimethylethyl) amino]-3-[[4-(4-morpholinyl)-1, 2, 5-thiadiazol -3- yl] oxy]-2-propanol (Z)-2-butenedioate (1:1) salt, CAS RN 26921-17-5); bisoprolol (2-Propanol, 1-[4-[[2-(1-methylethoxy)ethoxy]-methyl]phenoxy]-3-[(1-methylethyl)amino]-, (±), CAS RN 66722-44-9); bisoprolol fumarate (such as (±)-1-[4-[[2-(1-Methylethoxy) ethoxy]methyl]phenoxy]-3-[(1-methylethyl)amino]-2-propanol (E)-2-butenedioate (2:1) (salt), for example, ZEBETA Tablets available from Lederle Consumer); nebivolol (2H-1-Benzopyran-2-methanol, αα'-[iminobis(methylene)]bis[6-fluoro-3,4-dihydro-, CAS RN 99200-09-6 see also US Patent No. 4,654,362); cicloprolol hydrochloride, such 2-Propanol, 1-[4-[2-(cyclopropylmethoxy)ethoxy]phenoxy]-3-[1-methylethyl)amino]-, hydrochloride, A.A.S. RN 63686-79-3); and dexpropranolol hydrochloride (2-Propanol, 1-[1-methylethyl)-amino]-3-(1-naphthalenyloxy)-hydrochloride (CAS RN 13071-11-9); diacetolol hydrochloride (Acetamide, N-[3-acetyl-4-[2-hydroxy-3-[(1-methyl-ethyl)amino]propoxy]]phenyl]-, monohydrochloride CAS RN 69796-04-9); dilevalol hydrochloride (Benzamide, 2-hydroxy-5-[1-hydroxy-2-[1-methyl-3-phenylpropyl)amino]ethyl]-, monohydrochloride, CAS RN 75659-08-4); exaprolol hydrochloride (2-Propanol, 1-(2-cyclohexylphenoxy)-3-[(1-methylethyl)amino]-, hydrochloride CAS RN 59333-90-3); fleistolol

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sulfate (Benzoic acid, 2-fluoro-, 3-[[2-(aminocarbonyl)amino]-1-dimethylethyl]amino]-2-hydroxypropyl ester, (±)- sulfate (1:1) (salt), CAS RN 88844-73-9; metolol hydrochloride (Methanesulfonamide, N-[4-[1-hydroxy-2-(methylamino)propyl]phenyl]-, monohydrochloride CAS RN 7701-65-7); metoprolol 2-Propanol, 1-[4-(2-methoxyethyl)phenoxy]-3-[1-methylethyl]amino]-; CAS RN 37350-58-6); metoprolol tartrate (such as 2-Propanol, 1-[4-(2-methoxyethyl)phenoxy]-3-[(1-methylethyl)amino]-, for example, LOPRESSOR[®] available from Novartis); pamatolol sulfate (Carbamic acid, [2-[4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]phenyl]-ethyl]-, methyl ester, (±) sulfate (salt) (2:1), CAS RN 59954-01-7); penbutolol sulfate (2-Propanol, 1-(2-cyclopentylphenoxy)-3-[1,1-dimethylethyl]amino]1, (S)-, sulfate (2:1) (salt), CAS RN 38363-32-5); practolol (Acetamide, N-[4-[2-hydroxy-3-[(1-methylethyl)amino]-propoxy]phenyl]-, CAS RN 6673-35-4); tiprenolol hydrochloride (Propanol, 1-[(1-methylethyl)amino]-3-[2-(methylthio)-phenoxy]-, hydrochloride, (±), CAS RN 39832-43-4); tolamolol (Benzamide, 4-[2-[[2-hydroxy-3-(2-methylphenoxy)-propyl]amino]ethoxy]-, CAS RN 38103-61-6).

Adrenergic receptors which are α -receptor inhibitors act to block vasoconstriction induced by endogenous catecholamines. The resulting fall in peripheral resistance leads to a fall in mean blood pressure.

Suitable adrenergic receptors which are α -receptor inhibitors include, but are not limited to, fenspiride hydrochloride (which may be prepared as disclosed in US Patent No. 3,399,192 herein incorporated by reference); proroxyan (CAS RN: 33743-96-3); alfuzosin hydrochloride (CAS RN: 81403-68-1); and labetalol hydrochloride as described above or combinations thereof.

Adrenergic blockers with α - and β -receptor inhibitor activity which may be used with the present invention include, but are not limited to, bretylium tosylate (CAS RN: 61-75-6); dihydroergtamine mesylate (such as ergotaman-3', 6', 18-trione, 9, -10-dihydro-12'-hydroxy-2'-methyl-5'-(phenylmethyl)-, (5'(α))-, monomethanesulfonate, for example, DHE 45 Injection available from Novartis); carvedilol (such as (±)-1-(Carbazol-4-yloxy)-3-[[2-(o-methoxyphenoxy)ethyl]amino]-2-propanol, for example, COREG Tablets available from SmithKline Beecham);. labetalol (such as 5-[1-hydroxy-2-[(1-methyl-3-phenylpropyl) amino]ethyl]salicylamide monohydrochloride, for example, NORMODYNE Tablets available from Schering); bretylium tosylate (Benzenemethanaminium, 2-bromo-N-ethyl-N,N-dimethyl-, salt with 4-methylbenzenesulfonic acid (1:1) CAS RN 61-75-6); phentolamine mesylate (Phenol, 3-[[[(4,5-dihydro-1H-imidazol-2-yl)methyl](4-methylphenyl)amino]-, monomethanesulfonate (salt) CAS RN 65-28-1); solypertine tartrate (5H-1,3-Dioxolo[4,5-f]indole, 7-[2-[4-(2-methoxyphenyl)-1-piperazinyl]ethyl]-, (2R,3R)-2,3-dihydroxybutanedioate (1:1) CAS RN

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5591-43-5); zolertine hydrochloride (Piperazine, 1-phenyl-4-[2-(1H-tetrazol-5-yl)ethyl]-, monohydrochloride (8Cl, 9Cl) CAS RN: 7241-94-3)

An angiotensin system inhibitor is an agent that interferes with the function, synthesis or catabolism of angiotensin II. These agents, which may be used in the present invention, include, but are not limited to, angiotensin-converting enzyme (ACE) inhibitors, angiotensin II antagonists, angiotensin II receptor antagonists, agents that activate the catabolism of angiotensin II and agents that prevent the synthesis of angiotensin I from which angiotensin II is ultimately derived. The renin-angiotensin system is involved in the regulation of hemodynamics and water and electrolyte balance. Factors that lower blood volume, renal perfusion, or the concentration of Na⁺ in plasma tend to activate the system, while factors that increase these parameters tend to suppress its function. Angiotensin I and angiotensin II are synthesized by the enzymatic renin-angiotensin pathway. The synthetic process is initiated when the enzyme renin acts on angiotensinogen, a pseudoglobulin in blood plasma, to produce the decapeptide angiotensin I. Angiotensin I is converted by angiotensin-converting enzyme (ACE) to angiotensin II. The latter is an active pressor substance which has been implicated as a causative agent in several forms of hypertension in various mammalian species.

Angiotensin II receptor antagonists are compounds which interfere with the activity of angiotensin II by binding to angiotensin II receptors and interfering with its activity.

Angiotensin II receptor antagonists which may be used in the present invention are well known and include peptide compounds and non-peptide compounds. Non-limiting examples of angiotensin II receptor antagonists include: candesartan cilexetil (1H-Benzimidazole-7-carboxylic acid, 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]-, 1-[[[(cyclohexyloxy)carbonyl]oxy]ethyl ester) CAS RN 145040-37-5); telmisartan([1,1'-Biphenyl]-2-carboxylic acid, 4'-[(1,4'-dimethyl-2'-propyl[2,6'-bi-1H-benzimidazol]-1'-yl)methyl]- CAS RN 144701-48-4); candesartan (1H-Benzimidazole-7-carboxylic acid, 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]- CAS RN 139481-59-7); losartan potassium (1H-Imidazole-5-methanol, 2-butyl-4-chloro-1-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]-, monopotassium lrbesartan 1,3-Diazaspiro[4.4]non-1-en-4-one, 2-butyl-3-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]- CAS RN 138402-11-6).

Angiotensin-converting enzyme (ACE), is an enzyme which catalyzes the conversion of angiotensin I to angiotensin II. ACE inhibitors which may be used in the present invention include amino acids and derivatives thereof, peptides, including di- and tri- peptides and antibodies to ACE which intervene renin-angiotensin system by inhibiting the activity of ACE thereby reducing or eliminating the formation of pressor substance angiotensin II. ACE inhibitors have been used medically to treat hypertension, congestive heart failure,

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myocardial infarction and renal disease. Suitable ACE inhibitors include, but are not limited to, benazepril hydrochloride (such as 3-[[1-(ethoxycarbonyl)-3-phenyl-(1S)-propyl]amino]-2,3,4,5-tetrahydro-2-oxo-1 H -1-(3S)-benzazepine-1-acetic acid monohydrochloride, for example, LOTREL[®] Capsules available from Novartis); captopril (such as 1-[(2S)-3-mercapto-2-methylpropionyl]-L-proline, for example, CAPTOPRIL Tablets available from Mylan); fosinopril (such as L-proline, 4-cyclohexyl-1-[[[2-methyl-1-(1-oxopropoxy) propoxy](4-phenylbutyl) phosphinyl] acetyl]-, sodium salt, trans -, for example, MONOPRIL Tablets available from Bristol-Myers Squibb); moexipril hydrochloride (such as [3S-[2[R*(R*)],3R*]]-2-[2-[[1-(Ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-6,7-dimethoxy-3-isoquinolinecarboxylic acid, monohydrochloride, for example, UNIRETIC Tablets available from Schwarz); perindopril erbumine (such as 2S,3aS,7aS)-1-[(S)-N-[(S)-1-Carboxybutyl]alanyl]hexahydro-2-indolinecarboxylic acid, 1-ethyl ester, compound with tert-butylamine (1:1), for example, ACEON Tablets available from Solvay); quinapril (such as [3S-[2[R*(R*)],3R*]]-2-[2-[[1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-3-isoquinolinecarboxylic acid, monohydrochloride, for example, ACCURETIC Tablets available from Parke-Davis); ramipril (such as 2-aza-bicyclo [3.3.0]-octane-3-carboxylic acid derivative, for example, ALTACE Capsules available from Monarch); enalapril maleate (such as (S)-1-[N -[1-(ethoxycarbonyl)-3- phenylpropyl]-L-alanyl]-L-proline, (Z)-2-butenedioate salt (1:1)., for example, VASOTEC Tablets available from Merck); lisinopril (such as (S)-1-[N 2-(1-carboxy-3-phenylpropyl)-L-lysyl]-L-proline dihydrate, for example, PRINZIDE Tablets available from Merck); delapril (which may be prepared as disclosed in US Patent No. 4,385,051); and spirapril (which may be prepared as disclosed in US Patent No. 4,470,972); benazeprilat (1H-1-Benzazepine-1-acetic acid, 3-[[1(1S)-1-carboxy-3-phenylpropyl]amino]-2,3,4,5-tetrahydro-2-oxo-, (3S)- CAS RN 86541-78-8); delapril hydrochloride (Glycine, N-[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]-L-alanyl-N-(2,3-dihydro-1H-inden-2-yl)-, monohydrochloride CAS RN 83435-67-0); fosinopril sodium (L-Proline, 4-cyclohexyl-1-[[1(R)-[(1S)-2-methyl-1-(1-oxopropoxy)propoxy](4-phenylbutyl)phosphinyl]acetyl]-, sodium salt, (4S)- CAS RN 88889-14-9); libenzapril (1H-1-Benzazepine-1-acetic acid, 3-[[1(1S)-5-amino-1-carboxypentyl]amino]-2,3,4,5-tetrahydro-2-oxo-, (3S)- CAS RN 109214-55-3); pentopril (1H-Indole-1-pentanoic acid, 2-carboxy-2,3-dihydro-.alpha.,.gamma.-dimethyl-.delta.-oxo-, .alpha.-ethyl ester, (.alpha.R,.gamma.R,2S)- CAS RN 82924-03-6); perindopril 1H-Indole-2-carboxylic acid, 1-[(2S)-2-[[1(1S)-1-(ethoxycarbonyl)butyl]amino]-1-oxopropyl]octahydro-, (2S,3aS,7aS)- CAS RN 82834-16-0); quinapril hydrochloride (3-Isoquinolinecarboxylic acid, 2-[(2S)-2-[[1(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-, monohydrochloride, (3S)- CAS RN 82586-55-); quinaprilat (3-Isoquinolinecarboxylic acid, 2-[(2S)-2-[[1(1S)-1-carboxy-3-phenylpropyl]amino]-1-

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oxopropyl]-1,2,3,4-tetrahydro-, (3S)- CAS RN 82768-85-2); spirapril hydrochloride (1,4-Dithia-7-azaspiro[4.4]nonane-8-carboxylic acid, 7-[(2S)-2-[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-, monohydrochloride, (8S)- CAS RN 94841-17-5); spiraprilat 1(,4-Dithia-7-azaspiro[4.4]nonane-8-carboxylic acid, 7-[(2S)-2-[(1S)-1-carboxy-3-phenylpropyl]amino]-1-oxopropyl]-, (8S)- CAS RN 83602-05-5); teprotide (Bradykinin potentiator BPP9a CAS RN 35115-60-7); lisinopril (L-Proline, N2-[(1S)-1-carboxy-3-phenylpropyl]-L-lysyl- CAS RN 76547-98-3); zofenopril (L-Proline, 1-[(2S)-3-(benzoylthio)-2-methyl-1-oxopropyl]-4-(phenylthio)-, calcium salt (2:1), (4S)- CAS RN 81938-43-4).

"Calcium channel blockers" are a class of compounds having important therapeutic value in the control of a variety of diseases including several cardiovascular disorders such as hypertension, angina, and cardiac arrhythmias (Fleckenstein, *Cir. Res.* V. 52 (suppl. 1), p. 13-16 (1983); Fleckenstein, *Experimental Facts and Therapeutic Prospects*, John Wiley, New York (1983); McCall, D., *Curr. Pract Cardiol.*, v. 10, p. 1-11 (1985)). Calcium channel blockers are a heterogeneous group of drugs that prevent or slow the entry of calcium into cells by regulating cellular calcium channels (Remington, *The Science and Practice of Pharmacy*, Nineteenth Edition, Mack Publishing Company, Eaton, PA, p. 963 (1995)). Calcium channel blockers useful in the present invention include but are not limited to, the besylate salt of amlodipine (such as 3-ethyl-5-methyl-2-(2-aminoethoxymethyl)-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylate benzenesulphonate, for example, NORVASC available from Pfizer); clentiazem maleate (1,5-Benzothiazepin-4(5H)-one, 3-(acetyloxy)-8-chloro-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-(2S-cis)-, (Z)-2-butenedioate (1:1), see also U.S. Patent No. 4,567,195); isradipine (3,5-Pyridinedicarboxylic acid, 4-(4-benzofurazanyl)-1,4-dihydro-2,6-dimethyl-,methyl 1-methylethyl ester, (±)-4(4-benzofurazanyl)-1,4-dihydro-2,6-dimethyl-3,5-pyridinedicarboxylate, see also US Patent 4,466,972); nimodipine (such as is isopropyl (2-methoxyethyl) 1, 4- dihydro - 2, 6 - dimethyl - 4 - (3 - nitrophenyl) - 3, 5 - pyridine - dicarboxylate, for example, NIMOTOP available from Bayer); felodipine (such as ethyl methyl 4-(2,3-dichlorophenyl)-1,4-dihydro-2,6-dimethyl-3,5-pyridinedicarboxylate, for example, PLENDIL Extended-Release Tablets available from AstraZeneca LP); nilvadipine (3,5-Pyridinedicarboxylic acid, 2-cyano-1,4-dihydro-6-methyl-4-(3-nitrophenyl)-,3-methyl 5-(1-methylethyl) ester, also see US Patent No.3,799,934); nifedipine (such as 3,5-pyridinedicarboxylic acid,1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, dimethyl ester, for example, PROCARDIA XL Extended Release Tablets available from Pfizer); diltiazem hydrochloride (such as 1,5-Benzothiazepin-4(5H)-one,3-(acetyloxy)-5[2-(dimethylamino)ethyl]-2,-3-dihydro-2(4-methoxyphenyl)-, monohydrochloride, (+)-cis., for example, TIAZAC Capsules available from Forest); verapamil hydrochloride (such as

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benzeneacetonitrile, (alpha)-[[3-[[2-(3,4-dimethoxyphenyl) ethyl] methylamino] propyl]-3,4-dimethoxy-(alpha)-(1-methylethyl) hydrochloride, for example, ISOPTIN SR Tablets available from Knoll Labs); teludipine hydrochloride (3,5-Pyridinedicarboxylic acid, 2-
 5 [(dimethylamino)methyl]-4-[2-[(1E)-3-(1,1-dimethylethoxy)-3-oxo-1-propenyl]phenyl]-1,4-dihydro-6-methyl-, diethyl ester, monohydrochloride) CAS RN 108700-03-4); belfosdil (Phosphonic acid, [2-(2-phenoxyethyl)-1,3-propanediyl]bis-, tetrabutyl ester CAS RN 103486-79-9); fostedil (Phosphonic acid, [[4-(2-benzothiazolyl)phenyl]methyl]-, diethyl ester CAS RN 75889-62-2).

Cardiovascular agents of the present invention, which also act as "anti-anginal
 10 agents", are useful in the present invention. Angina includes those symptoms that occur when myocardial oxygen availability is insufficient to meet myocardial oxygen demand. Non-limiting examples of these agents include: ranolazine (hydrochloride 1-Piperazineacetamide, N-(2,6-dimethylphenyl)-4-[2-hydroxy-3-(2-methoxyphenoxy)propyl]-, dihydrochloride CAS RN 95635-56-6); betaxolol hydrochloride (2-Propanol, 1-[4-[2
 15 (cyclopropylmethoxy)ethyl]phenoxy]-3-[(1-methylethyl)amino]-, hydrochloride CAS RN 63659-19-8); butopropazine hydrochloride (Methanone, [4-[3(dibutylamino)propoxy]phenyl]-(2-ethyl-3-indoliziny)-, monohydrochloride CAS RN 62134-34-3); cinepazet maleate 1-Piperazineacetic acid, 4-[1-oxo-3-(3,4,5-trimethoxyphenyl)-2-propenyl]-, ethyl ester, (2Z)-2-butenedioate (1:1) CAS RN 50679-07-7); tofifen (Benzenesulfonamide, 4-methyl-N-[[[(1S)-
 20 1-methyl-2-phenylethyl]amino]carbonyl]- CAS RN 32295-18-4); verapamil hydrochloride (Benzeneacetonitrile, .alpha.-[3-[[2-(3,4-dimethoxyphenyl)ethyl]methylamino]propyl]-3,4-dimethoxy-.alpha.-(1-methylethyl)-, monohydrochloride CAS RN 152-11-4); molsidomine (1,2,3-Oxadiazolium, 5-[(ethoxycarbonyl)amino]-3-(4-morpholinyl)-, inner salt CAS RN 25717-80-0); ranolazine hydrochloride (1-Piperazineacetamide, N-(2,6-dimethylphenyl)-4-[2-
 25 hydroxy-3-(2-methoxyphenoxy)propyl]-, dihydrochloride CAS RN 95635-56-6); tofifen (Benzenesulfonamide, 4-methyl-N-[[[(1S)-1-methyl-2-phenylethyl]amino]carbonyl]- CAS RN 32295-18-4).

"Coronary vasodilators" may act to reduce angina systems by increasing the oxygen supply to the heart. Coronary vasodilators useful in the present invention
 30 include, but are not limited to, diltiazem hydrochloride (such as 1,5-Benzothiazepin-4(5H)-one,3-(acetyloxy)-5[2-(dimethylamino)ethyl]-2,3-dihydro-2(4-methoxyphenyl)-, monohydrochloride, (+)-cis, for example, TIAZAC Capsules available from Forest); isosorbide dinitrate (such as 1,4:3,6-dianhydro-D-glucitol 2,5-dinitrate, for example, ISORDIL TITRADOSE Tablets available from Wyeth-Ayerst); isosorbide mononitrate
 35 (such as 1,4:3,6-dianhydro-D-glucitol,5-nitrate, an organic nitrate, for example, Ismo

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Tablets available from Wyeth-Ayerst); nitroglycerin (such as 2,3 propanetriol trinitrate, for example, NITROSTAT Tablets available from Parke-Davis); verapamil hydrochloride (such as benzeneacetonitrile, ($\pm$)-(α)[3[[2-(3,4 dimethoxyphenyl)ethyl]methylamino]propyl]-3,4-dimethoxy-(α)-(1-methylethyl) hydrochloride, for example, COVERA HS Extended-Release Tablets available from Searle); chromonar (which may be prepared as disclosed in US Patent No. 3,282,938); clonitate (*Annalen* 1870 155); droprenilamine (which may be prepared as disclosed in German Patent No. 2,521,113); lidoflazine (which may be prepared as disclosed in US Patent No. 3,267,104); prenylamine (which may be prepared as disclosed in US Patent No. 3152173); propatyl nitrate (which may be prepared as disclosed in French Patent No. 1,103,113); mioflazine hydrochloride (1-Piperazineacetamide, 3-(aminocarbonyl)-4-[4,4-bis(4-fluorophenyl)butyl]-N-(2,6-dichlorophenyl)-, dihydrochloride CAS RN 83898-67-3); mixidine (Benzeneethanamine, 3,4-dimethoxy-N-(1-methyl-2-pyrrolidinylidene)-Pyrrolidine, 2-[(3,4-dimethoxyphenethyl)imino]-1-methyl- 1-Methyl-2-[(3,4-dimethoxyphenethyl)imino]pyrrolidine CAS RN 27737-38-8); molsidomine (1,2,3-Oxadiazolium, 5-[(ethoxycarbonyl)amino]-3-(4-morpholinyl)-, inner salt CAS RN 25717-80-0); isosorbide mononitrate (D-Glucitol, 1,4:3,6-dianhydro-, 5-nitrate CAS RN 16051-77-7); erythrityl tetranitrate (1,2,3,4-Butanetetrol, tetranitrate, (2R,3S)-rel- CAS RN 7297-25-8); clonitrate(1,2-Propanediol, 3-chloro-, dinitrate (7Cl, 8Cl, 9Cl) CAS RN 2612-33-1); dipyridamole Ethanol, 2,2',2'',2'''-[(4,8-di-1-piperidinylpyrimido[5,4-d]pyrimidine-2,6-diyl)dinitrilo]tetrakis- CAS RN 58-32-2); nicorandil (CAS RN 65141-46-0 3-); pyridinecarboxamide (N-[2-(nitrooxy)ethyl]-Nisoldipine3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, methyl 2-methylpropyl ester CAS RN 63675-72-9); nifedipine3,5-Pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, dimethyl ester CAS RN 21829-25-4); perhexiline maleate (Piperidine, 2-(2,2-dicyclohexylethyl)-, (2Z)-2-butenedioate (1:1) CAS RN 6724-53-4); oxprenolol hydrochloride2-Propanol, 1-[(1-methylethyl)amino]-3-[2-(2-propenyloxy)phenoxy]-, hydrochloride CAS RN 6452-73-9); pentritinol (1,3-Propanediol, 2,2-bis[(nitrooxy)methyl]-, mononitrate (ester) CAS RN 1607-17-6); verapamil (Benzeneacetonitrile, . α .-[3[[2-(3,4-dimethoxyphenyl)ethyl]methylamino]propyl]-3,4-dimethoxy-. α .- (1-methylethyl)- CAS RN 52-53-9).

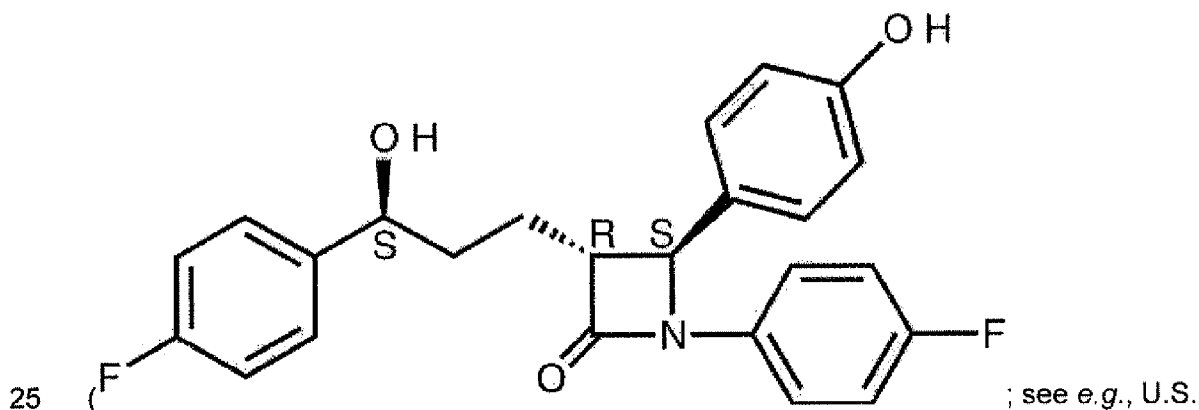
The term "diuretic" includes compounds that increase the excretion of solutes (mainly NaCl) and water. In general, the primary goal of diuretic therapy is to reduce extracellular fluid volume in order to lower blood pressure or rid the body of excess interstitial fluid

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(edema). Non-limiting examples of diuretics which may be used within the scope of this invention include althiazide (which may be prepared as disclosed in British Patent No. 902,658); benzthiazide (which may be prepared as disclosed in U.S. Patent No. 3,108,097); buthiazide (which may be prepared as disclosed in British Patent Nos. 861,367);
 5 chlorothiazide (which may be prepared as disclosed in U.S. 2,809,194); spironolactone (CAS Number 52-01-7); and triamterene (CAS Number 396-01-0).

"Adrenergic stimulants" useful as cardiovascular agents in the present invention include, but are not limited to, guanfacine hydrochloride (such as N-amidino-2-(2,6-dichlorophenyl) acetamide hydrochloride, for example, TENEX Tablets available from
 10 Robins); methyldopa-hydrochlorothiazide (such as levo-3-(3,4-dihydroxyphenyl)-2-methylalanine) combined with Hydrochlorothiazide (such as 6-chloro-3,4-dihydro-2 H -1,2,4-benzothiadiazine-7- sulfonamide 1,1-dioxide, for example, the combination as, for example, ALDORIL Tablets available from Merck); methyldopa-chlorothiazide (such as 6-chloro-2 H -1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide and methyldopa as described above, for
 15 example, ALDOCLORr Tablets available from Merck) ; clonidine hydrochloride (such as 2-(2,6-dichlorophenylamino)-2-imidazoline hydrochloride and chlorthalidone (such as 2-chloro-5-(1-hydroxy-3-oxo-1-isoindoliny) benzenesulfonamide), for example, COMBIPRES Tablets available from Boehringer Ingelheim); clonidine hydrochloride (such as 2-(2,6-dichlorophenylamino)-2-imidazoline hydrochloride, for example, CATAPRES Tablets
 20 available from Boehringer Ingelheim); clonidine (1H-Imidazol-2-amine, N-(2,6-dichlorophenyl)-4,5-dihydro- CAS RN 4205-90-7).

The anti-PCSK9 antibodies and antigen-binding fragments thereof may also be administered in association with any substituted azetidinone which inhibits intestinal cholesterol absorption. Such azetidinones include ezetimibe



Patent No. 5,846,966 or RE37721); optionally in combination with any HMG CoA reductase inhibitor such as simvastatin or atorvastatin.

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Further chemotherapeutic agents that may be administered in association with an anti-PCSK9 antibody or antigen-binding fragment thereof or EGF-A polypeptide include fish oil, eicosaepenanoic acid, docosahexanoic acid, linoleic acid, niacin, fibrates such as fenofibrate, gemfibrozil and bile acid sequestrants such as cholestyramine, colestipol and
 5 colesevelam.

Other chemotherapeutic agents include althiazide (2H-1,2,4-Benzothiadiazine-7-sulfonamide, 6-chloro-3,4-dihydro-3-[(2-propenylthio)methyl]-, 1,1-dioxide CAS RN 5588-16-9); benzthiazide (2H-1,2,4-Benzothiadiazine-7-sulfonamide, 6-chloro-3-[[[(phenylmethyl)thio]methyl]-, 1,1-dioxide CAS RN 91-33-8); captopril (L-Proline, 1-[(2S)-3-mercapto-2-methyl-1-oxopropyl]- CAS RN 62571-86-2); carvedilol (2-Propanol, 1-(9H-carbazol-4-yloxy)-3-[[2-(2-methoxyphenoxy)ethyl]amino]- CAS RN 72956-09-3), chlorothiazide (sodium 2-Propanol, 1-(9H-carbazol-4-yloxy)-3-[[2-(2-methoxyphenoxy)ethyl]amino]- CAS RN 72956-09-3); clonidine hydrochloride (1H-Imidazol-2-amine, N-(2,6-dichlorophenyl)-4,5-dihydro-, monohydrochloride CAS RN 4205-91-8);
 15 cyclothiazide (2H-1,2,4-Benzothiadiazine-7-sulfonamide, 3-bicyclo[2.2.1]hept-5-en-2-yl-6-chloro-3,4-dihydro-, 1,1-dioxide CAS RN 2259-96-3); delapril hydrochloride (2H-1,2,4-Benzothiadiazine-7-sulfonamide, 3-bicyclo[2.2.1]hept-5-en-2-yl-6-chloro-3,4-dihydro-, 1,1-dioxide CAS RN 2259-96-3); dilevalol hydrochloride (2H-1,2,4-Benzothiadiazine-7-sulfonamide, 3-bicyclo[2.2.1]hept-5-en-2-yl-6-chloro-3,4-dihydro-, 1,1-dioxide CAS RN
 20 2259-96-3); delapril hydrochloride (Glycine, N-[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]-L-alanyl-N-(2,3-dihydro-1H-inden-2-yl)-, monohydrochloride CAS RN 83435-67-0); doxazosin mesylate (Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-[(2,3-dihydro-1,4-benzodioxin-2-yl)carbonyl]-, monomethanesulfonate CAS RN 77883-43-3); fosinopril sodium (L-Proline, 4-cyclohexyl-1-[(R)-[(1S)-2-methyl-1-(1-oxopropoxy)propox]; moexipril
 25 hydrochloride (3-Isoquinolinecarboxylic acid, 2-[(2S)-2-[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-6,7-dimethoxy-, monohydrochloride, (3S)- CAS RN 82586-52-5); monatepil maleate (1-Piperazinebutanamide, N-(6,11-dihydrodibenzo(b,e)thiepin-11-yl)-4-(4-fluorophenyl)-, (±)-, (Z)-2-butenedioate (1:1) (±)-N-(6,11-Dihydrodibenzo(b,e)thiepin-11-yl)-4-(p-fluorophenyl)-1-piperazinebutyramide maleate
 30 (1:1) CAS RN 132046-06-1), Metoprolol succinate (Butanedioic acid, compd. with 1-[4-(2-methoxyethyl)phenoxy]-3-[(1-methylethyl)amino]-2-propanol (1:2) CAS RN 98418-47-4); guanfacine hydrochloride (Benzeneacetamide, N-(aminoiminomethyl)-2,6-dichloro-, monohydrochloride CAS RN 29110-48-3; methyl dopa (L-Tyrosine, 3-hydroxy-.alpha.-methyl- CAS RN 555-30-6); quinaprilat (3-Isoquinolinecarboxylic acid, 2-[(2S)-2-[(1S)-1-carboxy-3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-, (3S)- CAS RN 82768-85-
 35 2); quinapril hydrochloride (3-Isoquinolinecarboxylic acid, 2-[(2S)-2-[(1S)-1-(ethoxycarbonyl)-

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3-phenylpropyl]amino]-1-oxopropyl]-1,2,3,4-tetrahydro-, monohydrochloride, (3S)- CAS RN 82586-55-8); Primidolol (2,4(1H,3H)-Pyrimidinedione, 1-[2-[[2-hydroxy-3-(2-methylphenoxy)propyl]amino]ethyl]-5-methyl- CAS RN 67227-55-8); prazosin hydrochloride (Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-(2-furanylcarbonyl)-, monohydrochloride CAS RN 19237-84-4); pelanserin hydrochloride 2,4(1H,3H)-Quinazolinedione, 3-[3-(4-phenyl-1-piperazinyl)propyl]-, monohydrochloride CAS RN 42877-18-9); phenoxybenzamine hydrochloride (Benzenemethanamine, N-(2-chloroethyl)-N-(1-methyl-2-phenoxyethyl)-, hydrochloride CAS RN 63-92-3); candesartan cilexetil (1H-Benzimidazole-7-carboxylic acid, 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]-, 1-[[[(cyclohexyloxy)carbonyl]oxy]ethyl ester CAS RN 145040-37-5); telmisartan (1,1'-Biphenyl]-2-carboxylic acid, 4'-[(1,4'-dimethyl-2'-propyl[2,6'-bi-1H-benzimidazol]-1'-yl)methyl]- CAS RN 144701-48-4); candesartan 1H-Benzimidazole-7-carboxylic acid, 2-ethoxy-1-[[2'-(1H-tetrazol-5-yl)[1,1'-biphenyl]-4-yl]methyl]- CAS RN 139481-59-7); amlodipine besylate 3,5-Pyridinedicarboxylic acid, 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-, 3-ethyl 5-methyl ester, monobenzenesulfonate CAS RN 111470-99-6 Amlodipine maleate 3,5-Pyridinedicarboxylic acid, 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-, 3-ethyl 5-methyl ester, (2Z)-2-butenedioate (1:1) CAS RN 88150-47-4); terazosin hydrochloride (Piperazine, 1-(4-amino-6,7-dimethoxy-2-quinazolinyl)-4-[(tetrahydro-2-furanyl)carbonyl]-, monohydrochloride CAS RN 63074-08-8); bevantolol hydrochloride (2-Propanol, 1-[[2-(3,4-dimethoxyphenyl)ethyl]amino]-3-(3-methylphenoxy)-, hydrochloride CAS RN 42864-78-8); and ramipril (Cyclopenta[b]pyrrole-2-carboxylic acid, 1-[(2S)-2-[[[(1S)-1-(ethoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]octahydro-, (2S,3aS,6aS)- CAS RN 87333-19-5).

The term "in association with" indicates that the components of a composition of the invention (e.g., anti-PCSK9 antibody or antigen-binding fragment thereof along with ezetimibe) can be formulated into a single composition for simultaneous delivery or formulated separately into two or more compositions (e.g., a kit). Furthermore, each component can be administered to a subject at a different time than when the other component is administered; for example, each administration may be given non-simultaneously (e.g., separately or sequentially) at several intervals over a given period of time. Moreover, the separate components may be administered to a subject by the same or by a different route (e.g., wherein an anti-PCSK9 antibody is administered parenterally and ezetimibe is administered orally).

Crystals

The present invention includes crystals comprising any antibody or antigen-binding fragment thereof of the invention complexed with PCSK9 or a peptide epitope thereof.

Several crystallization methods are known in the art (Giegé, *et al.*, (1994) *Acta Crystallogr. D* 50: 339-350; McPherson, (1990) *Eur. J. Biochem.* 189: 1-23). Such methods include microbatch, hanging drop, seeding and dialysis. Preferably, hanging-drop vapor diffusion (McPherson, (1976) *J. Biol. Chem.* 251: 6300-6303) or microbatch methods (Chayen (1997) *Structure* 5: 1269-1274) are used. In each of these methods, it is important to promote continued crystal growth after nucleation by maintaining a supersaturated solution. In the microbatch method, polypeptide is mixed with precipitants to achieve supersaturation, the vessel is sealed and set aside until crystals appear. In the dialysis method, polypeptide is retained in a sealed dialysis membrane which is placed into a solution containing precipitant. Equilibration across the membrane increases the precipitant concentration thereby causing the polypeptide to reach supersaturation levels.

Once a crystal of the present invention is grown, X-ray diffraction data can be collected. One method for determining structure with X-ray diffraction data includes use of synchrotron radiation, under standard cryogenic condition; however, alternative methods may also be used. For example, crystals can be characterized by using X-rays produced by a conventional source, such as a sealed tube or a rotating anode. Methods of characterization include, but are not limited to, precession photography, oscillation photography and diffractometer data collection.

The crystallizable compositions provided by this invention are amenable to X-ray crystallography for providing the three-dimensional structure of the PCSK9/antibody or fragment complex. The present invention includes crystals which effectively diffract X-rays for the determination of the atomic coordinates of the PCSK9/antibody or fragment complex to a resolution of greater than about 5.0 Ångströms (*e.g.*, about 4.5 Å, about 4.0 Å, about 3 Å, about 2.5 Å, about 2 Å, about 1.95 Å, about 1 Å), preferably greater than about 4.0 Ångströms (*e.g.*, about 3 Å, about 2.5 Å, about 2 Å, about 1.95 Å, about 1 Å), more preferably greater than about 2.8 Ångströms (*e.g.*, about 2.5 Å, about 2 Å, about 1.95 Å, about 1 Å) and most preferably greater than about 2.0 Ångströms (*e.g.*, about 1.95 Å, about 1.5 Å, about 1.0 Å).

The scope of the present invention also encompasses a crystalline complex between an anti-PCSK9 antibody or antigen-binding fragment thereof of the present invention (*e.g.*, a Fab comprising the heavy chain amino acid sequence set forth in SEQ ID NO: 18 and the light chain amino acid sequence set forth in SEQ ID NO: 19) in space group P2₁2₁2 and

comprising the unit cell dimensions: $a=114.007 \text{ \AA}$, $b=135.131 \text{ \AA}$, $c=106.710 \text{ \AA}$, and $\alpha=90^\circ$, $\beta=90^\circ$; $\gamma=90^\circ$.

The present invention includes PCSK9/antibody or fragment complex crystals whose three-dimensional structure is described by the structure coordinates set forth in Table 5.

- 5 The scope of the present invention also includes crystals that possess structural coordinates which are similar to those set forth in Table 5. Structural similarity between crystals is discussed in detail below.

The term "structure coordinates" refers to Cartesian coordinates derived from mathematical equations related to the patterns obtained on diffraction of a beam of X-rays by the atoms (scattering centers) of a molecule. The diffraction data are used to calculate electron density maps and to establish the positions of the individual atoms of the molecule.

Those of skill in the art will understand that a set of structure coordinates for an enzyme or an enzyme-complex or a portion thereof, is a relative set of points that define a shape in three dimensions. Thus, it is possible that an entirely different set of coordinates could define a similar or identical shape. Moreover, slight variations in the individual coordinates will have little effect on overall shape.

The present invention includes crystals exhibiting structural coordinates which are similar to those set forth in Table 5 but for crystallographic permutations of the structure coordinates, fractionalization of the structure coordinates, additions, subtractions, rotations or translations to sets of the structure coordinates or any combinations of the above.

Alternatively, modifications in the crystal structure due to mutations, additions, substitutions, and/or deletions of amino acids, or other changes in any of the components that make up the crystal may also account for variations in structure coordinates. If such variations are within an acceptable standard error as compared to the coordinates of Table 5, the resulting three-dimensional shape is considered to be the same and, accordingly, the modified crystal is considered to be within the scope of the present invention.

Various computational analyses may be used to determine whether a crystal is sufficiently similar to the crystals whose structural coordinates are set forth in Table 5 as to be considered the same. Such analyses may be carried out in current software applications, such as the Molecular Similarity application of QUANTA (Molecular Simulations Inc., San Diego, CA) version 4.1, and as described in the accompanying User's Guide.

The Molecular Similarity application permits comparisons between different structures, different conformations of the same structure, and different parts of the same structure. In general, the procedure used in Molecular Similarity to compare structures is divided into four steps: 1) input the structures to be compared; 2) define the atom equivalences in these structures; 3) perform a fitting operation; and 4) analyze the results. Each structure is

identified by a name. One structure is identified as the target (*i.e.*, the fixed structure); all remaining structures are working structures (*i.e.*, moving structures). Since atom equivalency within QUANTA is defined by user input, for the purpose of this invention we will define equivalent atoms as alpha carbon atoms ($C\alpha$) or all protein backbone atoms (N, $C\alpha$, C and O) for all conserved residues between the two structures being compared. When a rigid fitting method is used, the working structure is translated and rotated to obtain an optimum fit with the target structure. The fitting operation uses a least squares fitting algorithm that computes the optimum translation and rotation to be applied to the moving structure, such that the root mean square difference of the fit over the specified pairs of equivalent atom is an absolute minimum. This number, given in Ångströms, is reported by QUANTA.

The term "root mean square deviation" (RMSD) is a commonly known term in the art which, in general, means the square root of the arithmetic mean of the squares of the deviations from the mean distance of corresponding atoms. It is a way to express the deviation or variation from a trend or object.

The term "least squares" relates to a method based on the principle that the best estimate of a value is that in which the sum of the squares of the deviations of observed values is a minimum.

For the purpose of this invention, any crystalline molecule characterized by a set of structure coordinates that has a RMSD of conserved residue backbone atoms (N, $C\alpha$, C, O) or of alpha carbon atoms ($C\alpha$) only of less than about 1.5 Å when superimposed--using backbone atoms or alpha carbon atoms --on the relevant structure coordinates of Table 5 are considered identical and are within the scope of the present invention. In an embodiment, the root mean square deviation is about 1.5 Å or about 1.0 Å or about 0.75 Å or about 0.5 Å or about 0.25 Å or about 0.10 Å .

The present invention also encompasses any non-crystalline antibody or antigen-binding fragment thereof that, when converted to a Fab antigen-binding fragment format, binds to human PCSK9 in a manner characterized by a three dimensional structure which is characterized by a set of structure coordinates that has a RMSD of conserved residue backbone atoms (N, $C\alpha$, C, O) or of alpha carbon atoms ($C\alpha$) only of less than about 1.5 Å when superimposed--using backbone atoms or alpha carbon atoms --on the relevant structure coordinates of Table 5 are considered identical and are within the scope of the present invention. In an embodiment, the root mean square deviation is about 1.5 Å or about 1.0 Å or about 0.75 Å or about 0.5 Å or about 0.25 Å or about 0.10 Å .

Examples

The present invention is intended to exemplify the present invention and not to be a limitation thereof. Any method or composition (including any isolated immunoglobulin chain polypeptide or antibody or antigen-binding fragment thereof comprising such a chain, or the CDRs of the chain, or combination or composition or method of use or production thereof as discussed herein) embodied in the Examples section falls within the scope of the present invention.

Example 1: Humanization and optimization of anti-PCSK9 antibodies.

The anti-PCSK9 antibodies of the present invention are the product of extensive efforts involving frequent failures to identify a humanized version of a mouse antibody with acceptable characteristics. The process involved first comparing the mouse anti-PCSK9 antibody sequence to a group of known human germline immunoglobulin sequences. This comparison included assigning the mouse variable region sequences residue numbers according to Kabat; then delineating the CDR and FR regions in the sequence, again, according to Kabat. After the CDRs and FRs were delineated, a predetermined numerical score was assigned to each specific residue position at which the mouse and human antibody germline sequences were identical. After the scores were assigned, a total of all of the residue scores was generated for each human germline sequence. Then, the human germline sequence with the highest total residue score was identified and selected as the human acceptor germline sequence to be used for further humanization. The scores assigned to the matching heavy and light chains are shown below in tables 1 and 2, respectively. Moreover, a numerical score of 1 was assigned for each FR residue position for which the mouse and human antibody germline sequences were identical but not scored according to tables 1 and 2.

The initial humanized antibody, 1259/1260, exhibited no detectable binding to human PCSK9. Typically, such an initially humanized antibody requires only a small number of mutations to the framework region to restore high affinity binding to the antigen. The antibodies in the present invention, however, were extremely sensitive to any mutations in the frameworks. The reason for this sensitivity was likely that the antibody CDRs (in the mouse parental antibody) made extensive contacts with the hPCSK9 antigen. In generally, other antibodies derive most of their avidity for an antigen through the interaction of a small number of CDR residues that, in general, are concentrated in heavy chain CDR3. Thus, any given mutation in a variable domain herein is likely to severely perturb the CDR/antigen contact. Indeed, 39 mutant versions of the heavy and light chains were generated in order to reach a K_D near that of the parental antibody. These mutations were followed-up by several

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mutations to identify asparagines in the CDRs that could be eliminated without destroying binding to hPCSK9. The presence of asparagines in the CDRs creates the potential of low antibody stability due, for example, to deamination of the residue. Mutation of asparagine 32 to alanine is one example.

5 Furthermore, the 1462/1640 antibody was the result of a surprising and unexpected discovery that mutation of threonine 93 in light chain CDR3 to glutamine increased affinity for hPCSK9 by 774pM units. In short, mutation of T93 generated a non-naturally occurring set of CDRs with high affinity for human PCSK9. This discovery is particularly surprising because CDRs, being the epitope binding moiety of an antibody that is the product of
10 complicated in vivo selection mechanisms can be very sensitive to any changes; particularly non-conservative changes such as threonine to glutamine. Antibody 1462/1378 with light chain mutation VL N32A exhibited a K_D of 5514 pM for hPCSK9 whereas 1462/1640, which had the VL N32A T93Q mutations exhibited a K_D of 4740 pM for hPCSK9.

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Table 1. Scores assigned to matching heavy chain immunoglobulin residues

Residue #	Score	Reason
2	4	Affects CDR-H1,3*
4	3	Affects CDR-H1,3
24	3	Affects CDR-H1
26	4	Affects CDR-H1*
27	4	Affects CDR-H1,3*
29	4	Affects CDR-H1*
34	4	Affects CDR-H1*
35	2	VH/VL interface
37	2	VH/VL interface
39	2	VH/VL interface
44	2	VH/VL interface
45	2	VH/VL interface
47	4	VH/VL interface, CDR-L3
48	3	Affects CDR-H2
49	3	Affects CDR-H2
50	2	VH/VL interface
51	3	Affects CDR-H2
58	2	VH/VL interface
59	3	Affects CDR-H2
60	2	VH/VL interface
63	3	Affects CDR-H2
67	3	Affects CDR-H2
69	3	Affects CDR-H2
71	4	Affects CDR-H2*
73	3	Affects CDR-H1
76	3	Affects CDR-H1
78	3	Affects CDR-H1
91	2	VH/VL interface
93	3	Affects CDR-H3
94	4	Affects CDR-H3*

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Table 2. Scores assigned to matching heavy chain immunoglobulin residues

Residue #	Score	Reason
2	4	Affects CDR-L1,3*
4	3	Affects CDR-L1,3
25	4	Affects CDR-L1*
29	4	Affects CDR-L1,3*
33	4	Affects CDR-L1,3*
34	2	VL/VH interface
36	2	VL/VH interface
38	2	VL/VH interface
43	2	VL/VH interface
44	2	VL/VH interface
46	4	VL/VH interface, CDR-H3
47	3	Affects CDR-L2
48	4	Affects CDR-L2*
49	2	VL/VH interface
55	2	VL/VH interface
58	3	Affects CDR-L2
62	3	Affects CDR-L2
64	4	Affects CDR-L2*
71	4	Affects CDR-L1*
87	2	VL/VH interface
89	2	VL/VH interface
90	4	Affects CDR-L3*
91	2	VL/VH interface
94	2	VL/VH interface
95	4	Affects CDR-L3*

>TC106.1F11.B6 VH
 EVQLQQSGPELVKPGASVKISKVSGYTFDYIMNWVKQSHGKSLIEWIGDINPNNGGAIYNQKFKGKATLT
 VKSSSIAYMEIRSLTSEDSAVYYCTSGIITEIAEDFWGQGTTLTVSSAKTTAPSVYPL

>TC106.1F11.B6 VL
 DIVMTQSQKFMSTSVGDRVSVTCASQNVGTVNVVWYQQKPGQSPKALIHSAFYRYSGVDPDRFKGSGSGTFTLTITNV

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OSEDLAGFFCQQKYTPYTFGGGTQLEIKRADAAPTVSIFPPSSEQLTSGGASVVCFLNNFYPKDINVKWKIDGSEKQ

Heavy Chain

[illegible]

VH1

	10	20	26	40	50	60	70	80	90
1F11	EVQLQQSGPELVKPGASVKISCKVS	GYTFDYYMN	WKQSHGKSLEWIG	DINPNNGA--	IYNQKFKG	KATLTVDKSSSIAYMELRSLTSDSAVYYCTS			
19		4	4	2	3		3	3	
DP-14	QVQLVQSGAEVKKPGASVKVSCKAS	GYTFTSYGIS	WVRQAPGQGLEWNG	WISAYNGNT--	NYAQKLGQ	RVMTTDTSTSTAYMELRSLRSDDTAVYYCAR			
		↑	↑	↑Δ	Δ	Δ	Δ	Δ	↑

10

[illegible][illegible]

VH3

15

	10	20	26	40	50	60	70	80	90
VH3									
1F11	EVQLQQSGPELVKPGASVKISCKV	GYTFDYMN	WKQSHGKSL	EWIG	DINPNCGA--	IYNQKFKG	KATITVDKSSIA	YMEIRLSLT	SEDSAVYYCT
10			4	2					
DP-46	QVQLVESGGGVQVQGRSLRLSCAAS	GFTISSYAMH	WVRQAPGKGL	EWVA	VISYDGSNK--	YYADSVKG	RFTISRDNSKNT	LYLQMNLSRA	EDTAVYYCAR
		^	↑	↑	↑Δ	Δ	Δ	Δ	↑

1F11 EVQLQDSGPPELVKPGASVKISCKVS GYTFDTYYMN WKQSHGKSLEWIG DINFNCGA--IYNQKFKG KAITLVDKSSSIAYMELRSLTSEDSAVYYCTC
10
DP-46 QVQLVESGGVQVQPGRLSLRSCAAS GTFTSSYAMH WVRQAPGKGLEWA VISYDGSNK--YYADSVKG RFTISDNSKNTLYLQMNLSRAEDTAVYYCAR

1000

PH4

VH-1
 1F11 EVQLQQSGPELVKPGASVKISCKVS GYTTIDYYMN WVKQSHGKSL EWIG DINFNGCA--IYNQFKFG KATLTWYDKSSSIAYMELRSLTSDSAVYYCTIS
 15
DP-71 QVQLQESGPGLVKPKSETLSLTCTVS GGSISYYWS WIRQPEGKLEWIG YIYYSGS---TNYNPSLKS RVTI SYDPTSKNQFSLKLSVTAADTAVYYCAR
 25
 30 40 50 60 70 80 90
 abc

25 DP-71 EVLQQSGPELVKPGASVKTSCKVS GYTFDYYMN WVKQSHGKSLEWIG DINFNNGCA--IYNQKFKG KATLTWVDKSSSIAYMELRSLTSEDSDAVYYCTI
15 1FL1 EVLQQSGPELVKPGASVKTSCKVS GYTFDYYMN WVKQSHGKSLEWIG DINFNNGCA--IYNQKFKG KATLTWVDKSSSIAYMELRSLTSEDSDAVYYCTI
3 33 4 2 4

1
1
1

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Light Chain

↑ = 4 points Affects CDR (Chothia et al.) ^ = 3 points Affects CDR Δ = 2 points Interface

VLK I									
	10	20	30	40	50	60	70	80	90
5	1F11	DI VMTQSQKFMSTSVGDRVSVTC	KASQNVG	-----TNVV	WYQKPGQSPKALIH	SASYRYS	GVPDRFKSGSGTDFTLTITNVQSEDLAGFFC	QQYKTYP	
	12	3	4			3			2
	46	11 111 1 11111 11		111111 11 11	1 1 11 1111111111	1 11 1 1			
10	Z-012	DIQMTQSPSSLSASVGRVTITC	RASQGIS	-----SYLN	WYQKPGKAPKLLIY	AASSLQS	GVPSRFGSGSGTDFTLTITSSLOPEDFATYYC	QQSYSTP	
	^		↑	Δ	Δ	Δ	Δ	Δ	Δ
VLK II									
	10	20	30	40	50	60	70	80	90
15	1F11	DI VMTQSQKFMSTSVGDRVSVTC	KASQNVG	-----TNVV	WYQKPGQSPKALIH	SASYRYS	GVPDRFKSGSGTDFTLTITNVQSEDLAGFFC	QQYKTYP	
	8	3	2			3			
	Z-A19	DIVMTQSPSLPVTGEPASISC	RSSQSLHLS-NGYNYLD	WYIQKPGQSPQLLIY	LGSNRAS	GVPDRFSGSGSGTDFTLTKISRVEAEDVGVYYC	MQALQTP		
	^		↑	Δ	Δ	Δ	Δ	Δ	Δ
VLK III									
	10	20	30	40	50	60	70	80	90
20	1F11	DI VMTQSQKFMSTSVGDRVSVTC	KASQNVG	-----TNVV	WYQKPGQSPKALIH	SASYRYS	GVPDRFKSGSGTDFTLTITNVQSEDLAGFFC	QQYKTYP	
	12		4						2
	42	11 111 1 1 1 1 1		1111111 1 11	1 1111 1111111111	11 1 1			
25	Z-A27	EIVLTQSPGTLSLSPGERATLSC	PASQSVSS	-----SYLA	WYQKPGQAPRLIY	GASSRAT	GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC	QQYGSSP	
	^		↑	Δ	Δ	Δ	Δ	Δ	Δ
VLK IV									
	10	20	30	40	50	60	70	80	90
30	1F11	DI VMTQSQKFMSTSVGDRVSVTC	KASQNVG	-----TNVV	WYQKPGQSPKALIH	SASYRYS	GVPDRFKSGSGTDFTLTITNVQSEDLAGFFC	QQYKTYP	
	14	3	4			3			2
	Z-B3	DIVMTQSPDSLAVSLGERATINC	KSSQSVLYSSNNKNYLA	WYQKPGQPPKLLIY	WASTRES	GVPDRFSGSGSGTDFTLTITSSLOAEDVAVYYC	QQYVSTP		
	^		↑	Δ	Δ	Δ	Δ	Δ	Δ

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Humanized TC106.1F11 Heavy chain										
	10	20	26	40	50	60	70	80	abc	90
5	1F11	EVQLQSGPELVKPGASVKISCKVS	GYTFDYVMN	WVKQSHGKSLIEWIG	DINPNNGGALYNQKFKG	KATLTVDKSSSIAYMELRSLTSEDS	AVYYCTIS			
	hu	QVQLVQSGAEVKKPGASVKSCKAS	GYTFDYMAN	WVRQAPGQGLEWMG	DINPNNGGALYNQKFKG	RVTMTDTSTSTAYMELRSLRSDDT	AVYYCAR			
	DE-14	QVQLVQSGAEVKKPGASVKSCKAS	GYTFTSYGIS	WVRQAPGQGLEWMG	WISAYNGNTNYAQKLG	RVTMTDTSTSTAYMELRSLRSDDT	AVYYCAR			
1F11 GIITEIAEDF WGQGTTLTVSS										
10	hu	GIITEIAEDF WGQGTTLTVSS								
Humanized TC106.1F11 Light chain										
	10	20	30	40	50	60	70	80		90
15	1F11	DIQMTQSQKFMSTSVGDRVSVTC	KASQNVGTVV	WYQQKPGQSPKALIH	SASYRYS	GVPDRFKSGSGTDFTLITINVSQSED	LAGFFC	QQYKITYP		
	hu	DIQMTQSPSSLSASVGDRTVITC	KASQNVGTVV	WYQQKPGKAPKLLIY	SASYRYS	GVPDRFSGSGSGTDFTLITISLQPED	FAFYC	QQYKITYP		
	Z-012	DIQMTQSPSSLSASVGDRTVITC	RASQSISSYLN	WYQQKPGKAPKLLIY	AASLQ	GVPDRFSGSGSGTDFTLITISLQPED	FAFYC	QQSYSTP		
1F11 YT FGGGTQLEIKRA										
20	hu	YT FGGGTQLEIKR								

57

25

Table 3. Summary of humanized antibody chain optimization.

Individually changing N32A, N32Q, T93Q also provided decent binding							
Antibody*	Comment	Analyte	ka (x 10 ⁵)	kd (x 10 ⁻⁶)	K _d	N	
mouse TC106.1F11	Parental mouse anti-hPCSK9 antibody.	hPCSK9 FLAG	0.84±0.12	318±2	3825±541	3	
chimeric		hPCSK9 FLAG	0.73±0.07	216±21	2993±505	12	
1259/1260	Mouse anti-hPCSK9 antibody CDRs inserted into human framework.	hPCSK9 FLAG			No binding	1	
VH T71-T73-A93-R94							

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VH A24-M48-V67-M69								
1279/1260 T71-T73-A93-S94 A24-V67-M69	Failed. Mutation introduced into heavy chain framework at the residue in bold font. No binding observed.	hPCSK9 FLAG				No binding	1	
1278/1260 T71-T73-T93-S94 A24-V67-M69	Failed. Mutations introduced into heavy chain framework at the residues in bold font. No binding observed.	hPCSK9 FLAG				No binding	1	
1281/1260 V71-T73-T93-S94 A24-V67-M69	Failed. Mutations introduced into heavy chain framework at the residues in bold font. No binding observed.	hPCSK9 FLAG				No binding	1	
1280/1260 V71-K73-T93-S94 A24-V67-M69	Failed. Mutations introduced into heavy chain framework at the residues in bold font. No binding observed.	hPCSK9 FLAG				No binding	1	
1307/1260 VH V71-K73-T93-S94 VH V24-M48-V67-M69	Mutations introduced at the specified locations in the heavy chain framework. First humanized antibody to exhibit detectable PCSK9 binding.	hPCSK9 FLAG	0.25	10650		426000	1	
1307/1282 VH V71-K73-T93-S94 VH V24-M48-V67-M69 VL A46-H49	Mutations introduced at the specified locations in the light chain framework and combined with the 1307 heavy chain. Some improvement of binding occurred.	hPCSK9 FLAG	0.43	747		17360	1	
1307/1283 V71-K73-T93-S94 V24-V67-M69 VL A46-Y49	Elimination of the light chain Y49H mutation reduced binding.	hPCSK9 FLAG	0.55	2396		43406	1	
1307/1284	Further optimization of humanized	hPCSK9	0.37	1787		48560	1	

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V71-K73-T93-S94 V24-V67-M69 VL L46-H49	anti-hPCSK9 antibodies to obtain binding specificity near that of the parental mouse antibody.	FLAG					
1278/1282		hPCSK9 FLAG	0.81	6410	79136	1	
T71-T73-T93-S94 A24-V67-M69 VL A46-H49		hPCSK9 FLAG	0.37	12300	332432	1	
1279/1282		mPCSK9 FLAG	0.67	695	10370	2	
T71-T73-A93-S94 A24-V67-M69 VL A46-H49		hPCSK9 FLAG	0.49	2902	59224	1	
1280/1282		mPCSK9 FLAG	2.05	5878	28672	1	
V71-K73-T93-S94 A24-V67-M69 VL A46-H49		hPCSK9 FLAG	0.50	1995	39980	1	
1308/1282		hPCSK9 FLAG	0.34	3718	109353	1	
V71-K73-T93-S94 A24-A67-L69 VL A46-H49		hPCSK9 FLAG	0.35	1119	319714	1	
1310/1282		hPCSK9 FLAG	0.41	2894	71444	1	
V71-T73-T93-S94 A24-A67-L69 VL A46-H49		hPCSK9 FLAG	0.43	524	12219	1	
1380/1282		hPCSK9 FLAG	0.47	504	10759	1	
V71-T73-T93-S94 V24-A67-L69 VL A46-H49		hu CDR-H2 Cterm					
1381/1282		hPCSK9 FLAG	0.43	524	12219	1	
V71-T73-T93-S94 V24-A67-L69 VL A46-H49		hPCSK9 FLAG	0.47	504	10759	1	
1382/1282		hPCSK9 FLAG	0.43	524	12219	1	
VH V71-K73-T93-S94		hPCSK9 FLAG	0.47	504	10759	1	

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VH V24-M48-A67-L69 VL A46-H49							
1307/1282 V71-K73-T93-S94 V24-V67-M69 VL A46-H49	The native mouse anti-human PCSK9 antibody also exhibited binding specificity for rat PCSK9. Tested rat PCSK9 binding specificity exhibited by humanized antibodies with the greatest specificity for hPCSK9 so far.	rat PCSK9 FLAG	0.70	1755	25143		
1307/1283 V71-K73-T93-S94 V24-V67-M69 VL A46-Y49		rat PCSK9 FLAG	0.65	5459	84374		
1307/1284 V71-K73-T93-S94 V24-V67-M69 VL L46-H49		rat PCSK9 FLAG	0.50	4761	95411		
1382/1282 V71-K73-T93-S94 V24-A67-L69 VL A46-H49		hPCSK9 FLAG	0.43 0.47	524 504	12219 10759		
1382/1457 V71-K73-T93-S94 V24-A67-L69 VL A46-H49 V21-S43-F86-F87	Further optimization of humanized anti-hPCSK9 antibodies to obtain binding specificity near that of the parental mouse antibody.	hPCSK9 FLAG	0.44	647	14627		
1382/1458 V71-K73-T93-S94 V24-A67-L69 VL A46-H49 K63		hPCSK9 FLAG	0.43	516	12058		
1382/1459 V71-K73-T93-S94 V24-A67-L69 VL A46-H49 D60-K63		hPCSK9 FLAG	0.48	488	10156		
1460/1282 V71-K73-T93-S94 V24-A67-L69 Q1E		hPCSK9 FLAG	0.45	500	11111		

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VL A46-H49									
1461/1282								990	20625
VH 1-K73-T93-S94									
V24-A67-L69 V20I-V105L									
VL A46-H49									
1463/1282								483	10500
VH 1-K73-T93-S94									
V24-A67-L69 T76S-T78I									
VL A46-H49									
hu1F11 1462/1282									
VH 1-K73-T93-S94								388	8251
VH 24-I48-A67-L69								344	8037
VL A46-H49								430	5506
1535/1282									
VH N52Q								5556	44448
+									
VH 1-K73-T93-S94									
VH 24-I48-A67-L69									
VL A46-H49									
1615/1282								1410	24607
VH N52A									
+									
VH 1-K73-T93-S94									
VH 24-I48-A67-L69								12320	16626
VL A46-H49									
1536/1282								2008	23679
VH N54Q									
+									
VH 1-K73-T93-S94									
VH 24-I48-A67-L69									
VL A46-H49									
1616/1282								1070	27157

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VH N54A + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>		FLAG				
1537/1282 VH N55Q + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.50	887	17730			
1617/1282 VH N55A + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.43	950	21940			
1462/1539 VL S60D + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.54	346	6415			
1462/1621 VL S60D-T93Q + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.53	303	5739			
1462/1540 VL S50N + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.49	770	15682			
1462/1541	0.55	1390	25505			

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VL S50Q + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>		FLAG					
1462/1542 VL T93N + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.52	hPCSK9 FLAG	372	7154			
1462/1543 VL T93Q + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.54 0.58 0.58	hPCSK9 FLAG	278 308 316	5148 5326 5469	1 1 1		
	0.94	mPCSK9 FLAG	403	4310	2		
1462/1640 VL N32A-T93Q + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.64	hPCSK9 FLAG	303	4740			
	0.96	mPCSK9 FLAG	400	4167			
1462/1641 VL N32Q-T93Q + VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>	0.49	hPCSK9 FLAG	252	5135			
	0.80	mPCSK9 FLAG	247	3088			
1462/1544 VL Y94W + VH <u>V71-K73-T93-S94</u>	0.51	hPCSK9 FLAG	862	16902			

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VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>								
1534/1282 VH hu CDR-H2 C-term +								
VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>								
1462/1376 VL N28A+								
VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>								
1462/1377 VL N28Q +								
VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>								
1462/1378 VL N32A +								
VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>								
1462/1379 VL N32Q +								
VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u> VL <u>A46-H49</u>								
1462/1640 VL N32A-T93Q +								
VH <u>V71-K73-T93-S94</u> VH <u>V24-I48-A67-L69</u>								
Mutation of asparagine residues 28 and 32 at the indicated locations in the indicated CDRs to test for the effect on binding.								
	hPCSK9 FLAG	0.45	653		14511			
	hPCSK9 FLAG	0.54	338		6271			
	hPCSK9 FLAG	0.50	311		6245			
	hPCSK9 FLAG	0.59	327		5514			1
	hPCSK9 FLAG	0.47 0.44	248 259		5277 5893			1 2
	mPCSK9 FLAG	0.66	336		5114			1
	hPCSK9 FLAG	0.64	303		4740			1
	mPCSK9	0.96	400		4167			1

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VL A46-H49	FLAG					
1462/1641	hPCSK9	0.49	252	5135	1	
VL N32Q-T93Q	FLAG					
+						
VH V71-K73-T93-S94	mPCSK9	0.80	247	3088	1	
VH V24-I48-A67-L69	FLAG					
VL A46-H49						
1462/1544	hPCSK9	0.51	862	16902	1	
VL Y94W	FLAG					
+						
VH V71-K73-T93-S94						
VH V24-I48-A67-L69						
VL A46-H49						
1534/1282	hPCSK9	0.45	653	14511	1	
VH hu CDR-H2 C-term	FLAG					
+						
VH V71-K73-T93-S94						
VH V24-I48-A67-L69						
VL A46-H49						

* [heavy chain identity]/[light chain identity]

Comparison of anti-huPCSK9 variants VH sequences

```

5      10      20      30      40      50      60
mulF11 EVQLQQSGPELVKPGASVKISCKVS GYTFTDYIMN WVKQSHGKSLEWIG DINPNNGGAIYNQKFKG
LPD1259 QVQLVQSGAEVKKPGASVKVSKAS GYTFTDYIMN WVRQAPGQGLEWMG DINPNNGGAIYNQKFKG
      *
LPD1462 QVQLVQSGAEVKKPGASVKVSKVS GYTFTDYIMN WVRQAPGQGLEWIG DINPNNGGAIYNQKFKG

10      70      80      90      100     110
mulF11 KATLTVDKSSSIAYMELRSLTSEDSAVYYCTS GIITEIAEDF WGQGTTLTVSS
LPD1259 RVTMTDTSTSTAYMELRSLRSDDTAVYYCAR GIITEIAEDF WGQGTTLTVSS
      * * * *
15 LPD1462 RATLTVDKSTSTAYMELRSLRSDDTAVYYCTS GIITEIAEDF WGQGTTLTVSS
      * differences from LPD1259

```

Comparison of anti-huPCSK9 variants VL sequences

```

20      10      20      30      40      50
mulF11 DIVMTQSQKFMSTSVGDRVSVTC KASQNVGTNVV WYQQKPGQSPKALIH SASYRYS
LPD1260 DIQMTQSPSSLSASVGDRVITIC KASQNVGTNVV WYQQKPGKAPKLLIY SASYRYS
25      * *
LPD1282 DIQMTQSPSSLSASVGDRVITIC KASQNVGTNVV WYQQKPGKAPKALIH SASYRYS
      * *
LPD1640 DIQMTQSPSSLSASVGDRVITIC KASQNVGTAVV WYQQKPGKAPKALIH SASYRYS
      * *
30 LPD1641 DIQMTQSPSSLSASVGDRVITIC KASQNVGTQVV WYQQKPGKAPKALIH SASYRYS

      60      70      80      90      100
mulF11 GVPDRFKSGSGSDFTLTITNVQSEDLAGFPC QQYKTYPYT FGQGTKVEIKR
35 LPD1260 GVPSRFSGSGSDFTLTISLQPEDFATYYC QQYKTYPYT FGQGTKVEIKR
LPD1282 GVPSRFSGSGSDFTLTISLQPEDFATYYC QQYKTYPYT FGQGTKVEIKR
      *
LPD1640 GVPSRFSGSGSDFTLTISLQPEDFATYYC QQYKQYPYT FGQGTKVEIKR
40 LPD1641 GVPSRFSGSGSDFTLTISLQPEDFATYYC QQYKQYPYT FGQGTKVEIKR
      * differences from LPD1260

```

Example 2: Anti-PCSK9 is effective at lowering LDL in cynomolgus monkeys

45 Eighteen cynomolgus monkeys were given a single dose (1 mpk (intravenous), 3 mpk (subcutaneous) and 10 mpk (intravenous); 5, 8 and 5 monkeys/group, respectively) of antibody LPD1282/LPD1462-IgG2 (1F11-IgG2) or LPD1282/LPD1462-IgG4 (1F11-IgG4). LDL-c levels in each monkey were assayed once a week. The data from these trials were set forth in figure
 50 1 (A & B). The antibody was very effective in its ability to lower LDL levels in the animals tested. Specifically, the 3 mpk s.c. dose of IgG2 antibody lowered LDL-c by >25% for 29 days; the 10 mpk i.v. dose of IgG2 antibody lowered LDL-c by >25% for 54 days. The monkeys in the 10 mpk dose IgG2 group exhibited up to 70% LDL-c reduction.

In parallel to the LDL-c measurements described above, plasma of LPD1282/LPD1462-IgG2 (1F11-IgG2) treated Cynomolgus monkeys was also used for the measurement of lipoprotein a (Lp(a)), a risk factor for coronary heart disease. The administration of a single 10 mpk dose of LPD1282/LPD1462-IgG2 (1F11-IgG2) resulted in a dose-dependent decrease in plasma Lp(a) levels reaching Lp(a) reductions of about 45%.

Example 3: Crystallization of PCSK9/Fab Complex

A PCSK9:Fab complex was generated by incubating a 1.5 molar excess of Fab with PCSK9, followed by purification on a size-exclusion chromatography. 9.9mg/ml PCSK9:Fab complex crystallized in 0.1M Tris pH 8.5, 2.5M ammonium acetate at 4°C. Crystals were transferred to cryoprotectants consisting of the well solution supplemented with glycerol and flash-frozen in liquid nitrogen. A 2.8 angstrom dataset was collected at the IMCA beamline (Argonne National Labs, The Advanced Photon Source) by NAXTRX, INC. Diffraction images were integrated using XDS (Kabsch W: XDS. *Acta Cryst* 2010, D66: 125-132) and reduced using SCALA (Evans PR: Scaling and assessment of data quality. *Acta Cryst* 2005, D62: 72-82) as implemented in autoPROC (Global Phasing Limited, Cambridge, United Kingdom). The PCSK9:Fab complex structure was solved by molecular replacement with the program Phaser (McCoy AJ, Grosse-Kunstleve RW, Adams PD, Winn MD, Storoni LC, Read RJ: Phaser crystallographic software. *J. Appl. Cryst.* (2007). 40, 658-674) using the published PCSK9-Fab complex structure (PDB code: 3H42) as the starting model. The complete structure was obtained with multiple rounds of model building with Coot (Emsley P, Cowtan K: Coot: model-building tools for molecular graphics. *Acta Cryst* 2004, D60: 2126-2132) and refinement with REFMAC as implemented in CCP4 (Collaborative Computational Project N4: The CCP4 Suite: programs for protein crystallography. *Acta Cryst* 1994, D50: 760-763) and auto-BUSTER (Bricogne G, Blanc E, Brandl M, Flensburg C, Keller P, Paciorek W, Roversi P, Sharff A, Smart O, Vonrhein C, Womack T. BUSTER version 2.9. Global Phasing Limited, Cambridge, United Kingdom, 2010).

The Fab heavy chain amino acid sequence was:

qvqlvqsgae vkkpgasvkv sckvsgytft dyymnwvrqa pgqglewlgd inpnnggaiy
nqkfkgratl tvdkststay melrslrsdd tavyyctsgi iteiaedfwg qgtlvtvssa
stkgpsvfpl apsskstsgg taalgclvkd yfpepvtvsw nsgaltsgvh tfpavlqssg
lyslssvvtv pssslgtqty icnvnhkpsn tkvdkkvepk scdkthtaaa ypydvpyag
ghhhhhh
(SEQ ID NO: 18)

The Fab light chain amino acid sequence was:

diqmtqspss lsasvgdrvt itckasqnvq tnvvwyqqkp gkapkalihs asyrysgvps
rfsgsgsgtd ftltisslqp edfatyyccq yktyptyfgq gtkveikrtv aapsvfifpp

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sdeqlksgta svvc11nnfy preakvqwkv dnalqsgnsq esvteqdskd styslsstlt
lskadyekhk vyacevthqg lsspvtksfm rgec

(SEQ ID NO: 19)

The epitope of the Fab was identified by determining Solvent Accessible Surface Area
5 for the complex and the Fab and PCSK9 components separately using the MSMS program.

The antibody had a linear epitope in PCSK9 including residues EDGTRFHRQASKC
(amino acids 211-223 of SEQ ID NO:8) wherein residue D212 in this loop was not buried by
the Fab. Moreover, atoms of S188, R251 and C255 were also buried by the Fab. Accordingly,
the present invention also encompasses any antibody or antigen-binding fragment thereof that
10 contacts PCSK9 in a similar manner.

Interestingly, the antibody binds right at the furin processing site in the PCSK9 catalytic
domain (RFHR 215-218 and FH 216-217 is deepest in the binding site).

The solvent accessible surface area of the residues contacted by the Fab were
determined. The details of the analysis are as follows in Table 4a.

15 **Table 4a. Solvent Accessible Surface Area Analysis of PCSK9 residues contacted by
Fab**

Atom	Residue	Chain	res #	SASA (Angstroms) ²
CB	SER	B	188	0.194
OG	SER	B	188	3.831
N	GLU	B	211	1.877
CB	GLU	B	211	9.957
CG	GLU	B	211	3.194
CD	GLU	B	211	1.113
OE1	GLU	B	211	2.194
OE2	GLU	B	211	2.39
O	GLU	B	211	1.201
CA	GLY	B	213	9.276
O	GLY	B	213	8.656
N	THR	B	214	0.32
CA	THR	B	214	5.218
CB	THR	B	214	12.502
OG1	THR	B	214	14.364
CG2	THR	B	214	63.104
N	ARG	B	215	2.252
CA	ARG	B	215	0.234
CB	ARG	B	215	23.302
CG	ARG	B	215	15.03
CD	ARG	B	215	27.559
NE	ARG	B	215	4.967
CZ	ARG	B	215	3.677
NH1	ARG	B	215	56.451
NH2	ARG	B	215	35.996
C	ARG	B	215	0.277
O	ARG	B	215	4.895
N	PHE	B	216	2.161

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CA	PHE	B	216	5.646
CB	PHE	B	216	19.758
CG	PHE	B	216	0.744
CD1	PHE	B	216	24.844
CE1	PHE	B	216	28.947
CZ	PHE	B	216	21.717
CE2	PHE	B	216	24.433
CD2	PHE	B	216	18.125
O	PHE	B	216	8.355
N	HIS	B	217	2.963
CA	HIS	B	217	10.111
CB	HIS	B	217	24.067
CG	HIS	B	217	1.453
ND1	HIS	B	217	13.511
CE1	HIS	B	217	39.592
NE2	HIS	B	217	23.093
CD2	HIS	B	217	22.075
C	HIS	B	217	1.35
O	HIS	B	217	25.77
N	ARG	B	218	0.023
CA	ARG	B	218	2.007
CB	ARG	B	218	4.677
CG	ARG	B	218	0.271
CD	ARG	B	218	1.259
NH2	ARG	B	218	2.816
C	ARG	B	218	1.556
O	ARG	B	218	17.709
N	GLN	B	219	2.999
CA	GLN	B	219	5.934
CB	GLN	B	219	0.014
CG	GLN	B	219	13.418
CD	GLN	B	219	1.977
OE1	GLN	B	219	15.489
NE2	GLN	B	219	36.57
O	GLN	B	219	2.704
N	ALA	B	220	2.61
CA	ALA	B	220	10.057
CB	ALA	B	220	70.497
O	ALA	B	220	4.422
N	SER	B	221	4.907
CB	SER	B	221	5.592
OG	SER	B	221	7.967
O	SER	B	221	13.701
CA	LYS	B	222	2.8
CD	LYS	B	222	13.474
CE	LYS	B	222	0.772
NZ	LYS	B	222	21.01
O	LYS	B	222	6.728
CB	CYS	B	223	10.067
SG	CYS	B	223	19.876
CZ	ARG	B	251	0.104
NH1	ARG	B	251	5.792

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NH2	ARG	B	251	1.41
CB	CYS	B	255	0.947
SG	CYS	B	255	8.407
			Total	953.309

In addition, the solvent accessible surface area of the residues in the Fab that were contacted by the PCSK9 were determined. The details of the analysis are as follows in Table 4b.

5

Table 4b. Solvent Accessible Surface Area Analysis Fab Heavy Chain Residues Contacted by PCSK9.

Atom	Residue	Chain	res #	SASA (Angstroms) ²
O	THR	H	30	4.382
CA	ASP	H	31	4.967
CB	ASP	H	31	2.194
CG	ASP	H	31	5.648
OD1	ASP	H	31	3.838
OD2	ASP	H	31	2.481
C	ASP	H	31	0.401
O	ASP	H	31	23.553
CA	TYR	H	32	2.871
OH	TYR	H	32	4.798
CE2	TYR	H	32	5.747
CD2	TYR	H	32	0.543
C	TYR	H	32	0.181
N	TYR	H	33	1.607
CB	TYR	H	33	7.321
CG	TYR	H	33	0.323
CD1	TYR	H	33	3.422
CE1	TYR	H	33	12.874
CZ	TYR	H	33	3.993
OH	TYR	H	33	39.555
CE2	TYR	H	33	36.443
CD2	TYR	H	33	23.811
O	TYR	H	33	0.809
CB	ASN	H	35	0.904
CG	ASN	H	35	0.994
OD1	ASN	H	35	0.083
ND2	ASN	H	35	25.93
CG2	VAL	H	37	4.043
CD1	TRP	H	47	1.09
CB	ASP	H	50	0.135
CG	ASP	H	50	0.738
OD1	ASP	H	50	3.208
OD2	ASP	H	50	2.851
CA	ILE	H	51	0.054
C	ILE	H	51	0.023
N	ASN	H	52	0.318
CB	ASN	H	52	5.382

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CG	ASN	H	52	0.107
OD1	ASN	H	52	0.582
ND2	ASN	H	52	34.072
CD	PRO	H	53	1.819
CB	ASN	H	54	20.022
CG	ASN	H	54	2.974
OD1	ASN	H	54	15.294
ND2	ASN	H	54	21.41
C	ASN	H	54	0.063
O	ASN	H	54	0.068
CB	ASN	H	55	17.971
CG	ASN	H	55	2.302
OD1	ASN	H	55	23.791
ND2	ASN	H	55	1.395
CA	GLY	H	57	5.887
C	GLY	H	57	1.81
O	GLY	H	57	4.786
O	ALA	H	58	0.091
CG1	ILE	H	59	4.073
CD1	ILE	H	59	37.348
NZ	LYS	H	74	9.482
OG1	THR	H	97	4.773
CG2	THR	H	97	4.862
CA	SER	H	98	0.139
C	SER	H	98	2.052
O	SER	H	98	0.606
N	GLY	H	99	3.262
CA	GLY	H	99	10.731
C	GLY	H	99	3.022
O	GLY	H	99	10.476
N	ILE	H	100	1.311
CA	ILE	H	100	3.559
CG1	ILE	H	100	1.927
CD1	ILE	H	100	42.957
N	ILE	H	101	3.028
CB	ILE	H	101	4.81
CG1	ILE	H	101	4.517
CD1	ILE	H	101	17.217
O	ILE	H	101	1.651
CB	ASP	H	107	6.077
NE1	TRP	H	109	0.213
CH2	TRP	H	109	0.203
CZ2	TRP	H	109	0.381
Total				570.636

Table 4c. Solvent Accessible Surface Area Analysis Fab Light Chain Residues Contacted by PCSK9.

5

Atom	Residue	Chain	res #	SASA (Angstroms) ²
ND2	ASN	L	32	2.816
CB	VAL	L	34	1.037

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CG1	VAL	L	34	2.453
CZ	TYR	L	36	0.027
OH	TYR	L	36	24.157
CE2	TYR	L	36	1.585
CB	ALA	L	46	0.353
OH	TYR	L	55	13.035
OE1	GLN	L	89	1.996
NE2	GLN	L	89	4.021
CB	TYR	L	91	4.361
CG	TYR	L	91	0.479
CD1	TYR	L	91	2.513
CE1	TYR	L	91	0.885
CE2	TYR	L	91	2.809
CD2	TYR	L	91	14.042
O	TYR	L	91	12.163
C	LYS	L	92	0.171
O	LYS	L	92	18.27
CA	THR	L	93	4.262
C	THR	L	93	0.506
N	TYR	L	94	0.011
CD1	TYR	L	94	8.902
CE1	TYR	L	94	19.905
CZ	TYR	L	94	0.609
OH	TYR	L	94	18.222
CE1	TYR	L	96	3.29
CZ	TYR	L	96	0.445
OH	TYR	L	96	27.579
CE2	TYR	L	96	6.16
CD2	TYR	L	96	2.757
CZ	PHE	L	98	1.218
CE2	PHE	L	98	0.007
			Total	201.046

The crystal the was produced was in space group $P2_12_12$ and comprised the unit cell dimensions: $a=114.007 \text{ \AA}$, $b=135.131 \text{ \AA}$, $c=106.710 \text{ \AA}$, and $\alpha=90^\circ$, $\beta=90^\circ$; $\gamma=90^\circ$.

The structural coordinates for the complex were as follows:

5

Table 5. Structural Coordinates of PCSK9/Fab Complex

The coordinates set forth below are in pdb format. The data in each column (from left to right) correspond to the following:

- 10 Column 1: type of record
Column 2: atom serial number
Column 3: atom name
Column 4: residue name
Column 5: chain ID (A, B, H, L ...)

Column 6: residue sequence number

Column 7-9: coordinates x, y, z

Column 10: occupancy

Column 11: B factor

5 Column 12: atom type

	ATOM	1	N	ILE B 154	28.317	31.253	42.547	1.00	56.19	N
	ATOM	2	CA	ILE B 154	27.916	30.874	41.186	1.00	55.71	C
	ATOM	3	CB	ILE B 154	27.760	32.116	40.221	1.00	58.17	C
10	ATOM	4	CG1	ILE B 154	26.330	32.716	40.268	1.00	58.51	C
	ATOM	5	CD1	ILE B 154	25.051	31.683	40.096	1.00	60.57	C
	ATOM	6	CG2	ILE B 154	28.210	31.857	38.773	1.00	57.45	C
	ATOM	7	C	ILE B 154	28.866	29.782	40.678	1.00	54.71	C
	ATOM	8	O	ILE B 154	30.081	29.915	40.906	1.00	54.69	O
15	ATOM	9	N	PRO B 155	28.327	28.697	40.026	1.00	46.55	N
	ATOM	10	CA	PRO B 155	29.192	27.613	39.533	1.00	45.18	C
	ATOM	11	CB	PRO B 155	28.216	26.710	38.776	1.00	46.28	C
	ATOM	12	CG	PRO B 155	26.919	26.967	39.376	1.00	46.35	C
	ATOM	13	CD	PRO B 155	26.912	28.416	39.705	1.00	47.61	C
20	ATOM	14	C	PRO B 155	30.262	28.149	38.612	1.00	44.08	C
	ATOM	15	O	PRO B 155	29.951	28.973	37.755	1.00	44.15	O
	ATOM	16	N	TRP B 156	31.520	27.714	38.802	1.00	40.49	N
	ATOM	17	CA	TRP B 156	32.648	28.173	37.983	1.00	39.31	C
	ATOM	18	CB	TRP B 156	33.923	27.378	38.298	1.00	36.37	C
25	ATOM	19	CG	TRP B 156	34.007	26.008	37.697	1.00	33.26	C
	ATOM	20	CD1	TRP B 156	33.706	24.823	38.298	1.00	31.38	C
	ATOM	21	NE1	TRP B 156	33.924	23.781	37.425	1.00	29.38	N
	ATOM	22	CE2	TRP B 156	34.404	24.284	36.244	1.00	28.24	C
	ATOM	23	CD2	TRP B 156	34.478	25.687	36.385	1.00	29.52	C
30	ATOM	24	CE3	TRP B 156	34.940	26.458	35.299	1.00	28.48	C
	ATOM	25	CZ3	TRP B 156	35.292	25.813	34.125	1.00	29.04	C
	ATOM	26	CH2	TRP B 156	35.228	24.415	34.023	1.00	29.29	C
	ATOM	27	CZ2	TRP B 156	34.792	23.631	35.071	1.00	28.71	C
	ATOM	28	C	TRP B 156	32.344	28.176	36.473	1.00	39.29	C
35	ATOM	29	O	TRP B 156	32.636	29.160	35.783	1.00	39.17	O
	ATOM	30	N	ASN B 157	31.727	27.068	35.991	1.00	36.89	N
	ATOM	31	CA	ASN B 157	31.360	26.819	34.611	1.00	36.84	C
	ATOM	32	CB	ASN B 157	30.732	25.451	34.493	1.00	36.63	C
	ATOM	33	CG	ASN B 157	29.743	25.094	35.568	1.00	35.73	C
40	ATOM	34	OD1	ASN B 157	30.066	25.068	36.776	1.00	32.71	O
	ATOM	35	ND2	ASN B 157	28.509	24.773	35.133	1.00	32.55	N
	ATOM	36	C	ASN B 157	30.466	27.879	33.998	1.00	37.31	C
	ATOM	37	O	ASN B 157	30.564	28.151	32.801	1.00	37.07	O
	ATOM	38	N	LEU B 158	29.597	28.476	34.822	1.00	37.32	N
45	ATOM	39	CA	LEU B 158	28.656	29.500	34.417	1.00	37.84	C
	ATOM	40	CB	LEU B 158	27.438	29.495	35.339	1.00	37.32	C
	ATOM	41	CG	LEU B 158	26.592	28.204	35.344	1.00	36.24	C
	ATOM	42	CD1	LEU B 158	25.283	28.427	36.079	1.00	35.08	C
	ATOM	43	CD2	LEU B 158	26.305	27.691	33.930	1.00	32.60	C
50	ATOM	44	C	LEU B 158	29.302	30.865	34.353	1.00	39.13	C
	ATOM	45	O	LEU B 158	28.932	31.675	33.491	1.00	39.06	O

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	ATOM	46	N	GLU B 159	30.272	31.131	35.260	1.00	41.63	N
	ATOM	47	CA	GLU B 159	31.005	32.401	35.270	1.00	43.23	C
	ATOM	48	CB	GLU B 159	31.881	32.546	36.536	1.00	44.68	C
	ATOM	49	C	GLU B 159	31.862	32.375	34.018	1.00	44.18	C
5	ATOM	50	O	GLU B 159	31.942	33.369	33.304	1.00	43.95	O
	ATOM	51	N	ARG B 160	32.440	31.189	33.731	1.00	47.75	N
	ATOM	52	CA	ARG B 160	33.296	30.880	32.583	1.00	50.06	C
	ATOM	53	CB	ARG B 160	33.760	29.408	32.614	1.00	51.23	C
	ATOM	54	CG	ARG B 160	35.071	29.132	31.862	1.00	52.53	C
10	ATOM	55	CD	ARG B 160	36.233	30.047	32.255	1.00	53.96	C
	ATOM	56	NE	ARG B 160	36.406	30.119	33.706	1.00	56.52	N
	ATOM	57	CZ	ARG B 160	37.268	29.387	34.403	1.00	57.09	C
	ATOM	58	NH1	ARG B 160	38.071	28.527	33.789	1.00	57.68	N
	ATOM	59	NH2	ARG B 160	37.332	29.507	35.719	1.00	55.92	N
15	ATOM	60	C	ARG B 160	32.653	31.246	31.249	1.00	51.22	C
	ATOM	61	O	ARG B 160	33.255	32.015	30.487	1.00	50.83	O
	ATOM	62	N	ILE B 161	31.428	30.727	30.985	1.00	52.92	N
	ATOM	63	CA	ILE B 161	30.699	31.019	29.744	1.00	55.02	C
	ATOM	64	CB	ILE B 161	29.757	29.866	29.248	1.00	56.79	C
20	ATOM	65	CG1	ILE B 161	28.552	29.596	30.182	1.00	56.35	C
	ATOM	66	CD1	ILE B 161	27.342	30.491	29.984	1.00	56.04	C
	ATOM	67	CG2	ILE B 161	30.536	28.581	28.944	1.00	56.38	C
	ATOM	68	C	ILE B 161	30.088	32.449	29.685	1.00	56.72	C
	ATOM	69	O	ILE B 161	29.686	32.889	28.614	1.00	56.90	O
25	ATOM	70	N	THR B 162	30.027	33.160	30.823	1.00	62.49	N
	ATOM	71	CA	THR B 162	29.468	34.512	30.897	1.00	65.13	C
	ATOM	72	CB	THR B 162	28.458	34.649	32.057	1.00	73.89	C
	ATOM	73	OG1	THR B 162	27.334	33.799	31.778	1.00	74.67	O
	ATOM	74	CG2	THR B 162	27.982	36.084	32.261	1.00	73.38	C
30	ATOM	75	C	THR B 162	30.572	35.577	30.766	1.00	66.78	C
	ATOM	76	O	THR B 162	31.411	35.703	31.667	1.00	66.92	O
	ATOM	77	N	PRO B 163	30.579	36.338	29.633	1.00	70.98	N
	ATOM	78	CA	PRO B 163	31.645	37.337	29.398	1.00	72.10	C
	ATOM	79	CB	PRO B 163	31.521	37.583	27.888	1.00	73.83	C
35	ATOM	80	CG	PRO B 163	30.071	37.462	27.639	1.00	73.69	C
	ATOM	81	CD	PRO B 163	29.653	36.283	28.478	1.00	72.86	C
	ATOM	82	C	PRO B 163	31.563	38.653	30.206	1.00	73.21	C
	ATOM	83	O	PRO B 163	30.654	38.795	31.036	1.00	73.25	O
	ATOM	84	N	PRO B 164	32.490	39.641	29.986	1.00	75.37	N
40	ATOM	85	CA	PRO B 164	32.386	40.915	30.721	1.00	75.69	C
	ATOM	86	CB	PRO B 164	33.803	41.513	30.609	1.00	77.66	C
	ATOM	87	CG	PRO B 164	34.622	40.531	29.778	1.00	77.42	C
	ATOM	88	CD	PRO B 164	33.642	39.676	29.056	1.00	77.31	C
	ATOM	89	C	PRO B 164	31.341	41.841	30.073	1.00	75.80	C
45	ATOM	90	O	PRO B 164	30.142	41.773	30.375	1.00	75.87	O
	ATOM	91	N	SER B 178	12.478	33.686	19.780	1.00	65.27	N
	ATOM	92	CA	SER B 178	12.070	32.888	20.933	1.00	65.26	C
	ATOM	93	CB	SER B 178	11.062	33.646	21.797	1.00	68.67	C
	ATOM	94	OG	SER B 178	11.687	34.613	22.629	1.00	69.76	O
50	ATOM	95	C	SER B 178	11.582	31.452	20.581	1.00	65.21	C
	ATOM	96	O	SER B 178	11.414	31.111	19.399	1.00	65.44	O
	ATOM	97	N	LEU B 179	11.362	30.630	21.639	1.00	60.62	N
	ATOM	98	CA	LEU B 179	10.957	29.221	21.653	1.00	59.74	C
	ATOM	99	CB	LEU B 179	9.452	28.923	21.662	1.00	60.10	C

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	ATOM	100	CG	LEU B 179	9.003	27.580	22.353	1.00	61.93	C
	ATOM	101	CD1	LEU B 179	9.707	27.333	23.710	1.00	61.81	C
	ATOM	102	CD2	LEU B 179	9.131	26.345	21.417	1.00	62.04	C
	ATOM	103	C	LEU B 179	11.770	28.268	20.784	1.00	58.51	C
5	ATOM	104	O	LEU B 179	11.412	27.931	19.651	1.00	58.50	O
	ATOM	105	N	VAL B 180	12.870	27.819	21.381	1.00	51.89	N
	ATOM	106	CA	VAL B 180	13.823	26.886	20.831	1.00	50.15	C
	ATOM	107	CB	VAL B 180	15.260	27.402	21.046	1.00	52.16	C
	ATOM	108	CG1	VAL B 180	16.297	26.408	20.527	1.00	51.97	C
10	ATOM	109	CG2	VAL B 180	15.436	28.757	20.393	1.00	52.60	C
	ATOM	110	C	VAL B 180	13.600	25.571	21.549	1.00	49.32	C
	ATOM	111	O	VAL B 180	13.451	25.541	22.779	1.00	48.68	O
	ATOM	112	N	GLU B 181	13.572	24.489	20.765	1.00	47.42	N
	ATOM	113	CA	GLU B 181	13.435	23.145	21.288	1.00	46.57	C
15	ATOM	114	CB	GLU B 181	12.488	22.287	20.430	1.00	49.53	C
	ATOM	115	CG	GLU B 181	11.002	22.576	20.648	1.00	52.32	C
	ATOM	116	CD	GLU B 181	10.384	22.268	22.013	1.00	57.63	C
	ATOM	117	OE1	GLU B 181	9.193	22.617	22.205	1.00	59.16	O
	ATOM	118	OE2	GLU B 181	11.076	21.696	22.893	1.00	59.29	O
20	ATOM	119	C	GLU B 181	14.816	22.537	21.354	1.00	45.08	C
	ATOM	120	O	GLU B 181	15.585	22.648	20.401	1.00	44.86	O
	ATOM	121	N	VAL B 182	15.151	21.938	22.498	1.00	38.90	N
	ATOM	122	CA	VAL B 182	16.428	21.261	22.698	1.00	37.50	C
	ATOM	123	CB	VAL B 182	17.298	21.820	23.850	1.00	38.60	C
25	ATOM	124	CG1	VAL B 182	18.633	21.089	23.917	1.00	37.95	C
	ATOM	125	CG2	VAL B 182	17.521	23.317	23.702	1.00	38.17	C
	ATOM	126	C	VAL B 182	16.144	19.770	22.851	1.00	36.64	C
	ATOM	127	O	VAL B 182	15.653	19.342	23.897	1.00	36.26	O
	ATOM	128	N	TYR B 183	16.426	18.983	21.806	1.00	35.33	N
30	ATOM	129	CA	TYR B 183	16.226	17.541	21.852	1.00	35.16	C
	ATOM	130	CB	TYR B 183	16.030	16.972	20.456	1.00	37.15	C
	ATOM	131	CG	TYR B 183	14.647	17.219	19.913	1.00	37.99	C
	ATOM	132	CD1	TYR B 183	13.596	16.360	20.216	1.00	38.14	C
	ATOM	133	CE1	TYR B 183	12.320	16.576	19.713	1.00	38.80	C
35	ATOM	134	CZ	TYR B 183	12.078	17.670	18.901	1.00	40.15	C
	ATOM	135	OH	TYR B 183	10.805	17.887	18.425	1.00	41.26	O
	ATOM	136	CE2	TYR B 183	13.112	18.536	18.578	1.00	40.48	C
	ATOM	137	CD2	TYR B 183	14.387	18.306	19.084	1.00	38.86	C
	ATOM	138	C	TYR B 183	17.404	16.889	22.536	1.00	34.78	C
40	ATOM	139	O	TYR B 183	18.554	17.221	22.248	1.00	34.74	O
	ATOM	140	N	LEU B 184	17.130	15.972	23.452	1.00	36.76	N
	ATOM	141	CA	LEU B 184	18.169	15.282	24.204	1.00	36.72	C
	ATOM	142	CB	LEU B 184	18.074	15.705	25.683	1.00	37.55	C
	ATOM	143	CG	LEU B 184	19.070	15.124	26.706	1.00	39.48	C
45	ATOM	144	CD1	LEU B 184	20.544	15.312	26.279	1.00	39.85	C
	ATOM	145	CD2	LEU B 184	18.811	15.715	28.098	1.00	41.65	C
	ATOM	146	C	LEU B 184	18.144	13.765	24.003	1.00	36.29	C
	ATOM	147	O	LEU B 184	17.155	13.114	24.332	1.00	36.02	O
	ATOM	148	N	LEU B 185	19.225	13.212	23.434	1.00	37.59	N
50	ATOM	149	CA	LEU B 185	19.370	11.767	23.185	1.00	37.79	C
	ATOM	150	CB	LEU B 185	19.905	11.473	21.760	1.00	38.71	C
	ATOM	151	CG	LEU B 185	18.904	11.656	20.615	1.00	38.40	C
	ATOM	152	CD1	LEU B 185	18.937	13.060	20.117	1.00	38.50	C
	ATOM	153	CD2	LEU B 185	19.226	10.757	19.472	1.00	35.37	C

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	ATOM	154	C	LEU B 185	20.300	11.219	24.253	1.00	37.59	C
	ATOM	155	O	LEU B 185	21.501	11.445	24.203	1.00	37.87	O
	ATOM	156	N	ASP B 186	19.738	10.549	25.246	1.00	38.26	N
	ATOM	157	CA	ASP B 186	20.497	10.060	26.386	1.00	38.66	C
5	ATOM	158	CB	ASP B 186	20.650	11.241	27.387	1.00	42.84	C
	ATOM	159	CG	ASP B 186	21.888	11.208	28.269	1.00	46.27	C
	ATOM	160	OD1	ASP B 186	22.652	12.172	28.242	1.00	50.92	O
	ATOM	161	OD2	ASP B 186	22.085	10.210	28.994	1.00	48.76	O
	ATOM	162	C	ASP B 186	19.751	8.908	27.085	1.00	38.23	C
10	ATOM	163	O	ASP B 186	18.976	8.165	26.464	1.00	38.05	O
	ATOM	164	N	THR B 187	20.001	8.794	28.397	1.00	36.22	N
	ATOM	165	CA	THR B 187	19.426	7.856	29.337	1.00	35.69	C
	ATOM	166	CB	THR B 187	20.325	7.762	30.606	1.00	29.22	C
	ATOM	167	OG1	THR B 187	20.386	9.034	31.242	1.00	29.73	O
15	ATOM	168	CG2	THR B 187	21.738	7.279	30.324	1.00	27.30	C
	ATOM	169	C	THR B 187	18.059	8.448	29.701	1.00	36.05	C
	ATOM	170	O	THR B 187	17.708	9.537	29.217	1.00	35.93	O
	ATOM	171	N	SER B 188	17.286	7.732	30.548	1.00	36.17	N
	ATOM	172	CA	SER B 188	15.996	8.181	31.067	1.00	36.55	C
20	ATOM	173	CB	SER B 188	15.473	7.181	32.106	1.00	42.42	C
	ATOM	174	OG	SER B 188	15.032	5.918	31.622	1.00	43.82	O
	ATOM	175	C	SER B 188	16.322	9.469	31.816	1.00	36.52	C
	ATOM	176	O	SER B 188	17.484	9.705	32.165	1.00	36.24	O
	ATOM	177	N	ILE B 189	15.330	10.308	32.067	1.00	37.53	N
25	ATOM	178	CA	ILE B 189	15.607	11.525	32.815	1.00	38.09	C
	ATOM	179	CB	ILE B 189	15.785	12.810	31.931	1.00	40.74	C
	ATOM	180	CG1	ILE B 189	14.517	13.555	31.678	1.00	41.66	C
	ATOM	181	CD1	ILE B 189	14.558	14.830	32.473	1.00	43.52	C
	ATOM	182	CG2	ILE B 189	16.614	12.660	30.656	1.00	39.57	C
30	ATOM	183	C	ILE B 189	14.585	11.662	33.943	1.00	38.44	C
	ATOM	184	O	ILE B 189	13.428	11.282	33.763	1.00	38.88	O
	ATOM	185	N	GLN B 190	14.986	12.175	35.103	1.00	39.35	N
	ATOM	186	CA	GLN B 190	14.029	12.371	36.186	1.00	40.06	C
	ATOM	187	CB	GLN B 190	14.702	12.229	37.557	1.00	42.50	C
35	ATOM	188	CG	GLN B 190	13.712	11.940	38.675	1.00	45.13	C
	ATOM	189	CD	GLN B 190	14.130	12.659	39.922	1.00	49.63	C
	ATOM	190	OE1	GLN B 190	15.214	12.422	40.471	1.00	50.91	O
	ATOM	191	NE2	GLN B 190	13.277	13.569	40.404	1.00	51.34	N
	ATOM	192	C	GLN B 190	13.414	13.770	35.973	1.00	40.19	C
40	ATOM	193	O	GLN B 190	13.886	14.760	36.535	1.00	39.52	O
	ATOM	194	N	SER B 191	12.376	13.835	35.114	1.00	43.32	N
	ATOM	195	CA	SER B 191	11.654	15.048	34.708	1.00	44.36	C
	ATOM	196	CB	SER B 191	10.601	14.713	33.662	1.00	47.92	C
	ATOM	197	OG	SER B 191	9.747	13.687	34.137	1.00	48.92	O
45	ATOM	198	C	SER B 191	11.041	15.821	35.857	1.00	45.15	C
	ATOM	199	O	SER B 191	10.724	17.007	35.719	1.00	45.78	O
	ATOM	200	N	ASP B 192	10.903	15.141	36.989	1.00	48.27	N
	ATOM	201	CA	ASP B 192	10.361	15.595	38.252	1.00	49.04	C
	ATOM	202	CB	ASP B 192	10.100	14.362	39.115	1.00	54.51	C
50	ATOM	203	CG	ASP B 192	8.734	14.383	39.741	1.00	58.26	C
	ATOM	204	OD1	ASP B 192	7.735	14.629	38.994	1.00	62.65	O
	ATOM	205	OD2	ASP B 192	8.643	14.160	40.982	1.00	62.18	O
	ATOM	206	C	ASP B 192	11.306	16.496	39.013	1.00	48.59	C
	ATOM	207	O	ASP B 192	10.830	17.271	39.829	1.00	49.10	O

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	ATOM	208	N	HIS B 193	12.632	16.381	38.803	1.00	44.34	N
	ATOM	209	CA	HIS B 193	13.613	17.185	39.524	1.00	43.85	C
	ATOM	210	CB	HIS B 193	15.036	16.969	38.997	1.00	41.87	C
	ATOM	211	CG	HIS B 193	16.093	17.392	39.973	1.00	39.51	C
5	ATOM	212	ND1	HIS B 193	16.858	16.466	40.648	1.00	38.24	N
	ATOM	213	CE1	HIS B 193	17.672	17.164	41.424	1.00	36.87	C
	ATOM	214	NE2	HIS B 193	17.473	18.467	41.292	1.00	37.59	N
	ATOM	215	CD2	HIS B 193	16.467	18.631	40.370	1.00	38.45	C
	ATOM	216	C	HIS B 193	13.242	18.659	39.495	1.00	44.58	C
10	ATOM	217	O	HIS B 193	12.900	19.189	38.427	1.00	44.61	O
	ATOM	218	N	ARG B 194	13.302	19.328	40.667	1.00	46.91	N
	ATOM	219	CA	ARG B 194	12.936	20.747	40.774	1.00	47.56	C
	ATOM	220	CB	ARG B 194	12.792	21.212	42.244	1.00	51.91	C
	ATOM	221	CG	ARG B 194	11.804	20.384	43.137	1.00	55.16	C
15	ATOM	222	CD	ARG B 194	10.475	19.909	42.495	1.00	61.43	C
	ATOM	223	NE	ARG B 194	10.063	18.588	43.015	1.00	66.27	N
	ATOM	224	CZ	ARG B 194	9.065	17.831	42.540	1.00	67.73	C
	ATOM	225	NH1	ARG B 194	8.338	18.245	41.502	1.00	67.02	N
	ATOM	226	NH2	ARG B 194	8.786	16.658	43.103	1.00	67.84	N
20	ATOM	227	C	ARG B 194	13.720	21.721	39.874	1.00	46.92	C
	ATOM	228	O	ARG B 194	13.260	22.845	39.648	1.00	46.79	O
	ATOM	229	N	GLU B 195	14.862	21.267	39.317	1.00	43.68	N
	ATOM	230	CA	GLU B 195	15.718	22.057	38.424	1.00	43.16	C
	ATOM	231	CB	GLU B 195	17.071	21.370	38.257	1.00	44.73	C
25	ATOM	232	CG	GLU B 195	18.141	21.831	39.201	1.00	47.08	C
	ATOM	233	CD	GLU B 195	18.792	23.148	38.833	1.00	50.73	C
	ATOM	234	OE1	GLU B 195	18.300	24.188	39.328	1.00	52.55	O
	ATOM	235	OE2	GLU B 195	19.798	23.142	38.080	1.00	51.77	O
	ATOM	236	C	GLU B 195	15.153	22.159	37.039	1.00	42.55	C
30	ATOM	237	O	GLU B 195	15.307	23.185	36.383	1.00	42.32	O
	ATOM	238	N	ILE B 196	14.555	21.060	36.570	1.00	41.35	N
	ATOM	239	CA	ILE B 196	14.061	20.896	35.214	1.00	41.38	C
	ATOM	240	CB	ILE B 196	14.931	19.801	34.521	1.00	42.69	C
	ATOM	241	CG1	ILE B 196	14.941	18.468	35.337	1.00	41.24	C
35	ATOM	242	CD1	ILE B 196	15.340	17.321	34.643	1.00	38.90	C
	ATOM	243	CG2	ILE B 196	16.364	20.328	34.229	1.00	42.34	C
	ATOM	244	C	ILE B 196	12.573	20.594	35.129	1.00	42.14	C
	ATOM	245	O	ILE B 196	12.060	20.321	34.036	1.00	41.79	O
	ATOM	246	N	GLU B 197	11.876	20.647	36.281	1.00	47.04	N
40	ATOM	247	CA	GLU B 197	10.434	20.385	36.388	1.00	47.79	C
	ATOM	248	CB	GLU B 197	9.980	20.597	37.863	1.00	50.52	C
	ATOM	249	CG	GLU B 197	8.555	21.095	38.071	1.00	54.02	C
	ATOM	250	CD	GLU B 197	8.017	21.147	39.493	1.00	57.95	C
	ATOM	251	OE1	GLU B 197	8.207	22.190	40.165	1.00	56.85	O
45	ATOM	252	OE2	GLU B 197	7.391	20.147	39.926	1.00	59.53	O
	ATOM	253	C	GLU B 197	9.697	21.284	35.396	1.00	46.96	C
	ATOM	254	O	GLU B 197	9.928	22.486	35.395	1.00	47.11	O
	ATOM	255	N	GLY B 198	8.889	20.697	34.531	1.00	44.06	N
	ATOM	256	CA	GLY B 198	8.118	21.450	33.548	1.00	43.76	C
50	ATOM	257	C	GLY B 198	8.856	21.961	32.324	1.00	44.05	C
	ATOM	258	O	GLY B 198	8.215	22.409	31.369	1.00	43.96	O
	ATOM	259	N	ARG B 199	10.200	21.905	32.332	1.00	45.77	N
	ATOM	260	CA	ARG B 199	11.060	22.342	31.228	1.00	46.06	C
	ATOM	261	CB	ARG B 199	12.340	22.978	31.789	1.00	51.04	C

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	ATOM	262	CG	ARG	B	199	12.102	24.354	32.372	1.00	53.37	C
	ATOM	263	CD	ARG	B	199	13.256	24.872	33.208	1.00	57.05	C
	ATOM	264	NE	ARG	B	199	12.860	26.116	33.880	1.00	60.73	N
	ATOM	265	CZ	ARG	B	199	13.661	27.158	34.092	1.00	61.99	C
5	ATOM	266	NH1	ARG	B	199	13.200	28.245	34.704	1.00	61.77	N
	ATOM	267	NH2	ARG	B	199	14.931	27.120	33.698	1.00	63.35	N
	ATOM	268	C	ARG	B	199	11.428	21.176	30.296	1.00	45.99	C
	ATOM	269	O	ARG	B	199	11.844	21.403	29.168	1.00	45.97	O
	ATOM	270	N	VAL	B	200	11.281	19.930	30.773	1.00	46.52	N
10	ATOM	271	CA	VAL	B	200	11.633	18.715	30.045	1.00	46.65	C
	ATOM	272	CB	VAL	B	200	12.782	17.949	30.746	1.00	49.03	C
	ATOM	273	CG1	VAL	B	200	13.263	16.786	29.889	1.00	47.84	C
	ATOM	274	CG2	VAL	B	200	13.933	18.886	31.056	1.00	49.21	C
	ATOM	275	C	VAL	B	200	10.445	17.808	29.781	1.00	47.31	C
15	ATOM	276	O	VAL	B	200	9.881	17.208	30.707	1.00	47.48	O
	ATOM	277	N	MET	B	201	10.111	17.668	28.506	1.00	48.82	N
	ATOM	278	CA	MET	B	201	9.022	16.832	28.052	1.00	49.57	C
	ATOM	279	CB	MET	B	201	8.328	17.506	26.855	1.00	53.27	C
	ATOM	280	CG	MET	B	201	7.017	16.881	26.481	1.00	58.84	C
20	ATOM	281	SD	MET	B	201	7.170	15.692	25.118	1.00	71.69	S
	ATOM	282	CE	MET	B	201	5.629	14.708	25.388	1.00	69.24	C
	ATOM	283	C	MET	B	201	9.617	15.485	27.665	1.00	48.81	C
	ATOM	284	O	MET	B	201	10.374	15.410	26.703	1.00	49.50	O
	ATOM	285	N	VAL	B	202	9.290	14.424	28.413	1.00	45.36	N
25	ATOM	286	CA	VAL	B	202	9.771	13.075	28.131	1.00	44.08	C
	ATOM	287	CB	VAL	B	202	9.646	12.192	29.389	1.00	46.30	C
	ATOM	288	CG1	VAL	B	202	9.811	10.716	29.050	1.00	45.75	C
	ATOM	289	CG2	VAL	B	202	10.646	12.613	30.450	1.00	45.52	C
	ATOM	290	C	VAL	B	202	8.951	12.512	26.956	1.00	44.23	C
30	ATOM	291	O	VAL	B	202	7.761	12.232	27.120	1.00	43.85	O
	ATOM	292	N	THR	B	203	9.569	12.353	25.775	1.00	44.86	N
	ATOM	293	CA	THR	B	203	8.845	11.811	24.617	1.00	45.44	C
	ATOM	294	CB	THR	B	203	9.605	12.034	23.302	1.00	44.06	C
	ATOM	295	OG1	THR	B	203	10.751	11.181	23.253	1.00	43.32	O
35	ATOM	296	CG2	THR	B	203	9.986	13.495	23.077	1.00	43.96	C
	ATOM	297	C	THR	B	203	8.610	10.338	24.845	1.00	46.14	C
	ATOM	298	O	THR	B	203	9.286	9.743	25.683	1.00	46.86	O
	ATOM	299	N	ASP	B	204	7.691	9.725	24.116	1.00	48.19	N
	ATOM	300	CA	ASP	B	204	7.495	8.300	24.335	1.00	49.21	C
40	ATOM	301	CB	ASP	B	204	6.021	7.874	24.148	1.00	54.63	C
	ATOM	302	CG	ASP	B	204	5.423	8.188	22.788	1.00	58.45	C
	ATOM	303	OD1	ASP	B	204	5.834	9.222	22.171	1.00	63.00	O
	ATOM	304	OD2	ASP	B	204	4.534	7.413	22.336	1.00	63.46	O
	ATOM	305	C	ASP	B	204	8.524	7.427	23.582	1.00	48.50	C
45	ATOM	306	O	ASP	B	204	8.417	6.203	23.589	1.00	49.20	O
	ATOM	307	N	PHE	B	205	9.548	8.065	22.986	1.00	44.03	N
	ATOM	308	CA	PHE	B	205	10.617	7.401	22.262	1.00	42.52	C
	ATOM	309	CB	PHE	B	205	11.417	8.387	21.389	1.00	42.52	C
	ATOM	310	CG	PHE	B	205	12.424	7.658	20.527	1.00	40.48	C
50	ATOM	311	CD1	PHE	B	205	12.068	7.172	19.276	1.00	38.94	C
	ATOM	312	CE1	PHE	B	205	12.984	6.464	18.502	1.00	39.12	C
	ATOM	313	CZ	PHE	B	205	14.251	6.212	18.986	1.00	38.65	C
	ATOM	314	CE2	PHE	B	205	14.620	6.677	20.226	1.00	37.84	C
	ATOM	315	CD2	PHE	B	205	13.713	7.402	20.994	1.00	38.56	C

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	ATOM	316	C	PHE B 205	11.559	6.682	23.209	1.00	42.40	C
	ATOM	317	O	PHE B 205	12.047	7.276	24.181	1.00	42.15	O
	ATOM	318	N	GLU B 206	11.844	5.409	22.881	1.00	44.61	N
	ATOM	319	CA	GLU B 206	12.740	4.533	23.621	1.00	44.45	C
5	ATOM	320	CB	GLU B 206	11.996	3.893	24.803	1.00	46.70	C
	ATOM	321	CG	GLU B 206	12.923	3.235	25.809	1.00	49.99	C
	ATOM	322	CD	GLU B 206	12.269	2.228	26.738	1.00	53.06	C
	ATOM	323	OE1	GLU B 206	12.233	2.481	27.969	1.00	52.50	O
	ATOM	324	OE2	GLU B 206	11.797	1.181	26.230	1.00	54.67	O
10	ATOM	325	C	GLU B 206	13.383	3.458	22.697	1.00	44.07	C
	ATOM	326	O	GLU B 206	12.682	2.644	22.096	1.00	44.32	O
	ATOM	327	N	ASN B 207	14.714	3.482	22.571	1.00	43.38	N
	ATOM	328	CA	ASN B 207	15.453	2.506	21.785	1.00	42.65	C
	ATOM	329	CB	ASN B 207	15.597	2.897	20.314	1.00	48.25	C
15	ATOM	330	CG	ASN B 207	15.859	1.707	19.406	1.00	48.63	C
	ATOM	331	OD1	ASN B 207	16.781	0.900	19.621	1.00	49.03	O
	ATOM	332	ND2	ASN B 207	15.048	1.569	18.364	1.00	47.20	N
	ATOM	333	C	ASN B 207	16.795	2.269	22.451	1.00	42.27	C
	ATOM	334	O	ASN B 207	17.782	2.947	22.153	1.00	42.07	O
20	ATOM	335	N	VAL B 208	16.823	1.308	23.390	1.00	40.86	N
	ATOM	336	CA	VAL B 208	18.045	0.991	24.129	1.00	40.32	C
	ATOM	337	CB	VAL B 208	17.962	1.374	25.645	1.00	42.06	C
	ATOM	338	CG1	VAL B 208	17.567	2.826	25.842	1.00	41.33	C
	ATOM	339	CG2	VAL B 208	17.030	0.466	26.419	1.00	41.60	C
25	ATOM	340	C	VAL B 208	18.516	-0.458	23.917	1.00	40.24	C
	ATOM	341	O	VAL B 208	17.675	-1.362	23.772	1.00	40.14	O
	ATOM	342	N	PRO B 209	19.844	-0.717	23.920	1.00	38.98	N
	ATOM	343	CA	PRO B 209	20.304	-2.100	23.802	1.00	39.09	C
	ATOM	344	CB	PRO B 209	21.775	-1.942	23.407	1.00	39.53	C
30	ATOM	345	CG	PRO B 209	22.193	-0.691	23.982	1.00	39.11	C
	ATOM	346	CD	PRO B 209	20.986	0.206	24.079	1.00	39.79	C
	ATOM	347	C	PRO B 209	20.183	-2.826	25.142	1.00	39.80	C
	ATOM	348	O	PRO B 209	20.062	-2.203	26.200	1.00	40.14	O
	ATOM	349	N	GLU B 210	20.261	-4.152	25.093	1.00	45.69	N
35	ATOM	350	CA	GLU B 210	20.226	-5.034	26.257	1.00	46.83	C
	ATOM	351	CB	GLU B 210	20.263	-6.495	25.798	1.00	49.62	C
	ATOM	352	CG	GLU B 210	18.983	-6.933	25.105	1.00	53.51	C
	ATOM	353	CD	GLU B 210	18.912	-8.401	24.734	1.00	58.79	C
	ATOM	354	OE1	GLU B 210	19.985	-9.049	24.630	1.00	59.31	O
40	ATOM	355	OE2	GLU B 210	17.775	-8.901	24.543	1.00	60.78	O
	ATOM	356	C	GLU B 210	21.444	-4.742	27.135	1.00	46.45	C
	ATOM	357	O	GLU B 210	22.454	-4.210	26.644	1.00	46.86	O
	ATOM	358	N	GLU B 211	21.348	-5.062	28.425	1.00	45.73	N
	ATOM	359	CA	GLU B 211	22.447	-4.812	29.344	1.00	45.67	C
45	ATOM	360	CB	GLU B 211	21.962	-4.893	30.799	1.00	47.98	C
	ATOM	361	CG	GLU B 211	20.961	-3.821	31.220	1.00	49.10	C
	ATOM	362	CD	GLU B 211	20.626	-3.731	32.709	1.00	52.91	C
	ATOM	363	OE1	GLU B 211	21.052	-4.610	33.505	1.00	52.80	O
	ATOM	364	OE2	GLU B 211	19.928	-2.756	33.077	1.00	54.43	O
50	ATOM	365	C	GLU B 211	23.615	-5.780	29.082	1.00	45.29	C
	ATOM	366	O	GLU B 211	23.403	-6.951	28.755	1.00	45.09	O
	ATOM	367	N	ASP B 212	24.841	-5.284	29.190	1.00	47.40	N
	ATOM	368	CA	ASP B 212	26.040	-6.106	29.006	1.00	47.60	C
	ATOM	369	CB	ASP B 212	27.275	-5.244	28.717	1.00	50.51	C

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	ATOM	370	CG	ASP	B 212	27.435	-4.844	27.261	1.00	53.89	C
	ATOM	371	OD1	ASP	B 212	26.968	-5.622	26.362	1.00	54.98	O
	ATOM	372	OD2	ASP	B 212	28.033	-3.758	27.005	1.00	57.06	O
	ATOM	373	C	ASP	B 212	26.243	-6.864	30.299	1.00	47.17	C
5	ATOM	374	O	ASP	B 212	25.994	-6.304	31.374	1.00	47.51	O
	ATOM	375	N	GLY	B 213	26.658	-8.126	30.202	1.00	45.49	N
	ATOM	376	CA	GLY	B 213	26.870	-8.953	31.380	1.00	44.30	C
	ATOM	377	C	GLY	B 213	25.573	-9.192	32.114	1.00	43.80	C
	ATOM	378	O	GLY	B 213	24.498	-9.145	31.500	1.00	44.45	O
10	ATOM	379	N	THR	B 214	25.650	-9.450	33.422	1.00	40.76	N
	ATOM	380	CA	THR	B 214	24.457	-9.722	34.225	1.00	40.18	C
	ATOM	381	CB	THR	B 214	24.355	-11.202	34.611	1.00	37.31	C
	ATOM	382	OG1	THR	B 214	25.269	-11.452	35.669	1.00	37.87	O
	ATOM	383	CG2	THR	B 214	24.600	-12.159	33.441	1.00	36.43	C
15	ATOM	384	C	THR	B 214	24.407	-8.819	35.444	1.00	39.88	C
	ATOM	385	O	THR	B 214	25.414	-8.202	35.803	1.00	40.31	O
	ATOM	386	N	ARG	B 215	23.232	-8.756	36.081	1.00	37.17	N
	ATOM	387	CA	ARG	B 215	22.950	-7.937	37.253	1.00	36.38	C
	ATOM	388	CB	ARG	B 215	21.450	-7.633	37.291	1.00	33.60	C
20	ATOM	389	CG	ARG	B 215	21.018	-6.612	36.277	1.00	32.19	C
	ATOM	390	CD	ARG	B 215	19.544	-6.680	36.110	1.00	30.82	C
	ATOM	391	NE	ARG	B 215	19.043	-5.632	35.221	1.00	31.14	N
	ATOM	392	CZ	ARG	B 215	17.750	-5.425	34.969	1.00	30.54	C
	ATOM	393	NH1	ARG	B 215	16.825	-6.205	35.518	1.00	30.01	N
25	ATOM	394	NH2	ARG	B 215	17.375	-4.441	34.161	1.00	28.49	N
	ATOM	395	C	ARG	B 215	23.340	-8.595	38.564	1.00	36.76	C
	ATOM	396	O	ARG	B 215	23.193	-7.950	39.614	1.00	36.62	O
	ATOM	397	N	PHE	B 216	23.801	-9.876	38.528	1.00	36.33	N
	ATOM	398	CA	PHE	B 216	24.132	-10.634	39.733	1.00	36.82	C
30	ATOM	399	CB	PHE	B 216	24.694	-12.032	39.479	1.00	36.93	C
	ATOM	400	CG	PHE	B 216	24.572	-12.929	40.696	1.00	37.07	C
	ATOM	401	CD1	PHE	B 216	23.389	-13.618	40.957	1.00	36.02	C
	ATOM	402	CE1	PHE	B 216	23.257	-14.402	42.092	1.00	35.44	C
	ATOM	403	CZ	PHE	B 216	24.313	-14.525	42.970	1.00	36.21	C
35	ATOM	404	CE2	PHE	B 216	25.496	-13.852	42.735	1.00	36.66	C
	ATOM	405	CD2	PHE	B 216	25.621	-13.050	41.600	1.00	37.32	C
	ATOM	406	C	PHE	B 216	24.842	-9.937	40.850	1.00	37.93	C
	ATOM	407	O	PHE	B 216	26.049	-9.672	40.784	1.00	38.82	O
	ATOM	408	N	HIS	B 217	24.063	-9.669	41.905	1.00	39.43	N
40	ATOM	409	CA	HIS	B 217	24.479	-9.037	43.154	1.00	39.94	C
	ATOM	410	CB	HIS	B 217	25.166	-10.051	44.092	1.00	39.50	C
	ATOM	411	CG	HIS	B 217	24.245	-11.091	44.655	1.00	39.68	C
	ATOM	412	ND1	HIS	B 217	24.703	-12.056	45.537	1.00	39.36	N
	ATOM	413	CE1	HIS	B 217	23.652	-12.807	45.818	1.00	40.00	C
45	ATOM	414	NE2	HIS	B 217	22.560	-12.391	45.168	1.00	39.51	N
	ATOM	415	CD2	HIS	B 217	22.924	-11.299	44.429	1.00	39.53	C
	ATOM	416	C	HIS	B 217	25.244	-7.723	42.984	1.00	40.31	C
	ATOM	417	O	HIS	B 217	26.156	-7.409	43.761	1.00	40.91	O
	ATOM	418	N	ARG	B 218	24.854	-6.945	41.969	1.00	41.54	N
50	ATOM	419	CA	ARG	B 218	25.444	-5.635	41.715	1.00	42.05	C
	ATOM	420	CB	ARG	B 218	25.598	-5.386	40.220	1.00	39.40	C
	ATOM	421	CG	ARG	B 218	26.623	-6.284	39.598	1.00	40.05	C
	ATOM	422	CD	ARG	B 218	26.768	-6.046	38.125	1.00	41.86	C
	ATOM	423	NE	ARG	B 218	27.997	-6.668	37.634	1.00	46.15	N

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	ATOM	424	CZ	ARG B 218	29.178	-6.052	37.573	1.00	47.97	C
	ATOM	425	NH1	ARG B 218	29.296	-4.782	37.954	1.00	49.42	N
	ATOM	426	NH2	ARG B 218	30.249	-6.697	37.114	1.00	49.30	N
	ATOM	427	C	ARG B 218	24.503	-4.613	42.307	1.00	42.82	C
5	ATOM	428	O	ARG B 218	23.322	-4.932	42.546	1.00	43.38	O
	ATOM	429	N	GLN B 219	25.019	-3.393	42.572	1.00	45.01	N
	ATOM	430	CA	GLN B 219	24.211	-2.281	43.076	1.00	45.54	C
	ATOM	431	CB	GLN B 219	25.086	-1.079	43.475	1.00	48.00	C
	ATOM	432	CG	GLN B 219	25.376	-0.960	44.987	1.00	50.91	C
10	ATOM	433	CD	GLN B 219	24.295	-0.286	45.848	1.00	54.99	C
	ATOM	434	OE1	GLN B 219	23.283	0.243	45.353	1.00	54.68	O
	ATOM	435	NE2	GLN B 219	24.504	-0.279	47.182	1.00	56.91	N
	ATOM	436	C	GLN B 219	23.317	-1.922	41.899	1.00	45.11	C
	ATOM	437	O	GLN B 219	23.806	-1.849	40.766	1.00	44.91	O
15	ATOM	438	N	ALA B 220	22.010	-1.776	42.158	1.00	43.49	N
	ATOM	439	CA	ALA B 220	21.004	-1.464	41.153	1.00	43.60	C
	ATOM	440	CB	ALA B 220	19.602	-1.585	41.745	1.00	43.60	C
	ATOM	441	C	ALA B 220	21.208	-0.082	40.550	1.00	43.84	C
	ATOM	442	O	ALA B 220	21.212	0.910	41.285	1.00	43.82	O
20	ATOM	443	N	SER B 221	21.370	-0.018	39.212	1.00	44.09	N
	ATOM	444	CA	SER B 221	21.533	1.237	38.474	1.00	44.95	C
	ATOM	445	CB	SER B 221	21.718	0.964	36.988	1.00	48.17	C
	ATOM	446	OG	SER B 221	22.964	0.332	36.761	1.00	50.15	O
	ATOM	447	C	SER B 221	20.311	2.127	38.648	1.00	45.16	C
25	ATOM	448	O	SER B 221	19.179	1.620	38.716	1.00	44.98	O
	ATOM	449	N	LYS B 222	20.550	3.452	38.721	1.00	45.67	N
	ATOM	450	CA	LYS B 222	19.516	4.475	38.847	1.00	45.97	C
	ATOM	451	CB	LYS B 222	20.136	5.789	39.322	1.00	48.37	C
	ATOM	452	CG	LYS B 222	20.321	5.895	40.829	1.00	50.18	C
30	ATOM	453	CD	LYS B 222	18.993	6.054	41.647	1.00	55.62	C
	ATOM	454	CE	LYS B 222	18.097	7.239	41.302	1.00	57.25	C
	ATOM	455	NZ	LYS B 222	17.071	6.897	40.262	1.00	59.23	N
	ATOM	456	C	LYS B 222	18.773	4.666	37.494	1.00	45.70	C
	ATOM	457	O	LYS B 222	17.563	4.986	37.492	1.00	46.03	O
35	ATOM	458	N	CYS B 223	19.512	4.467	36.355	1.00	44.08	N
	ATOM	459	CA	CYS B 223	19.061	4.542	34.952	1.00	44.19	C
	ATOM	460	CB	CYS B 223	17.784	3.736	34.731	1.00	45.45	C
	ATOM	461	SG	CYS B 223	17.919	1.988	35.185	1.00	50.48	S
	ATOM	462	C	CYS B 223	18.936	5.928	34.328	1.00	43.39	C
40	ATOM	463	O	CYS B 223	18.811	6.036	33.103	1.00	43.28	O
	ATOM	464	N	ASP B 224	18.926	6.972	35.160	1.00	41.50	N
	ATOM	465	CA	ASP B 224	18.707	8.335	34.740	1.00	40.78	C
	ATOM	466	CB	ASP B 224	17.282	8.757	35.157	1.00	41.85	C
	ATOM	467	CG	ASP B 224	16.935	8.701	36.647	1.00	41.83	C
45	ATOM	468	OD1	ASP B 224	15.755	8.942	36.988	1.00	40.16	O
	ATOM	469	OD2	ASP B 224	17.842	8.407	37.469	1.00	42.03	O
	ATOM	470	C	ASP B 224	19.727	9.324	35.236	1.00	40.15	C
	ATOM	471	O	ASP B 224	19.563	10.522	35.025	1.00	40.56	O
	ATOM	472	N	SER B 225	20.781	8.842	35.873	1.00	40.31	N
50	ATOM	473	CA	SER B 225	21.849	9.670	36.406	1.00	39.38	C
	ATOM	474	CB	SER B 225	22.963	8.782	36.951	1.00	45.03	C
	ATOM	475	OG	SER B 225	24.060	9.551	37.417	1.00	47.03	O
	ATOM	476	C	SER B 225	22.412	10.681	35.389	1.00	38.48	C
	ATOM	477	O	SER B 225	22.483	11.873	35.686	1.00	38.57	O

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	ATOM	478	N	HIS B 226	22.803	10.198	34.201	1.00	36.20	N
	ATOM	479	CA	HIS B 226	23.417	10.977	33.131	1.00	34.86	C
	ATOM	480	CB	HIS B 226	23.990	9.987	32.106	1.00	36.21	C
	ATOM	481	CG	HIS B 226	24.963	10.575	31.144	1.00	36.35	C
5	ATOM	482	ND1	HIS B 226	24.602	10.855	29.823	1.00	36.89	N
	ATOM	483	CE1	HIS B 226	25.688	11.349	29.254	1.00	37.41	C
	ATOM	484	NE2	HIS B 226	26.712	11.412	30.122	1.00	36.86	N
	ATOM	485	CD2	HIS B 226	26.259	10.914	31.329	1.00	36.10	C
	ATOM	486	C	HIS B 226	22.485	12.051	32.493	1.00	34.55	C
10	ATOM	487	O	HIS B 226	22.840	13.239	32.476	1.00	33.97	O
	ATOM	488	N	GLY B 227	21.314	11.620	31.993	1.00	32.55	N
	ATOM	489	CA	GLY B 227	20.313	12.481	31.367	1.00	31.77	C
	ATOM	490	C	GLY B 227	19.828	13.583	32.284	1.00	31.39	C
	ATOM	491	O	GLY B 227	19.741	14.749	31.877	1.00	31.44	O
15	ATOM	492	N	THR B 228	19.549	13.236	33.541	1.00	30.99	N
	ATOM	493	CA	THR B 228	19.105	14.205	34.534	1.00	31.11	C
	ATOM	494	CB	THR B 228	18.653	13.489	35.818	1.00	32.92	C
	ATOM	495	OG1	THR B 228	17.596	12.600	35.447	1.00	34.62	O
	ATOM	496	CG2	THR B 228	18.176	14.449	36.907	1.00	31.65	C
20	ATOM	497	C	THR B 228	20.163	15.321	34.708	1.00	31.22	C
	ATOM	498	O	THR B 228	19.806	16.508	34.588	1.00	30.99	O
	ATOM	499	N	HIS B 229	21.452	14.942	34.954	1.00	29.35	N
	ATOM	500	CA	HIS B 229	22.515	15.925	35.124	1.00	29.15	C
	ATOM	501	CB	HIS B 229	23.861	15.272	35.415	1.00	29.44	C
25	ATOM	502	CG	HIS B 229	24.903	16.248	35.860	1.00	29.07	C
	ATOM	503	ND1	HIS B 229	25.653	16.968	34.952	1.00	30.15	N
	ATOM	504	CE1	HIS B 229	26.482	17.707	35.672	1.00	30.30	C
	ATOM	505	NE2	HIS B 229	26.293	17.528	36.970	1.00	29.59	N
	ATOM	506	CD2	HIS B 229	25.287	16.594	37.108	1.00	30.02	C
30	ATOM	507	C	HIS B 229	22.634	16.836	33.917	1.00	29.50	C
	ATOM	508	O	HIS B 229	22.757	18.053	34.088	1.00	30.17	O
	ATOM	509	N	LEU B 230	22.586	16.254	32.700	1.00	29.41	N
	ATOM	510	CA	LEU B 230	22.686	16.983	31.437	1.00	28.66	C
	ATOM	511	CB	LEU B 230	22.979	16.056	30.265	1.00	28.38	C
35	ATOM	512	CG	LEU B 230	24.336	15.426	30.354	1.00	27.97	C
	ATOM	513	CD1	LEU B 230	24.541	14.497	29.270	1.00	25.94	C
	ATOM	514	CD2	LEU B 230	25.407	16.468	30.318	1.00	27.70	C
	ATOM	515	C	LEU B 230	21.548	17.919	31.152	1.00	28.67	C
	ATOM	516	O	LEU B 230	21.838	19.030	30.734	1.00	28.93	O
40	ATOM	517	N	ALA B 231	20.258	17.515	31.388	1.00	29.47	N
	ATOM	518	CA	ALA B 231	19.103	18.417	31.195	1.00	28.90	C
	ATOM	519	CB	ALA B 231	17.784	17.701	31.505	1.00	29.11	C
	ATOM	520	C	ALA B 231	19.304	19.606	32.158	1.00	28.35	C
	ATOM	521	O	ALA B 231	19.001	20.739	31.810	1.00	28.14	O
45	ATOM	522	N	GLY B 232	19.866	19.329	33.333	1.00	28.79	N
	ATOM	523	CA	GLY B 232	20.185	20.306	34.363	1.00	28.97	C
	ATOM	524	C	GLY B 232	21.195	21.300	33.857	1.00	29.18	C
	ATOM	525	O	GLY B 232	20.951	22.495	33.958	1.00	29.26	O
	ATOM	526	N	VAL B 233	22.323	20.829	33.267	1.00	30.12	N
50	ATOM	527	CA	VAL B 233	23.364	21.714	32.714	1.00	30.06	C
	ATOM	528	CB	VAL B 233	24.637	20.979	32.239	1.00	32.06	C
	ATOM	529	CG1	VAL B 233	25.637	21.967	31.660	1.00	30.96	C
	ATOM	530	CG2	VAL B 233	25.279	20.191	33.371	1.00	32.07	C
	ATOM	531	C	VAL B 233	22.784	22.619	31.623	1.00	30.51	C

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	ATOM	532	O	VAL B 233	23.055	23.815	31.631	1.00	30.47	O
	ATOM	533	N	VAL B 234	21.965	22.059	30.713	1.00	31.79	N
	ATOM	534	CA	VAL B 234	21.327	22.805	29.627	1.00	32.68	C
	ATOM	535	CB	VAL B 234	20.620	21.882	28.591	1.00	34.81	C
5	ATOM	536	CG1	VAL B 234	19.995	22.690	27.455	1.00	33.95	C
	ATOM	537	CG2	VAL B 234	21.566	20.834	28.038	1.00	34.65	C
	ATOM	538	C	VAL B 234	20.357	23.890	30.149	1.00	33.80	C
	ATOM	539	O	VAL B 234	20.540	25.052	29.791	1.00	33.84	O
	ATOM	540	N	SER B 235	19.326	23.532	30.962	1.00	36.68	N
10	ATOM	541	CA	SER B 235	18.357	24.538	31.393	1.00	38.39	C
	ATOM	542	CB	SER B 235	17.166	24.539	30.439	1.00	44.65	C
	ATOM	543	OG	SER B 235	16.399	23.365	30.658	1.00	47.13	O
	ATOM	544	C	SER B 235	17.850	24.471	32.827	1.00	38.82	C
	ATOM	545	O	SER B 235	16.696	24.840	33.078	1.00	38.57	O
15	ATOM	546	N	GLY B 236	18.691	24.030	33.753	1.00	40.90	N
	ATOM	547	CA	GLY B 236	18.337	23.953	35.169	1.00	41.69	C
	ATOM	548	C	GLY B 236	18.075	25.326	35.757	1.00	42.16	C
	ATOM	549	O	GLY B 236	18.711	26.302	35.357	1.00	42.37	O
	ATOM	550	N	ARG B 237	17.127	25.414	36.691	1.00	42.41	N
20	ATOM	551	CA	ARG B 237	16.734	26.661	37.347	1.00	42.55	C
	ATOM	552	CB	ARG B 237	15.541	26.433	38.286	1.00	37.16	C
	ATOM	553	CG	ARG B 237	14.243	26.390	37.502	1.00	37.07	C
	ATOM	554	CD	ARG B 237	12.958	26.098	38.277	1.00	36.74	C
	ATOM	555	NE	ARG B 237	11.844	26.084	37.323	1.00	36.81	N
25	ATOM	556	CZ	ARG B 237	11.372	24.992	36.725	1.00	36.93	C
	ATOM	557	NH1	ARG B 237	11.857	23.791	37.035	1.00	36.14	N
	ATOM	558	NH2	ARG B 237	10.394	25.088	35.836	1.00	34.91	N
	ATOM	559	C	ARG B 237	17.878	27.376	38.046	1.00	43.46	C
	ATOM	560	O	ARG B 237	18.045	28.579	37.849	1.00	43.83	O
30	ATOM	561	N	ASP B 238	18.669	26.646	38.843	1.00	45.72	N
	ATOM	562	CA	ASP B 238	19.790	27.209	39.587	1.00	46.73	C
	ATOM	563	CB	ASP B 238	19.755	26.764	41.061	1.00	50.33	C
	ATOM	564	CG	ASP B 238	18.535	27.266	41.845	1.00	53.80	C
	ATOM	565	OD1	ASP B 238	18.039	28.401	41.541	1.00	56.21	O
35	ATOM	566	OD2	ASP B 238	18.075	26.535	42.769	1.00	56.97	O
	ATOM	567	C	ASP B 238	21.160	26.973	38.962	1.00	46.57	C
	ATOM	568	O	ASP B 238	22.042	27.832	39.106	1.00	47.20	O
	ATOM	569	N	ALA B 239	21.350	25.823	38.266	1.00	44.14	N
	ATOM	570	CA	ALA B 239	22.640	25.485	37.656	1.00	42.92	C
40	ATOM	571	CB	ALA B 239	23.208	24.229	38.298	1.00	43.80	C
	ATOM	572	C	ALA B 239	22.728	25.427	36.113	1.00	42.37	C
	ATOM	573	O	ALA B 239	23.826	25.263	35.589	1.00	42.62	O
	ATOM	574	N	GLY B 240	21.613	25.588	35.408	1.00	38.42	N
	ATOM	575	CA	GLY B 240	21.603	25.566	33.953	1.00	37.88	C
45	ATOM	576	C	GLY B 240	22.233	26.755	33.241	1.00	37.87	C
	ATOM	577	O	GLY B 240	22.398	27.834	33.827	1.00	38.02	O
	ATOM	578	N	VAL B 241	22.588	26.560	31.949	1.00	36.11	N
	ATOM	579	CA	VAL B 241	23.191	27.591	31.101	1.00	35.81	C
	ATOM	580	CB	VAL B 241	24.096	26.980	29.991	1.00	37.02	C
50	ATOM	581	CG1	VAL B 241	24.618	28.039	29.052	1.00	35.93	C
	ATOM	582	CG2	VAL B 241	25.254	26.181	30.578	1.00	35.60	C
	ATOM	583	C	VAL B 241	22.053	28.463	30.543	1.00	36.95	C
	ATOM	584	O	VAL B 241	22.038	29.679	30.765	1.00	36.91	O
	ATOM	585	N	ALA B 242	21.090	27.821	29.845	1.00	41.35	N

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	ATOM	586	CA	ALA B 242	19.911	28.417	29.222	1.00	42.63	C
	ATOM	587	CB	ALA B 242	19.601	27.686	27.918	1.00	42.58	C
	ATOM	588	C	ALA B 242	18.738	28.276	30.185	1.00	44.20	C
	ATOM	589	O	ALA B 242	17.780	27.563	29.882	1.00	44.90	O
5	ATOM	590	N	LYS B 243	18.800	28.930	31.344	1.00	48.62	N
	ATOM	591	CA	LYS B 243	17.718	28.837	32.318	1.00	50.34	C
	ATOM	592	CB	LYS B 243	18.071	29.585	33.629	1.00	53.79	C
	ATOM	593	CG	LYS B 243	19.406	29.189	34.287	1.00	53.56	C
	ATOM	594	CD	LYS B 243	19.733	30.081	35.510	1.00	54.82	C
10	ATOM	595	CE	LYS B 243	20.913	29.636	36.368	1.00	56.08	C
	ATOM	596	NZ	LYS B 243	22.219	30.178	35.872	1.00	56.34	N
	ATOM	597	C	LYS B 243	16.387	29.329	31.669	1.00	51.20	C
	ATOM	598	O	LYS B 243	16.117	30.532	31.600	1.00	51.68	O
	ATOM	599	N	GLY B 244	15.617	28.375	31.149	1.00	52.63	N
15	ATOM	600	CA	GLY B 244	14.345	28.610	30.480	1.00	53.15	C
	ATOM	601	C	GLY B 244	14.282	28.035	29.074	1.00	53.85	C
	ATOM	602	O	GLY B 244	13.679	28.647	28.177	1.00	54.48	O
	ATOM	603	N	ALA B 245	14.901	26.848	28.860	1.00	51.90	N
	ATOM	604	CA	ALA B 245	14.899	26.221	27.541	1.00	50.86	C
20	ATOM	605	CB	ALA B 245	16.307	25.814	27.142	1.00	51.23	C
	ATOM	606	C	ALA B 245	13.953	25.031	27.496	1.00	50.43	C
	ATOM	607	O	ALA B 245	13.855	24.278	28.468	1.00	50.40	O
	ATOM	608	N	SER B 246	13.242	24.880	26.375	1.00	48.62	N
	ATOM	609	CA	SER B 246	12.286	23.806	26.175	1.00	48.13	C
25	ATOM	610	CB	SER B 246	11.235	24.227	25.157	1.00	53.41	C
	ATOM	611	OG	SER B 246	10.228	23.241	24.999	1.00	54.20	O
	ATOM	612	C	SER B 246	13.036	22.547	25.723	1.00	47.77	C
	ATOM	613	O	SER B 246	13.685	22.551	24.679	1.00	48.05	O
	ATOM	614	N	MET B 247	12.968	21.479	26.520	1.00	45.68	N
30	ATOM	615	CA	MET B 247	13.677	20.251	26.207	1.00	45.02	C
	ATOM	616	CB	MET B 247	14.700	19.907	27.286	1.00	47.20	C
	ATOM	617	CG	MET B 247	15.566	21.070	27.644	1.00	48.80	C
	ATOM	618	SD	MET B 247	16.771	20.643	28.863	1.00	52.62	S
	ATOM	619	CE	MET B 247	17.852	19.612	27.843	1.00	51.37	C
35	ATOM	620	C	MET B 247	12.783	19.093	25.984	1.00	44.41	C
	ATOM	621	O	MET B 247	11.778	18.925	26.674	1.00	44.30	O
	ATOM	622	N	ARG B 248	13.166	18.270	25.016	1.00	45.09	N
	ATOM	623	CA	ARG B 248	12.442	17.058	24.678	1.00	44.40	C
	ATOM	624	CB	ARG B 248	11.817	17.170	23.284	1.00	49.16	C
40	ATOM	625	CG	ARG B 248	10.634	18.102	23.284	1.00	51.36	C
	ATOM	626	CD	ARG B 248	10.315	18.609	21.917	1.00	57.89	C
	ATOM	627	NE	ARG B 248	8.908	18.991	21.831	1.00	63.58	N
	ATOM	628	CZ	ARG B 248	7.936	18.197	21.381	1.00	66.53	C
	ATOM	629	NH1	ARG B 248	6.682	18.631	21.341	1.00	68.41	N
45	ATOM	630	NH2	ARG B 248	8.215	16.964	20.954	1.00	68.02	N
	ATOM	631	C	ARG B 248	13.424	15.903	24.819	1.00	43.15	C
	ATOM	632	O	ARG B 248	14.496	15.963	24.224	1.00	43.06	O
	ATOM	633	N	SER B 249	13.108	14.900	25.660	1.00	39.44	N
	ATOM	634	CA	SER B 249	14.018	13.785	25.863	1.00	38.26	C
50	ATOM	635	CB	SER B 249	14.267	13.552	27.348	1.00	42.04	C
	ATOM	636	OG	SER B 249	13.363	12.625	27.919	1.00	43.25	O
	ATOM	637	C	SER B 249	13.619	12.493	25.122	1.00	37.22	C
	ATOM	638	O	SER B 249	12.430	12.165	25.031	1.00	37.27	O
	ATOM	639	N	LEU B 250	14.630	11.779	24.582	1.00	34.33	N

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	ATOM	640	CA	LEU B 250	14.500	10.509	23.855	1.00	32.92	C
	ATOM	641	CB	LEU B 250	14.902	10.674	22.379	1.00	31.83	C
	ATOM	642	CG	LEU B 250	13.944	11.364	21.437	1.00	30.72	C
	ATOM	643	CD1	LEU B 250	14.051	12.868	21.539	1.00	30.19	C
5	ATOM	644	CD2	LEU B 250	14.250	10.977	20.065	1.00	30.21	C
	ATOM	645	C	LEU B 250	15.472	9.549	24.509	1.00	32.84	C
	ATOM	646	O	LEU B 250	16.661	9.881	24.622	1.00	33.06	O
	ATOM	647	N	ARG B 251	14.983	8.376	24.960	1.00	33.49	N
	ATOM	648	CA	ARG B 251	15.823	7.367	25.606	1.00	32.83	C
10	ATOM	649	CB	ARG B 251	15.009	6.504	26.568	1.00	30.40	C
	ATOM	650	CG	ARG B 251	15.907	5.660	27.426	1.00	30.41	C
	ATOM	651	CD	ARG B 251	15.139	4.857	28.424	1.00	31.19	C
	ATOM	652	NE	ARG B 251	16.033	4.083	29.290	1.00	31.11	N
	ATOM	653	CZ	ARG B 251	15.944	2.770	29.455	1.00	31.21	C
15	ATOM	654	NH1	ARG B 251	16.805	2.133	30.247	1.00	31.71	N
	ATOM	655	NH2	ARG B 251	15.005	2.077	28.818	1.00	32.33	N
	ATOM	656	C	ARG B 251	16.579	6.502	24.571	1.00	33.16	C
	ATOM	657	O	ARG B 251	15.999	5.600	23.949	1.00	33.20	O
	ATOM	658	N	VAL B 252	17.871	6.790	24.376	1.00	34.28	N
20	ATOM	659	CA	VAL B 252	18.698	6.037	23.419	1.00	34.15	C
	ATOM	660	CB	VAL B 252	19.273	6.875	22.241	1.00	36.82	C
	ATOM	661	CG1	VAL B 252	18.172	7.602	21.472	1.00	35.53	C
	ATOM	662	CG2	VAL B 252	20.353	7.839	22.715	1.00	36.21	C
	ATOM	663	C	VAL B 252	19.782	5.264	24.147	1.00	34.29	C
25	ATOM	664	O	VAL B 252	20.463	4.448	23.517	1.00	34.11	O
	ATOM	665	N	LEU B 253	19.932	5.521	25.480	1.00	34.20	N
	ATOM	666	CA	LEU B 253	20.929	4.879	26.348	1.00	34.46	C
	ATOM	667	CB	LEU B 253	21.969	5.866	26.896	1.00	33.61	C
	ATOM	668	CG	LEU B 253	22.676	6.794	25.921	1.00	32.62	C
30	ATOM	669	CD1	LEU B 253	23.506	7.801	26.683	1.00	30.26	C
	ATOM	670	CD2	LEU B 253	23.526	6.015	24.933	1.00	29.95	C
	ATOM	671	C	LEU B 253	20.283	4.164	27.496	1.00	34.96	C
	ATOM	672	O	LEU B 253	19.463	4.752	28.203	1.00	35.25	O
	ATOM	673	N	ASN B 254	20.661	2.872	27.673	1.00	37.31	N
35	ATOM	674	CA	ASN B 254	20.170	1.967	28.716	1.00	37.14	C
	ATOM	675	CB	ASN B 254	20.443	0.505	28.313	1.00	31.05	C
	ATOM	676	CG	ASN B 254	21.889	0.062	28.355	1.00	30.08	C
	ATOM	677	OD1	ASN B 254	22.785	0.812	28.742	1.00	28.40	O
	ATOM	678	ND2	ASN B 254	22.155	-1.183	27.972	1.00	27.11	N
40	ATOM	679	C	ASN B 254	20.746	2.330	30.100	1.00	37.97	C
	ATOM	680	O	ASN B 254	21.466	3.316	30.227	1.00	37.99	O
	ATOM	681	N	CYS B 255	20.447	1.521	31.126	1.00	41.90	N
	ATOM	682	CA	CYS B 255	20.898	1.723	32.501	1.00	42.96	C
	ATOM	683	CB	CYS B 255	20.157	0.798	33.450	1.00	44.44	C
45	ATOM	684	SG	CYS B 255	18.366	1.032	33.419	1.00	50.06	S
	ATOM	685	C	CYS B 255	22.406	1.708	32.731	1.00	43.06	C
	ATOM	686	O	CYS B 255	22.857	2.117	33.800	1.00	43.52	O
	ATOM	687	N	GLN B 256	23.189	1.290	31.738	1.00	41.27	N
	ATOM	688	CA	GLN B 256	24.642	1.287	31.858	1.00	41.43	C
50	ATOM	689	CB	GLN B 256	25.254	-0.064	31.465	1.00	43.90	C
	ATOM	690	CG	GLN B 256	24.460	-1.302	31.886	1.00	46.49	C
	ATOM	691	CD	GLN B 256	24.839	-2.461	30.991	1.00	49.41	C
	ATOM	692	OE1	GLN B 256	24.674	-2.411	29.758	1.00	50.57	O
	ATOM	693	NE2	GLN B 256	25.378	-3.519	31.587	1.00	50.97	N

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	ATOM	694	C	GLN	B 256	25.210	2.405	30.985	1.00	41.10	C
	ATOM	695	O	GLN	B 256	26.430	2.512	30.861	1.00	41.47	O
	ATOM	696	N	GLY	B 257	24.323	3.227	30.399	1.00	37.48	N
	ATOM	697	CA	GLY	B 257	24.677	4.367	29.551	1.00	36.34	C
5	ATOM	698	C	GLY	B 257	25.217	3.969	28.199	1.00	35.74	C
	ATOM	699	O	GLY	B 257	25.959	4.717	27.572	1.00	35.13	O
	ATOM	700	N	LYS	B 258	24.837	2.785	27.751	1.00	35.27	N
	ATOM	701	CA	LYS	B 258	25.222	2.185	26.495	1.00	34.81	C
	ATOM	702	CB	LYS	B 258	25.589	0.708	26.731	1.00	39.39	C
10	ATOM	703	CG	LYS	B 258	26.425	0.079	25.641	1.00	43.25	C
	ATOM	704	CD	LYS	B 258	26.330	-1.437	25.695	1.00	49.93	C
	ATOM	705	CE	LYS	B 258	26.025	-2.110	24.356	1.00	53.75	C
	ATOM	706	NZ	LYS	B 258	25.555	-3.535	24.542	1.00	57.23	N
	ATOM	707	C	LYS	B 258	24.032	2.300	25.558	1.00	34.33	C
15	ATOM	708	O	LYS	B 258	22.869	2.163	25.984	1.00	33.68	O
	ATOM	709	N	GLY	B 259	24.343	2.569	24.293	1.00	35.85	N
	ATOM	710	CA	GLY	B 259	23.363	2.689	23.221	1.00	35.69	C
	ATOM	711	C	GLY	B 259	23.831	1.997	21.962	1.00	35.54	C
	ATOM	712	O	GLY	B 259	24.851	1.292	21.975	1.00	36.08	O
20	ATOM	713	N	THR	B 260	23.113	2.200	20.864	1.00	33.94	N
	ATOM	714	CA	THR	B 260	23.503	1.621	19.580	1.00	34.36	C
	ATOM	715	CB	THR	B 260	22.554	0.491	19.145	1.00	37.89	C
	ATOM	716	OG1	THR	B 260	21.189	0.925	19.242	1.00	38.28	O
	ATOM	717	CG2	THR	B 260	22.754	-0.779	19.943	1.00	36.75	C
25	ATOM	718	C	THR	B 260	23.504	2.746	18.572	1.00	34.87	C
	ATOM	719	O	THR	B 260	22.892	3.788	18.833	1.00	35.52	O
	ATOM	720	N	VAL	B 261	24.192	2.556	17.424	1.00	34.11	N
	ATOM	721	CA	VAL	B 261	24.230	3.531	16.329	1.00	33.58	C
	ATOM	722	CB	VAL	B 261	25.313	3.179	15.297	1.00	35.64	C
30	ATOM	723	CG1	VAL	B 261	25.158	4.003	14.021	1.00	35.71	C
	ATOM	724	CG2	VAL	B 261	26.702	3.356	15.895	1.00	34.56	C
	ATOM	725	C	VAL	B 261	22.829	3.556	15.709	1.00	33.98	C
	ATOM	726	O	VAL	B 261	22.280	4.615	15.487	1.00	34.29	O
	ATOM	727	N	SER	B 262	22.236	2.388	15.492	1.00	35.27	N
35	ATOM	728	CA	SER	B 262	20.902	2.225	14.941	1.00	35.69	C
	ATOM	729	CB	SER	B 262	20.638	0.745	14.682	1.00	40.00	C
	ATOM	730	OG	SER	B 262	20.162	0.050	15.826	1.00	40.95	O
	ATOM	731	C	SER	B 262	19.807	2.816	15.842	1.00	35.74	C
	ATOM	732	O	SER	B 262	18.788	3.266	15.330	1.00	35.54	O
40	ATOM	733	N	GLY	B 263	20.007	2.784	17.162	1.00	36.27	N
	ATOM	734	CA	GLY	B 263	19.052	3.324	18.134	1.00	36.79	C
	ATOM	735	C	GLY	B 263	19.055	4.836	18.074	1.00	36.72	C
	ATOM	736	O	GLY	B 263	18.008	5.472	18.099	1.00	36.90	O
	ATOM	737	N	THR	B 264	20.253	5.408	17.950	1.00	35.00	N
45	ATOM	738	CA	THR	B 264	20.503	6.833	17.819	1.00	35.04	C
	ATOM	739	CB	THR	B 264	22.006	7.098	17.977	1.00	33.88	C
	ATOM	740	OG1	THR	B 264	22.440	6.518	19.218	1.00	34.18	O
	ATOM	741	CG2	THR	B 264	22.356	8.587	17.945	1.00	33.50	C
	ATOM	742	C	THR	B 264	19.918	7.291	16.479	1.00	35.13	C
50	ATOM	743	O	THR	B 264	19.320	8.354	16.440	1.00	35.10	O
	ATOM	744	N	LEU	B 265	20.069	6.478	15.397	1.00	35.83	N
	ATOM	745	CA	LEU	B 265	19.546	6.718	14.042	1.00	36.08	C
	ATOM	746	CB	LEU	B 265	19.918	5.584	13.091	1.00	35.89	C
	ATOM	747	CG	LEU	B 265	21.267	5.605	12.422	1.00	36.18	C

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	ATOM	748	CD1 LEU B 265	21.337	4.486	11.403	1.00	36.42	C
	ATOM	749	CD2 LEU B 265	21.512	6.925	11.718	1.00	36.53	C
	ATOM	750	C LEU B 265	18.034	6.817	14.073	1.00	36.18	C
	ATOM	751	O LEU B 265	17.470	7.783	13.558	1.00	36.28	O
5	ATOM	752	N ILE B 266	17.373	5.836	14.686	1.00	34.77	N
	ATOM	753	CA ILE B 266	15.920	5.841	14.803	1.00	35.08	C
	ATOM	754	CB ILE B 266	15.427	4.469	15.357	1.00	37.27	C
	ATOM	755	CG1 ILE B 266	15.741	3.312	14.350	1.00	36.71	C
	ATOM	756	CD1 ILE B 266	15.595	1.901	14.881	1.00	33.04	C
10	ATOM	757	CG2 ILE B 266	13.948	4.501	15.698	1.00	35.91	C
	ATOM	758	C ILE B 266	15.514	7.074	15.663	1.00	35.75	C
	ATOM	759	O ILE B 266	14.451	7.667	15.450	1.00	36.08	O
	ATOM	760	N GLY B 267	16.388	7.463	16.590	1.00	35.70	N
	ATOM	761	CA GLY B 267	16.157	8.617	17.445	1.00	36.59	C
15	ATOM	762	C GLY B 267	16.149	9.897	16.639	1.00	37.34	C
	ATOM	763	O GLY B 267	15.236	10.714	16.798	1.00	37.23	O
	ATOM	764	N LEU B 268	17.172	10.065	15.756	1.00	37.78	N
	ATOM	765	CA LEU B 268	17.348	11.222	14.878	1.00	38.90	C
	ATOM	766	CB LEU B 268	18.695	11.174	14.140	1.00	37.91	C
20	ATOM	767	CG LEU B 268	19.966	11.206	14.999	1.00	38.82	C
	ATOM	768	CD1 LEU B 268	21.170	10.865	14.186	1.00	37.37	C
	ATOM	769	CD2 LEU B 268	20.145	12.541	15.720	1.00	38.47	C
	ATOM	770	C LEU B 268	16.206	11.305	13.872	1.00	40.33	C
	ATOM	771	O LEU B 268	15.808	12.410	13.483	1.00	40.83	O
25	ATOM	772	N GLU B 269	15.675	10.137	13.456	1.00	44.92	N
	ATOM	773	CA GLU B 269	14.567	10.074	12.516	1.00	46.13	C
	ATOM	774	CB GLU B 269	14.377	8.659	11.964	1.00	48.61	C
	ATOM	775	CG GLU B 269	13.316	8.636	10.885	1.00	51.25	C
	ATOM	776	CD GLU B 269	12.863	7.261	10.453	1.00	55.81	C
30	ATOM	777	OE1 GLU B 269	12.169	6.567	11.237	1.00	55.66	O
	ATOM	778	OE2 GLU B 269	13.194	6.890	9.307	1.00	58.12	O
	ATOM	779	C GLU B 269	13.299	10.588	13.200	1.00	46.10	C
	ATOM	780	O GLU B 269	12.552	11.371	12.604	1.00	46.62	O
	ATOM	781	N PHE B 270	13.080	10.176	14.455	1.00	42.97	N
35	ATOM	782	CA PHE B 270	11.942	10.613	15.255	1.00	43.26	C
	ATOM	783	CB PHE B 270	11.983	9.943	16.633	1.00	43.18	C
	ATOM	784	CG PHE B 270	10.972	10.443	17.625	1.00	41.22	C
	ATOM	785	CD1 PHE B 270	9.787	9.754	17.838	1.00	40.53	C
	ATOM	786	CE1 PHE B 270	8.848	10.215	18.770	1.00	39.92	C
40	ATOM	787	CZ PHE B 270	9.095	11.364	19.485	1.00	39.71	C
	ATOM	788	CE2 PHE B 270	10.271	12.062	19.287	1.00	40.80	C
	ATOM	789	CD2 PHE B 270	11.211	11.597	18.369	1.00	41.21	C
	ATOM	790	C PHE B 270	11.950	12.152	15.367	1.00	44.41	C
	ATOM	791	O PHE B 270	10.884	12.750	15.360	1.00	44.64	O
45	ATOM	792	N ILE B 271	13.139	12.782	15.461	1.00	45.76	N
	ATOM	793	CA ILE B 271	13.290	14.238	15.545	1.00	46.86	C
	ATOM	794	CB ILE B 271	14.689	14.632	16.093	1.00	48.73	C
	ATOM	795	CG1 ILE B 271	14.847	14.173	17.550	1.00	48.33	C
	ATOM	796	CD1 ILE B 271	16.245	14.146	18.009	1.00	47.33	C
50	ATOM	797	CG2 ILE B 271	14.978	16.131	15.944	1.00	47.50	C
	ATOM	798	C ILE B 271	12.994	14.855	14.175	1.00	48.07	C
	ATOM	799	O ILE B 271	12.435	15.946	14.116	1.00	47.94	O
	ATOM	800	N ARG B 272	13.372	14.167	13.083	1.00	50.28	N
	ATOM	801	CA ARG B 272	13.129	14.657	11.733	1.00	52.10	C

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	ATOM	802	CB	ARG B 272	13.917	13.832	10.700	1.00	52.47	C
	ATOM	803	CG	ARG B 272	13.665	14.194	9.241	1.00	53.21	C
	ATOM	804	CD	ARG B 272	13.869	15.656	8.930	1.00	54.19	C
	ATOM	805	NE	ARG B 272	13.772	15.924	7.498	1.00	56.48	N
5	ATOM	806	CZ	ARG B 272	13.632	17.137	6.969	1.00	57.91	C
	ATOM	807	NH1	ARG B 272	13.544	18.206	7.754	1.00	59.31	N
	ATOM	808	NH2	ARG B 272	13.563	17.290	5.655	1.00	57.87	N
	ATOM	809	C	ARG B 272	11.619	14.657	11.459	1.00	53.55	C
	ATOM	810	O	ARG B 272	11.097	15.647	10.956	1.00	53.48	O
10	ATOM	811	N	LYS B 273	10.923	13.578	11.828	1.00	56.24	N
	ATOM	812	CA	LYS B 273	9.484	13.473	11.650	1.00	58.21	C
	ATOM	813	CB	LYS B 273	9.000	12.059	12.000	1.00	62.07	C
	ATOM	814	CG	LYS B 273	9.413	10.973	10.995	1.00	64.28	C
	ATOM	815	CD	LYS B 273	8.985	9.592	11.504	1.00	67.88	C
15	ATOM	816	CE	LYS B 273	9.351	8.443	10.596	1.00	69.81	C
	ATOM	817	NZ	LYS B 273	9.023	7.128	11.227	1.00	71.24	N
	ATOM	818	C	LYS B 273	8.770	14.536	12.509	1.00	58.99	C
	ATOM	819	O	LYS B 273	7.794	15.131	12.055	1.00	59.59	O
	ATOM	820	N	SER B 274	9.280	14.788	13.732	1.00	61.43	N
20	ATOM	821	CA	SER B 274	8.766	15.769	14.689	1.00	62.54	C
	ATOM	822	CB	SER B 274	9.516	15.628	16.010	1.00	64.82	C
	ATOM	823	OG	SER B 274	8.706	15.845	17.151	1.00	65.66	O
	ATOM	824	C	SER B 274	8.973	17.199	14.139	1.00	63.55	C
	ATOM	825	O	SER B 274	8.293	18.134	14.567	1.00	64.31	O
25	ATOM	826	N	GLN B 275	9.940	17.365	13.216	1.00	65.65	N
	ATOM	827	CA	GLN B 275	10.296	18.626	12.586	1.00	66.07	C
	ATOM	828	CB	GLN B 275	11.790	18.613	12.219	1.00	66.19	C
	ATOM	829	CG	GLN B 275	12.361	19.940	11.745	1.00	64.95	C
	ATOM	830	CD	GLN B 275	13.648	19.801	10.947	1.00	63.19	C
30	ATOM	831	OE1	GLN B 275	14.044	18.707	10.509	1.00	63.43	O
	ATOM	832	NE2	GLN B 275	14.328	20.917	10.722	1.00	61.42	N
	ATOM	833	C	GLN B 275	9.403	18.802	11.360	1.00	67.17	C
	ATOM	834	O	GLN B 275	8.842	19.876	11.186	1.00	67.51	O
	ATOM	835	N	LEU B 276	9.254	17.750	10.524	1.00	71.58	N
35	ATOM	836	CA	LEU B 276	8.416	17.768	9.321	1.00	72.77	C
	ATOM	837	CB	LEU B 276	8.507	16.434	8.549	1.00	72.40	C
	ATOM	838	CG	LEU B 276	9.819	16.164	7.806	1.00	72.55	C
	ATOM	839	CD1	LEU B 276	9.880	14.742	7.315	1.00	71.75	C
	ATOM	840	CD2	LEU B 276	10.020	17.123	6.641	1.00	72.13	C
40	ATOM	841	C	LEU B 276	6.969	18.089	9.709	1.00	73.79	C
	ATOM	842	O	LEU B 276	6.477	19.163	9.369	1.00	74.24	O
	ATOM	843	N	VAL B 277	6.305	17.190	10.454	1.00	78.43	N
	ATOM	844	CA	VAL B 277	4.933	17.411	10.931	1.00	79.20	C
	ATOM	845	CB	VAL B 277	4.269	16.099	11.441	1.00	83.39	C
45	ATOM	846	CG1	VAL B 277	2.811	16.326	11.852	1.00	83.25	C
	ATOM	847	CG2	VAL B 277	4.362	14.989	10.388	1.00	83.80	C
	ATOM	848	C	VAL B 277	5.032	18.486	12.028	1.00	79.48	C
	ATOM	849	O	VAL B 277	6.040	18.539	12.737	1.00	79.40	O
	ATOM	850	N	GLN B 278	4.001	19.340	12.150	1.00	81.39	N
50	ATOM	851	CA	GLN B 278	3.947	20.441	13.121	1.00	81.83	C
	ATOM	852	CB	GLN B 278	3.125	20.125	14.416	1.00	83.82	C
	ATOM	853	CG	GLN B 278	2.980	18.632	14.823	1.00	85.76	C
	ATOM	854	CD	GLN B 278	1.560	18.051	14.826	1.00	87.74	C
	ATOM	855	OE1	GLN B 278	0.620	18.560	14.187	1.00	88.31	O

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	ATOM	856	NE2 GLN B 278	1.383	16.946	15.549	1.00	87.10	N
	ATOM	857	C GLN B 278	5.305	21.189	13.340	1.00	81.28	C
	ATOM	858	O GLN B 278	5.868	21.141	14.443	1.00	81.31	O
	ATOM	859	N PRO B 279	5.859	21.842	12.268	1.00	81.42	N
5	ATOM	860	CA PRO B 279	7.129	22.578	12.427	1.00	80.65	C
	ATOM	861	CB PRO B 279	7.582	22.886	10.987	1.00	82.76	C
	ATOM	862	CG PRO B 279	6.546	22.322	10.079	1.00	83.36	C
	ATOM	863	CD PRO B 279	5.326	22.000	10.896	1.00	83.60	C
	ATOM	864	C PRO B 279	6.979	23.859	13.243	1.00	79.63	C
10	ATOM	865	O PRO B 279	5.868	24.380	13.443	1.00	79.75	O
	ATOM	866	N VAL B 280	8.123	24.356	13.722	1.00	76.16	N
	ATOM	867	CA VAL B 280	8.213	25.534	14.570	1.00	74.61	C
	ATOM	868	CB VAL B 280	8.157	25.148	16.094	1.00	78.97	C
	ATOM	869	CG1 VAL B 280	6.721	24.998	16.585	1.00	79.39	C
15	ATOM	870	CG2 VAL B 280	8.979	23.890	16.405	1.00	78.76	C
	ATOM	871	C VAL B 280	9.453	26.367	14.225	1.00	72.96	C
	ATOM	872	O VAL B 280	9.762	26.596	13.045	1.00	72.94	O
	ATOM	873	N GLY B 281	10.138	26.796	15.285	1.00	67.93	N
	ATOM	874	CA GLY B 281	11.347	27.596	15.251	1.00	64.37	C
20	ATOM	875	C GLY B 281	12.616	26.777	15.228	1.00	61.35	C
	ATOM	876	O GLY B 281	12.677	25.752	14.542	1.00	61.36	O
	ATOM	877	N PRO B 282	13.655	27.236	15.959	1.00	53.85	N
	ATOM	878	CA PRO B 282	14.937	26.530	15.933	1.00	51.83	C
	ATOM	879	CB PRO B 282	15.932	27.567	16.466	1.00	53.66	C
25	ATOM	880	CG PRO B 282	15.151	28.834	16.663	1.00	54.44	C
	ATOM	881	CD PRO B 282	13.736	28.438	16.808	1.00	55.05	C
	ATOM	882	C PRO B 282	14.987	25.225	16.703	1.00	49.73	C
	ATOM	883	O PRO B 282	14.297	25.032	17.701	1.00	49.09	O
	ATOM	884	N LEU B 283	15.842	24.328	16.217	1.00	46.77	N
30	ATOM	885	CA LEU B 283	16.052	23.002	16.765	1.00	44.46	C
	ATOM	886	CB LEU B 283	15.671	21.959	15.700	1.00	45.22	C
	ATOM	887	CG LEU B 283	14.624	20.931	16.106	1.00	47.02	C
	ATOM	888	CD1 LEU B 283	13.303	21.607	16.548	1.00	50.11	C
	ATOM	889	CD2 LEU B 283	14.351	19.972	14.980	1.00	47.51	C
35	ATOM	890	C LEU B 283	17.489	22.803	17.155	1.00	42.49	C
	ATOM	891	O LEU B 283	18.401	23.089	16.359	1.00	42.71	O
	ATOM	892	N VAL B 284	17.693	22.308	18.380	1.00	34.66	N
	ATOM	893	CA VAL B 284	19.009	21.973	18.905	1.00	32.06	C
	ATOM	894	CB VAL B 284	19.494	22.895	20.056	1.00	34.22	C
40	ATOM	895	CG1 VAL B 284	20.756	22.351	20.723	1.00	33.19	C
	ATOM	896	CG2 VAL B 284	19.728	24.315	19.562	1.00	32.87	C
	ATOM	897	C VAL B 284	18.952	20.497	19.308	1.00	30.68	C
	ATOM	898	O VAL B 284	18.008	20.088	19.987	1.00	30.03	O
	ATOM	899	N VAL B 285	19.947	19.696	18.868	1.00	29.51	N
45	ATOM	900	CA VAL B 285	20.014	18.278	19.211	1.00	28.21	C
	ATOM	901	CB VAL B 285	19.834	17.300	18.000	1.00	30.74	C
	ATOM	902	CG1 VAL B 285	20.087	15.853	18.409	1.00	30.76	C
	ATOM	903	CG2 VAL B 285	18.440	17.420	17.385	1.00	29.52	C
	ATOM	904	C VAL B 285	21.293	18.054	19.994	1.00	27.77	C
50	ATOM	905	O VAL B 285	22.378	18.309	19.482	1.00	27.96	O
	ATOM	906	N LEU B 286	21.163	17.593	21.244	1.00	29.54	N
	ATOM	907	CA LEU B 286	22.307	17.311	22.105	1.00	29.30	C
	ATOM	908	CB LEU B 286	22.056	17.823	23.540	1.00	28.65	C
	ATOM	909	CG LEU B 286	23.073	17.505	24.668	1.00	27.79	C

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	ATOM	910	CD1 LEU B 286	24.519	17.697	24.239	1.00	26.95	C
	ATOM	911	CD2 LEU B 286	22.797	18.345	25.861	1.00	26.68	C
	ATOM	912	C LEU B 286	22.594	15.808	22.059	1.00	29.54	C
	ATOM	913	O LEU B 286	21.733	14.997	22.419	1.00	29.58	O
5	ATOM	914	N LEU B 287	23.811	15.453	21.595	1.00	30.11	N
	ATOM	915	CA LEU B 287	24.277	14.080	21.453	1.00	30.28	C
	ATOM	916	CB LEU B 287	24.646	13.799	19.988	1.00	29.98	C
	ATOM	917	CG LEU B 287	23.479	13.795	18.986	1.00	30.72	C
	ATOM	918	CD1 LEU B 287	23.976	13.977	17.567	1.00	30.99	C
10	ATOM	919	CD2 LEU B 287	22.603	12.558	19.137	1.00	29.04	C
	ATOM	920	C LEU B 287	25.467	13.896	22.409	1.00	30.68	C
	ATOM	921	O LEU B 287	26.641	14.043	22.048	1.00	30.78	O
	ATOM	922	N PRO B 288	25.165	13.595	23.680	1.00	32.41	N
	ATOM	923	CA PRO B 288	26.248	13.465	24.673	1.00	32.22	C
15	ATOM	924	CB PRO B 288	25.537	13.871	25.962	1.00	33.66	C
	ATOM	925	CG PRO B 288	24.102	13.363	25.752	1.00	33.61	C
	ATOM	926	CD PRO B 288	23.829	13.373	24.287	1.00	33.34	C
	ATOM	927	C PRO B 288	26.793	12.042	24.728	1.00	32.39	C
	ATOM	928	O PRO B 288	27.060	11.490	25.802	1.00	32.92	O
20	ATOM	929	N LEU B 289	26.917	11.444	23.557	1.00	31.45	N
	ATOM	930	CA LEU B 289	27.346	10.071	23.381	1.00	31.73	C
	ATOM	931	CB LEU B 289	26.135	9.213	22.979	1.00	31.73	C
	ATOM	932	CG LEU B 289	25.272	9.764	21.838	1.00	31.64	C
	ATOM	933	CD1 LEU B 289	25.680	9.153	20.518	1.00	30.82	C
25	ATOM	934	CD2 LEU B 289	23.794	9.539	22.119	1.00	31.10	C
	ATOM	935	C LEU B 289	28.434	9.965	22.344	1.00	31.83	C
	ATOM	936	O LEU B 289	28.658	10.893	21.574	1.00	32.07	O
	ATOM	937	N ALA B 290	29.117	8.841	22.323	1.00	31.55	N
	ATOM	938	CA ALA B 290	30.177	8.596	21.367	1.00	31.88	C
30	ATOM	939	CB ALA B 290	31.466	9.280	21.784	1.00	32.33	C
	ATOM	940	C ALA B 290	30.400	7.133	21.224	1.00	32.57	C
	ATOM	941	O ALA B 290	30.345	6.388	22.210	1.00	32.89	O
	ATOM	942	N GLY B 291	30.591	6.746	19.971	1.00	34.71	N
	ATOM	943	CA GLY B 291	30.905	5.405	19.514	1.00	35.31	C
35	ATOM	944	C GLY B 291	32.082	5.585	18.582	1.00	35.88	C
	ATOM	945	O GLY B 291	32.621	6.692	18.497	1.00	36.05	O
	ATOM	946	N GLY B 292	32.483	4.527	17.875	1.00	37.54	N
	ATOM	947	CA GLY B 292	33.585	4.618	16.921	1.00	37.39	C
	ATOM	948	C GLY B 292	33.096	5.321	15.669	1.00	37.64	C
40	ATOM	949	O GLY B 292	31.875	5.442	15.484	1.00	37.26	O
	ATOM	950	N TYR B 293	34.021	5.786	14.791	1.00	37.65	N
	ATOM	951	CA TYR B 293	33.611	6.461	13.554	1.00	38.29	C
	ATOM	952	CB TYR B 293	34.808	6.747	12.606	1.00	38.69	C
	ATOM	953	CG TYR B 293	34.357	7.129	11.213	1.00	39.41	C
45	ATOM	954	CD1 TYR B 293	33.974	8.438	10.916	1.00	41.11	C
	ATOM	955	CE1 TYR B 293	33.490	8.781	9.653	1.00	41.49	C
	ATOM	956	CZ TYR B 293	33.372	7.804	8.673	1.00	42.49	C
	ATOM	957	OH TYR B 293	32.883	8.120	7.421	1.00	45.59	O
	ATOM	958	CE2 TYR B 293	33.738	6.497	8.951	1.00	40.22	C
50	ATOM	959	CD2 TYR B 293	34.223	6.167	10.214	1.00	38.83	C
	ATOM	960	C TYR B 293	32.533	5.620	12.857	1.00	38.38	C
	ATOM	961	O TYR B 293	32.715	4.416	12.724	1.00	39.52	O
	ATOM	962	N SER B 294	31.414	6.239	12.460	1.00	37.36	N
	ATOM	963	CA SER B 294	30.290	5.588	11.797	1.00	36.95	C

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	ATOM	964	CB	SER B 294	29.121	5.450	12.761	1.00	37.76	C
	ATOM	965	OG	SER B 294	27.942	5.046	12.081	1.00	37.84	O
	ATOM	966	C	SER B 294	29.834	6.381	10.586	1.00	37.32	C
	ATOM	967	O	SER B 294	29.376	7.524	10.734	1.00	37.75	O
5	ATOM	968	N	ARG B 295	29.912	5.765	9.392	1.00	37.86	N
	ATOM	969	CA	ARG B 295	29.487	6.370	8.124	1.00	37.54	C
	ATOM	970	CB	ARG B 295	29.735	5.409	6.946	1.00	41.77	C
	ATOM	971	CG	ARG B 295	29.201	5.900	5.619	1.00	42.55	C
	ATOM	972	CD	ARG B 295	29.870	5.241	4.445	1.00	46.07	C
10	ATOM	973	NE	ARG B 295	29.533	5.958	3.218	1.00	48.72	N
	ATOM	974	CZ	ARG B 295	29.466	5.403	2.017	1.00	48.86	C
	ATOM	975	NH1	ARG B 295	29.708	4.107	1.863	1.00	49.61	N
	ATOM	976	NH2	ARG B 295	29.137	6.134	0.959	1.00	48.38	N
	ATOM	977	C	ARG B 295	28.024	6.825	8.154	1.00	36.42	C
15	ATOM	978	O	ARG B 295	27.761	7.970	7.787	1.00	36.88	O
	ATOM	979	N	VAL B 296	27.093	5.951	8.578	1.00	31.24	N
	ATOM	980	CA	VAL B 296	25.650	6.248	8.638	1.00	30.59	C
	ATOM	981	CB	VAL B 296	24.745	4.975	8.731	1.00	32.25	C
	ATOM	982	CG1	VAL B 296	24.891	4.239	10.059	1.00	31.16	C
20	ATOM	983	CG2	VAL B 296	23.292	5.297	8.449	1.00	30.86	C
	ATOM	984	C	VAL B 296	25.299	7.319	9.669	1.00	30.70	C
	ATOM	985	O	VAL B 296	24.435	8.157	9.406	1.00	30.47	O
	ATOM	986	N	LEU B 297	25.970	7.299	10.838	1.00	31.76	N
	ATOM	987	CA	LEU B 297	25.681	8.268	11.883	1.00	31.85	C
25	ATOM	988	CB	LEU B 297	26.233	7.822	13.249	1.00	32.13	C
	ATOM	989	CG	LEU B 297	25.585	8.436	14.513	1.00	31.08	C
	ATOM	990	CD1	LEU B 297	24.117	8.157	14.594	1.00	30.53	C
	ATOM	991	CD2	LEU B 297	26.202	7.867	15.748	1.00	29.54	C
	ATOM	992	C	LEU B 297	26.147	9.641	11.460	1.00	32.26	C
30	ATOM	993	O	LEU B 297	25.442	10.611	11.707	1.00	31.53	O
	ATOM	994	N	ASN B 298	27.299	9.720	10.769	1.00	32.34	N
	ATOM	995	CA	ASN B 298	27.797	10.992	10.261	1.00	33.54	C
	ATOM	996	CB	ASN B 298	29.278	10.897	9.911	1.00	35.69	C
	ATOM	997	CG	ASN B 298	30.177	10.842	11.145	1.00	38.39	C
35	ATOM	998	OD1	ASN B 298	29.742	10.585	12.275	1.00	39.51	O
	ATOM	999	ND2	ASN B 298	31.460	11.089	10.968	1.00	40.72	N
	ATOM	1000	C	ASN B 298	26.900	11.461	9.101	1.00	33.90	C
	ATOM	1001	O	ASN B 298	26.568	12.644	9.004	1.00	33.71	O
	ATOM	1002	N	ALA B 299	26.433	10.506	8.278	1.00	36.33	N
40	ATOM	1003	CA	ALA B 299	25.523	10.762	7.170	1.00	36.99	C
	ATOM	1004	CB	ALA B 299	25.282	9.488	6.387	1.00	37.15	C
	ATOM	1005	C	ALA B 299	24.194	11.336	7.706	1.00	37.83	C
	ATOM	1006	O	ALA B 299	23.774	12.377	7.197	1.00	38.31	O
	ATOM	1007	N	ALA B 300	23.558	10.702	8.743	1.00	36.35	N
45	ATOM	1008	CA	ALA B 300	22.297	11.175	9.346	1.00	37.40	C
	ATOM	1009	CB	ALA B 300	21.831	10.202	10.418	1.00	38.27	C
	ATOM	1010	C	ALA B 300	22.450	12.572	9.962	1.00	38.29	C
	ATOM	1011	O	ALA B 300	21.535	13.398	9.909	1.00	38.11	O
	ATOM	1012	N	CYS B 301	23.615	12.830	10.547	1.00	41.05	N
50	ATOM	1013	CA	CYS B 301	23.904	14.113	11.148	1.00	42.56	C
	ATOM	1014	CB	CYS B 301	25.116	14.026	12.067	1.00	42.91	C
	ATOM	1015	SG	CYS B 301	24.818	13.044	13.570	1.00	46.44	S
	ATOM	1016	C	CYS B 301	24.048	15.172	10.065	1.00	43.01	C
	ATOM	1017	O	CYS B 301	23.576	16.281	10.267	1.00	43.38	O

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	ATOM	1018	N	GLN B 302	24.603	14.816	8.892	1.00	45.47	N
	ATOM	1019	CA	GLN B 302	24.725	15.730	7.755	1.00	46.30	C
	ATOM	1020	CB	GLN B 302	25.589	15.115	6.652	1.00	48.92	C
	ATOM	1021	CG	GLN B 302	25.900	16.087	5.524	1.00	51.37	C
5	ATOM	1022	CD	GLN B 302	26.545	15.404	4.354	1.00	55.04	C
	ATOM	1023	OE1	GLN B 302	25.947	14.502	3.733	1.00	58.26	O
	ATOM	1024	NE2	GLN B 302	27.775	15.817	4.019	1.00	54.16	N
	ATOM	1025	C	GLN B 302	23.347	16.125	7.194	1.00	46.52	C
	ATOM	1026	O	GLN B 302	23.139	17.290	6.858	1.00	46.16	O
10	ATOM	1027	N	ARG B 303	22.419	15.154	7.091	1.00	49.00	N
	ATOM	1028	CA	ARG B 303	21.069	15.395	6.584	1.00	49.54	C
	ATOM	1029	CB	ARG B 303	20.307	14.092	6.338	1.00	53.09	C
	ATOM	1030	CG	ARG B 303	20.792	13.379	5.081	1.00	55.50	C
	ATOM	1031	CD	ARG B 303	20.621	11.883	5.199	1.00	58.43	C
15	ATOM	1032	NE	ARG B 303	20.845	11.210	3.921	1.00	60.43	N
	ATOM	1033	CZ	ARG B 303	19.896	10.939	3.030	1.00	61.44	C
	ATOM	1034	NH1	ARG B 303	18.636	11.286	3.263	1.00	61.92	N
	ATOM	1035	NH2	ARG B 303	20.200	10.320	1.898	1.00	62.60	N
	ATOM	1036	C	ARG B 303	20.322	16.316	7.506	1.00	49.24	C
20	ATOM	1037	O	ARG B 303	19.790	17.320	7.049	1.00	49.91	O
	ATOM	1038	N	LEU B 304	20.338	16.020	8.803	1.00	47.38	N
	ATOM	1039	CA	LEU B 304	19.704	16.823	9.840	1.00	47.11	C
	ATOM	1040	CB	LEU B 304	19.977	16.149	11.185	1.00	46.94	C
	ATOM	1041	CG	LEU B 304	18.808	15.779	12.116	1.00	47.60	C
25	ATOM	1042	CD1	LEU B 304	17.413	15.908	11.473	1.00	46.94	C
	ATOM	1043	CD2	LEU B 304	19.010	14.424	12.645	1.00	47.08	C
	ATOM	1044	C	LEU B 304	20.259	18.261	9.835	1.00	47.25	C
	ATOM	1045	O	LEU B 304	19.488	19.200	10.002	1.00	47.42	O
	ATOM	1046	N	ALA B 305	21.586	18.427	9.621	1.00	46.56	N
30	ATOM	1047	CA	ALA B 305	22.274	19.720	9.571	1.00	46.26	C
	ATOM	1048	CB	ALA B 305	23.781	19.527	9.598	1.00	46.48	C
	ATOM	1049	C	ALA B 305	21.862	20.467	8.320	1.00	46.56	C
	ATOM	1050	O	ALA B 305	21.602	21.666	8.393	1.00	46.83	O
	ATOM	1051	N	ARG B 306	21.779	19.765	7.176	1.00	48.86	N
35	ATOM	1052	CA	ARG B 306	21.350	20.374	5.923	1.00	49.08	C
	ATOM	1053	CB	ARG B 306	21.623	19.474	4.712	1.00	54.77	C
	ATOM	1054	CG	ARG B 306	22.922	19.833	3.989	1.00	58.49	C
	ATOM	1055	CD	ARG B 306	23.771	18.593	3.746	1.00	64.89	C
	ATOM	1056	NE	ARG B 306	25.115	18.845	3.196	1.00	68.11	N
40	ATOM	1057	CZ	ARG B 306	26.148	19.348	3.876	1.00	69.63	C
	ATOM	1058	NH1	ARG B 306	26.001	19.730	5.143	1.00	69.04	N
	ATOM	1059	NH2	ARG B 306	27.329	19.498	3.286	1.00	70.29	N
	ATOM	1060	C	ARG B 306	19.879	20.757	6.045	1.00	48.35	C
	ATOM	1061	O	ARG B 306	19.501	21.792	5.498	1.00	48.65	O
45	ATOM	1062	N	ALA B 307	19.073	19.974	6.822	1.00	45.09	N
	ATOM	1063	CA	ALA B 307	17.653	20.238	7.080	1.00	44.33	C
	ATOM	1064	CB	ALA B 307	16.951	18.982	7.565	1.00	44.77	C
	ATOM	1065	C	ALA B 307	17.409	21.399	8.071	1.00	44.06	C
	ATOM	1066	O	ALA B 307	16.249	21.701	8.390	1.00	44.24	O
50	ATOM	1067	N	GLY B 308	18.494	22.015	8.554	1.00	44.62	N
	ATOM	1068	CA	GLY B 308	18.459	23.156	9.464	1.00	43.74	C
	ATOM	1069	C	GLY B 308	18.652	22.960	10.956	1.00	43.38	C
	ATOM	1070	O	GLY B 308	18.662	23.953	11.694	1.00	43.46	O
	ATOM	1071	N	VAL B 309	18.787	21.694	11.428	1.00	43.37	N

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	ATOM	1072	CA	VAL B 309	18.966	21.373	12.852	1.00	42.26	C
	ATOM	1073	CB	VAL B 309	18.553	19.912	13.171	1.00	45.23	C
	ATOM	1074	CG1	VAL B 309	18.512	19.668	14.673	1.00	45.69	C
	ATOM	1075	CG2	VAL B 309	17.207	19.564	12.549	1.00	43.80	C
5	ATOM	1076	C	VAL B 309	20.401	21.677	13.334	1.00	41.42	C
	ATOM	1077	O	VAL B 309	21.346	21.428	12.595	1.00	41.48	O
	ATOM	1078	N	VAL B 310	20.554	22.218	14.573	1.00	39.32	N
	ATOM	1079	CA	VAL B 310	21.862	22.506	15.202	1.00	37.79	C
	ATOM	1080	CB	VAL B 310	21.871	23.814	16.042	1.00	39.88	C
10	ATOM	1081	CG1	VAL B 310	23.200	23.998	16.774	1.00	38.47	C
	ATOM	1082	CG2	VAL B 310	21.551	25.024	15.175	1.00	39.76	C
	ATOM	1083	C	VAL B 310	22.213	21.274	16.065	1.00	37.16	C
	ATOM	1084	O	VAL B 310	21.541	21.004	17.066	1.00	37.73	O
	ATOM	1085	N	LEU B 311	23.230	20.518	15.658	1.00	33.36	N
15	ATOM	1086	CA	LEU B 311	23.647	19.317	16.377	1.00	31.86	C
	ATOM	1087	CB	LEU B 311	23.817	18.133	15.418	1.00	31.75	C
	ATOM	1088	CG	LEU B 311	22.518	17.535	14.896	1.00	32.50	C
	ATOM	1089	CD1	LEU B 311	22.139	18.138	13.571	1.00	33.15	C
	ATOM	1090	CD2	LEU B 311	22.636	16.058	14.738	1.00	32.03	C
20	ATOM	1091	C	LEU B 311	24.911	19.570	17.170	1.00	31.07	C
	ATOM	1092	O	LEU B 311	25.903	20.055	16.630	1.00	30.54	O
	ATOM	1093	N	VAL B 312	24.858	19.272	18.467	1.00	30.30	N
	ATOM	1094	CA	VAL B 312	25.977	19.453	19.388	1.00	29.91	C
	ATOM	1095	CB	VAL B 312	25.682	20.509	20.494	1.00	31.65	C
25	ATOM	1096	CG1	VAL B 312	26.902	20.742	21.398	1.00	29.57	C
	ATOM	1097	CG2	VAL B 312	25.211	21.823	19.877	1.00	31.21	C
	ATOM	1098	C	VAL B 312	26.287	18.081	19.958	1.00	30.22	C
	ATOM	1099	O	VAL B 312	25.360	17.364	20.363	1.00	30.59	O
	ATOM	1100	N	THR B 313	27.576	17.703	19.966	1.00	30.82	N
30	ATOM	1101	CA	THR B 313	27.995	16.403	20.467	1.00	30.83	C
	ATOM	1102	CB	THR B 313	28.119	15.362	19.309	1.00	38.00	C
	ATOM	1103	OG1	THR B 313	28.224	14.049	19.852	1.00	38.91	O
	ATOM	1104	CG2	THR B 313	29.329	15.602	18.419	1.00	37.80	C
	ATOM	1105	C	THR B 313	29.263	16.489	21.285	1.00	30.65	C
35	ATOM	1106	O	THR B 313	30.080	17.411	21.088	1.00	30.86	O
	ATOM	1107	N	ALA B 314	29.444	15.482	22.175	1.00	30.33	N
	ATOM	1108	CA	ALA B 314	30.629	15.300	23.006	1.00	29.78	C
	ATOM	1109	CB	ALA B 314	30.368	14.195	24.019	1.00	30.00	C
	ATOM	1110	C	ALA B 314	31.792	14.871	22.090	1.00	29.78	C
40	ATOM	1111	O	ALA B 314	31.580	14.048	21.173	1.00	29.66	O
	ATOM	1112	N	ALA B 315	33.020	15.391	22.331	1.00	28.44	N
	ATOM	1113	CA	ALA B 315	34.180	14.974	21.525	1.00	28.07	C
	ATOM	1114	CB	ALA B 315	35.353	15.911	21.760	1.00	28.15	C
	ATOM	1115	C	ALA B 315	34.595	13.518	21.846	1.00	28.08	C
45	ATOM	1116	O	ALA B 315	35.171	12.827	20.995	1.00	27.81	O
	ATOM	1117	N	GLY B 316	34.278	13.063	23.063	1.00	27.97	N
	ATOM	1118	CA	GLY B 316	34.637	11.735	23.560	1.00	28.49	C
	ATOM	1119	C	GLY B 316	35.602	11.907	24.727	1.00	29.31	C
	ATOM	1120	O	GLY B 316	36.307	12.926	24.799	1.00	28.70	O
50	ATOM	1121	N	ASN B 317	35.593	10.944	25.679	1.00	29.99	N
	ATOM	1122	CA	ASN B 317	36.401	10.959	26.893	1.00	31.25	C
	ATOM	1123	CB	ASN B 317	35.499	10.678	28.092	1.00	29.52	C
	ATOM	1124	CG	ASN B 317	34.383	11.666	28.316	1.00	29.74	C
	ATOM	1125	OD1	ASN B 317	34.465	12.854	27.991	1.00	29.91	O

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	ATOM	1126	ND2 ASN B 317	33.318	11.208	28.923	1.00	29.03	N
	ATOM	1127	C ASN B 317	37.505	9.911	26.797	1.00	32.46	C
	ATOM	1128	O ASN B 317	37.790	9.195	27.773	1.00	33.25	O
	ATOM	1129	N PHE B 318	38.155	9.823	25.631	1.00	34.04	N
5	ATOM	1130	CA PHE B 318	39.172	8.797	25.444	1.00	35.13	C
	ATOM	1131	CB PHE B 318	38.806	7.889	24.262	1.00	34.13	C
	ATOM	1132	CG PHE B 318	37.374	7.403	24.312	1.00	33.75	C
	ATOM	1133	CD1 PHE B 318	37.013	6.338	25.118	1.00	33.12	C
	ATOM	1134	CE1 PHE B 318	35.688	5.893	25.161	1.00	33.52	C
10	ATOM	1135	CZ PHE B 318	34.718	6.534	24.415	1.00	32.98	C
	ATOM	1136	CE2 PHE B 318	35.062	7.587	23.607	1.00	31.62	C
	ATOM	1137	CD2 PHE B 318	36.384	8.027	23.562	1.00	32.85	C
	ATOM	1138	C PHE B 318	40.607	9.265	25.381	1.00	36.38	C
	ATOM	1139	O PHE B 318	41.470	8.431	25.125	1.00	37.43	O
15	ATOM	1140	N ARG B 319	40.890	10.566	25.630	1.00	39.85	N
	ATOM	1141	CA ARG B 319	42.242	11.150	25.556	1.00	40.82	C
	ATOM	1142	CB ARG B 319	43.118	10.707	26.743	1.00	49.83	C
	ATOM	1143	CG ARG B 319	44.142	11.774	27.110	1.00	54.00	C
	ATOM	1144	CD ARG B 319	45.191	11.297	28.093	1.00	61.76	C
20	ATOM	1145	NE ARG B 319	44.779	11.481	29.490	1.00	68.02	N
	ATOM	1146	CZ ARG B 319	45.117	10.666	30.492	1.00	72.17	C
	ATOM	1147	NH1 ARG B 319	45.873	9.592	30.263	1.00	72.63	N
	ATOM	1148	NH2 ARG B 319	44.703	10.918	31.731	1.00	73.93	N
	ATOM	1149	C ARG B 319	42.844	10.740	24.199	1.00	40.44	C
25	ATOM	1150	O ARG B 319	44.005	10.312	24.100	1.00	40.31	O
	ATOM	1151	N ASP B 320	41.998	10.856	23.156	1.00	39.08	N
	ATOM	1152	CA ASP B 320	42.261	10.427	21.795	1.00	38.92	C
	ATOM	1153	CB ASP B 320	41.591	9.040	21.630	1.00	40.61	C
	ATOM	1154	CG ASP B 320	42.061	8.165	20.487	1.00	41.51	C
30	ATOM	1155	OD1 ASP B 320	42.972	8.605	19.729	1.00	44.06	O
	ATOM	1156	OD2 ASP B 320	41.519	7.043	20.336	1.00	39.19	O
	ATOM	1157	C ASP B 320	41.765	11.429	20.731	1.00	38.82	C
	ATOM	1158	O ASP B 320	41.102	12.412	21.052	1.00	38.65	O
	ATOM	1159	N ASP B 321	42.130	11.185	19.462	1.00	39.08	N
35	ATOM	1160	CA ASP B 321	41.736	11.988	18.301	1.00	38.58	C
	ATOM	1161	CB ASP B 321	42.565	11.527	17.094	1.00	42.56	C
	ATOM	1162	CG ASP B 321	42.475	12.341	15.823	1.00	44.20	C
	ATOM	1163	OD1 ASP B 321	41.499	13.107	15.669	1.00	45.68	O
	ATOM	1164	OD2 ASP B 321	43.375	12.194	14.963	1.00	48.16	O
40	ATOM	1165	C ASP B 321	40.217	11.775	18.074	1.00	37.68	C
	ATOM	1166	O ASP B 321	39.775	10.646	17.853	1.00	37.11	O
	ATOM	1167	N ALA B 322	39.425	12.862	18.180	1.00	36.81	N
	ATOM	1168	CA ALA B 322	37.955	12.842	18.046	1.00	36.40	C
	ATOM	1169	CB ALA B 322	37.356	14.196	18.400	1.00	36.57	C
45	ATOM	1170	C ALA B 322	37.459	12.377	16.683	1.00	35.94	C
	ATOM	1171	O ALA B 322	36.313	11.964	16.569	1.00	35.91	O
	ATOM	1172	N CYS B 323	38.327	12.423	15.672	1.00	33.90	N
	ATOM	1173	CA CYS B 323	38.054	12.019	14.305	1.00	33.91	C
	ATOM	1174	CB CYS B 323	39.157	12.499	13.363	1.00	34.67	C
50	ATOM	1175	SG CYS B 323	39.368	14.310	13.336	1.00	39.12	S
	ATOM	1176	C CYS B 323	37.776	10.528	14.159	1.00	33.21	C
	ATOM	1177	O CYS B 323	37.162	10.127	13.173	1.00	33.46	O
	ATOM	1178	N LEU B 324	38.179	9.714	15.151	1.00	31.93	N
	ATOM	1179	CA LEU B 324	37.959	8.268	15.183	1.00	31.15	C

	ATOM	1180	CB	LEU B 324	39.060	7.564	16.010	1.00	30.82	C
	ATOM	1181	CG	LEU B 324	40.540	7.909	15.710	1.00	31.14	C
	ATOM	1182	CD1	LEU B 324	41.442	7.359	16.785	1.00	31.21	C
	ATOM	1183	CD2	LEU B 324	40.990	7.390	14.355	1.00	29.04	C
5	ATOM	1184	C	LEU B 324	36.582	7.938	15.791	1.00	31.09	C
	ATOM	1185	O	LEU B 324	36.186	6.759	15.829	1.00	31.21	O
	ATOM	1186	N	TYR B 325	35.851	8.965	16.264	1.00	29.92	N
	ATOM	1187	CA	TYR B 325	34.566	8.761	16.918	1.00	29.47	C
	ATOM	1188	CB	TYR B 325	34.652	9.244	18.382	1.00	29.77	C
10	ATOM	1189	CG	TYR B 325	35.793	8.567	19.113	1.00	29.83	C
	ATOM	1190	CD1	TYR B 325	35.603	7.356	19.775	1.00	28.38	C
	ATOM	1191	CE1	TYR B 325	36.665	6.695	20.388	1.00	28.71	C
	ATOM	1192	CZ	TYR B 325	37.938	7.245	20.336	1.00	28.77	C
	ATOM	1193	OH	TYR B 325	39.001	6.609	20.921	1.00	28.92	O
15	ATOM	1194	CE2	TYR B 325	38.148	8.450	19.690	1.00	28.14	C
	ATOM	1195	CD2	TYR B 325	37.081	9.098	19.078	1.00	28.60	C
	ATOM	1196	C	TYR B 325	33.414	9.391	16.206	1.00	29.29	C
	ATOM	1197	O	TYR B 325	33.609	10.294	15.392	1.00	29.71	O
	ATOM	1198	N	SER B 326	32.206	8.933	16.519	1.00	27.99	N
20	ATOM	1199	CA	SER B 326	30.969	9.477	15.961	1.00	27.60	C
	ATOM	1200	CB	SER B 326	30.442	8.589	14.850	1.00	26.03	C
	ATOM	1201	OG	SER B 326	31.204	8.880	13.702	1.00	24.73	O
	ATOM	1202	C	SER B 326	29.901	9.682	17.076	1.00	27.94	C
	ATOM	1203	O	SER B 326	29.838	8.860	18.006	1.00	27.70	O
25	ATOM	1204	N	PRO B 327	29.084	10.777	17.028	1.00	30.58	N
	ATOM	1205	CA	PRO B 327	28.997	11.812	15.970	1.00	30.62	C
	ATOM	1206	CB	PRO B 327	27.618	12.452	16.213	1.00	31.77	C
	ATOM	1207	CG	PRO B 327	26.927	11.586	17.246	1.00	31.68	C
	ATOM	1208	CD	PRO B 327	28.045	11.002	18.046	1.00	31.42	C
30	ATOM	1209	C	PRO B 327	30.128	12.834	15.939	1.00	30.65	C
	ATOM	1210	O	PRO B 327	30.132	13.683	15.061	1.00	30.75	O
	ATOM	1211	N	ALA B 328	31.091	12.738	16.878	1.00	31.66	N
	ATOM	1212	CA	ALA B 328	32.244	13.621	17.047	1.00	31.94	C
	ATOM	1213	CB	ALA B 328	33.196	13.012	18.047	1.00	32.42	C
35	ATOM	1214	C	ALA B 328	33.007	14.049	15.782	1.00	32.51	C
	ATOM	1215	O	ALA B 328	33.384	15.212	15.664	1.00	32.57	O
	ATOM	1216	N	SER B 329	33.248	13.107	14.848	1.00	33.98	N
	ATOM	1217	CA	SER B 329	33.985	13.361	13.612	1.00	33.71	C
	ATOM	1218	CB	SER B 329	34.650	12.086	13.115	1.00	32.49	C
40	ATOM	1219	OG	SER B 329	33.709	11.043	12.958	1.00	31.06	O
	ATOM	1220	C	SER B 329	33.168	14.003	12.494	1.00	34.00	C
	ATOM	1221	O	SER B 329	33.765	14.531	11.547	1.00	34.17	O
	ATOM	1222	N	ALA B 330	31.825	13.951	12.578	1.00	32.87	N
	ATOM	1223	CA	ALA B 330	30.965	14.542	11.554	1.00	33.13	C
45	ATOM	1224	CB	ALA B 330	29.491	14.298	11.876	1.00	33.53	C
	ATOM	1225	C	ALA B 330	31.266	16.040	11.459	1.00	33.48	C
	ATOM	1226	O	ALA B 330	31.110	16.747	12.460	1.00	33.33	O
	ATOM	1227	N	PRO B 331	31.752	16.525	10.281	1.00	37.56	N
	ATOM	1228	CA	PRO B 331	32.087	17.970	10.135	1.00	38.14	C
50	ATOM	1229	CB	PRO B 331	32.537	18.091	8.674	1.00	38.47	C
	ATOM	1230	CG	PRO B 331	32.851	16.735	8.243	1.00	38.59	C
	ATOM	1231	CD	PRO B 331	32.009	15.794	9.021	1.00	38.87	C
	ATOM	1232	C	PRO B 331	30.939	18.948	10.379	1.00	38.84	C
	ATOM	1233	O	PRO B 331	31.149	20.054	10.879	1.00	38.89	O

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	ATOM	1234	N	GLU B 332	29.731	18.532	10.018	1.00	42.13	N
	ATOM	1235	CA	GLU B 332	28.538	19.337	10.113	1.00	43.69	C
	ATOM	1236	CB	GLU B 332	27.633	19.052	8.898	1.00	45.86	C
	ATOM	1237	CG	GLU B 332	27.527	17.575	8.561	1.00	50.49	C
5	ATOM	1238	CD	GLU B 332	28.577	16.892	7.687	1.00	54.62	C
	ATOM	1239	OE1	GLU B 332	29.164	15.890	8.157	1.00	55.64	O
	ATOM	1240	OE2	GLU B 332	28.783	17.326	6.526	1.00	55.59	O
	ATOM	1241	C	GLU B 332	27.805	19.321	11.483	1.00	43.84	C
	ATOM	1242	O	GLU B 332	26.600	19.570	11.531	1.00	45.26	O
10	ATOM	1243	N	VAL B 333	28.528	19.038	12.591	1.00	40.06	N
	ATOM	1244	CA	VAL B 333	28.027	19.015	13.973	1.00	39.46	C
	ATOM	1245	CB	VAL B 333	27.715	17.603	14.568	1.00	42.94	C
	ATOM	1246	CG1	VAL B 333	26.910	16.724	13.619	1.00	42.82	C
	ATOM	1247	CG2	VAL B 333	28.971	16.888	15.036	1.00	43.96	C
15	ATOM	1248	C	VAL B 333	29.021	19.793	14.845	1.00	39.20	C
	ATOM	1249	O	VAL B 333	30.198	19.879	14.492	1.00	40.65	O
	ATOM	1250	N	ILE B 334	28.574	20.361	15.971	1.00	35.18	N
	ATOM	1251	CA	ILE B 334	29.479	21.091	16.851	1.00	33.66	C
	ATOM	1252	CB	ILE B 334	28.821	22.350	17.445	1.00	35.06	C
20	ATOM	1253	CG1	ILE B 334	28.395	23.306	16.320	1.00	35.27	C
	ATOM	1254	CD1	ILE B 334	27.131	24.096	16.621	1.00	37.09	C
	ATOM	1255	CG2	ILE B 334	29.749	23.047	18.418	1.00	33.32	C
	ATOM	1256	C	ILE B 334	30.023	20.086	17.877	1.00	33.38	C
	ATOM	1257	O	ILE B 334	29.273	19.564	18.711	1.00	33.33	O
25	ATOM	1258	N	THR B 335	31.329	19.785	17.763	1.00	31.67	N
	ATOM	1259	CA	THR B 335	32.041	18.840	18.613	1.00	30.93	C
	ATOM	1260	CB	THR B 335	32.912	17.918	17.770	1.00	34.38	C
	ATOM	1261	OG1	THR B 335	32.089	17.318	16.772	1.00	34.47	O
	ATOM	1262	CG2	THR B 335	33.561	16.828	18.581	1.00	33.54	C
30	ATOM	1263	C	THR B 335	32.736	19.590	19.730	1.00	30.82	C
	ATOM	1264	O	THR B 335	33.565	20.451	19.483	1.00	30.69	O
	ATOM	1265	N	VAL B 336	32.350	19.271	20.974	1.00	31.95	N
	ATOM	1266	CA	VAL B 336	32.835	19.935	22.181	1.00	31.54	C
	ATOM	1267	CB	VAL B 336	31.652	20.552	22.964	1.00	32.92	C
35	ATOM	1268	CG1	VAL B 336	32.146	21.601	23.934	1.00	32.70	C
	ATOM	1269	CG2	VAL B 336	30.603	21.144	22.029	1.00	30.68	C
	ATOM	1270	C	VAL B 336	33.732	19.078	23.101	1.00	32.18	C
	ATOM	1271	O	VAL B 336	33.351	17.973	23.549	1.00	32.27	O
	ATOM	1272	N	GLY B 337	34.910	19.626	23.382	1.00	31.72	N
40	ATOM	1273	CA	GLY B 337	35.882	19.016	24.267	1.00	31.60	C
	ATOM	1274	C	GLY B 337	35.673	19.590	25.650	1.00	32.21	C
	ATOM	1275	O	GLY B 337	35.009	20.616	25.810	1.00	32.64	O
	ATOM	1276	N	ALA B 338	36.232	18.938	26.664	1.00	30.34	N
	ATOM	1277	CA	ALA B 338	36.089	19.402	28.026	1.00	30.15	C
45	ATOM	1278	CB	ALA B 338	35.599	18.265	28.908	1.00	30.06	C
	ATOM	1279	C	ALA B 338	37.370	20.024	28.599	1.00	30.48	C
	ATOM	1280	O	ALA B 338	38.457	19.451	28.480	1.00	30.89	O
	ATOM	1281	N	THR B 339	37.218	21.208	29.223	1.00	30.08	N
	ATOM	1282	CA	THR B 339	38.252	21.951	29.936	1.00	30.54	C
50	ATOM	1283	CB	THR B 339	38.529	23.325	29.309	1.00	38.09	C
	ATOM	1284	OG1	THR B 339	37.336	24.120	29.263	1.00	38.64	O
	ATOM	1285	CG2	THR B 339	39.190	23.223	27.944	1.00	38.79	C
	ATOM	1286	C	THR B 339	37.788	22.045	31.402	1.00	30.53	C
	ATOM	1287	O	THR B 339	36.596	21.886	31.674	1.00	31.12	O

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	ATOM	1288	N	ASN B 340	38.708	22.277	32.334	1.00	31.32	N
	ATOM	1289	CA	ASN B 340	38.372	22.389	33.746	1.00	31.54	C
	ATOM	1290	CB	ASN B 340	39.307	21.535	34.603	1.00	34.18	C
	ATOM	1291	CG	ASN B 340	40.776	21.838	34.447	1.00	35.52	C
5	ATOM	1292	OD1	ASN B 340	41.186	22.974	34.160	1.00	37.72	O
	ATOM	1293	ND2	ASN B 340	41.610	20.822	34.638	1.00	35.46	N
	ATOM	1294	C	ASN B 340	38.342	23.844	34.217	1.00	31.66	C
	ATOM	1295	O	ASN B 340	38.423	24.761	33.385	1.00	31.35	O
	ATOM	1296	N	ALA B 341	38.219	24.064	35.558	1.00	33.36	N
10	ATOM	1297	CA	ALA B 341	38.164	25.412	36.137	1.00	33.84	C
	ATOM	1298	CB	ALA B 341	37.782	25.358	37.609	1.00	34.30	C
	ATOM	1299	C	ALA B 341	39.427	26.252	35.919	1.00	34.64	C
	ATOM	1300	O	ALA B 341	39.378	27.473	36.071	1.00	35.12	O
	ATOM	1301	N	GLN B 342	40.546	25.606	35.549	1.00	36.03	N
15	ATOM	1302	CA	GLN B 342	41.813	26.273	35.287	1.00	36.75	C
	ATOM	1303	CB	GLN B 342	42.988	25.471	35.868	1.00	37.91	C
	ATOM	1304	CG	GLN B 342	43.132	25.503	37.388	1.00	39.44	C
	ATOM	1305	CD	GLN B 342	43.023	26.880	38.003	1.00	42.11	C
	ATOM	1306	OE1	GLN B 342	42.074	27.166	38.748	1.00	44.71	O
20	ATOM	1307	NE2	GLN B 342	43.977	27.774	37.719	1.00	42.23	N
	ATOM	1308	C	GLN B 342	41.984	26.472	33.786	1.00	37.45	C
	ATOM	1309	O	GLN B 342	43.091	26.800	33.342	1.00	37.79	O
	ATOM	1310	N	ASP B 343	40.879	26.290	32.997	1.00	38.20	N
	ATOM	1311	CA	ASP B 343	40.839	26.415	31.531	1.00	38.72	C
25	ATOM	1312	CB	ASP B 343	41.151	27.855	31.087	1.00	42.54	C
	ATOM	1313	CG	ASP B 343	40.000	28.832	31.265	1.00	45.47	C
	ATOM	1314	OD1	ASP B 343	38.828	28.423	31.066	1.00	47.22	O
	ATOM	1315	OD2	ASP B 343	40.268	30.011	31.592	1.00	48.90	O
	ATOM	1316	C	ASP B 343	41.757	25.388	30.837	1.00	38.33	C
30	ATOM	1317	O	ASP B 343	42.211	25.608	29.724	1.00	37.80	O
	ATOM	1318	N	GLN B 344	42.009	24.257	31.501	1.00	37.08	N
	ATOM	1319	CA	GLN B 344	42.881	23.205	30.988	1.00	37.15	C
	ATOM	1320	CB	GLN B 344	44.067	22.931	31.944	1.00	37.39	C
	ATOM	1321	CG	GLN B 344	44.919	24.153	32.225	1.00	35.75	C
35	ATOM	1322	CD	GLN B 344	45.209	24.973	30.988	1.00	36.63	C
	ATOM	1323	OE1	GLN B 344	44.942	26.186	30.938	1.00	36.72	O
	ATOM	1324	NE2	GLN B 344	45.761	24.335	29.956	1.00	34.82	N
	ATOM	1325	C	GLN B 344	42.132	21.935	30.619	1.00	37.50	C
	ATOM	1326	O	GLN B 344	41.114	21.658	31.242	1.00	37.31	O
40	ATOM	1327	N	PRO B 345	42.620	21.164	29.610	1.00	38.91	N
	ATOM	1328	CA	PRO B 345	41.919	19.940	29.196	1.00	39.54	C
	ATOM	1329	CB	PRO B 345	42.857	19.353	28.147	1.00	40.92	C
	ATOM	1330	CG	PRO B 345	43.528	20.533	27.595	1.00	41.38	C
	ATOM	1331	CD	PRO B 345	43.815	21.375	28.775	1.00	40.36	C
45	ATOM	1332	C	PRO B 345	41.672	18.960	30.327	1.00	40.26	C
	ATOM	1333	O	PRO B 345	42.540	18.764	31.184	1.00	40.83	O
	ATOM	1334	N	VAL B 346	40.477	18.365	30.352	1.00	39.92	N
	ATOM	1335	CA	VAL B 346	40.154	17.414	31.399	1.00	40.65	C
	ATOM	1336	CB	VAL B 346	38.642	17.125	31.521	1.00	39.84	C
50	ATOM	1337	CG1	VAL B 346	38.368	16.111	32.614	1.00	38.31	C
	ATOM	1338	CG2	VAL B 346	37.885	18.398	31.803	1.00	38.10	C
	ATOM	1339	C	VAL B 346	41.031	16.166	31.236	1.00	42.38	C
	ATOM	1340	O	VAL B 346	41.061	15.535	30.175	1.00	42.35	O
	ATOM	1341	N	THR B 347	41.812	15.893	32.274	1.00	50.88	N

	ATOM	1342	CA	THR	B	347	42.719	14.762	32.397	1.00	53.53	C
	ATOM	1343	CB	THR	B	347	44.161	15.265	32.569	1.00	56.91	C
	ATOM	1344	OG1	THR	B	347	44.590	15.882	31.352	1.00	56.54	O
	ATOM	1345	CG2	THR	B	347	45.109	14.165	32.945	1.00	57.61	C
5	ATOM	1346	C	THR	B	347	42.146	14.088	33.623	1.00	55.62	C
	ATOM	1347	O	THR	B	347	42.431	14.508	34.744	1.00	56.04	O
	ATOM	1348	N	LEU	B	348	41.256	13.121	33.419	1.00	62.22	N
	ATOM	1349	CA	LEU	B	348	40.609	12.455	34.533	1.00	64.77	C
	ATOM	1350	CB	LEU	B	348	39.204	13.040	34.793	1.00	65.06	C
10	ATOM	1351	CG	LEU	B	348	38.970	13.689	36.183	1.00	65.97	C
	ATOM	1352	CD1	LEU	B	348	37.490	13.921	36.439	1.00	66.58	C
	ATOM	1353	CD2	LEU	B	348	39.734	15.016	36.363	1.00	65.69	C
	ATOM	1354	C	LEU	B	348	40.619	10.951	34.326	1.00	66.52	C
	ATOM	1355	O	LEU	B	348	40.087	10.433	33.322	1.00	66.96	O
15	ATOM	1356	N	GLY	B	349	41.266	10.280	35.283	1.00	69.75	N
	ATOM	1357	CA	GLY	B	349	41.481	8.844	35.270	1.00	70.85	C
	ATOM	1358	C	GLY	B	349	42.704	8.622	34.407	1.00	71.89	C
	ATOM	1359	O	GLY	B	349	43.605	9.478	34.387	1.00	71.76	O
	ATOM	1360	N	THR	B	350	42.739	7.486	33.666	1.00	74.93	N
20	ATOM	1361	CA	THR	B	350	43.845	7.160	32.740	1.00	75.54	C
	ATOM	1362	CB	THR	B	350	44.235	5.659	32.793	1.00	86.32	C
	ATOM	1363	OG1	THR	B	350	43.063	4.850	32.649	1.00	87.59	O
	ATOM	1364	CG2	THR	B	350	45.001	5.286	34.063	1.00	86.74	C
	ATOM	1365	C	THR	B	350	43.447	7.657	31.325	1.00	75.08	C
25	ATOM	1366	O	THR	B	350	44.091	7.313	30.315	1.00	75.64	O
	ATOM	1367	N	LEU	B	351	42.360	8.479	31.280	1.00	71.36	N
	ATOM	1368	CA	LEU	B	351	41.786	9.071	30.079	1.00	69.43	C
	ATOM	1369	CB	LEU	B	351	40.544	8.270	29.637	1.00	69.52	C
	ATOM	1370	CG	LEU	B	351	40.775	6.804	29.227	1.00	70.02	C
30	ATOM	1371	CD1	LEU	B	351	39.454	6.107	28.942	1.00	70.15	C
	ATOM	1372	CD2	LEU	B	351	41.721	6.690	28.028	1.00	69.89	C
	ATOM	1373	C	LEU	B	351	41.473	10.571	30.292	1.00	67.68	C
	ATOM	1374	O	LEU	B	351	42.126	11.231	31.115	1.00	68.03	O
	ATOM	1375	N	GLY	B	352	40.496	11.089	29.546	1.00	58.19	N
35	ATOM	1376	CA	GLY	B	352	40.099	12.485	29.580	1.00	53.74	C
	ATOM	1377	C	GLY	B	352	39.613	12.942	28.222	1.00	50.86	C
	ATOM	1378	O	GLY	B	352	39.370	12.114	27.342	1.00	50.84	O
	ATOM	1379	N	THR	B	353	39.468	14.257	28.035	1.00	43.70	N
	ATOM	1380	CA	THR	B	353	38.967	14.814	26.791	1.00	40.62	C
40	ATOM	1381	CB	THR	B	353	38.776	16.332	26.888	1.00	38.06	C
	ATOM	1382	OG1	THR	B	353	37.990	16.781	25.777	1.00	36.29	O
	ATOM	1383	CG2	THR	B	353	40.092	17.100	26.972	1.00	37.35	C
	ATOM	1384	C	THR	B	353	39.672	14.410	25.504	1.00	39.09	C
	ATOM	1385	O	THR	B	353	40.907	14.335	25.449	1.00	38.87	O
45	ATOM	1386	N	ASN	B	354	38.871	14.212	24.441	1.00	36.49	N
	ATOM	1387	CA	ASN	B	354	39.383	13.926	23.115	1.00	34.87	C
	ATOM	1388	CB	ASN	B	354	38.311	13.281	22.276	1.00	29.14	C
	ATOM	1389	CG	ASN	B	354	38.277	11.786	22.358	1.00	27.59	C
	ATOM	1390	OD1	ASN	B	354	39.044	11.142	23.073	1.00	28.51	O
50	ATOM	1391	ND2	ASN	B	354	37.381	11.193	21.609	1.00	25.14	N
	ATOM	1392	C	ASN	B	354	39.901	15.259	22.501	1.00	34.48	C
	ATOM	1393	O	ASN	B	354	39.620	16.328	23.042	1.00	34.18	O
	ATOM	1394	N	PHE	B	355	40.669	15.211	21.418	1.00	36.32	N
	ATOM	1395	CA	PHE	B	355	41.244	16.435	20.820	1.00	36.65	C

	ATOM	1396	CB	PHE B 355	42.656	16.694	21.440	1.00	38.49	C
	ATOM	1397	CG	PHE B 355	43.427	15.421	21.700	1.00	38.85	C
	ATOM	1398	CD1	PHE B 355	43.540	14.909	22.985	1.00	38.60	C
	ATOM	1399	CE1	PHE B 355	44.195	13.688	23.220	1.00	38.10	C
5	ATOM	1400	CZ	PHE B 355	44.723	12.973	22.168	1.00	37.81	C
	ATOM	1401	CE2	PHE B 355	44.610	13.458	20.881	1.00	39.12	C
	ATOM	1402	CD2	PHE B 355	43.944	14.670	20.644	1.00	39.74	C
	ATOM	1403	C	PHE B 355	41.331	16.338	19.264	1.00	36.88	C
	ATOM	1404	O	PHE B 355	40.697	15.470	18.645	1.00	36.71	O
10	ATOM	1405	N	GLY B 356	42.112	17.224	18.654	1.00	35.93	N
	ATOM	1406	CA	GLY B 356	42.293	17.201	17.215	1.00	36.01	C
	ATOM	1407	C	GLY B 356	41.402	18.107	16.404	1.00	36.20	C
	ATOM	1408	O	GLY B 356	40.569	18.850	16.935	1.00	36.29	O
	ATOM	1409	N	ARG B 357	41.600	18.030	15.086	1.00	34.81	N
15	ATOM	1410	CA	ARG B 357	40.907	18.802	14.073	1.00	34.86	C
	ATOM	1411	CB	ARG B 357	41.476	18.528	12.667	1.00	34.52	C
	ATOM	1412	CG	ARG B 357	41.577	17.060	12.332	1.00	35.79	C
	ATOM	1413	CD	ARG B 357	41.830	16.810	10.874	1.00	39.50	C
	ATOM	1414	NE	ARG B 357	41.433	15.446	10.526	1.00	43.33	N
20	ATOM	1415	CZ	ARG B 357	40.322	15.135	9.861	1.00	44.48	C
	ATOM	1416	NH1	ARG B 357	39.495	16.093	9.446	1.00	44.60	N
	ATOM	1417	NH2	ARG B 357	40.029	13.868	9.602	1.00	46.54	N
	ATOM	1418	C	ARG B 357	39.414	18.649	14.105	1.00	34.60	C
	ATOM	1419	O	ARG B 357	38.742	19.549	13.635	1.00	34.76	O
25	ATOM	1420	N	CYS B 358	38.879	17.533	14.634	1.00	35.86	N
	ATOM	1421	CA	CYS B 358	37.423	17.317	14.674	1.00	35.43	C
	ATOM	1422	CB	CYS B 358	37.054	15.847	14.523	1.00	37.22	C
	ATOM	1423	SG	CYS B 358	37.538	15.144	12.934	1.00	38.72	S
	ATOM	1424	C	CYS B 358	36.685	17.979	15.805	1.00	34.84	C
30	ATOM	1425	O	CYS B 358	35.470	17.949	15.824	1.00	34.91	O
	ATOM	1426	N	VAL B 359	37.410	18.596	16.725	1.00	34.34	N
	ATOM	1427	CA	VAL B 359	36.859	19.325	17.865	1.00	33.94	C
	ATOM	1428	CB	VAL B 359	37.771	19.220	19.116	1.00	36.16	C
	ATOM	1429	CG1	VAL B 359	37.251	20.094	20.251	1.00	35.76	C
35	ATOM	1430	CG2	VAL B 359	37.904	17.770	19.582	1.00	35.69	C
	ATOM	1431	C	VAL B 359	36.672	20.769	17.402	1.00	33.89	C
	ATOM	1432	O	VAL B 359	37.587	21.357	16.817	1.00	34.43	O
	ATOM	1433	N	ASP B 360	35.493	21.321	17.622	1.00	33.22	N
	ATOM	1434	CA	ASP B 360	35.216	22.686	17.227	1.00	33.06	C
40	ATOM	1435	CB	ASP B 360	33.750	22.855	16.850	1.00	35.54	C
	ATOM	1436	CG	ASP B 360	33.441	22.029	15.621	1.00	37.22	C
	ATOM	1437	OD1	ASP B 360	33.944	22.383	14.521	1.00	38.62	O
	ATOM	1438	OD2	ASP B 360	32.722	21.009	15.754	1.00	40.25	O
	ATOM	1439	C	ASP B 360	35.692	23.686	18.255	1.00	32.63	C
45	ATOM	1440	O	ASP B 360	36.269	24.717	17.894	1.00	33.14	O
	ATOM	1441	N	LEU B 361	35.490	23.370	19.539	1.00	31.40	N
	ATOM	1442	CA	LEU B 361	35.875	24.217	20.669	1.00	30.67	C
	ATOM	1443	CB	LEU B 361	34.951	25.481	20.735	1.00	30.36	C
	ATOM	1444	CG	LEU B 361	33.483	25.324	21.226	1.00	30.90	C
50	ATOM	1445	CD1	LEU B 361	32.822	26.660	21.348	1.00	29.56	C
	ATOM	1446	CD2	LEU B 361	32.644	24.423	20.315	1.00	29.22	C
	ATOM	1447	C	LEU B 361	35.803	23.406	21.964	1.00	30.13	C
	ATOM	1448	O	LEU B 361	35.408	22.243	21.949	1.00	30.62	O
	ATOM	1449	N	PHE B 362	36.159	24.014	23.069	1.00	28.77	N

	ATOM	1450	CA	PHE B 362	36.090	23.371	24.366	1.00	28.79	C
	ATOM	1451	CB	PHE B 362	37.474	23.354	25.017	1.00	30.27	C
	ATOM	1452	CG	PHE B 362	38.414	22.383	24.351	1.00	30.50	C
	ATOM	1453	CD1	PHE B 362	38.621	21.119	24.884	1.00	29.96	C
5	ATOM	1454	CE1	PHE B 362	39.468	20.205	24.253	1.00	29.60	C
	ATOM	1455	CZ	PHE B 362	40.113	20.553	23.091	1.00	29.78	C
	ATOM	1456	CE2	PHE B 362	39.918	21.806	22.539	1.00	30.05	C
	ATOM	1457	CD2	PHE B 362	39.075	22.723	23.172	1.00	30.55	C
	ATOM	1458	C	PHE B 362	35.079	24.140	25.221	1.00	28.82	C
10	ATOM	1459	O	PHE B 362	34.790	25.290	24.916	1.00	28.79	O
	ATOM	1460	N	ALA B 363	34.529	23.522	26.251	1.00	29.28	N
	ATOM	1461	CA	ALA B 363	33.570	24.188	27.122	1.00	30.01	C
	ATOM	1462	CB	ALA B 363	32.141	23.956	26.628	1.00	30.70	C
	ATOM	1463	C	ALA B 363	33.751	23.580	28.506	1.00	30.89	C
15	ATOM	1464	O	ALA B 363	34.351	22.492	28.592	1.00	31.10	O
	ATOM	1465	N	PRO B 364	33.262	24.217	29.606	1.00	31.62	N
	ATOM	1466	CA	PRO B 364	33.459	23.606	30.937	1.00	32.12	C
	ATOM	1467	CB	PRO B 364	32.710	24.560	31.866	1.00	32.92	C
	ATOM	1468	CG	PRO B 364	32.752	25.866	31.162	1.00	32.41	C
20	ATOM	1469	CD	PRO B 364	32.565	25.515	29.716	1.00	32.25	C
	ATOM	1470	C	PRO B 364	32.929	22.171	30.988	1.00	32.72	C
	ATOM	1471	O	PRO B 364	31.770	21.948	30.627	1.00	33.29	O
	ATOM	1472	N	GLY B 365	33.792	21.214	31.357	1.00	32.09	N
	ATOM	1473	CA	GLY B 365	33.422	19.798	31.416	1.00	32.18	C
25	ATOM	1474	C	GLY B 365	34.028	18.980	32.539	1.00	32.49	C
	ATOM	1475	O	GLY B 365	34.181	17.767	32.422	1.00	32.56	O
	ATOM	1476	N	GLU B 366	34.400	19.627	33.621	1.00	34.76	N
	ATOM	1477	CA	GLU B 366	34.948	18.945	34.783	1.00	34.96	C
	ATOM	1478	CB	GLU B 366	36.458	19.067	34.850	1.00	37.10	C
30	ATOM	1479	CG	GLU B 366	37.039	18.243	35.980	1.00	39.92	C
	ATOM	1480	CD	GLU B 366	38.537	18.319	36.176	1.00	43.33	C
	ATOM	1481	OE1	GLU B 366	39.287	18.198	35.181	1.00	43.00	O
	ATOM	1482	OE2	GLU B 366	38.964	18.480	37.342	1.00	47.03	O
	ATOM	1483	C	GLU B 366	34.339	19.576	36.003	1.00	34.57	C
35	ATOM	1484	O	GLU B 366	34.197	20.799	36.050	1.00	34.54	O
	ATOM	1485	N	ASP B 367	33.961	18.750	36.984	1.00	35.28	N
	ATOM	1486	CA	ASP B 367	33.390	19.221	38.241	1.00	35.42	C
	ATOM	1487	CB	ASP B 367	34.526	19.843	39.070	1.00	37.34	C
	ATOM	1488	CG	ASP B 367	34.135	20.442	40.380	1.00	39.37	C
40	ATOM	1489	OD1	ASP B 367	33.401	19.761	41.155	1.00	42.59	O
	ATOM	1490	OD2	ASP B 367	34.562	21.589	40.653	1.00	41.43	O
	ATOM	1491	C	ASP B 367	32.190	20.177	38.008	1.00	35.19	C
	ATOM	1492	O	ASP B 367	32.149	21.306	38.550	1.00	35.99	O
	ATOM	1493	N	ILE B 368	31.218	19.713	37.189	1.00	31.81	N
45	ATOM	1494	CA	ILE B 368	30.034	20.498	36.835	1.00	31.52	C
	ATOM	1495	CB	ILE B 368	29.658	20.329	35.318	1.00	33.75	C
	ATOM	1496	CG1	ILE B 368	30.825	20.642	34.338	1.00	33.73	C
	ATOM	1497	CD1	ILE B 368	31.461	22.025	34.424	1.00	32.03	C
	ATOM	1498	CG2	ILE B 368	28.354	21.035	34.925	1.00	31.81	C
50	ATOM	1499	C	ILE B 368	28.861	20.193	37.748	1.00	31.80	C
	ATOM	1500	O	ILE B 368	28.399	19.058	37.744	1.00	32.62	O
	ATOM	1501	N	ILE B 369	28.364	21.195	38.506	1.00	30.80	N
	ATOM	1502	CA	ILE B 369	27.200	21.038	39.362	1.00	30.88	C
	ATOM	1503	CB	ILE B 369	27.052	22.166	40.448	1.00	33.96	C

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	ATOM	1504	CG1 ILE B 369	25.989	21.832	41.495	1.00	33.58	C
	ATOM	1505	CD1 ILE B 369	26.376	20.940	42.486	1.00	34.38	C
	ATOM	1506	CG2 ILE B 369	26.669	23.507	39.865	1.00	34.33	C
	ATOM	1507	C ILE B 369	25.970	20.947	38.448	1.00	31.28	C
5	ATOM	1508	O ILE B 369	25.824	21.719	37.485	1.00	31.82	O
	ATOM	1509	N GLY B 370	25.111	19.998	38.761	1.00	31.92	N
	ATOM	1510	CA GLY B 370	23.872	19.742	38.048	1.00	32.25	C
	ATOM	1511	C GLY B 370	22.976	18.823	38.852	1.00	32.61	C
	ATOM	1512	O GLY B 370	23.421	18.219	39.847	1.00	32.56	O
10	ATOM	1513	N ALA B 371	21.703	18.715	38.414	1.00	31.49	N
	ATOM	1514	CA ALA B 371	20.683	17.885	39.045	1.00	32.25	C
	ATOM	1515	CB ALA B 371	19.408	17.872	38.198	1.00	32.22	C
	ATOM	1516	C ALA B 371	21.158	16.449	39.302	1.00	33.17	C
	ATOM	1517	O ALA B 371	21.835	15.850	38.457	1.00	33.41	O
15	ATOM	1518	N SER B 372	20.836	15.926	40.479	1.00	35.35	N
	ATOM	1519	CA SER B 372	21.145	14.564	40.866	1.00	36.69	C
	ATOM	1520	CB SER B 372	21.864	14.515	42.207	1.00	40.78	C
	ATOM	1521	OG SER B 372	21.844	13.189	42.716	1.00	41.26	O
	ATOM	1522	C SER B 372	19.806	13.863	40.949	1.00	37.80	C
20	ATOM	1523	O SER B 372	18.864	14.372	41.554	1.00	37.93	O
	ATOM	1524	N SER B 373	19.708	12.700	40.325	1.00	42.62	N
	ATOM	1525	CA SER B 373	18.470	11.934	40.315	1.00	43.73	C
	ATOM	1526	CB SER B 373	18.509	10.912	39.191	1.00	45.30	C
	ATOM	1527	OG SER B 373	19.668	10.111	39.341	1.00	45.46	O
25	ATOM	1528	C SER B 373	18.137	11.278	41.673	1.00	44.71	C
	ATOM	1529	O SER B 373	17.048	10.733	41.814	1.00	45.28	O
	ATOM	1530	N ASP B 374	19.052	11.351	42.669	1.00	47.72	N
	ATOM	1531	CA ASP B 374	18.858	10.783	44.011	1.00	49.25	C
	ATOM	1532	CB ASP B 374	20.089	11.012	44.892	1.00	51.53	C
30	ATOM	1533	CG ASP B 374	21.305	10.196	44.501	1.00	53.34	C
	ATOM	1534	OD1 ASP B 374	21.187	9.325	43.587	1.00	55.14	O
	ATOM	1535	OD2 ASP B 374	22.372	10.411	45.105	1.00	56.96	O
	ATOM	1536	C ASP B 374	17.595	11.308	44.695	1.00	49.85	C
	ATOM	1537	O ASP B 374	16.805	10.502	45.203	1.00	50.71	O
35	ATOM	1538	N CYS B 375	17.406	12.650	44.698	1.00	48.63	N
	ATOM	1539	CA CYS B 375	16.233	13.312	45.252	1.00	48.94	C
	ATOM	1540	CB CYS B 375	16.426	13.681	46.717	1.00	50.35	C
	ATOM	1541	SG CYS B 375	17.319	15.228	46.978	1.00	53.78	S
	ATOM	1542	C CYS B 375	15.872	14.519	44.394	1.00	48.34	C
40	ATOM	1543	O CYS B 375	16.756	15.119	43.785	1.00	48.53	O
	ATOM	1544	N SER B 376	14.570	14.870	44.331	1.00	45.65	N
	ATOM	1545	CA SER B 376	14.058	15.980	43.522	1.00	44.66	C
	ATOM	1546	CB SER B 376	12.551	16.132	43.702	1.00	47.37	C
	ATOM	1547	OG SER B 376	12.224	16.902	44.849	1.00	47.93	O
45	ATOM	1548	C SER B 376	14.761	17.323	43.723	1.00	44.04	C
	ATOM	1549	O SER B 376	14.547	18.211	42.900	1.00	43.90	O
	ATOM	1550	N THR B 377	15.563	17.491	44.803	1.00	40.75	N
	ATOM	1551	CA THR B 377	16.257	18.758	45.086	1.00	40.70	C
	ATOM	1552	CB THR B 377	15.598	19.546	46.272	1.00	46.21	C
50	ATOM	1553	OG1 THR B 377	15.956	18.958	47.528	1.00	45.99	O
	ATOM	1554	CG2 THR B 377	14.089	19.667	46.161	1.00	45.54	C
	ATOM	1555	C THR B 377	17.763	18.543	45.301	1.00	40.93	C
	ATOM	1556	O THR B 377	18.450	19.417	45.846	1.00	40.88	O
	ATOM	1557	N CYS B 378	18.269	17.386	44.852	1.00	43.59	N

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	ATOM	1558	CA	CYS B 378	19.663	16.983	44.969	1.00	43.84	C
	ATOM	1559	CB	CYS B 378	19.767	15.466	45.028	1.00	46.78	C
	ATOM	1560	SG	CYS B 378	19.296	14.755	46.625	1.00	53.56	S
	ATOM	1561	C	CYS B 378	20.551	17.551	43.885	1.00	42.82	C
5	ATOM	1562	O	CYS B 378	20.081	17.832	42.786	1.00	42.51	O
	ATOM	1563	N	PHE B 379	21.848	17.697	44.194	1.00	41.19	N
	ATOM	1564	CA	PHE B 379	22.849	18.208	43.269	1.00	40.56	C
	ATOM	1565	CB	PHE B 379	23.161	19.679	43.544	1.00	43.19	C
	ATOM	1566	CG	PHE B 379	22.142	20.605	42.949	1.00	44.35	C
10	ATOM	1567	CD1	PHE B 379	22.329	21.146	41.685	1.00	44.68	C
	ATOM	1568	CE1	PHE B 379	21.369	21.993	41.127	1.00	46.06	C
	ATOM	1569	CZ	PHE B 379	20.226	22.304	41.841	1.00	47.36	C
	ATOM	1570	CE2	PHE B 379	20.017	21.762	43.089	1.00	44.85	C
	ATOM	1571	CD2	PHE B 379	20.971	20.915	43.640	1.00	45.41	C
15	ATOM	1572	C	PHE B 379	24.126	17.413	43.306	1.00	39.73	C
	ATOM	1573	O	PHE B 379	24.608	17.047	44.380	1.00	39.73	O
	ATOM	1574	N	VAL B 380	24.703	17.166	42.125	1.00	37.33	N
	ATOM	1575	CA	VAL B 380	25.955	16.420	42.037	1.00	35.90	C
	ATOM	1576	CB	VAL B 380	25.710	14.896	41.845	1.00	37.74	C
20	ATOM	1577	CG1	VAL B 380	25.090	14.570	40.475	1.00	37.02	C
	ATOM	1578	CG2	VAL B 380	26.973	14.093	42.089	1.00	36.53	C
	ATOM	1579	C	VAL B 380	26.842	17.029	40.979	1.00	35.35	C
	ATOM	1580	O	VAL B 380	26.338	17.580	40.011	1.00	34.78	O
	ATOM	1581	N	SER B 381	28.152	16.938	41.181	1.00	34.29	N
25	ATOM	1582	CA	SER B 381	29.186	17.397	40.267	1.00	33.36	C
	ATOM	1583	CB	SER B 381	30.409	17.837	41.049	1.00	37.29	C
	ATOM	1584	OG	SER B 381	30.833	19.118	40.625	1.00	39.57	O
	ATOM	1585	C	SER B 381	29.575	16.238	39.356	1.00	32.67	C
	ATOM	1586	O	SER B 381	29.857	15.135	39.835	1.00	32.08	O
30	ATOM	1587	N	GLN B 382	29.572	16.474	38.042	1.00	35.51	N
	ATOM	1588	CA	GLN B 382	29.952	15.445	37.057	1.00	35.63	C
	ATOM	1589	CB	GLN B 382	28.726	14.806	36.364	1.00	38.84	C
	ATOM	1590	CG	GLN B 382	28.091	13.674	37.187	1.00	43.37	C
	ATOM	1591	CD	GLN B 382	26.919	12.958	36.500	1.00	52.08	C
35	ATOM	1592	OE1	GLN B 382	26.920	12.664	35.268	1.00	54.95	O
	ATOM	1593	NE2	GLN B 382	25.877	12.633	37.292	1.00	54.12	N
	ATOM	1594	C	GLN B 382	30.994	15.982	36.083	1.00	34.30	C
	ATOM	1595	O	GLN B 382	31.132	17.202	35.933	1.00	34.47	O
	ATOM	1596	N	SER B 383	31.746	15.074	35.454	1.00	30.89	N
40	ATOM	1597	CA	SER B 383	32.796	15.415	34.500	1.00	30.05	C
	ATOM	1598	CB	SER B 383	34.180	15.143	35.100	1.00	33.35	C
	ATOM	1599	OG	SER B 383	34.502	15.969	36.212	1.00	33.76	O
	ATOM	1600	C	SER B 383	32.648	14.636	33.193	1.00	29.82	C
	ATOM	1601	O	SER B 383	32.263	13.477	33.206	1.00	29.98	O
45	ATOM	1602	N	GLY B 384	32.981	15.274	32.078	1.00	30.69	N
	ATOM	1603	CA	GLY B 384	32.942	14.646	30.766	1.00	30.26	C
	ATOM	1604	C	GLY B 384	32.682	15.595	29.626	1.00	30.31	C
	ATOM	1605	O	GLY B 384	32.329	16.758	29.842	1.00	30.29	O
	ATOM	1606	N	THR B 385	32.847	15.087	28.395	1.00	31.03	N
50	ATOM	1607	CA	THR B 385	32.593	15.875	27.199	1.00	30.45	C
	ATOM	1608	CB	THR B 385	33.438	15.415	26.014	1.00	28.29	C
	ATOM	1609	OG1	THR B 385	33.099	14.068	25.686	1.00	27.30	O
	ATOM	1610	CG2	THR B 385	34.957	15.580	26.261	1.00	27.71	C
	ATOM	1611	C	THR B 385	31.056	16.058	26.984	1.00	31.10	C

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	ATOM	1612	O	THR B 385	30.648	16.961	26.238	1.00	31.17	O
	ATOM	1613	N	SER B 386	30.217	15.240	27.687	1.00	31.22	N
	ATOM	1614	CA	SER B 386	28.756	15.321	27.689	1.00	31.62	C
	ATOM	1615	CB	SER B 386	28.176	14.220	28.563	1.00	36.50	C
5	ATOM	1616	OG	SER B 386	28.069	13.010	27.834	1.00	38.36	O
	ATOM	1617	C	SER B 386	28.367	16.644	28.325	1.00	31.50	C
	ATOM	1618	O	SER B 386	27.543	17.375	27.786	1.00	31.25	O
	ATOM	1619	N	GLN B 387	28.977	16.946	29.489	1.00	31.13	N
	ATOM	1620	CA	GLN B 387	28.768	18.154	30.263	1.00	31.03	C
10	ATOM	1621	CB	GLN B 387	29.575	18.096	31.567	1.00	32.62	C
	ATOM	1622	CG	GLN B 387	28.853	17.439	32.731	1.00	34.21	C
	ATOM	1623	CD	GLN B 387	28.674	15.944	32.605	1.00	36.04	C
	ATOM	1624	OE1	GLN B 387	29.602	15.183	32.249	1.00	38.45	O
	ATOM	1625	NE2	GLN B 387	27.468	15.485	32.920	1.00	34.91	N
15	ATOM	1626	C	GLN B 387	29.185	19.337	29.460	1.00	30.83	C
	ATOM	1627	O	GLN B 387	28.511	20.363	29.511	1.00	31.25	O
	ATOM	1628	N	ALA B 388	30.301	19.207	28.715	1.00	30.62	N
	ATOM	1629	CA	ALA B 388	30.849	20.272	27.876	1.00	30.10	C
	ATOM	1630	CB	ALA B 388	32.206	19.872	27.330	1.00	30.75	C
20	ATOM	1631	C	ALA B 388	29.877	20.582	26.750	1.00	29.94	C
	ATOM	1632	O	ALA B 388	29.502	21.729	26.583	1.00	29.44	O
	ATOM	1633	N	ALA B 389	29.421	19.547	26.024	1.00	31.33	N
	ATOM	1634	CA	ALA B 389	28.453	19.676	24.940	1.00	31.11	C
	ATOM	1635	CB	ALA B 389	28.156	18.314	24.330	1.00	30.76	C
25	ATOM	1636	C	ALA B 389	27.168	20.357	25.445	1.00	31.27	C
	ATOM	1637	O	ALA B 389	26.676	21.262	24.783	1.00	32.01	O
	ATOM	1638	N	ALA B 390	26.663	19.985	26.622	1.00	30.87	N
	ATOM	1639	CA	ALA B 390	25.463	20.580	27.214	1.00	30.98	C
	ATOM	1640	CB	ALA B 390	25.135	19.900	28.531	1.00	31.01	C
30	ATOM	1641	C	ALA B 390	25.625	22.088	27.414	1.00	31.43	C
	ATOM	1642	O	ALA B 390	24.632	22.816	27.292	1.00	31.67	O
	ATOM	1643	N	HIS B 391	26.864	22.567	27.707	1.00	32.37	N
	ATOM	1644	CA	HIS B 391	27.111	24.001	27.869	1.00	33.22	C
	ATOM	1645	CB	HIS B 391	28.525	24.291	28.402	1.00	33.95	C
35	ATOM	1646	CG	HIS B 391	28.655	24.077	29.876	1.00	36.59	C
	ATOM	1647	ND1	HIS B 391	28.895	22.804	30.413	1.00	37.63	N
	ATOM	1648	CE1	HIS B 391	28.953	22.976	31.726	1.00	38.29	C
	ATOM	1649	NE2	HIS B 391	28.750	24.259	32.063	1.00	39.60	N
	ATOM	1650	CD2	HIS B 391	28.564	24.971	30.889	1.00	37.59	C
40	ATOM	1651	C	HIS B 391	26.902	24.691	26.512	1.00	33.42	C
	ATOM	1652	O	HIS B 391	26.240	25.739	26.444	1.00	33.88	O
	ATOM	1653	N	VAL B 392	27.441	24.078	25.429	1.00	32.39	N
	ATOM	1654	CA	VAL B 392	27.322	24.593	24.084	1.00	31.84	C
	ATOM	1655	CB	VAL B 392	28.376	24.015	23.130	1.00	35.16	C
45	ATOM	1656	CG1	VAL B 392	28.177	24.519	21.705	1.00	33.80	C
	ATOM	1657	CG2	VAL B 392	29.769	24.382	23.610	1.00	34.05	C
	ATOM	1658	C	VAL B 392	25.887	24.504	23.600	1.00	32.06	C
	ATOM	1659	O	VAL B 392	25.427	25.439	22.947	1.00	32.51	O
	ATOM	1660	N	ALA B 393	25.161	23.435	23.967	1.00	31.25	N
50	ATOM	1661	CA	ALA B 393	23.743	23.248	23.613	1.00	31.15	C
	ATOM	1662	CB	ALA B 393	23.239	21.899	24.115	1.00	31.57	C
	ATOM	1663	C	ALA B 393	22.930	24.399	24.233	1.00	31.15	C
	ATOM	1664	O	ALA B 393	22.107	25.001	23.542	1.00	30.93	O
	ATOM	1665	N	GLY B 394	23.224	24.730	25.496	1.00	28.92	N

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	ATOM	1666	CA	GLY B 394	22.594	25.836	26.214	1.00	28.90	C
	ATOM	1667	C	GLY B 394	22.941	27.159	25.569	1.00	28.80	C
	ATOM	1668	O	GLY B 394	22.045	27.960	25.331	1.00	28.47	O
	ATOM	1669	N	ILE B 395	24.243	27.382	25.230	1.00	28.11	N
5	ATOM	1670	CA	ILE B 395	24.681	28.608	24.564	1.00	28.23	C
	ATOM	1671	CB	ILE B 395	26.219	28.673	24.332	1.00	30.37	C
	ATOM	1672	CG1	ILE B 395	26.973	28.850	25.651	1.00	30.30	C
	ATOM	1673	CD1	ILE B 395	28.479	28.604	25.561	1.00	29.55	C
	ATOM	1674	CG2	ILE B 395	26.586	29.824	23.394	1.00	29.94	C
10	ATOM	1675	C	ILE B 395	23.853	28.770	23.263	1.00	28.84	C
	ATOM	1676	O	ILE B 395	23.197	29.797	23.104	1.00	28.22	O
	ATOM	1677	N	ALA B 396	23.847	27.738	22.379	1.00	31.41	N
	ATOM	1678	CA	ALA B 396	23.096	27.731	21.125	1.00	32.70	C
	ATOM	1679	CB	ALA B 396	23.254	26.398	20.411	1.00	32.94	C
15	ATOM	1680	C	ALA B 396	21.612	28.052	21.356	1.00	33.87	C
	ATOM	1681	O	ALA B 396	21.065	28.907	20.658	1.00	34.27	O
	ATOM	1682	N	ALA B 397	20.976	27.407	22.359	1.00	36.93	N
	ATOM	1683	CA	ALA B 397	19.571	27.619	22.737	1.00	37.93	C
	ATOM	1684	CB	ALA B 397	19.229	26.787	23.962	1.00	37.84	C
20	ATOM	1685	C	ALA B 397	19.310	29.103	23.017	1.00	38.83	C
	ATOM	1686	O	ALA B 397	18.273	29.638	22.622	1.00	39.41	O
	ATOM	1687	N	MET B 398	20.261	29.777	23.671	1.00	40.11	N
	ATOM	1688	CA	MET B 398	20.148	31.202	23.982	1.00	40.74	C
	ATOM	1689	CB	MET B 398	21.106	31.576	25.096	1.00	42.73	C
25	ATOM	1690	CG	MET B 398	20.795	30.859	26.365	1.00	42.35	C
	ATOM	1691	SD	MET B 398	21.662	31.705	27.645	1.00	46.72	S
	ATOM	1692	CE	MET B 398	23.127	30.773	27.705	1.00	47.02	C
	ATOM	1693	C	MET B 398	20.349	32.070	22.737	1.00	41.34	C
	ATOM	1694	O	MET B 398	19.550	32.965	22.483	1.00	42.31	O
30	ATOM	1695	N	MET B 399	21.368	31.775	21.932	1.00	40.12	N
	ATOM	1696	CA	MET B 399	21.645	32.478	20.694	1.00	40.69	C
	ATOM	1697	CB	MET B 399	22.882	31.893	20.045	1.00	42.85	C
	ATOM	1698	CG	MET B 399	24.150	32.117	20.791	1.00	43.83	C
	ATOM	1699	SD	MET B 399	25.374	31.448	19.680	1.00	49.74	S
35	ATOM	1700	CE	MET B 399	26.796	32.021	20.392	1.00	52.28	C
	ATOM	1701	C	MET B 399	20.479	32.353	19.710	1.00	41.21	C
	ATOM	1702	O	MET B 399	20.246	33.277	18.935	1.00	41.57	O
	ATOM	1703	N	LEU B 400	19.771	31.218	19.719	1.00	41.79	N
	ATOM	1704	CA	LEU B 400	18.656	30.986	18.811	1.00	42.56	C
40	ATOM	1705	CB	LEU B 400	18.495	29.496	18.473	1.00	42.93	C
	ATOM	1706	CG	LEU B 400	19.584	28.804	17.665	1.00	42.85	C
	ATOM	1707	CD1	LEU B 400	19.409	27.319	17.740	1.00	42.29	C
	ATOM	1708	CD2	LEU B 400	19.581	29.231	16.225	1.00	41.60	C
	ATOM	1709	C	LEU B 400	17.343	31.532	19.352	1.00	43.24	C
45	ATOM	1710	O	LEU B 400	16.378	31.677	18.584	1.00	42.72	O
	ATOM	1711	N	SER B 401	17.271	31.798	20.670	1.00	45.20	N
	ATOM	1712	CA	SER B 401	16.029	32.355	21.196	1.00	46.54	C
	ATOM	1713	CB	SER B 401	15.858	32.072	22.681	1.00	49.19	C
	ATOM	1714	OG	SER B 401	16.896	32.672	23.430	1.00	49.96	O
50	ATOM	1715	C	SER B 401	16.029	33.850	20.858	1.00	47.30	C
	ATOM	1716	O	SER B 401	14.981	34.398	20.517	1.00	47.76	O
	ATOM	1717	N	ALA B 402	17.221	34.482	20.876	1.00	47.74	N
	ATOM	1718	CA	ALA B 402	17.374	35.878	20.501	1.00	48.80	C
	ATOM	1719	CB	ALA B 402	18.719	36.433	20.970	1.00	49.23	C

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	ATOM	1720	C	ALA B 402	17.238	35.950	18.973	1.00	49.59	C
	ATOM	1721	O	ALA B 402	16.235	36.484	18.534	1.00	50.46	O
	ATOM	1722	N	GLU B 403	18.176	35.356	18.178	1.00	51.18	N
	ATOM	1723	CA	GLU B 403	18.170	35.343	16.708	1.00	51.74	C
5	ATOM	1724	CB	GLU B 403	19.555	35.747	16.156	1.00	54.29	C
	ATOM	1725	CG	GLU B 403	19.885	37.227	16.308	1.00	57.07	C
	ATOM	1726	CD	GLU B 403	21.318	37.590	16.677	1.00	61.43	C
	ATOM	1727	OE1	GLU B 403	22.244	37.214	15.920	1.00	63.75	O
	ATOM	1728	OE2	GLU B 403	21.513	38.266	17.718	1.00	62.61	O
10	ATOM	1729	C	GLU B 403	17.712	33.977	16.125	1.00	51.80	C
	ATOM	1730	O	GLU B 403	18.573	33.164	15.792	1.00	51.55	O
	ATOM	1731	N	PRO B 404	16.382	33.703	15.962	1.00	50.85	N
	ATOM	1732	CA	PRO B 404	15.949	32.382	15.447	1.00	50.90	C
	ATOM	1733	CB	PRO B 404	14.427	32.418	15.607	1.00	52.08	C
15	ATOM	1734	CG	PRO B 404	14.151	33.540	16.572	1.00	51.80	C
	ATOM	1735	CD	PRO B 404	15.214	34.539	16.306	1.00	51.82	C
	ATOM	1736	C	PRO B 404	16.357	32.014	14.027	1.00	51.34	C
	ATOM	1737	O	PRO B 404	16.498	30.831	13.713	1.00	51.29	O
	ATOM	1738	N	GLU B 405	16.548	33.020	13.170	1.00	56.93	N
20	ATOM	1739	CA	GLU B 405	16.951	32.796	11.784	1.00	57.90	C
	ATOM	1740	CB	GLU B 405	16.703	34.048	10.922	1.00	60.93	C
	ATOM	1741	CG	GLU B 405	15.275	34.186	10.404	1.00	65.32	C
	ATOM	1742	CD	GLU B 405	15.132	35.115	9.204	1.00	71.38	C
	ATOM	1743	OE1	GLU B 405	15.065	36.352	9.409	1.00	73.45	O
25	ATOM	1744	OE2	GLU B 405	15.090	34.604	8.056	1.00	72.89	O
	ATOM	1745	C	GLU B 405	18.414	32.295	11.659	1.00	57.31	C
	ATOM	1746	O	GLU B 405	18.796	31.839	10.579	1.00	57.49	O
	ATOM	1747	N	LEU B 406	19.219	32.358	12.758	1.00	53.77	N
	ATOM	1748	CA	LEU B 406	20.615	31.908	12.771	1.00	52.59	C
30	ATOM	1749	CB	LEU B 406	21.169	31.843	14.191	1.00	52.14	C
	ATOM	1750	CG	LEU B 406	21.880	33.027	14.777	1.00	51.95	C
	ATOM	1751	CD1	LEU B 406	22.479	32.637	16.108	1.00	51.04	C
	ATOM	1752	CD2	LEU B 406	23.003	33.521	13.878	1.00	52.05	C
	ATOM	1753	C	LEU B 406	20.773	30.534	12.157	1.00	51.68	C
35	ATOM	1754	O	LEU B 406	20.170	29.564	12.611	1.00	51.65	O
	ATOM	1755	N	THR B 407	21.594	30.450	11.129	1.00	49.45	N
	ATOM	1756	CA	THR B 407	21.863	29.185	10.467	1.00	48.52	C
	ATOM	1757	CB	THR B 407	22.322	29.442	9.014	1.00	54.68	C
	ATOM	1758	OG1	THR B 407	23.499	30.245	9.020	1.00	55.21	O
40	ATOM	1759	CG2	THR B 407	21.248	30.112	8.167	1.00	54.39	C
	ATOM	1760	C	THR B 407	22.924	28.447	11.291	1.00	47.80	C
	ATOM	1761	O	THR B 407	23.564	29.056	12.159	1.00	47.67	O
	ATOM	1762	N	LEU B 408	23.123	27.151	11.024	1.00	45.39	N
	ATOM	1763	CA	LEU B 408	24.142	26.399	11.744	1.00	44.58	C
45	ATOM	1764	CB	LEU B 408	24.090	24.907	11.367	1.00	44.20	C
	ATOM	1765	CG	LEU B 408	25.319	24.055	11.647	1.00	44.18	C
	ATOM	1766	CD1	LEU B 408	25.666	23.998	13.141	1.00	43.22	C
	ATOM	1767	CD2	LEU B 408	25.131	22.665	11.097	1.00	45.48	C
	ATOM	1768	C	LEU B 408	25.542	27.026	11.522	1.00	44.23	C
50	ATOM	1769	O	LEU B 408	26.285	27.207	12.494	1.00	43.96	O
	ATOM	1770	N	ALA B 409	25.883	27.375	10.260	1.00	43.16	N
	ATOM	1771	CA	ALA B 409	27.172	27.982	9.907	1.00	42.78	C
	ATOM	1772	CB	ALA B 409	27.265	28.171	8.403	1.00	43.38	C
	ATOM	1773	C	ALA B 409	27.395	29.317	10.636	1.00	42.75	C

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	ATOM	1774	O	ALA B 409	28.501	29.575	11.102	1.00	42.80	O
	ATOM	1775	N	GLU B 410	26.341	30.138	10.765	1.00	43.61	N
	ATOM	1776	CA	GLU B 410	26.411	31.417	11.457	1.00	43.75	C
	ATOM	1777	CB	GLU B 410	25.151	32.230	11.230	1.00	46.64	C
5	ATOM	1778	CG	GLU B 410	25.038	32.866	9.860	1.00	49.84	C
	ATOM	1779	CD	GLU B 410	23.686	33.530	9.700	1.00	55.12	C
	ATOM	1780	OE1	GLU B 410	22.685	32.796	9.526	1.00	57.53	O
	ATOM	1781	OE2	GLU B 410	23.622	34.779	9.784	1.00	56.56	O
	ATOM	1782	C	GLU B 410	26.638	31.202	12.931	1.00	42.87	C
10	ATOM	1783	O	GLU B 410	27.507	31.854	13.515	1.00	43.02	O
	ATOM	1784	N	LEU B 411	25.869	30.265	13.528	1.00	41.07	N
	ATOM	1785	CA	LEU B 411	25.967	29.871	14.930	1.00	40.19	C
	ATOM	1786	CB	LEU B 411	24.945	28.775	15.234	1.00	40.22	C
	ATOM	1787	CG	LEU B 411	24.450	28.718	16.659	1.00	39.86	C
15	ATOM	1788	CD1	LEU B 411	23.076	28.142	16.714	1.00	39.92	C
	ATOM	1789	CD2	LEU B 411	25.390	27.909	17.532	1.00	40.65	C
	ATOM	1790	C	LEU B 411	27.389	29.373	15.228	1.00	39.99	C
	ATOM	1791	O	LEU B 411	28.012	29.896	16.152	1.00	39.63	O
	ATOM	1792	N	ARG B 412	27.916	28.396	14.425	1.00	40.13	N
20	ATOM	1793	CA	ARG B 412	29.274	27.870	14.587	1.00	39.82	C
	ATOM	1794	CB	ARG B 412	29.613	26.825	13.520	1.00	39.97	C
	ATOM	1795	CG	ARG B 412	30.992	26.176	13.723	1.00	40.57	C
	ATOM	1796	CD	ARG B 412	31.442	25.301	12.563	1.00	43.57	C
	ATOM	1797	NE	ARG B 412	30.618	24.093	12.429	1.00	46.36	N
25	ATOM	1798	CZ	ARG B 412	29.633	23.946	11.542	1.00	48.08	C
	ATOM	1799	NH1	ARG B 412	29.355	24.921	10.677	1.00	47.77	N
	ATOM	1800	NH2	ARG B 412	28.921	22.823	11.510	1.00	50.08	N
	ATOM	1801	C	ARG B 412	30.319	28.996	14.598	1.00	39.65	C
	ATOM	1802	O	ARG B 412	31.134	29.063	15.520	1.00	39.44	O
30	ATOM	1803	N	GLN B 413	30.282	29.885	13.585	1.00	39.49	N
	ATOM	1804	CA	GLN B 413	31.202	31.020	13.444	1.00	38.75	C
	ATOM	1805	CB	GLN B 413	30.946	31.758	12.128	1.00	38.86	C
	ATOM	1806	CG	GLN B 413	31.319	30.943	10.894	1.00	38.63	C
	ATOM	1807	CD	GLN B 413	32.755	31.101	10.464	1.00	38.55	C
35	ATOM	1808	OE1	GLN B 413	33.580	31.737	11.146	1.00	39.82	O
	ATOM	1809	NE2	GLN B 413	33.094	30.516	9.320	1.00	36.96	N
	ATOM	1810	C	GLN B 413	31.101	31.961	14.644	1.00	38.89	C
	ATOM	1811	O	GLN B 413	32.126	32.461	15.113	1.00	39.11	O
	ATOM	1812	N	ARG B 414	29.879	32.174	15.160	1.00	39.35	N
40	ATOM	1813	CA	ARG B 414	29.649	33.027	16.322	1.00	40.00	C
	ATOM	1814	CB	ARG B 414	28.151	33.328	16.486	1.00	45.04	C
	ATOM	1815	CG	ARG B 414	27.750	34.654	15.859	1.00	47.55	C
	ATOM	1816	CD	ARG B 414	26.323	34.622	15.389	1.00	54.74	C
	ATOM	1817	NE	ARG B 414	25.788	35.952	15.072	1.00	61.39	N
45	ATOM	1818	CZ	ARG B 414	25.841	36.538	13.870	1.00	64.51	C
	ATOM	1819	NH1	ARG B 414	25.309	37.739	13.689	1.00	66.31	N
	ATOM	1820	NH2	ARG B 414	26.438	35.928	12.845	1.00	65.41	N
	ATOM	1821	C	ARG B 414	30.262	32.390	17.578	1.00	39.75	C
	ATOM	1822	O	ARG B 414	30.915	33.089	18.355	1.00	39.68	O
50	ATOM	1823	N	LEU B 415	30.094	31.056	17.742	1.00	38.85	N
	ATOM	1824	CA	LEU B 415	30.643	30.282	18.854	1.00	38.51	C
	ATOM	1825	CB	LEU B 415	30.237	28.812	18.750	1.00	38.36	C
	ATOM	1826	CG	LEU B 415	28.858	28.432	19.260	1.00	38.24	C
	ATOM	1827	CD1	LEU B 415	28.638	26.957	19.073	1.00	36.13	C

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	ATOM	1828	CD2 LEU B 415	28.677	28.814	20.733	1.00	37.22	C
	ATOM	1829	C LEU B 415	32.167	30.370	18.902	1.00	38.43	C
	ATOM	1830	O LEU B 415	32.729	30.507	19.991	1.00	38.76	O
	ATOM	1831	N ILE B 416	32.828	30.291	17.721	1.00	37.43	N
5	ATOM	1832	CA ILE B 416	34.284	30.368	17.536	1.00	36.87	C
	ATOM	1833	CB ILE B 416	34.709	29.837	16.129	1.00	38.18	C
	ATOM	1834	CG1 ILE B 416	34.344	28.342	15.969	1.00	37.59	C
	ATOM	1835	CD1 ILE B 416	34.485	27.760	14.598	1.00	37.42	C
	ATOM	1836	CG2 ILE B 416	36.188	30.092	15.840	1.00	36.14	C
10	ATOM	1837	C ILE B 416	34.743	31.801	17.784	1.00	37.40	C
	ATOM	1838	O ILE B 416	35.710	32.011	18.515	1.00	37.27	O
	ATOM	1839	N HIS B 417	34.054	32.779	17.195	1.00	39.76	N
	ATOM	1840	CA HIS B 417	34.427	34.175	17.361	1.00	40.92	C
	ATOM	1841	CB HIS B 417	33.565	35.062	16.479	1.00	43.05	C
15	ATOM	1842	CG HIS B 417	33.906	36.513	16.558	1.00	44.38	C
	ATOM	1843	ND1 HIS B 417	34.916	37.057	15.788	1.00	45.97	N
	ATOM	1844	CE1 HIS B 417	34.945	38.340	16.096	1.00	48.40	C
	ATOM	1845	NE2 HIS B 417	34.016	38.648	17.009	1.00	48.19	N
	ATOM	1846	CD2 HIS B 417	33.341	37.492	17.301	1.00	46.53	C
20	ATOM	1847	C HIS B 417	34.387	34.661	18.798	1.00	41.21	C
	ATOM	1848	O HIS B 417	35.347	35.284	19.241	1.00	41.24	O
	ATOM	1849	N PHE B 418	33.286	34.368	19.522	1.00	41.96	N
	ATOM	1850	CA PHE B 418	33.048	34.796	20.898	1.00	42.07	C
	ATOM	1851	CB PHE B 418	31.557	35.043	21.112	1.00	43.63	C
25	ATOM	1852	CG PHE B 418	31.134	36.253	20.321	1.00	44.73	C
	ATOM	1853	CD1 PHE B 418	31.532	37.532	20.708	1.00	46.04	C
	ATOM	1854	CE1 PHE B 418	31.165	38.653	19.963	1.00	47.25	C
	ATOM	1855	CZ PHE B 418	30.396	38.500	18.829	1.00	47.75	C
	ATOM	1856	CE2 PHE B 418	30.000	37.238	18.425	1.00	47.01	C
30	ATOM	1857	CD2 PHE B 418	30.372	36.116	19.169	1.00	45.87	C
	ATOM	1858	C PHE B 418	33.706	34.015	22.043	1.00	41.85	C
	ATOM	1859	O PHE B 418	33.616	34.427	23.206	1.00	42.28	O
	ATOM	1860	N SER B 419	34.382	32.920	21.721	1.00	39.67	N
	ATOM	1861	CA SER B 419	35.049	32.090	22.709	1.00	39.12	C
35	ATOM	1862	CB SER B 419	35.262	30.696	22.133	1.00	40.85	C
	ATOM	1863	OG SER B 419	36.100	30.740	20.987	1.00	41.24	O
	ATOM	1864	C SER B 419	36.401	32.681	23.163	1.00	38.79	C
	ATOM	1865	O SER B 419	37.009	33.452	22.417	1.00	38.93	O
	ATOM	1866	N ALA B 420	36.872	32.286	24.380	1.00	37.80	N
40	ATOM	1867	CA ALA B 420	38.166	32.647	24.979	1.00	37.51	C
	ATOM	1868	CB ALA B 420	38.228	32.172	26.420	1.00	37.60	C
	ATOM	1869	C ALA B 420	39.224	31.908	24.150	1.00	37.79	C
	ATOM	1870	O ALA B 420	39.063	30.713	23.868	1.00	38.19	O
	ATOM	1871	N LYS B 421	40.277	32.621	23.733	1.00	37.78	N
45	ATOM	1872	CA LYS B 421	41.343	32.096	22.868	1.00	37.81	C
	ATOM	1873	CB LYS B 421	41.481	32.988	21.607	1.00	39.08	C
	ATOM	1874	CG LYS B 421	40.179	33.598	21.092	1.00	39.35	C
	ATOM	1875	CD LYS B 421	39.780	33.121	19.687	1.00	39.77	C
	ATOM	1876	CE LYS B 421	38.338	33.450	19.349	1.00	40.89	C
50	ATOM	1877	NZ LYS B 421	38.020	34.903	19.487	1.00	39.05	N
	ATOM	1878	C LYS B 421	42.683	32.006	23.583	1.00	38.06	C
	ATOM	1879	O LYS B 421	42.973	32.859	24.413	1.00	38.21	O
	ATOM	1880	N ASP B 422	43.507	31.006	23.255	1.00	40.82	N
	ATOM	1881	CA ASP B 422	44.829	30.801	23.867	1.00	41.70	C

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	ATOM	1882	CB	ASP B 422	45.878	31.775	23.307	1.00	46.66	C
	ATOM	1883	CG	ASP B 422	46.661	31.131	22.196	1.00	50.94	C
	ATOM	1884	OD1	ASP B 422	46.215	31.237	21.003	1.00	55.08	O
	ATOM	1885	OD2	ASP B 422	47.697	30.481	22.503	1.00	53.58	O
5	ATOM	1886	C	ASP B 422	44.876	30.689	25.407	1.00	41.14	C
	ATOM	1887	O	ASP B 422	45.860	31.084	26.023	1.00	41.22	O
	ATOM	1888	N	VAL B 423	43.822	30.134	26.016	1.00	39.57	N
	ATOM	1889	CA	VAL B 423	43.702	29.947	27.466	1.00	38.98	C
	ATOM	1890	CB	VAL B 423	42.251	30.196	27.957	1.00	41.32	C
10	ATOM	1891	CG1	VAL B 423	41.928	31.679	27.976	1.00	39.47	C
	ATOM	1892	CG2	VAL B 423	41.237	29.427	27.104	1.00	42.00	C
	ATOM	1893	C	VAL B 423	44.211	28.551	27.880	1.00	38.82	C
	ATOM	1894	O	VAL B 423	44.654	28.361	29.023	1.00	38.71	O
	ATOM	1895	N	ILE B 424	44.118	27.580	26.947	1.00	36.97	N
15	ATOM	1896	CA	ILE B 424	44.555	26.204	27.139	1.00	36.34	C
	ATOM	1897	CB	ILE B 424	43.836	25.252	26.117	1.00	36.22	C
	ATOM	1898	CG1	ILE B 424	42.303	25.206	26.304	1.00	34.62	C
	ATOM	1899	CD1	ILE B 424	41.532	24.699	25.159	1.00	30.94	C
	ATOM	1900	CG2	ILE B 424	44.437	23.848	26.151	1.00	35.32	C
20	ATOM	1901	C	ILE B 424	46.081	26.142	26.921	1.00	37.30	C
	ATOM	1902	O	ILE B 424	46.599	26.725	25.951	1.00	37.17	O
	ATOM	1903	N	ASN B 425	46.791	25.408	27.797	1.00	39.51	N
	ATOM	1904	CA	ASN B 425	48.221	25.173	27.645	1.00	39.74	C
	ATOM	1905	CB	ASN B 425	48.873	24.887	29.002	1.00	38.72	C
25	ATOM	1906	CG	ASN B 425	50.212	24.201	28.967	1.00	36.90	C
	ATOM	1907	OD1	ASN B 425	50.972	24.297	28.011	1.00	36.28	O
	ATOM	1908	ND2	ASN B 425	50.523	23.502	30.035	1.00	36.27	N
	ATOM	1909	C	ASN B 425	48.242	23.948	26.724	1.00	40.57	C
	ATOM	1910	O	ASN B 425	47.732	22.873	27.101	1.00	40.66	O
30	ATOM	1911	N	GLU B 426	48.793	24.130	25.506	1.00	41.97	N
	ATOM	1912	CA	GLU B 426	48.841	23.116	24.456	1.00	42.73	C
	ATOM	1913	CB	GLU B 426	49.414	23.676	23.156	1.00	44.82	C
	ATOM	1914	CG	GLU B 426	48.881	25.046	22.777	1.00	47.79	C
	ATOM	1915	CD	GLU B 426	47.832	25.074	21.685	1.00	50.96	C
35	ATOM	1916	OE1	GLU B 426	47.554	26.177	21.165	1.00	50.28	O
	ATOM	1917	OE2	GLU B 426	47.283	24.000	21.349	1.00	55.54	O
	ATOM	1918	C	GLU B 426	49.541	21.846	24.855	1.00	42.86	C
	ATOM	1919	O	GLU B 426	49.263	20.802	24.254	1.00	43.13	O
	ATOM	1920	N	ALA B 427	50.422	21.916	25.887	1.00	43.09	N
40	ATOM	1921	CA	ALA B 427	51.179	20.773	26.418	1.00	43.00	C
	ATOM	1922	CB	ALA B 427	52.129	21.226	27.506	1.00	43.10	C
	ATOM	1923	C	ALA B 427	50.293	19.645	26.949	1.00	43.06	C
	ATOM	1924	O	ALA B 427	50.771	18.516	27.059	1.00	44.27	O
	ATOM	1925	N	TRP B 428	49.020	19.922	27.281	1.00	41.39	N
45	ATOM	1926	CA	TRP B 428	48.135	18.877	27.791	1.00	40.80	C
	ATOM	1927	CB	TRP B 428	46.923	19.469	28.511	1.00	38.73	C
	ATOM	1928	CG	TRP B 428	47.230	20.173	29.803	1.00	36.49	C
	ATOM	1929	CD1	TRP B 428	47.284	21.519	30.003	1.00	35.37	C
	ATOM	1930	NE1	TRP B 428	47.541	21.794	31.331	1.00	33.63	N
50	ATOM	1931	CE2	TRP B 428	47.665	20.613	32.016	1.00	31.02	C
	ATOM	1932	CD2	TRP B 428	47.463	19.566	31.086	1.00	32.10	C
	ATOM	1933	CE3	TRP B 428	47.533	18.238	31.540	1.00	29.82	C
	ATOM	1934	CZ3	TRP B 428	47.802	18.002	32.879	1.00	28.77	C
	ATOM	1935	CH2	TRP B 428	47.969	19.063	33.782	1.00	29.57	C

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	ATOM	1936	CZ2 TRP B 428	47.916	20.374	33.372	1.00	28.78	C
	ATOM	1937	C TRP B 428	47.690	17.908	26.697	1.00	41.11	C
	ATOM	1938	O TRP B 428	47.067	16.881	27.005	1.00	41.37	O
	ATOM	1939	N PHE B 429	48.022	18.227	25.425	1.00	39.04	N
5	ATOM	1940	CA PHE B 429	47.701	17.429	24.243	1.00	39.04	C
	ATOM	1941	CB PHE B 429	47.101	18.322	23.144	1.00	39.96	C
	ATOM	1942	CG PHE B 429	45.892	19.133	23.504	1.00	39.77	C
	ATOM	1943	CD1 PHE B 429	44.708	18.513	23.889	1.00	39.59	C
	ATOM	1944	CE1 PHE B 429	43.580	19.263	24.205	1.00	40.11	C
10	ATOM	1945	CZ PHE B 429	43.624	20.639	24.120	1.00	40.98	C
	ATOM	1946	CE2 PHE B 429	44.784	21.268	23.725	1.00	39.98	C
	ATOM	1947	CD2 PHE B 429	45.918	20.513	23.416	1.00	39.50	C
	ATOM	1948	C PHE B 429	48.950	16.838	23.639	1.00	39.52	C
	ATOM	1949	O PHE B 429	50.003	17.489	23.678	1.00	39.18	O
15	ATOM	1950	N PRO B 430	48.846	15.657	22.974	1.00	42.11	N
	ATOM	1951	CA PRO B 430	50.011	15.104	22.278	1.00	42.59	C
	ATOM	1952	CB PRO B 430	49.435	13.894	21.552	1.00	43.87	C
	ATOM	1953	CG PRO B 430	48.255	13.498	22.365	1.00	43.15	C
	ATOM	1954	CD PRO B 430	47.669	14.778	22.814	1.00	43.75	C
20	ATOM	1955	C PRO B 430	50.556	16.129	21.281	1.00	43.92	C
	ATOM	1956	O PRO B 430	49.792	16.874	20.660	1.00	43.68	O
	ATOM	1957	N GLU B 431	51.893	16.185	21.175	1.00	49.11	N
	ATOM	1958	CA GLU B 431	52.670	17.086	20.336	1.00	50.18	C
	ATOM	1959	CB GLU B 431	54.131	16.627	20.333	1.00	52.66	C
25	ATOM	1960	CG GLU B 431	55.106	17.661	19.809	1.00	56.44	C
	ATOM	1961	CD GLU B 431	56.502	17.132	19.551	1.00	61.76	C
	ATOM	1962	OE1 GLU B 431	57.389	17.951	19.207	1.00	64.00	O
	ATOM	1963	OE2 GLU B 431	56.712	15.902	19.693	1.00	63.68	O
	ATOM	1964	C GLU B 431	52.121	17.227	18.922	1.00	49.92	C
30	ATOM	1965	O GLU B 431	51.899	18.337	18.450	1.00	50.01	O
	ATOM	1966	N ASP B 432	51.890	16.101	18.262	1.00	50.62	N
	ATOM	1967	CA ASP B 432	51.366	16.010	16.897	1.00	50.88	C
	ATOM	1968	CB ASP B 432	51.337	14.534	16.453	1.00	54.61	C
	ATOM	1969	CG ASP B 432	50.902	13.556	17.554	1.00	58.29	C
35	ATOM	1970	OD1 ASP B 432	51.665	13.402	18.564	1.00	62.00	O
	ATOM	1971	OD2 ASP B 432	49.805	12.940	17.412	1.00	62.00	O
	ATOM	1972	C ASP B 432	49.976	16.633	16.751	1.00	49.73	C
	ATOM	1973	O ASP B 432	49.573	16.915	15.631	1.00	49.96	O
	ATOM	1974	N GLN B 433	49.255	16.860	17.872	1.00	45.67	N
40	ATOM	1975	CA GLN B 433	47.886	17.399	17.919	1.00	44.41	C
	ATOM	1976	CB GLN B 433	47.005	16.497	18.811	1.00	44.62	C
	ATOM	1977	CG GLN B 433	46.842	15.061	18.342	1.00	44.43	C
	ATOM	1978	CD GLN B 433	45.922	14.907	17.168	1.00	44.24	C
	ATOM	1979	OE1 GLN B 433	45.140	15.788	16.821	1.00	47.18	O
45	ATOM	1980	NE2 GLN B 433	45.997	13.771	16.520	1.00	43.33	N
	ATOM	1981	C GLN B 433	47.732	18.851	18.392	1.00	43.67	C
	ATOM	1982	O GLN B 433	46.644	19.405	18.275	1.00	43.50	O
	ATOM	1983	N ARG B 434	48.771	19.456	18.956	1.00	42.47	N
	ATOM	1984	CA ARG B 434	48.688	20.826	19.467	1.00	42.25	C
50	ATOM	1985	CB ARG B 434	50.000	21.264	20.130	1.00	39.80	C
	ATOM	1986	CG ARG B 434	50.564	20.177	21.036	1.00	40.42	C
	ATOM	1987	CD ARG B 434	51.677	20.616	21.948	1.00	40.89	C
	ATOM	1988	NE ARG B 434	51.809	19.613	23.001	1.00	43.13	N
	ATOM	1989	CZ ARG B 434	52.931	18.983	23.326	1.00	42.41	C

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	ATOM	1990	NH1	ARG B 434	54.070	19.276	22.710	1.00	41.84	N
	ATOM	1991	NH2	ARG B 434	52.927	18.065	24.281	1.00	41.70	N
	ATOM	1992	C	ARG B 434	48.230	21.803	18.410	1.00	42.31	C
	ATOM	1993	O	ARG B 434	47.388	22.650	18.698	1.00	43.00	O
5	ATOM	1994	N	VAL B 435	48.739	21.650	17.177	1.00	43.08	N
	ATOM	1995	CA	VAL B 435	48.421	22.483	16.019	1.00	42.24	C
	ATOM	1996	CB	VAL B 435	49.526	22.328	14.933	1.00	45.00	C
	ATOM	1997	CG1	VAL B 435	49.192	21.270	13.873	1.00	45.14	C
	ATOM	1998	CG2	VAL B 435	49.823	23.649	14.284	1.00	44.07	C
10	ATOM	1999	C	VAL B 435	46.991	22.269	15.468	1.00	41.94	C
	ATOM	2000	O	VAL B 435	46.379	23.226	14.992	1.00	42.12	O
	ATOM	2001	N	LEU B 436	46.482	21.017	15.513	1.00	41.86	N
	ATOM	2002	CA	LEU B 436	45.167	20.618	14.997	1.00	41.03	C
	ATOM	2003	CB	LEU B 436	45.152	19.112	14.633	1.00	41.00	C
15	ATOM	2004	CG	LEU B 436	46.338	18.546	13.828	1.00	42.37	C
	ATOM	2005	CD1	LEU B 436	46.271	17.033	13.754	1.00	40.94	C
	ATOM	2006	CD2	LEU B 436	46.414	19.142	12.429	1.00	42.08	C
	ATOM	2007	C	LEU B 436	44.055	20.872	15.972	1.00	40.32	C
	ATOM	2008	O	LEU B 436	42.885	20.839	15.576	1.00	40.23	O
20	ATOM	2009	N	THR B 437	44.396	21.089	17.256	1.00	38.95	N
	ATOM	2010	CA	THR B 437	43.397	21.285	18.311	1.00	38.00	C
	ATOM	2011	CB	THR B 437	43.782	20.539	19.603	1.00	31.11	C
	ATOM	2012	OG1	THR B 437	44.170	19.197	19.266	1.00	30.31	O
	ATOM	2013	CG2	THR B 437	42.649	20.513	20.626	1.00	29.20	C
25	ATOM	2014	C	THR B 437	43.055	22.741	18.487	1.00	37.50	C
	ATOM	2015	O	THR B 437	43.958	23.530	18.757	1.00	37.98	O
	ATOM	2016	N	PRO B 438	41.772	23.134	18.318	1.00	33.61	N
	ATOM	2017	CA	PRO B 438	41.422	24.554	18.493	1.00	33.35	C
	ATOM	2018	CB	PRO B 438	39.967	24.613	18.028	1.00	33.68	C
30	ATOM	2019	CG	PRO B 438	39.444	23.258	18.313	1.00	34.07	C
	ATOM	2020	CD	PRO B 438	40.577	22.325	17.986	1.00	34.14	C
	ATOM	2021	C	PRO B 438	41.572	25.030	19.941	1.00	33.40	C
	ATOM	2022	O	PRO B 438	40.963	24.474	20.863	1.00	33.98	O
	ATOM	2023	N	ASN B 439	42.382	26.070	20.145	1.00	35.15	N
35	ATOM	2024	CA	ASN B 439	42.568	26.641	21.482	1.00	35.37	C
	ATOM	2025	CB	ASN B 439	43.920	27.334	21.604	1.00	37.82	C
	ATOM	2026	CG	ASN B 439	44.415	27.399	23.012	1.00	38.75	C
	ATOM	2027	OD1	ASN B 439	43.661	27.682	23.952	1.00	41.16	O
	ATOM	2028	ND2	ASN B 439	45.696	27.132	23.196	1.00	39.15	N
40	ATOM	2029	C	ASN B 439	41.410	27.616	21.757	1.00	35.24	C
	ATOM	2030	O	ASN B 439	41.629	28.809	21.945	1.00	34.76	O
	ATOM	2031	N	LEU B 440	40.170	27.089	21.751	1.00	34.88	N
	ATOM	2032	CA	LEU B 440	38.959	27.868	21.980	1.00	35.23	C
	ATOM	2033	CB	LEU B 440	38.027	27.804	20.772	1.00	34.38	C
45	ATOM	2034	CG	LEU B 440	38.592	28.219	19.440	1.00	33.76	C
	ATOM	2035	CD1	LEU B 440	37.680	27.755	18.313	1.00	31.28	C
	ATOM	2036	CD2	LEU B 440	38.822	29.693	19.399	1.00	33.67	C
	ATOM	2037	C	LEU B 440	38.200	27.355	23.163	1.00	35.87	C
	ATOM	2038	O	LEU B 440	38.010	26.147	23.291	1.00	36.19	O
50	ATOM	2039	N	VAL B 441	37.750	28.256	24.035	1.00	36.25	N
	ATOM	2040	CA	VAL B 441	36.946	27.844	25.186	1.00	36.75	C
	ATOM	2041	CB	VAL B 441	37.673	27.910	26.548	1.00	39.43	C
	ATOM	2042	CG1	VAL B 441	36.692	27.778	27.702	1.00	38.58	C
	ATOM	2043	CG2	VAL B 441	38.748	26.832	26.635	1.00	39.50	C

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	ATOM	2044	C	VAL B 441	35.665	28.650	25.113	1.00	37.43	C
	ATOM	2045	O	VAL B 441	35.726	29.881	25.103	1.00	37.61	O
	ATOM	2046	N	ALA B 442	34.524	27.947	25.010	1.00	35.44	N
	ATOM	2047	CA	ALA B 442	33.189	28.510	24.880	1.00	36.31	C
5	ATOM	2048	CB	ALA B 442	32.132	27.421	24.946	1.00	36.51	C
	ATOM	2049	C	ALA B 442	32.861	29.630	25.845	1.00	37.33	C
	ATOM	2050	O	ALA B 442	33.308	29.648	26.990	1.00	37.35	O
	ATOM	2051	N	ALA B 443	32.082	30.583	25.339	1.00	41.06	N
	ATOM	2052	CA	ALA B 443	31.572	31.770	26.015	1.00	42.74	C
10	ATOM	2053	CB	ALA B 443	32.666	32.823	26.136	1.00	43.12	C
	ATOM	2054	C	ALA B 443	30.422	32.297	25.168	1.00	44.00	C
	ATOM	2055	O	ALA B 443	30.312	31.942	23.988	1.00	44.19	O
	ATOM	2056	N	LEU B 444	29.574	33.133	25.766	1.00	47.69	N
	ATOM	2057	CA	LEU B 444	28.432	33.752	25.112	1.00	49.59	C
15	ATOM	2058	CB	LEU B 444	27.401	34.067	26.185	1.00	49.28	C
	ATOM	2059	CG	LEU B 444	26.268	33.108	26.371	1.00	49.49	C
	ATOM	2060	CD1	LEU B 444	25.778	33.189	27.778	1.00	50.43	C
	ATOM	2061	CD2	LEU B 444	25.138	33.370	25.376	1.00	47.83	C
	ATOM	2062	C	LEU B 444	28.799	35.090	24.474	1.00	51.54	C
20	ATOM	2063	O	LEU B 444	29.595	35.815	25.071	1.00	52.09	O
	ATOM	2064	N	PRO B 445	28.189	35.495	23.322	1.00	57.41	N
	ATOM	2065	CA	PRO B 445	28.465	36.845	22.777	1.00	58.82	C
	ATOM	2066	CB	PRO B 445	27.685	36.862	21.453	1.00	60.28	C
	ATOM	2067	CG	PRO B 445	27.396	35.442	21.152	1.00	59.55	C
25	ATOM	2068	CD	PRO B 445	27.198	34.794	22.487	1.00	59.16	C
	ATOM	2069	C	PRO B 445	27.877	37.841	23.791	1.00	60.24	C
	ATOM	2070	O	PRO B 445	26.724	37.630	24.193	1.00	61.00	O
	ATOM	2071	N	PRO B 446	28.640	38.854	24.297	1.00	62.13	N
	ATOM	2072	CA	PRO B 446	28.086	39.748	25.355	1.00	62.43	C
30	ATOM	2073	CB	PRO B 446	29.276	40.629	25.749	1.00	64.66	C
	ATOM	2074	CG	PRO B 446	30.221	40.576	24.552	1.00	64.26	C
	ATOM	2075	CD	PRO B 446	30.042	39.200	23.965	1.00	64.26	C
	ATOM	2076	C	PRO B 446	26.832	40.572	25.046	1.00	62.59	C
	ATOM	2077	O	PRO B 446	26.347	40.606	23.914	1.00	63.05	O
35	ATOM	2078	N	GLN B 454	29.678	42.175	10.580	1.00	70.29	N
	ATOM	2079	CA	GLN B 454	31.056	41.728	10.805	1.00	70.06	C
	ATOM	2080	CB	GLN B 454	31.312	41.465	12.303	1.00	72.14	C
	ATOM	2081	CG	GLN B 454	32.773	41.686	12.717	1.00	75.16	C
	ATOM	2082	CD	GLN B 454	33.053	41.573	14.210	1.00	79.00	C
40	ATOM	2083	OE1	GLN B 454	32.189	41.816	15.076	1.00	79.99	O
	ATOM	2084	NE2	GLN B 454	34.295	41.214	14.544	1.00	79.71	N
	ATOM	2085	C	GLN B 454	31.443	40.498	9.931	1.00	68.85	C
	ATOM	2086	O	GLN B 454	30.564	39.725	9.503	1.00	68.74	O
	ATOM	2087	N	LEU B 455	32.769	40.343	9.651	1.00	60.94	N
45	ATOM	2088	CA	LEU B 455	33.278	39.226	8.847	1.00	58.74	C
	ATOM	2089	CB	LEU B 455	34.316	39.688	7.796	1.00	58.04	C
	ATOM	2090	CG	LEU B 455	34.962	38.590	6.952	1.00	57.22	C
	ATOM	2091	CD1	LEU B 455	33.961	37.898	6.088	1.00	57.38	C
	ATOM	2092	CD2	LEU B 455	36.056	39.127	6.114	1.00	56.01	C
50	ATOM	2093	C	LEU B 455	33.826	38.115	9.735	1.00	57.13	C
	ATOM	2094	O	LEU B 455	34.843	38.300	10.399	1.00	56.45	O
	ATOM	2095	N	PHE B 456	33.137	36.964	9.733	1.00	51.92	N
	ATOM	2096	CA	PHE B 456	33.499	35.779	10.517	1.00	50.19	C
	ATOM	2097	CB	PHE B 456	32.242	35.158	11.151	1.00	51.54	C

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	ATOM	2098	CG	PHE B 456	31.509	36.019	12.149	1.00	52.22	C
	ATOM	2099	CD1	PHE B 456	31.842	35.986	13.495	1.00	53.30	C
	ATOM	2100	CE1	PHE B 456	31.152	36.771	14.420	1.00	53.83	C
	ATOM	2101	CZ	PHE B 456	30.124	37.583	14.004	1.00	52.84	C
5	ATOM	2102	CE2	PHE B 456	29.783	37.626	12.675	1.00	52.12	C
	ATOM	2103	CD2	PHE B 456	30.466	36.837	11.751	1.00	52.74	C
	ATOM	2104	C	PHE B 456	34.222	34.726	9.651	1.00	48.49	C
	ATOM	2105	O	PHE B 456	33.700	34.340	8.601	1.00	47.71	O
	ATOM	2106	N	CYS B 457	35.422	34.281	10.107	1.00	45.94	N
10	ATOM	2107	CA	CYS B 457	36.305	33.277	9.471	1.00	44.40	C
	ATOM	2108	CB	CYS B 457	37.525	33.947	8.834	1.00	45.10	C
	ATOM	2109	SG	CYS B 457	37.182	34.940	7.359	1.00	45.65	S
	ATOM	2110	C	CYS B 457	36.777	32.195	10.462	1.00	42.94	C
	ATOM	2111	O	CYS B 457	37.166	32.522	11.586	1.00	42.44	O
15	ATOM	2112	N	ARG B 458	36.830	30.928	10.022	1.00	39.69	N
	ATOM	2113	CA	ARG B 458	37.371	29.850	10.851	1.00	38.08	C
	ATOM	2114	CB	ARG B 458	36.281	28.937	11.447	1.00	36.51	C
	ATOM	2115	CG	ARG B 458	35.740	27.897	10.493	1.00	34.77	C
	ATOM	2116	CD	ARG B 458	34.358	27.508	10.875	1.00	33.03	C
20	ATOM	2117	NE	ARG B 458	33.710	26.791	9.780	1.00	32.98	N
	ATOM	2118	CZ	ARG B 458	33.753	25.471	9.602	1.00	31.96	C
	ATOM	2119	NH1	ARG B 458	34.420	24.699	10.448	1.00	29.94	N
	ATOM	2120	NH2	ARG B 458	33.123	24.915	8.578	1.00	32.98	N
	ATOM	2121	C	ARG B 458	38.414	29.065	10.050	1.00	37.50	C
25	ATOM	2122	O	ARG B 458	38.324	28.991	8.821	1.00	37.60	O
	ATOM	2123	N	THR B 459	39.394	28.497	10.741	1.00	35.33	N
	ATOM	2124	CA	THR B 459	40.422	27.693	10.117	1.00	35.10	C
	ATOM	2125	CB	THR B 459	41.745	27.893	10.862	1.00	38.75	C
	ATOM	2126	OG1	THR B 459	41.952	29.281	11.111	1.00	39.05	O
30	ATOM	2127	CG2	THR B 459	42.933	27.305	10.126	1.00	38.17	C
	ATOM	2128	C	THR B 459	39.979	26.205	10.139	1.00	35.06	C
	ATOM	2129	O	THR B 459	39.530	25.704	11.172	1.00	35.40	O
	ATOM	2130	N	VAL B 460	40.085	25.510	9.001	1.00	35.20	N
	ATOM	2131	CA	VAL B 460	39.765	24.089	8.908	1.00	34.64	C
35	ATOM	2132	CB	VAL B 460	38.361	23.621	8.403	1.00	35.04	C
	ATOM	2133	CG1	VAL B 460	37.493	24.756	7.900	1.00	35.25	C
	ATOM	2134	CG2	VAL B 460	38.430	22.479	7.413	1.00	33.46	C
	ATOM	2135	C	VAL B 460	40.954	23.306	8.398	1.00	35.07	C
	ATOM	2136	O	VAL B 460	41.476	23.613	7.331	1.00	34.54	O
40	ATOM	2137	N	TRP B 461	41.423	22.341	9.201	1.00	38.10	N
	ATOM	2138	CA	TRP B 461	42.537	21.485	8.849	1.00	38.76	C
	ATOM	2139	CB	TRP B 461	43.343	21.122	10.083	1.00	35.73	C
	ATOM	2140	CG	TRP B 461	44.168	22.236	10.626	1.00	33.66	C
	ATOM	2141	CD1	TRP B 461	43.730	23.327	11.319	1.00	31.32	C
45	ATOM	2142	NE1	TRP B 461	44.798	24.112	11.689	1.00	29.95	N
	ATOM	2143	CE2	TRP B 461	45.953	23.539	11.223	1.00	29.52	C
	ATOM	2144	CD2	TRP B 461	45.592	22.342	10.565	1.00	31.33	C
	ATOM	2145	CE3	TRP B 461	46.599	21.552	9.994	1.00	30.17	C
	ATOM	2146	CZ3	TRP B 461	47.914	21.963	10.111	1.00	30.52	C
50	ATOM	2147	CH2	TRP B 461	48.248	23.146	10.790	1.00	29.48	C
	ATOM	2148	CZ2	TRP B 461	47.282	23.946	11.357	1.00	29.30	C
	ATOM	2149	C	TRP B 461	41.985	20.212	8.272	1.00	40.58	C
	ATOM	2150	O	TRP B 461	40.959	19.693	8.739	1.00	41.43	O
	ATOM	2151	N	SER B 462	42.672	19.685	7.277	1.00	44.85	N

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	ATOM	2152	CA	SER B 462	42.321	18.429	6.632	1.00	46.58	C
	ATOM	2153	CB	SER B 462	42.975	18.396	5.256	1.00	50.27	C
	ATOM	2154	OG	SER B 462	44.383	18.523	5.409	1.00	49.03	O
	ATOM	2155	C	SER B 462	42.974	17.339	7.455	1.00	48.42	C
5	ATOM	2156	O	SER B 462	43.774	17.632	8.366	1.00	48.39	O
	ATOM	2157	N	ALA B 463	42.714	16.074	7.091	1.00	51.38	N
	ATOM	2158	CA	ALA B 463	43.398	14.961	7.740	1.00	53.26	C
	ATOM	2159	CB	ALA B 463	42.672	13.667	7.435	1.00	53.45	C
	ATOM	2160	C	ALA B 463	44.800	14.936	7.099	1.00	54.91	C
10	ATOM	2161	O	ALA B 463	45.034	15.622	6.099	1.00	54.84	O
	ATOM	2162	N	HIS B 464	45.721	14.162	7.655	1.00	59.77	N
	ATOM	2163	CA	HIS B 464	47.059	14.004	7.083	1.00	62.28	C
	ATOM	2164	CB	HIS B 464	47.904	13.143	8.027	1.00	63.97	C
	ATOM	2165	CG	HIS B 464	49.376	13.343	7.902	1.00	66.10	C
15	ATOM	2166	ND1	HIS B 464	50.204	12.319	7.481	1.00	67.57	N
	ATOM	2167	CE1	HIS B 464	51.432	12.817	7.521	1.00	68.05	C
	ATOM	2168	NE2	HIS B 464	51.438	14.088	7.934	1.00	68.20	N
	ATOM	2169	CD2	HIS B 464	50.129	14.433	8.184	1.00	67.31	C
	ATOM	2170	C	HIS B 464	46.866	13.286	5.718	1.00	63.46	C
20	ATOM	2171	O	HIS B 464	45.974	12.434	5.584	1.00	63.28	O
	ATOM	2172	N	SER B 465	47.662	13.667	4.711	1.00	66.57	N
	ATOM	2173	CA	SER B 465	47.572	13.112	3.355	1.00	67.92	C
	ATOM	2174	CB	SER B 465	48.374	13.969	2.381	1.00	69.23	C
	ATOM	2175	OG	SER B 465	49.764	13.851	2.643	1.00	68.62	O
25	ATOM	2176	C	SER B 465	48.057	11.667	3.248	1.00	69.12	C
	ATOM	2177	O	SER B 465	47.491	10.875	2.480	1.00	69.25	O
	ATOM	2178	N	GLY B 466	49.111	11.361	3.994	1.00	71.70	N
	ATOM	2179	CA	GLY B 466	49.768	10.066	3.954	1.00	73.75	C
	ATOM	2180	C	GLY B 466	51.140	10.244	3.320	1.00	75.24	C
30	ATOM	2181	O	GLY B 466	51.471	11.359	2.885	1.00	75.36	O
	ATOM	2182	N	PRO B 467	51.974	9.179	3.226	1.00	77.25	N
	ATOM	2183	CA	PRO B 467	53.333	9.356	2.678	1.00	77.79	C
	ATOM	2184	CB	PRO B 467	54.169	8.312	3.431	1.00	79.61	C
	ATOM	2185	CG	PRO B 467	53.167	7.416	4.144	1.00	79.57	C
35	ATOM	2186	CD	PRO B 467	51.781	7.801	3.703	1.00	79.11	C
	ATOM	2187	C	PRO B 467	53.548	9.312	1.168	1.00	78.14	C
	ATOM	2188	O	PRO B 467	54.592	9.789	0.725	1.00	78.40	O
	ATOM	2189	N	THR B 468	52.593	8.757	0.389	1.00	78.87	N
	ATOM	2190	CA	THR B 468	52.647	8.650	-1.082	1.00	79.57	C
40	ATOM	2191	CB	THR B 468	51.272	8.183	-1.602	1.00	90.26	C
	ATOM	2192	OG1	THR B 468	50.875	7.000	-0.902	1.00	91.76	O
	ATOM	2193	CG2	THR B 468	51.243	7.945	-3.120	1.00	90.27	C
	ATOM	2194	C	THR B 468	53.055	9.995	-1.727	1.00	79.72	C
	ATOM	2195	O	THR B 468	52.622	11.049	-1.251	1.00	79.85	O
45	ATOM	2196	N	ARG B 469	53.896	9.965	-2.789	1.00	80.19	N
	ATOM	2197	CA	ARG B 469	54.334	11.196	-3.470	1.00	80.00	C
	ATOM	2198	CB	ARG B 469	55.497	10.934	-4.443	1.00	80.36	C
	ATOM	2199	C	ARG B 469	53.167	11.947	-4.157	1.00	79.60	C
	ATOM	2200	O	ARG B 469	53.183	13.179	-4.205	1.00	79.65	O
50	ATOM	2201	N	MET B 470	52.151	11.212	-4.652	1.00	77.38	N
	ATOM	2202	CA	MET B 470	50.988	11.813	-5.309	1.00	76.73	C
	ATOM	2203	CB	MET B 470	50.611	11.009	-6.565	1.00	79.16	C
	ATOM	2204	C	MET B 470	49.775	12.011	-4.360	1.00	76.25	C
	ATOM	2205	O	MET B 470	48.682	12.333	-4.834	1.00	76.24	O

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	ATOM	2206	N	ALA B 471	49.981	11.834	-3.023	1.00	74.44	N
	ATOM	2207	CA	ALA B 471	48.956	11.977	-1.974	1.00	73.49	C
	ATOM	2208	CB	ALA B 471	49.463	11.443	-0.641	1.00	73.96	C
	ATOM	2209	C	ALA B 471	48.473	13.411	-1.813	1.00	72.98	C
5	ATOM	2210	O	ALA B 471	49.267	14.358	-1.885	1.00	72.88	O
	ATOM	2211	N	THR B 472	47.154	13.560	-1.598	1.00	70.89	N
	ATOM	2212	CA	THR B 472	46.505	14.856	-1.443	1.00	69.86	C
	ATOM	2213	CB	THR B 472	45.763	15.260	-2.723	1.00	77.68	C
	ATOM	2214	OG1	THR B 472	44.842	14.227	-3.086	1.00	77.31	O
10	ATOM	2215	CG2	THR B 472	46.700	15.583	-3.870	1.00	77.28	C
	ATOM	2216	C	THR B 472	45.559	14.939	-0.262	1.00	69.13	C
	ATOM	2217	O	THR B 472	44.754	14.037	-0.027	1.00	68.92	O
	ATOM	2218	N	ALA B 473	45.648	16.064	0.451	1.00	67.73	N
	ATOM	2219	CA	ALA B 473	44.832	16.440	1.603	1.00	66.75	C
15	ATOM	2220	CB	ALA B 473	45.716	17.096	2.658	1.00	67.33	C
	ATOM	2221	C	ALA B 473	43.758	17.441	1.110	1.00	65.98	C
	ATOM	2222	O	ALA B 473	44.090	18.346	0.345	1.00	66.14	O
	ATOM	2223	N	ILE B 474	42.485	17.271	1.514	1.00	62.47	N
	ATOM	2224	CA	ILE B 474	41.411	18.178	1.102	1.00	61.45	C
20	ATOM	2225	CB	ILE B 474	40.346	17.499	0.190	1.00	64.91	C
	ATOM	2226	CG1	ILE B 474	40.978	16.896	-1.068	1.00	66.08	C
	ATOM	2227	CD1	ILE B 474	40.446	15.473	-1.364	1.00	68.49	C
	ATOM	2228	CG2	ILE B 474	39.218	18.461	-0.203	1.00	64.62	C
	ATOM	2229	C	ILE B 474	40.790	18.807	2.342	1.00	60.34	C
25	ATOM	2230	O	ILE B 474	40.365	18.087	3.240	1.00	60.37	O
	ATOM	2231	N	ALA B 475	40.735	20.146	2.385	1.00	57.14	N
	ATOM	2232	CA	ALA B 475	40.136	20.904	3.477	1.00	55.84	C
	ATOM	2233	CB	ALA B 475	41.148	21.869	4.070	1.00	56.22	C
	ATOM	2234	C	ALA B 475	38.914	21.641	2.907	1.00	55.10	C
30	ATOM	2235	O	ALA B 475	39.061	22.512	2.051	1.00	55.21	O
	ATOM	2236	N	ARG B 476	37.706	21.239	3.348	1.00	53.80	N
	ATOM	2237	CA	ARG B 476	36.422	21.781	2.899	1.00	52.98	C
	ATOM	2238	CB	ARG B 476	35.452	20.646	2.545	1.00	57.32	C
	ATOM	2239	CG	ARG B 476	35.853	19.824	1.338	1.00	59.08	C
35	ATOM	2240	CD	ARG B 476	34.920	18.655	1.194	1.00	63.23	C
	ATOM	2241	NE	ARG B 476	35.412	17.649	0.249	1.00	67.39	N
	ATOM	2242	CZ	ARG B 476	36.216	16.634	0.568	1.00	69.07	C
	ATOM	2243	NH1	ARG B 476	36.666	16.495	1.815	1.00	68.81	N
	ATOM	2244	NH2	ARG B 476	36.594	15.761	-0.360	1.00	69.31	N
40	ATOM	2245	C	ARG B 476	35.756	22.701	3.914	1.00	52.07	C
	ATOM	2246	O	ARG B 476	36.048	22.625	5.104	1.00	52.40	O
	ATOM	2247	N	CYS B 477	34.834	23.551	3.426	1.00	48.60	N
	ATOM	2248	CA	CYS B 477	34.025	24.510	4.180	1.00	47.18	C
	ATOM	2249	CB	CYS B 477	34.064	25.882	3.507	1.00	46.99	C
45	ATOM	2250	SG	CYS B 477	35.717	26.592	3.352	1.00	45.41	S
	ATOM	2251	C	CYS B 477	32.606	23.998	4.230	1.00	46.87	C
	ATOM	2252	O	CYS B 477	32.260	23.050	3.515	1.00	46.88	O
	ATOM	2253	N	ALA B 478	31.765	24.648	5.035	1.00	47.78	N
	ATOM	2254	CA	ALA B 478	30.357	24.319	5.117	1.00	47.78	C
50	ATOM	2255	CB	ALA B 478	29.739	25.048	6.294	1.00	48.30	C
	ATOM	2256	C	ALA B 478	29.743	24.827	3.768	1.00	48.48	C
	ATOM	2257	O	ALA B 478	30.277	25.787	3.177	1.00	48.26	O
	ATOM	2258	N	PRO B 479	28.656	24.215	3.233	1.00	51.82	N
	ATOM	2259	CA	PRO B 479	28.110	24.684	1.940	1.00	52.05	C

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	ATOM	2260	CB	PRO B 479	26.904	23.764	1.706	1.00	53.87	C
	ATOM	2261	CG	PRO B 479	26.559	23.244	3.048	1.00	53.79	C
	ATOM	2262	CD	PRO B 479	27.880	23.069	3.736	1.00	53.76	C
	ATOM	2263	C	PRO B 479	27.761	26.171	1.839	1.00	51.93	C
5	ATOM	2264	O	PRO B 479	27.866	26.748	0.762	1.00	52.20	O
	ATOM	2265	N	ASP B 480	27.369	26.792	2.955	1.00	53.42	N
	ATOM	2266	CA	ASP B 480	27.032	28.210	2.959	1.00	53.67	C
	ATOM	2267	CB	ASP B 480	25.665	28.496	3.622	1.00	56.93	C
	ATOM	2268	CG	ASP B 480	25.511	28.088	5.067	1.00	59.11	C
10	ATOM	2269	OD1	ASP B 480	26.056	27.016	5.447	1.00	63.02	O
	ATOM	2270	OD2	ASP B 480	24.826	28.838	5.832	1.00	62.86	O
	ATOM	2271	C	ASP B 480	28.186	29.098	3.427	1.00	53.04	C
	ATOM	2272	O	ASP B 480	27.970	30.229	3.853	1.00	52.72	O
	ATOM	2273	N	GLU B 481	29.425	28.575	3.312	1.00	51.44	N
15	ATOM	2274	CA	GLU B 481	30.667	29.267	3.656	1.00	51.11	C
	ATOM	2275	CB	GLU B 481	31.510	28.443	4.637	1.00	52.30	C
	ATOM	2276	CG	GLU B 481	31.261	28.728	6.101	1.00	52.12	C
	ATOM	2277	CD	GLU B 481	32.035	27.832	7.055	1.00	52.14	C
	ATOM	2278	OE1	GLU B 481	32.555	26.776	6.622	1.00	49.95	O
20	ATOM	2279	OE2	GLU B 481	32.111	28.190	8.252	1.00	51.94	O
	ATOM	2280	C	GLU B 481	31.473	29.463	2.372	1.00	51.04	C
	ATOM	2281	O	GLU B 481	31.260	28.748	1.382	1.00	50.92	O
	ATOM	2282	N	GLU B 482	32.412	30.415	2.404	1.00	49.29	N
	ATOM	2283	CA	GLU B 482	33.280	30.746	1.288	1.00	49.32	C
25	ATOM	2284	CB	GLU B 482	33.172	32.254	0.946	1.00	51.66	C
	ATOM	2285	CG	GLU B 482	31.790	32.761	0.565	1.00	53.03	C
	ATOM	2286	CD	GLU B 482	31.364	32.572	-0.881	1.00	57.68	C
	ATOM	2287	OE1	GLU B 482	32.183	32.096	-1.704	1.00	59.24	O
	ATOM	2288	OE2	GLU B 482	30.195	32.907	-1.190	1.00	61.30	O
30	ATOM	2289	C	GLU B 482	34.712	30.424	1.687	1.00	49.13	C
	ATOM	2290	O	GLU B 482	35.160	30.857	2.744	1.00	49.43	O
	ATOM	2291	N	LEU B 483	35.436	29.680	0.849	1.00	47.43	N
	ATOM	2292	CA	LEU B 483	36.835	29.362	1.114	1.00	47.37	C
	ATOM	2293	CB	LEU B 483	37.249	28.109	0.320	1.00	47.25	C
35	ATOM	2294	CG	LEU B 483	38.642	27.572	0.604	1.00	47.52	C
	ATOM	2295	CD1	LEU B 483	38.568	26.180	1.131	1.00	47.92	C
	ATOM	2296	CD2	LEU B 483	39.472	27.565	-0.647	1.00	48.55	C
	ATOM	2297	C	LEU B 483	37.645	30.597	0.673	1.00	47.47	C
	ATOM	2298	O	LEU B 483	37.933	30.745	-0.506	1.00	47.63	O
40	ATOM	2299	N	LEU B 484	37.963	31.500	1.597	1.00	46.80	N
	ATOM	2300	CA	LEU B 484	38.700	32.711	1.240	1.00	47.23	C
	ATOM	2301	CB	LEU B 484	38.405	33.894	2.173	1.00	46.83	C
	ATOM	2302	CG	LEU B 484	36.946	34.390	2.221	1.00	46.04	C
	ATOM	2303	CD1	LEU B 484	36.862	35.773	2.855	1.00	43.79	C
45	ATOM	2304	CD2	LEU B 484	36.282	34.375	0.835	1.00	43.57	C
	ATOM	2305	C	LEU B 484	40.180	32.504	1.021	1.00	47.79	C
	ATOM	2306	O	LEU B 484	40.785	33.253	0.268	1.00	48.01	O
	ATOM	2307	N	SER B 485	40.769	31.498	1.667	1.00	49.07	N
	ATOM	2308	CA	SER B 485	42.181	31.155	1.507	1.00	49.53	C
50	ATOM	2309	CB	SER B 485	43.096	32.023	2.362	1.00	53.87	C
	ATOM	2310	OG	SER B 485	43.467	31.420	3.593	1.00	54.07	O
	ATOM	2311	C	SER B 485	42.452	29.671	1.676	1.00	50.19	C
	ATOM	2312	O	SER B 485	41.601	28.913	2.147	1.00	49.93	O
	ATOM	2313	N	CYS B 486	43.638	29.267	1.237	1.00	52.46	N

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	ATOM	2314	CA	CYS B 486	44.104	27.899	1.260	1.00	53.57	C
	ATOM	2315	CB	CYS B 486	43.693	27.210	-0.033	1.00	54.72	C
	ATOM	2316	SG	CYS B 486	44.437	25.584	-0.267	1.00	58.42	S
	ATOM	2317	C	CYS B 486	45.620	27.867	1.461	1.00	53.67	C
5	ATOM	2318	O	CYS B 486	46.352	28.446	0.663	1.00	54.05	O
	ATOM	2319	N	SER B 487	46.083	27.219	2.543	1.00	52.78	N
	ATOM	2320	CA	SER B 487	47.502	27.071	2.861	1.00	52.96	C
	ATOM	2321	CB	SER B 487	47.951	28.034	3.954	1.00	56.36	C
	ATOM	2322	OG	SER B 487	47.596	27.620	5.261	1.00	56.75	O
10	ATOM	2323	C	SER B 487	47.826	25.614	3.169	1.00	53.41	C
	ATOM	2324	O	SER B 487	46.915	24.786	3.219	1.00	53.67	O
	ATOM	2325	N	SER B 488	49.111	25.272	3.298	1.00	53.67	N
	ATOM	2326	CA	SER B 488	49.497	23.891	3.551	1.00	53.92	C
	ATOM	2327	CB	SER B 488	49.856	23.182	2.246	1.00	56.83	C
15	ATOM	2328	OG	SER B 488	51.138	23.530	1.748	1.00	56.75	O
	ATOM	2329	C	SER B 488	50.603	23.794	4.592	1.00	54.52	C
	ATOM	2330	O	SER B 488	51.272	24.794	4.869	1.00	54.45	O
	ATOM	2331	N	PHE B 489	50.768	22.608	5.214	1.00	56.25	N
	ATOM	2332	CA	PHE B 489	51.799	22.420	6.233	1.00	57.17	C
20	ATOM	2333	CB	PHE B 489	51.338	22.900	7.617	1.00	58.61	C
	ATOM	2334	CG	PHE B 489	52.313	22.641	8.734	1.00	58.42	C
	ATOM	2335	CD1	PHE B 489	53.521	23.318	8.793	1.00	58.07	C
	ATOM	2336	CE1	PHE B 489	54.425	23.077	9.827	1.00	58.55	C
	ATOM	2337	CZ	PHE B 489	54.116	22.168	10.815	1.00	58.71	C
25	ATOM	2338	CE2	PHE B 489	52.917	21.493	10.777	1.00	58.80	C
	ATOM	2339	CD2	PHE B 489	52.017	21.727	9.734	1.00	59.16	C
	ATOM	2340	C	PHE B 489	52.289	21.004	6.295	1.00	57.94	C
	ATOM	2341	O	PHE B 489	51.483	20.079	6.240	1.00	57.83	O
	ATOM	2342	N	SER B 490	53.618	20.849	6.424	1.00	59.48	N
30	ATOM	2343	CA	SER B 490	54.315	19.577	6.513	1.00	60.73	C
	ATOM	2344	CB	SER B 490	54.960	19.235	5.174	1.00	65.32	C
	ATOM	2345	OG	SER B 490	55.423	17.895	5.123	1.00	65.56	O
	ATOM	2346	C	SER B 490	55.374	19.667	7.611	1.00	61.88	C
	ATOM	2347	O	SER B 490	56.139	20.645	7.672	1.00	61.84	O
35	ATOM	2348	N	ARG B 491	55.409	18.641	8.488	1.00	65.66	N
	ATOM	2349	CA	ARG B 491	56.360	18.549	9.599	1.00	67.00	C
	ATOM	2350	CB	ARG B 491	55.928	17.475	10.613	1.00	66.09	C
	ATOM	2351	CG	ARG B 491	54.973	18.049	11.655	1.00	67.41	C
	ATOM	2352	CD	ARG B 491	54.468	17.056	12.694	1.00	68.34	C
40	ATOM	2353	NE	ARG B 491	53.056	16.693	12.489	1.00	69.16	N
	ATOM	2354	CZ	ARG B 491	52.007	17.381	12.949	1.00	68.95	C
	ATOM	2355	NH1	ARG B 491	52.187	18.503	13.644	1.00	68.24	N
	ATOM	2356	NH2	ARG B 491	50.773	16.956	12.712	1.00	67.62	N
	ATOM	2357	C	ARG B 491	57.844	18.411	9.142	1.00	67.88	C
45	ATOM	2358	O	ARG B 491	58.754	18.869	9.852	1.00	68.01	O
	ATOM	2359	N	SER B 492	58.072	17.812	7.949	1.00	70.21	N
	ATOM	2360	CA	SER B 492	59.401	17.632	7.357	1.00	71.44	C
	ATOM	2361	CB	SER B 492	59.474	16.323	6.576	1.00	74.19	C
	ATOM	2362	OG	SER B 492	58.575	16.305	5.478	1.00	74.62	O
50	ATOM	2363	C	SER B 492	59.749	18.805	6.436	1.00	72.34	C
	ATOM	2364	O	SER B 492	60.933	19.115	6.254	1.00	72.75	O
	ATOM	2365	N	GLY B 493	58.712	19.432	5.867	1.00	73.60	N
	ATOM	2366	CA	GLY B 493	58.840	20.557	4.949	1.00	74.10	C
	ATOM	2367	C	GLY B 493	58.687	20.136	3.502	1.00	74.47	C

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	ATOM	2368	O	GLY B 493	58.468	20.984	2.632	1.00	74.64	O
	ATOM	2369	N	LYS B 494	58.800	18.810	3.243	1.00	73.79	N
	ATOM	2370	CA	LYS B 494	58.694	18.175	1.928	1.00	73.93	C
	ATOM	2371	CB	LYS B 494	59.188	16.708	1.978	1.00	77.01	C
5	ATOM	2372	CG	LYS B 494	60.699	16.544	1.843	1.00	77.84	C
	ATOM	2373	CD	LYS B 494	61.393	16.447	3.195	1.00	79.63	C
	ATOM	2374	CE	LYS B 494	62.685	17.235	3.252	1.00	80.46	C
	ATOM	2375	NZ	LYS B 494	63.797	16.560	2.521	1.00	81.72	N
	ATOM	2376	C	LYS B 494	57.274	18.263	1.375	1.00	73.68	C
10	ATOM	2377	O	LYS B 494	56.500	17.301	1.476	1.00	73.66	O
	ATOM	2378	N	ARG B 495	56.939	19.429	0.777	1.00	71.64	N
	ATOM	2379	CA	ARG B 495	55.624	19.702	0.167	1.00	71.26	C
	ATOM	2380	CB	ARG B 495	54.672	20.482	1.110	1.00	70.49	C
	ATOM	2381	CG	ARG B 495	55.273	21.722	1.735	1.00	70.38	C
15	ATOM	2382	CD	ARG B 495	54.310	22.502	2.595	1.00	70.18	C
	ATOM	2383	NE	ARG B 495	54.929	23.774	2.957	1.00	70.48	N
	ATOM	2384	CZ	ARG B 495	54.719	24.918	2.314	1.00	70.12	C
	ATOM	2385	NH1	ARG B 495	55.347	26.023	2.695	1.00	69.89	N
	ATOM	2386	NH2	ARG B 495	53.871	24.970	1.292	1.00	69.72	N
20	ATOM	2387	C	ARG B 495	55.710	20.356	-1.217	1.00	70.82	C
	ATOM	2388	O	ARG B 495	56.664	21.074	-1.510	1.00	70.65	O
	ATOM	2389	N	ARG B 496	54.706	20.086	-2.060	1.00	69.42	N
	ATOM	2390	CA	ARG B 496	54.595	20.623	-3.409	1.00	69.24	C
	ATOM	2391	CB	ARG B 496	54.268	19.495	-4.405	1.00	71.24	C
25	ATOM	2392	CG	ARG B 496	55.455	18.604	-4.786	1.00	72.25	C
	ATOM	2393	CD	ARG B 496	55.249	17.844	-6.100	1.00	74.12	C
	ATOM	2394	NE	ARG B 496	54.127	16.895	-6.072	1.00	75.78	N
	ATOM	2395	CZ	ARG B 496	52.938	17.101	-6.644	1.00	77.26	C
	ATOM	2396	NH1	ARG B 496	52.690	18.237	-7.296	1.00	78.06	N
30	ATOM	2397	NH2	ARG B 496	51.985	16.179	-6.559	1.00	77.51	N
	ATOM	2398	C	ARG B 496	53.524	21.740	-3.450	1.00	68.83	C
	ATOM	2399	O	ARG B 496	52.838	21.915	-4.466	1.00	69.04	O
	ATOM	2400	N	GLY B 497	53.398	22.479	-2.345	1.00	66.71	N
	ATOM	2401	CA	GLY B 497	52.429	23.562	-2.200	1.00	65.86	C
35	ATOM	2402	C	GLY B 497	50.970	23.135	-2.121	1.00	65.26	C
	ATOM	2403	O	GLY B 497	50.664	21.975	-1.828	1.00	65.04	O
	ATOM	2404	N	GLU B 498	50.059	24.088	-2.392	1.00	63.61	N
	ATOM	2405	CA	GLU B 498	48.603	23.902	-2.335	1.00	63.10	C
	ATOM	2406	CB	GLU B 498	48.064	24.331	-0.951	1.00	63.75	C
40	ATOM	2407	CG	GLU B 498	48.063	25.826	-0.660	1.00	61.91	C
	ATOM	2408	CD	GLU B 498	49.406	26.517	-0.503	1.00	60.86	C
	ATOM	2409	OE1	GLU B 498	50.259	26.024	0.274	1.00	59.86	O
	ATOM	2410	OE2	GLU B 498	49.600	27.566	-1.159	1.00	61.36	O
	ATOM	2411	C	GLU B 498	47.841	24.631	-3.447	1.00	63.40	C
45	ATOM	2412	O	GLU B 498	48.378	25.561	-4.051	1.00	63.27	O
	ATOM	2413	N	ARG B 499	46.587	24.228	-3.703	1.00	64.30	N
	ATOM	2414	CA	ARG B 499	45.758	24.864	-4.726	1.00	65.18	C
	ATOM	2415	CB	ARG B 499	46.012	24.247	-6.120	1.00	71.04	C
	ATOM	2416	CG	ARG B 499	45.365	22.894	-6.381	1.00	73.16	C
50	ATOM	2417	CD	ARG B 499	45.718	22.331	-7.746	1.00	76.96	C
	ATOM	2418	NE	ARG B 499	45.023	21.063	-7.972	1.00	79.88	N
	ATOM	2419	CZ	ARG B 499	43.871	20.941	-8.629	1.00	81.79	C
	ATOM	2420	NH1	ARG B 499	43.283	22.009	-9.161	1.00	82.44	N
	ATOM	2421	NH2	ARG B 499	43.305	19.747	-8.773	1.00	82.29	N

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	ATOM	2422	C	ARG B 499	44.263	24.925	-4.364	1.00	65.29	C
	ATOM	2423	O	ARG B 499	43.771	24.086	-3.612	1.00	65.09	O
	ATOM	2424	N	MET B 500	43.550	25.922	-4.897	1.00	65.62	N
	ATOM	2425	CA	MET B 500	42.115	26.082	-4.654	1.00	66.14	C
5	ATOM	2426	CB	MET B 500	41.734	27.544	-4.353	1.00	67.39	C
	ATOM	2427	CG	MET B 500	42.721	28.245	-3.448	1.00	67.09	C
	ATOM	2428	SD	MET B 500	42.061	29.739	-2.697	1.00	65.94	S
	ATOM	2429	CE	MET B 500	43.546	30.646	-2.422	1.00	66.00	C
	ATOM	2430	C	MET B 500	41.381	25.522	-5.862	1.00	66.84	C
10	ATOM	2431	O	MET B 500	41.187	26.220	-6.850	1.00	66.94	O
	ATOM	2432	N	GLU B 501	41.034	24.234	-5.793	1.00	71.89	N
	ATOM	2433	CA	GLU B 501	40.346	23.456	-6.827	1.00	73.31	C
	ATOM	2434	CB	GLU B 501	40.763	21.974	-6.694	1.00	75.93	C
	ATOM	2435	CG	GLU B 501	40.299	21.049	-7.810	1.00	78.69	C
15	ATOM	2436	CD	GLU B 501	39.356	19.932	-7.389	1.00	81.99	C
	ATOM	2437	OE1	GLU B 501	39.712	19.158	-6.467	1.00	83.17	O
	ATOM	2438	OE2	GLU B 501	38.265	19.823	-7.995	1.00	82.03	O
	ATOM	2439	C	GLU B 501	38.831	23.627	-6.685	1.00	73.76	C
	ATOM	2440	O	GLU B 501	38.339	23.811	-5.576	1.00	74.05	O
20	ATOM	2441	N	ALA B 502	38.091	23.577	-7.798	1.00	76.46	N
	ATOM	2442	CA	ALA B 502	36.639	23.744	-7.784	1.00	76.98	C
	ATOM	2443	CB	ALA B 502	36.210	24.630	-8.936	1.00	77.69	C
	ATOM	2444	C	ALA B 502	35.909	22.406	-7.823	1.00	77.42	C
	ATOM	2445	O	ALA B 502	35.207	22.096	-8.790	1.00	77.66	O
25	ATOM	2446	N	GLN B 503	36.076	21.615	-6.753	1.00	79.97	N
	ATOM	2447	CA	GLN B 503	35.468	20.286	-6.594	1.00	80.40	C
	ATOM	2448	CB	GLN B 503	36.105	19.544	-5.404	1.00	82.53	C
	ATOM	2449	CG	GLN B 503	35.676	18.100	-5.232	1.00	84.12	C
	ATOM	2450	CD	GLN B 503	36.207	17.519	-3.943	1.00	86.45	C
30	ATOM	2451	OE1	GLN B 503	37.383	17.136	-3.857	1.00	86.94	O
	ATOM	2452	NE2	GLN B 503	35.351	17.432	-2.910	1.00	85.97	N
	ATOM	2453	C	GLN B 503	33.945	20.336	-6.473	1.00	80.20	C
	ATOM	2454	O	GLN B 503	33.412	21.079	-5.649	1.00	80.13	O
	ATOM	2455	N	GLY B 504	33.281	19.540	-7.312	1.00	78.91	N
35	ATOM	2456	CA	GLY B 504	31.833	19.390	-7.389	1.00	78.24	C
	ATOM	2457	C	GLY B 504	30.988	20.584	-6.989	1.00	77.75	C
	ATOM	2458	O	GLY B 504	30.197	20.488	-6.045	1.00	77.95	O
	ATOM	2459	N	GLY B 505	31.176	21.701	-7.691	1.00	74.94	N
	ATOM	2460	CA	GLY B 505	30.417	22.929	-7.474	1.00	74.00	C
40	ATOM	2461	C	GLY B 505	30.976	23.952	-6.508	1.00	73.53	C
	ATOM	2462	O	GLY B 505	30.700	25.148	-6.657	1.00	73.75	O
	ATOM	2463	N	LYS B 506	31.740	23.503	-5.501	1.00	71.03	N
	ATOM	2464	CA	LYS B 506	32.298	24.423	-4.513	1.00	70.01	C
	ATOM	2465	CB	LYS B 506	31.639	24.223	-3.136	1.00	72.46	C
45	ATOM	2466	C	LYS B 506	33.809	24.338	-4.420	1.00	69.32	C
	ATOM	2467	O	LYS B 506	34.391	23.279	-4.641	1.00	69.30	O
	ATOM	2468	N	LEU B 507	34.438	25.466	-4.092	1.00	66.92	N
	ATOM	2469	CA	LEU B 507	35.881	25.613	-3.945	1.00	66.12	C
	ATOM	2470	CB	LEU B 507	36.165	27.083	-3.640	1.00	66.38	C
50	ATOM	2471	CG	LEU B 507	37.049	27.840	-4.600	1.00	67.63	C
	ATOM	2472	CD1	LEU B 507	36.211	28.507	-5.705	1.00	68.19	C
	ATOM	2473	CD2	LEU B 507	37.826	28.902	-3.846	1.00	68.86	C
	ATOM	2474	C	LEU B 507	36.427	24.755	-2.793	1.00	65.11	C
	ATOM	2475	O	LEU B 507	35.857	24.760	-1.698	1.00	65.09	O

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	ATOM	2476	N	VAL B 508	37.519	24.010	-3.045	1.00	61.61	N
	ATOM	2477	CA	VAL B 508	38.193	23.183	-2.033	1.00	60.38	C
	ATOM	2478	CB	VAL B 508	38.009	21.641	-2.126	1.00	63.21	C
	ATOM	2479	CG1	VAL B 508	36.544	21.240	-2.075	1.00	63.38	C
5	ATOM	2480	CG2	VAL B 508	38.707	21.054	-3.345	1.00	62.75	C
	ATOM	2481	C	VAL B 508	39.651	23.587	-1.981	1.00	59.70	C
	ATOM	2482	O	VAL B 508	40.138	24.262	-2.876	1.00	59.53	O
	ATOM	2483	N	CYS B 509	40.338	23.169	-0.946	1.00	59.27	N
	ATOM	2484	CA	CYS B 509	41.733	23.467	-0.737	1.00	58.77	C
10	ATOM	2485	CB	CYS B 509	41.877	24.200	0.596	1.00	59.03	C
	ATOM	2486	SG	CYS B 509	43.577	24.420	1.169	1.00	58.35	S
	ATOM	2487	C	CYS B 509	42.505	22.125	-0.768	1.00	59.12	C
	ATOM	2488	O	CYS B 509	42.383	21.329	0.164	1.00	59.07	O
	ATOM	2489	N	ARG B 510	43.249	21.850	-1.870	1.00	59.85	N
15	ATOM	2490	CA	ARG B 510	44.050	20.624	-2.018	1.00	60.23	C
	ATOM	2491	CB	ARG B 510	43.972	20.039	-3.433	1.00	65.80	C
	ATOM	2492	CG	ARG B 510	42.609	19.592	-3.923	1.00	67.86	C
	ATOM	2493	CD	ARG B 510	42.747	18.693	-5.154	1.00	69.19	C
	ATOM	2494	NE	ARG B 510	43.027	17.308	-4.770	1.00	69.62	N
20	ATOM	2495	CZ	ARG B 510	42.092	16.397	-4.504	1.00	70.34	C
	ATOM	2496	NH1	ARG B 510	40.803	16.714	-4.588	1.00	69.81	N
	ATOM	2497	NH2	ARG B 510	42.438	15.162	-4.158	1.00	70.34	N
	ATOM	2498	C	ARG B 510	45.511	20.937	-1.756	1.00	60.27	C
	ATOM	2499	O	ARG B 510	46.022	21.914	-2.300	1.00	60.08	O
25	ATOM	2500	N	ALA B 511	46.193	20.100	-0.956	1.00	61.36	N
	ATOM	2501	CA	ALA B 511	47.629	20.230	-0.653	1.00	61.82	C
	ATOM	2502	CB	ALA B 511	47.872	20.303	0.843	1.00	62.16	C
	ATOM	2503	C	ALA B 511	48.352	19.023	-1.262	1.00	62.42	C
	ATOM	2504	O	ALA B 511	47.780	17.936	-1.327	1.00	62.27	O
30	ATOM	2505	N	HIS B 512	49.587	19.221	-1.744	1.00	66.79	N
	ATOM	2506	CA	HIS B 512	50.351	18.154	-2.389	1.00	67.92	C
	ATOM	2507	CB	HIS B 512	50.684	18.542	-3.842	1.00	69.88	C
	ATOM	2508	CG	HIS B 512	49.485	18.867	-4.683	1.00	71.38	C
	ATOM	2509	ND1	HIS B 512	48.602	17.882	-5.097	1.00	72.41	N
35	ATOM	2510	CE1	HIS B 512	47.676	18.506	-5.808	1.00	73.23	C
	ATOM	2511	NE2	HIS B 512	47.914	19.819	-5.881	1.00	73.20	N
	ATOM	2512	CD2	HIS B 512	49.071	20.060	-5.171	1.00	72.71	C
	ATOM	2513	C	HIS B 512	51.612	17.786	-1.639	1.00	68.22	C
	ATOM	2514	O	HIS B 512	52.337	18.672	-1.186	1.00	68.07	O
40	ATOM	2515	N	ASN B 513	51.882	16.479	-1.520	1.00	70.55	N
	ATOM	2516	CA	ASN B 513	53.079	16.000	-0.832	1.00	71.51	C
	ATOM	2517	CB	ASN B 513	52.802	14.671	-0.098	1.00	69.76	C
	ATOM	2518	CG	ASN B 513	53.936	14.196	0.795	1.00	69.80	C
	ATOM	2519	OD1	ASN B 513	54.520	14.955	1.591	1.00	69.04	O
45	ATOM	2520	ND2	ASN B 513	54.272	12.919	0.683	1.00	70.62	N
	ATOM	2521	C	ASN B 513	54.275	15.867	-1.802	1.00	72.19	C
	ATOM	2522	O	ASN B 513	54.115	15.337	-2.904	1.00	72.24	O
	ATOM	2523	N	ALA B 514	55.466	16.356	-1.393	1.00	75.63	N
	ATOM	2524	CA	ALA B 514	56.673	16.255	-2.219	1.00	76.20	C
50	ATOM	2525	CB	ALA B 514	57.667	17.345	-1.861	1.00	76.75	C
	ATOM	2526	C	ALA B 514	57.319	14.886	-2.051	1.00	76.64	C
	ATOM	2527	O	ALA B 514	57.137	14.243	-1.010	1.00	76.77	O
	ATOM	2528	N	PHE B 515	58.080	14.453	-3.082	1.00	80.11	N
	ATOM	2529	CA	PHE B 515	58.803	13.180	-3.148	1.00	80.31	C

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	ATOM	2530	CB	PHE B 515	59.830	13.210	-4.295	1.00	82.36	C
	ATOM	2531	C	PHE B 515	59.503	12.879	-1.830	1.00	80.38	C
	ATOM	2532	O	PHE B 515	60.322	13.682	-1.364	1.00	80.37	O
	ATOM	2533	N	GLY B 516	59.139	11.749	-1.230	1.00	81.00	N
5	ATOM	2534	CA	GLY B 516	59.697	11.308	0.042	1.00	80.95	C
	ATOM	2535	C	GLY B 516	59.400	12.258	1.184	1.00	80.88	C
	ATOM	2536	O	GLY B 516	60.312	12.902	1.720	1.00	81.07	O
	ATOM	2537	N	GLY B 517	58.115	12.351	1.523	1.00	80.34	N
	ATOM	2538	CA	GLY B 517	57.597	13.195	2.595	1.00	79.68	C
10	ATOM	2539	C	GLY B 517	56.645	12.415	3.475	1.00	79.22	C
	ATOM	2540	O	GLY B 517	55.982	11.489	2.991	1.00	79.27	O
	ATOM	2541	N	GLU B 518	56.575	12.779	4.774	1.00	77.21	N
	ATOM	2542	CA	GLU B 518	55.699	12.109	5.738	1.00	76.44	C
	ATOM	2543	CB	GLU B 518	56.071	12.479	7.195	1.00	79.07	C
15	ATOM	2544	CG	GLU B 518	55.311	13.634	7.855	1.00	81.97	C
	ATOM	2545	CD	GLU B 518	55.450	15.042	7.288	1.00	85.53	C
	ATOM	2546	OE1	GLU B 518	56.301	15.260	6.392	1.00	86.46	O
	ATOM	2547	OE2	GLU B 518	54.696	15.932	7.752	1.00	86.25	O
	ATOM	2548	C	GLU B 518	54.203	12.297	5.417	1.00	75.08	C
20	ATOM	2549	O	GLU B 518	53.402	11.401	5.685	1.00	75.58	O
	ATOM	2550	N	GLY B 519	53.866	13.440	4.816	1.00	68.68	N
	ATOM	2551	CA	GLY B 519	52.509	13.807	4.425	1.00	65.83	C
	ATOM	2552	C	GLY B 519	52.239	15.284	4.583	1.00	63.77	C
	ATOM	2553	O	GLY B 519	53.088	16.023	5.085	1.00	63.72	O
25	ATOM	2554	N	VAL B 520	51.059	15.727	4.155	1.00	58.12	N
	ATOM	2555	CA	VAL B 520	50.656	17.141	4.230	1.00	56.09	C
	ATOM	2556	CB	VAL B 520	50.854	17.927	2.889	1.00	58.61	C
	ATOM	2557	CG1	VAL B 520	52.320	18.213	2.615	1.00	58.35	C
	ATOM	2558	CG2	VAL B 520	50.190	17.225	1.705	1.00	57.62	C
30	ATOM	2559	C	VAL B 520	49.236	17.362	4.750	1.00	54.72	C
	ATOM	2560	O	VAL B 520	48.350	16.531	4.548	1.00	54.34	O
	ATOM	2561	N	TYR B 521	49.030	18.525	5.379	1.00	52.96	N
	ATOM	2562	CA	TYR B 521	47.746	19.015	5.866	1.00	51.37	C
	ATOM	2563	CB	TYR B 521	47.814	19.508	7.321	1.00	51.30	C
35	ATOM	2564	CG	TYR B 521	48.055	18.429	8.348	1.00	51.00	C
	ATOM	2565	CD1	TYR B 521	47.045	17.538	8.704	1.00	50.75	C
	ATOM	2566	CE1	TYR B 521	47.261	16.550	9.662	1.00	51.64	C
	ATOM	2567	CZ	TYR B 521	48.491	16.465	10.298	1.00	51.80	C
	ATOM	2568	OH	TYR B 521	48.720	15.491	11.249	1.00	53.18	O
40	ATOM	2569	CE2	TYR B 521	49.501	17.350	9.968	1.00	49.63	C
	ATOM	2570	CD2	TYR B 521	49.279	18.323	9.000	1.00	49.96	C
	ATOM	2571	C	TYR B 521	47.402	20.201	4.976	1.00	50.57	C
	ATOM	2572	O	TYR B 521	48.279	21.003	4.641	1.00	50.31	O
	ATOM	2573	N	ALA B 522	46.138	20.286	4.576	1.00	49.97	N
45	ATOM	2574	CA	ALA B 522	45.592	21.369	3.786	1.00	48.90	C
	ATOM	2575	CB	ALA B 522	44.594	20.826	2.765	1.00	49.18	C
	ATOM	2576	C	ALA B 522	44.878	22.201	4.852	1.00	48.44	C
	ATOM	2577	O	ALA B 522	44.108	21.663	5.658	1.00	48.69	O
	ATOM	2578	N	ILE B 523	45.177	23.488	4.901	1.00	46.25	N
50	ATOM	2579	CA	ILE B 523	44.586	24.403	5.869	1.00	45.22	C
	ATOM	2580	CB	ILE B 523	45.688	25.088	6.706	1.00	47.18	C
	ATOM	2581	CG1	ILE B 523	46.670	24.043	7.264	1.00	47.21	C
	ATOM	2582	CD1	ILE B 523	48.067	24.345	7.091	1.00	45.41	C
	ATOM	2583	CG2	ILE B 523	45.095	25.910	7.835	1.00	46.94	C

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	ATOM	2584	C	ILE B 523	43.715	25.383	5.090	1.00	44.76	C
	ATOM	2585	O	ILE B 523	44.214	26.153	4.265	1.00	44.99	O
	ATOM	2586	N	ALA B 524	42.410	25.339	5.337	1.00	44.44	N
	ATOM	2587	CA	ALA B 524	41.476	26.210	4.650	1.00	43.94	C
5	ATOM	2588	CB	ALA B 524	40.343	25.383	4.077	1.00	44.17	C
	ATOM	2589	C	ALA B 524	40.903	27.280	5.561	1.00	43.95	C
	ATOM	2590	O	ALA B 524	40.579	26.998	6.716	1.00	44.21	O
	ATOM	2591	N	ARG B 525	40.735	28.506	5.036	1.00	43.53	N
	ATOM	2592	CA	ARG B 525	40.099	29.571	5.793	1.00	42.94	C
10	ATOM	2593	CB	ARG B 525	40.860	30.883	5.680	1.00	42.61	C
	ATOM	2594	CG	ARG B 525	40.534	31.832	6.813	1.00	42.85	C
	ATOM	2595	CD	ARG B 525	41.338	31.590	8.083	1.00	42.32	C
	ATOM	2596	NE	ARG B 525	41.238	32.765	8.951	1.00	42.51	N
	ATOM	2597	CZ	ARG B 525	40.756	32.784	10.189	1.00	42.27	C
15	ATOM	2598	NH1	ARG B 525	40.342	31.665	10.766	1.00	43.54	N
	ATOM	2599	NH2	ARG B 525	40.706	33.918	10.868	1.00	43.96	N
	ATOM	2600	C	ARG B 525	38.668	29.666	5.259	1.00	42.79	C
	ATOM	2601	O	ARG B 525	38.458	29.944	4.081	1.00	42.40	O
	ATOM	2602	N	CYS B 526	37.688	29.358	6.108	1.00	43.85	N
20	ATOM	2603	CA	CYS B 526	36.272	29.351	5.731	1.00	44.23	C
	ATOM	2604	CB	CYS B 526	35.639	28.002	6.046	1.00	44.59	C
	ATOM	2605	SG	CYS B 526	36.468	26.609	5.244	1.00	45.22	S
	ATOM	2606	C	CYS B 526	35.555	30.483	6.399	1.00	44.66	C
	ATOM	2607	O	CYS B 526	35.608	30.615	7.626	1.00	44.76	O
25	ATOM	2608	N	CYS B 527	34.909	31.319	5.593	1.00	43.81	N
	ATOM	2609	CA	CYS B 527	34.253	32.513	6.091	1.00	44.79	C
	ATOM	2610	CB	CYS B 527	35.054	33.743	5.674	1.00	45.95	C
	ATOM	2611	SG	CYS B 527	36.839	33.580	5.907	1.00	45.55	S
	ATOM	2612	C	CYS B 527	32.814	32.666	5.713	1.00	45.67	C
30	ATOM	2613	O	CYS B 527	32.330	31.968	4.829	1.00	45.37	O
	ATOM	2614	N	LEU B 528	32.128	33.592	6.385	1.00	47.78	N
	ATOM	2615	CA	LEU B 528	30.755	33.919	6.061	1.00	50.01	C
	ATOM	2616	CB	LEU B 528	29.837	33.956	7.284	1.00	49.00	C
	ATOM	2617	CG	LEU B 528	29.497	32.629	7.959	1.00	49.07	C
35	ATOM	2618	CD1	LEU B 528	28.695	32.867	9.191	1.00	47.94	C
	ATOM	2619	CD2	LEU B 528	28.747	31.678	7.027	1.00	47.61	C
	ATOM	2620	C	LEU B 528	30.831	35.287	5.399	1.00	51.96	C
	ATOM	2621	O	LEU B 528	31.112	36.301	6.060	1.00	52.45	O
	ATOM	2622	N	LEU B 529	30.660	35.306	4.077	1.00	58.47	N
40	ATOM	2623	CA	LEU B 529	30.709	36.539	3.298	1.00	60.54	C
	ATOM	2624	CB	LEU B 529	31.933	36.573	2.364	1.00	60.25	C
	ATOM	2625	CG	LEU B 529	32.382	37.930	1.810	1.00	60.15	C
	ATOM	2626	CD1	LEU B 529	32.562	38.981	2.902	1.00	59.37	C
	ATOM	2627	CD2	LEU B 529	33.647	37.782	1.001	1.00	59.57	C
45	ATOM	2628	C	LEU B 529	29.371	36.668	2.566	1.00	62.19	C
	ATOM	2629	O	LEU B 529	29.131	36.029	1.526	1.00	62.29	O
	ATOM	2630	N	PRO B 530	28.451	37.433	3.189	1.00	67.36	N
	ATOM	2631	CA	PRO B 530	27.123	37.607	2.589	1.00	68.51	C
	ATOM	2632	CB	PRO B 530	26.323	38.297	3.701	1.00	70.58	C
50	ATOM	2633	CG	PRO B 530	27.349	39.088	4.468	1.00	70.35	C
	ATOM	2634	CD	PRO B 530	28.595	38.229	4.431	1.00	69.73	C
	ATOM	2635	C	PRO B 530	27.216	38.450	1.321	1.00	69.45	C
	ATOM	2636	O	PRO B 530	27.937	39.464	1.292	1.00	69.59	O
	ATOM	2637	N	GLN B 531	26.494	38.001	0.273	1.00	70.43	N

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	ATOM	2638	CA	GLN B 531	26.426	38.622	-1.057	1.00	71.31	C
	ATOM	2639	CB	GLN B 531	25.653	39.960	-1.037	1.00	73.97	C
	ATOM	2640	CG	GLN B 531	24.799	40.171	-2.290	1.00	76.23	C
	ATOM	2641	CD	GLN B 531	24.233	41.573	-2.405	1.00	78.91	C
5	ATOM	2642	OE1	GLN B 531	24.519	42.302	-3.375	1.00	80.16	O
	ATOM	2643	NE2	GLN B 531	23.410	41.978	-1.429	1.00	78.59	N
	ATOM	2644	C	GLN B 531	27.819	38.744	-1.683	1.00	70.77	C
	ATOM	2645	O	GLN B 531	28.237	39.817	-2.123	1.00	70.70	O
	ATOM	2646	N	ALA B 532	28.536	37.620	-1.694	1.00	66.90	N
10	ATOM	2647	CA	ALA B 532	29.878	37.520	-2.232	1.00	66.23	C
	ATOM	2648	CB	ALA B 532	30.799	36.912	-1.201	1.00	66.95	C
	ATOM	2649	C	ALA B 532	29.894	36.671	-3.468	1.00	65.85	C
	ATOM	2650	O	ALA B 532	29.225	35.639	-3.522	1.00	65.41	O
	ATOM	2651	N	ASN B 533	30.670	37.109	-4.458	1.00	63.84	N
15	ATOM	2652	CA	ASN B 533	30.876	36.422	-5.723	1.00	63.79	C
	ATOM	2653	CB	ASN B 533	30.377	37.281	-6.908	1.00	67.55	C
	ATOM	2654	CG	ASN B 533	30.138	36.531	-8.209	1.00	67.96	C
	ATOM	2655	OD1	ASN B 533	30.767	35.502	-8.503	1.00	68.40	O
	ATOM	2656	ND2	ASN B 533	29.218	37.044	-9.032	1.00	68.51	N
20	ATOM	2657	C	ASN B 533	32.386	36.191	-5.763	1.00	63.85	C
	ATOM	2658	O	ASN B 533	33.159	37.112	-6.065	1.00	63.71	O
	ATOM	2659	N	CYS B 534	32.810	34.973	-5.376	1.00	62.91	N
	ATOM	2660	CA	CYS B 534	34.228	34.598	-5.330	1.00	63.18	C
	ATOM	2661	CB	CYS B 534	34.593	34.012	-3.968	1.00	63.64	C
25	ATOM	2662	SG	CYS B 534	34.258	35.116	-2.566	1.00	64.12	S
	ATOM	2663	C	CYS B 534	34.636	33.673	-6.483	1.00	63.42	C
	ATOM	2664	O	CYS B 534	33.818	32.889	-6.958	1.00	63.15	O
	ATOM	2665	N	SER B 535	35.895	33.782	-6.939	1.00	63.52	N
	ATOM	2666	CA	SER B 535	36.438	32.973	-8.039	1.00	64.64	C
30	ATOM	2667	CB	SER B 535	35.984	33.508	-9.403	1.00	70.56	C
	ATOM	2668	OG	SER B 535	35.960	34.928	-9.502	1.00	71.49	O
	ATOM	2669	C	SER B 535	37.965	32.835	-7.969	1.00	65.10	C
	ATOM	2670	O	SER B 535	38.640	33.711	-7.420	1.00	65.03	O
	ATOM	2671	N	VAL B 536	38.497	31.724	-8.512	1.00	65.54	N
35	ATOM	2672	CA	VAL B 536	39.939	31.445	-8.521	1.00	66.42	C
	ATOM	2673	CB	VAL B 536	40.364	30.030	-8.027	1.00	69.07	C
	ATOM	2674	CG1	VAL B 536	41.870	29.961	-7.776	1.00	68.56	C
	ATOM	2675	CG2	VAL B 536	39.618	29.641	-6.773	1.00	68.82	C
	ATOM	2676	C	VAL B 536	40.577	31.779	-9.860	1.00	67.28	C
40	ATOM	2677	O	VAL B 536	40.238	31.205	-10.900	1.00	67.13	O
	ATOM	2678	N	HIS B 537	41.537	32.690	-9.806	1.00	71.82	N
	ATOM	2679	CA	HIS B 537	42.282	33.120	-10.963	1.00	73.25	C
	ATOM	2680	CB	HIS B 537	42.382	34.652	-10.986	1.00	74.71	C
	ATOM	2681	CG	HIS B 537	41.080	35.344	-11.273	1.00	75.65	C
45	ATOM	2682	ND1	HIS B 537	41.037	36.514	-12.009	1.00	76.64	N
	ATOM	2683	CE1	HIS B 537	39.759	36.851	-12.072	1.00	77.11	C
	ATOM	2684	NE2	HIS B 537	38.986	35.969	-11.432	1.00	76.60	N
	ATOM	2685	CD2	HIS B 537	39.816	35.006	-10.917	1.00	76.33	C
	ATOM	2686	C	HIS B 537	43.630	32.432	-10.878	1.00	74.22	C
50	ATOM	2687	O	HIS B 537	44.404	32.693	-9.956	1.00	74.32	O
	ATOM	2688	N	THR B 538	43.877	31.495	-11.805	1.00	77.01	N
	ATOM	2689	CA	THR B 538	45.116	30.721	-11.857	1.00	78.34	C
	ATOM	2690	CB	THR B 538	44.812	29.242	-12.209	1.00	85.85	C
	ATOM	2691	OG1	THR B 538	43.638	28.789	-11.527	1.00	85.27	O

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	ATOM	2692	CG2 THR B 538	45.967	28.311	-11.885	1.00	86.38	C
	ATOM	2693	C THR B 538	46.115	31.372	-12.831	1.00	79.19	C
	ATOM	2694	O THR B 538	45.705	32.031	-13.794	1.00	79.34	O
	ATOM	2695	N ALA B 539	47.419	31.187	-12.571	1.00	81.18	N
5	ATOM	2696	CA ALA B 539	48.504	31.695	-13.406	1.00	82.27	C
	ATOM	2697	CB ALA B 539	49.113	32.940	-12.787	1.00	82.74	C
	ATOM	2698	C ALA B 539	49.567	30.595	-13.547	1.00	83.28	C
	ATOM	2699	O ALA B 539	50.249	30.310	-12.559	1.00	83.57	O
	ATOM	2700	N PRO B 540	49.728	29.953	-14.741	1.00	84.90	N
10	ATOM	2701	CA PRO B 540	50.755	28.896	-14.888	1.00	85.48	C
	ATOM	2702	CB PRO B 540	50.595	28.452	-16.345	1.00	87.23	C
	ATOM	2703	CG PRO B 540	49.217	28.873	-16.732	1.00	86.88	C
	ATOM	2704	CD PRO B 540	49.002	30.161	-16.011	1.00	86.75	C
	ATOM	2705	C PRO B 540	52.172	29.407	-14.601	1.00	86.29	C
15	ATOM	2706	O PRO B 540	52.364	30.619	-14.666	1.00	86.29	O
	ATOM	2707	N PRO B 541	53.170	28.550	-14.263	1.00	89.05	N
	ATOM	2708	CA PRO B 541	54.517	29.080	-13.960	1.00	90.08	C
	ATOM	2709	CB PRO B 541	55.352	27.830	-13.673	1.00	91.35	C
	ATOM	2710	CG PRO B 541	54.363	26.787	-13.328	1.00	90.77	C
20	ATOM	2711	CD PRO B 541	53.133	27.082	-14.124	1.00	90.38	C
	ATOM	2712	C PRO B 541	55.095	29.943	-15.072	1.00	91.24	C
	ATOM	2713	O PRO B 541	55.194	29.508	-16.230	1.00	91.62	O
	ATOM	2714	N ALA B 542	55.425	31.197	-14.712	1.00	94.96	N
	ATOM	2715	CA ALA B 542	55.957	32.220	-15.611	1.00	96.01	C
25	ATOM	2716	CB ALA B 542	55.825	33.595	-14.968	1.00	96.64	C
	ATOM	2717	C ALA B 542	57.404	31.971	-16.015	1.00	96.90	C
	ATOM	2718	O ALA B 542	57.746	32.145	-17.191	1.00	97.12	O
	ATOM	2719	N GLU B 543	58.251	31.573	-15.028	1.00	99.93	N
	ATOM	2720	CA GLU B 543	59.699	31.313	-15.134	1.00	100.82	C
30	ATOM	2721	CB GLU B 543	60.064	30.320	-16.262	1.00	102.55	C
	ATOM	2722	CG GLU B 543	59.623	28.888	-15.996	1.00	103.87	C
	ATOM	2723	CD GLU B 543	60.484	28.041	-15.070	1.00	105.57	C
	ATOM	2724	OE1 GLU B 543	61.230	28.609	-14.235	1.00	105.85	O
	ATOM	2725	OE2 GLU B 543	60.403	26.795	-15.179	1.00	106.06	O
35	ATOM	2726	C GLU B 543	60.511	32.616	-15.207	1.00	101.05	C
	ATOM	2727	O GLU B 543	61.743	32.582	-15.164	1.00	101.12	O
	ATOM	2728	N ALA B 544	59.800	33.763	-15.289	1.00	101.57	N
	ATOM	2729	CA ALA B 544	60.334	35.124	-15.351	1.00	101.74	C
	ATOM	2730	CB ALA B 544	59.196	36.116	-15.551	1.00	102.50	C
40	ATOM	2731	C ALA B 544	61.078	35.451	-14.066	1.00	101.72	C
	ATOM	2732	O ALA B 544	60.730	34.922	-13.009	1.00	101.81	O
	ATOM	2733	N SER B 545	62.095	36.328	-14.157	1.00	101.31	N
	ATOM	2734	CA SER B 545	62.915	36.754	-13.020	1.00	100.89	C
	ATOM	2735	CB SER B 545	63.937	37.798	-13.462	1.00	105.30	C
45	ATOM	2736	OG SER B 545	65.004	37.896	-12.531	1.00	105.91	O
	ATOM	2737	C SER B 545	62.056	37.285	-11.862	1.00	100.43	C
	ATOM	2738	O SER B 545	62.345	36.975	-10.702	1.00	100.43	O
	ATOM	2739	N MET B 546	60.983	38.048	-12.194	1.00	98.19	N
	ATOM	2740	CA MET B 546	60.018	38.648	-11.263	1.00	97.41	C
50	ATOM	2741	CB MET B 546	59.044	39.561	-12.025	1.00	99.79	C
	ATOM	2742	C MET B 546	59.235	37.595	-10.468	1.00	96.79	C
	ATOM	2743	O MET B 546	59.015	37.775	-9.269	1.00	96.77	O
	ATOM	2744	N GLY B 547	58.833	36.521	-11.149	1.00	93.37	N
	ATOM	2745	CA GLY B 547	58.080	35.411	-10.577	1.00	92.04	C

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	ATOM	2746	C	GLY B 547	56.702	35.272	-11.187	1.00	91.12	C
	ATOM	2747	O	GLY B 547	56.297	36.120	-11.990	1.00	91.29	O
	ATOM	2748	N	THR B 548	55.972	34.193	-10.820	1.00	87.04	N
	ATOM	2749	CA	THR B 548	54.609	33.965	-11.322	1.00	85.72	C
5	ATOM	2750	CB	THR B 548	54.215	32.491	-11.294	1.00	83.58	C
	ATOM	2751	OG1	THR B 548	55.281	31.711	-11.834	1.00	83.14	O
	ATOM	2752	CG2	THR B 548	52.947	32.222	-12.080	1.00	83.07	C
	ATOM	2753	C	THR B 548	53.665	34.872	-10.538	1.00	85.12	C
	ATOM	2754	O	THR B 548	53.797	34.984	-9.317	1.00	85.14	O
10	ATOM	2755	N	ARG B 549	52.752	35.555	-11.243	1.00	81.89	N
	ATOM	2756	CA	ARG B 549	51.829	36.496	-10.628	1.00	80.81	C
	ATOM	2757	CB	ARG B 549	52.340	37.930	-10.822	1.00	81.46	C
	ATOM	2758	CG	ARG B 549	53.591	38.291	-10.053	1.00	81.96	C
	ATOM	2759	CD	ARG B 549	53.897	39.748	-10.295	1.00	84.00	C
15	ATOM	2760	NE	ARG B 549	55.170	40.159	-9.700	1.00	86.15	N
	ATOM	2761	CZ	ARG B 549	55.626	41.410	-9.686	1.00	86.73	C
	ATOM	2762	NH1	ARG B 549	54.912	42.394	-10.231	1.00	86.59	N
	ATOM	2763	NH2	ARG B 549	56.796	41.689	-9.125	1.00	87.07	N
	ATOM	2764	C	ARG B 549	50.432	36.402	-11.204	1.00	79.96	C
20	ATOM	2765	O	ARG B 549	50.275	36.058	-12.373	1.00	79.95	O
	ATOM	2766	N	VAL B 550	49.418	36.738	-10.380	1.00	77.30	N
	ATOM	2767	CA	VAL B 550	47.999	36.769	-10.744	1.00	75.98	C
	ATOM	2768	CB	VAL B 550	47.274	35.394	-10.737	1.00	79.16	C
	ATOM	2769	CG1	VAL B 550	47.301	34.733	-9.369	1.00	79.77	C
25	ATOM	2770	CG2	VAL B 550	45.855	35.490	-11.282	1.00	78.47	C
	ATOM	2771	C	VAL B 550	47.304	37.894	-9.976	1.00	75.32	C
	ATOM	2772	O	VAL B 550	47.451	38.002	-8.759	1.00	75.08	O
	ATOM	2773	N	HIS B 551	46.600	38.760	-10.717	1.00	74.87	N
	ATOM	2774	CA	HIS B 551	45.899	39.939	-10.226	1.00	73.98	C
30	ATOM	2775	CB	HIS B 551	46.456	41.163	-10.987	1.00	75.03	C
	ATOM	2776	CG	HIS B 551	45.804	42.474	-10.673	1.00	75.55	C
	ATOM	2777	ND1	HIS B 551	46.206	43.246	-9.593	1.00	76.61	N
	ATOM	2778	CE1	HIS B 551	45.436	44.324	-9.617	1.00	76.47	C
	ATOM	2779	NE2	HIS B 551	44.581	44.293	-10.640	1.00	76.50	N
35	ATOM	2780	CD2	HIS B 551	44.818	43.126	-11.332	1.00	75.56	C
	ATOM	2781	C	HIS B 551	44.376	39.824	-10.416	1.00	73.27	C
	ATOM	2782	O	HIS B 551	43.912	39.251	-11.416	1.00	73.24	O
	ATOM	2783	N	CYS B 552	43.604	40.380	-9.448	1.00	71.70	N
	ATOM	2784	CA	CYS B 552	42.138	40.429	-9.490	1.00	70.77	C
40	ATOM	2785	CB	CYS B 552	41.541	40.522	-8.082	1.00	69.58	C
	ATOM	2786	SG	CYS B 552	42.053	39.199	-6.948	1.00	68.99	S
	ATOM	2787	C	CYS B 552	41.862	41.701	-10.308	1.00	70.41	C
	ATOM	2788	O	CYS B 552	41.715	42.787	-9.736	1.00	70.54	O
	ATOM	2789	N	HIS B 553	41.867	41.570	-11.656	1.00	71.79	N
45	ATOM	2790	CA	HIS B 553	41.681	42.676	-12.607	1.00	70.99	C
	ATOM	2791	CB	HIS B 553	42.066	42.274	-14.042	1.00	72.84	C
	ATOM	2792	CG	HIS B 553	41.315	41.090	-14.573	1.00	74.09	C
	ATOM	2793	ND1	HIS B 553	41.888	39.823	-14.604	1.00	75.84	N
	ATOM	2794	CE1	HIS B 553	40.964	39.022	-15.118	1.00	75.76	C
50	ATOM	2795	NE2	HIS B 553	39.848	39.691	-15.422	1.00	75.40	N
	ATOM	2796	CD2	HIS B 553	40.062	41.013	-15.084	1.00	74.98	C
	ATOM	2797	C	HIS B 553	40.331	43.366	-12.566	1.00	70.18	C
	ATOM	2798	O	HIS B 553	40.292	44.589	-12.674	1.00	70.23	O
	ATOM	2799	N	GLN B 554	39.233	42.600	-12.409	1.00	67.50	N

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	ATOM	2800	CA	GLN B 554	37.873	43.126	-12.369	1.00	66.51	C
	ATOM	2801	CB	GLN B 554	36.858	41.997	-12.299	1.00	68.00	C
	ATOM	2802	CG	GLN B 554	36.678	41.299	-13.632	1.00	68.92	C
	ATOM	2803	CD	GLN B 554	36.898	39.820	-13.516	1.00	71.31	C
5	ATOM	2804	OE1	GLN B 554	37.877	39.350	-12.909	1.00	73.83	O
	ATOM	2805	NE2	GLN B 554	35.994	39.049	-14.104	1.00	71.22	N
	ATOM	2806	C	GLN B 554	37.660	44.125	-11.256	1.00	65.77	C
	ATOM	2807	O	GLN B 554	38.247	43.982	-10.187	1.00	65.63	O
	ATOM	2808	N	GLN B 555	36.848	45.161	-11.520	1.00	65.66	N
10	ATOM	2809	CA	GLN B 555	36.556	46.219	-10.548	1.00	65.12	C
	ATOM	2810	CB	GLN B 555	35.899	47.457	-11.210	1.00	67.33	C
	ATOM	2811	CG	GLN B 555	36.794	48.213	-12.203	1.00	68.29	C
	ATOM	2812	CD	GLN B 555	38.056	48.807	-11.598	1.00	69.00	C
	ATOM	2813	OE1	GLN B 555	39.134	48.167	-11.561	1.00	67.63	O
15	ATOM	2814	NE2	GLN B 555	37.941	50.051	-11.124	1.00	68.96	N
	ATOM	2815	C	GLN B 555	35.700	45.704	-9.403	1.00	64.48	C
	ATOM	2816	O	GLN B 555	34.694	45.021	-9.636	1.00	64.33	O
	ATOM	2817	N	GLY B 556	36.120	46.035	-8.183	1.00	61.80	N
	ATOM	2818	CA	GLY B 556	35.426	45.632	-6.967	1.00	60.75	C
20	ATOM	2819	C	GLY B 556	35.742	44.220	-6.514	1.00	60.01	C
	ATOM	2820	O	GLY B 556	35.109	43.721	-5.576	1.00	59.94	O
	ATOM	2821	N	HIS B 557	36.719	43.575	-7.195	1.00	57.86	N
	ATOM	2822	CA	HIS B 557	37.222	42.237	-6.920	1.00	57.23	C
	ATOM	2823	CB	HIS B 557	37.547	41.475	-8.206	1.00	58.41	C
25	ATOM	2824	CG	HIS B 557	36.346	40.916	-8.886	1.00	59.11	C
	ATOM	2825	ND1	HIS B 557	36.363	39.651	-9.440	1.00	60.16	N
	ATOM	2826	CE1	HIS B 557	35.155	39.474	-9.962	1.00	60.77	C
	ATOM	2827	NE2	HIS B 557	34.373	40.543	-9.768	1.00	60.13	N
	ATOM	2828	CD2	HIS B 557	35.126	41.472	-9.089	1.00	59.70	C
30	ATOM	2829	C	HIS B 557	38.463	42.410	-6.087	1.00	56.87	C
	ATOM	2830	O	HIS B 557	39.474	42.949	-6.558	1.00	57.10	O
	ATOM	2831	N	VAL B 558	38.378	41.973	-4.833	1.00	53.61	N
	ATOM	2832	CA	VAL B 558	39.458	42.090	-3.864	1.00	52.74	C
	ATOM	2833	CB	VAL B 558	39.019	42.997	-2.672	1.00	55.30	C
35	ATOM	2834	CG1	VAL B 558	37.555	42.815	-2.308	1.00	54.80	C
	ATOM	2835	CG2	VAL B 558	39.914	42.872	-1.468	1.00	55.20	C
	ATOM	2836	C	VAL B 558	40.105	40.729	-3.523	1.00	52.38	C
	ATOM	2837	O	VAL B 558	39.419	39.708	-3.480	1.00	52.35	O
	ATOM	2838	N	LEU B 559	41.438	40.712	-3.361	1.00	50.85	N
40	ATOM	2839	CA	LEU B 559	42.210	39.507	-3.043	1.00	50.58	C
	ATOM	2840	CB	LEU B 559	43.689	39.734	-3.342	1.00	49.73	C
	ATOM	2841	CG	LEU B 559	44.607	38.552	-3.233	1.00	49.07	C
	ATOM	2842	CD1	LEU B 559	44.471	37.663	-4.434	1.00	48.63	C
	ATOM	2843	CD2	LEU B 559	46.042	39.015	-3.094	1.00	49.11	C
45	ATOM	2844	C	LEU B 559	42.028	39.108	-1.585	1.00	50.65	C
	ATOM	2845	O	LEU B 559	42.357	39.888	-0.674	1.00	50.46	O
	ATOM	2846	N	THR B 560	41.493	37.895	-1.372	1.00	49.95	N
	ATOM	2847	CA	THR B 560	41.256	37.366	-0.031	1.00	50.39	C
	ATOM	2848	CB	THR B 560	39.826	36.862	0.160	1.00	44.40	C
50	ATOM	2849	OG1	THR B 560	39.491	35.933	-0.867	1.00	43.46	O
	ATOM	2850	CG2	THR B 560	38.810	37.989	0.224	1.00	43.25	C
	ATOM	2851	C	THR B 560	42.345	36.402	0.430	1.00	51.36	C
	ATOM	2852	O	THR B 560	42.583	36.308	1.634	1.00	51.00	O
	ATOM	2853	N	GLY B 561	43.009	35.736	-0.519	1.00	54.82	N

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	ATOM	2854	CA	GLY B 561	44.082	34.794	-0.230	1.00	57.16	C
	ATOM	2855	C	GLY B 561	44.795	34.222	-1.436	1.00	59.02	C
	ATOM	2856	O	GLY B 561	44.194	34.032	-2.498	1.00	58.70	O
	ATOM	2857	N	CYS B 562	46.087	33.922	-1.261	1.00	66.80	N
5	ATOM	2858	CA	CYS B 562	46.947	33.344	-2.296	1.00	69.27	C
	ATOM	2859	CB	CYS B 562	48.255	34.124	-2.398	1.00	71.87	C
	ATOM	2860	SG	CYS B 562	48.052	35.862	-2.889	1.00	74.75	S
	ATOM	2861	C	CYS B 562	47.204	31.837	-2.082	1.00	70.30	C
	ATOM	2862	O	CYS B 562	46.983	31.311	-0.988	1.00	70.71	O
10	ATOM	2863	N	SER B 563	47.656	31.149	-3.137	1.00	70.44	N
	ATOM	2864	CA	SER B 563	47.993	29.723	-3.126	1.00	71.93	C
	ATOM	2865	CB	SER B 563	46.764	28.856	-3.373	1.00	72.92	C
	ATOM	2866	OG	SER B 563	46.065	28.611	-2.170	1.00	72.43	O
	ATOM	2867	C	SER B 563	49.004	29.463	-4.219	1.00	73.35	C
15	ATOM	2868	O	SER B 563	48.867	30.017	-5.306	1.00	73.32	O
	ATOM	2869	N	SER B 564	50.013	28.629	-3.943	1.00	76.75	N
	ATOM	2870	CA	SER B 564	51.022	28.281	-4.942	1.00	78.64	C
	ATOM	2871	CB	SER B 564	52.266	29.156	-4.820	1.00	81.53	C
	ATOM	2872	OG	SER B 564	53.201	28.631	-3.893	1.00	81.79	O
20	ATOM	2873	C	SER B 564	51.373	26.807	-4.870	1.00	80.09	C
	ATOM	2874	O	SER B 564	51.687	26.314	-3.788	1.00	80.17	O
	ATOM	2875	N	HIS B 565	51.296	26.105	-6.014	1.00	83.57	N
	ATOM	2876	CA	HIS B 565	51.621	24.681	-6.120	1.00	85.44	C
	ATOM	2877	CB	HIS B 565	50.351	23.802	-6.180	1.00	86.15	C
25	ATOM	2878	CG	HIS B 565	49.913	23.381	-7.549	1.00	86.44	C
	ATOM	2879	ND1	HIS B 565	49.546	24.306	-8.507	1.00	86.55	N
	ATOM	2880	CE1	HIS B 565	49.206	23.600	-9.573	1.00	86.46	C
	ATOM	2881	NE2	HIS B 565	49.320	22.290	-9.353	1.00	86.36	N
	ATOM	2882	CD2	HIS B 565	49.767	22.136	-8.062	1.00	86.71	C
30	ATOM	2883	C	HIS B 565	52.578	24.432	-7.283	1.00	86.75	C
	ATOM	2884	O	HIS B 565	52.578	25.194	-8.250	1.00	86.90	O
	ATOM	2885	N	TRP B 566	53.390	23.374	-7.187	1.00	88.77	N
	ATOM	2886	CA	TRP B 566	54.373	23.032	-8.212	1.00	90.59	C
	ATOM	2887	CB	TRP B 566	55.712	23.719	-7.890	1.00	88.53	C
35	ATOM	2888	CG	TRP B 566	56.224	23.436	-6.508	1.00	88.17	C
	ATOM	2889	CD1	TRP B 566	57.057	22.423	-6.140	1.00	88.17	C
	ATOM	2890	NE1	TRP B 566	57.307	22.481	-4.787	1.00	87.71	N
	ATOM	2891	CE2	TRP B 566	56.623	23.541	-4.249	1.00	87.47	C
	ATOM	2892	CD2	TRP B 566	55.928	24.170	-5.306	1.00	87.89	C
40	ATOM	2893	CE3	TRP B 566	55.132	25.292	-5.015	1.00	87.60	C
	ATOM	2894	CZ3	TRP B 566	55.066	25.744	-3.705	1.00	87.46	C
	ATOM	2895	CH2	TRP B 566	55.762	25.095	-2.676	1.00	86.83	C
	ATOM	2896	CZ2	TRP B 566	56.545	23.994	-2.924	1.00	87.12	C
	ATOM	2897	C	TRP B 566	54.559	21.516	-8.389	1.00	92.26	C
45	ATOM	2898	O	TRP B 566	54.200	20.744	-7.499	1.00	92.56	O
	ATOM	2899	N	GLU B 567	55.101	21.099	-9.556	1.00	96.31	N
	ATOM	2900	CA	GLU B 567	55.413	19.705	-9.899	1.00	98.35	C
	ATOM	2901	CB	GLU B 567	54.939	19.372	-11.326	1.00	100.20	C
	ATOM	2902	CG	GLU B 567	53.559	18.749	-11.400	1.00	101.11	C
50	ATOM	2903	CD	GLU B 567	52.423	19.746	-11.298	1.00	102.11	C
	ATOM	2904	OE1	GLU B 567	51.951	19.997	-10.164	1.00	102.67	O
	ATOM	2905	OE2	GLU B 567	52.008	20.280	-12.353	1.00	102.12	O
	ATOM	2906	C	GLU B 567	56.938	19.523	-9.806	1.00	99.66	C
	ATOM	2907	O	GLU B 567	57.441	18.395	-9.783	1.00	99.88	O

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	ATOM	2908	N	VAL B 568	57.656	20.665	-9.750	1.00101.48	N
	ATOM	2909	CA	VAL B 568	59.113	20.826	-9.684	1.00103.05	C
	ATOM	2910	CB	VAL B 568	59.539	22.331	-9.854	1.00107.01	C
	ATOM	2911	CG1	VAL B 568	60.976	22.458	-10.359	1.00106.96	C
5	ATOM	2912	CG2	VAL B 568	58.588	23.089	-10.791	1.00106.73	C
	ATOM	2913	C	VAL B 568	59.744	20.134	-8.443	1.00104.20	C
	ATOM	2914	O	VAL B 568	59.057	19.870	-7.453	1.00104.05	O
	ATOM	2915	N	GLU B 569	61.053	19.822	-8.535	1.00106.23	N
	ATOM	2916	CA	GLU B 569	61.861	19.159	-7.508	1.00107.72	C
10	ATOM	2917	CB	GLU B 569	63.216	18.700	-8.099	1.00109.51	C
	ATOM	2918	CG	GLU B 569	63.118	17.866	-9.369	1.00110.40	C
	ATOM	2919	CD	GLU B 569	62.823	16.388	-9.184	1.00111.93	C
	ATOM	2920	OE1	GLU B 569	61.758	16.050	-8.615	1.00112.18	O
	ATOM	2921	OE2	GLU B 569	63.659	15.563	-9.622	1.00112.44	O
15	ATOM	2922	C	GLU B 569	62.092	20.065	-6.295	1.00108.56	C
	ATOM	2923	O	GLU B 569	61.801	19.655	-5.170	1.00108.48	O
	ATOM	2924	N	ASP B 570	62.622	21.291	-6.533	1.00108.05	N
	ATOM	2925	CA	ASP B 570	62.933	22.300	-5.514	1.00109.08	C
	ATOM	2926	CB	ASP B 570	64.286	21.968	-4.840	1.00111.60	C
20	ATOM	2927	CG	ASP B 570	64.422	22.375	-3.375	1.00112.91	C
	ATOM	2928	OD1	ASP B 570	65.513	22.154	-2.797	1.00114.14	O
	ATOM	2929	OD2	ASP B 570	63.438	22.917	-2.807	1.00114.01	O
	ATOM	2930	C	ASP B 570	62.934	23.736	-6.106	1.00109.47	C
	ATOM	2931	O	ASP B 570	62.599	23.914	-7.283	1.00109.58	O
25	ATOM	2932	N	LEU B 571	63.297	24.754	-5.281	1.00107.35	N
	ATOM	2933	CA	LEU B 571	63.349	26.177	-5.656	1.00107.66	C
	ATOM	2934	CB	LEU B 571	62.819	27.089	-4.519	1.00107.78	C
	ATOM	2935	CG	LEU B 571	63.575	27.099	-3.176	1.00107.90	C
	ATOM	2936	CD1	LEU B 571	63.720	28.518	-2.637	1.00107.36	C
30	ATOM	2937	CD2	LEU B 571	62.894	26.200	-2.145	1.00107.57	C
	ATOM	2938	C	LEU B 571	64.734	26.639	-6.148	1.00107.66	C
	ATOM	2939	O	LEU B 571	64.834	27.598	-6.917	1.00107.64	O
	ATOM	2940	N	GLN B 584	51.502	46.502	-5.817	1.00 88.83	N
	ATOM	2941	CA	GLN B 584	50.419	46.074	-6.708	1.00 88.89	C
35	ATOM	2942	CB	GLN B 584	50.933	45.124	-7.817	1.00 90.44	C
	ATOM	2943	CG	GLN B 584	52.050	45.701	-8.712	1.00 91.36	C
	ATOM	2944	CD	GLN B 584	53.475	45.453	-8.225	1.00 92.86	C
	ATOM	2945	OE1	GLN B 584	53.744	45.206	-7.039	1.00 93.49	O
	ATOM	2946	NE2	GLN B 584	54.433	45.522	-9.142	1.00 93.03	N
40	ATOM	2947	C	GLN B 584	49.263	45.449	-5.880	1.00 88.29	C
	ATOM	2948	O	GLN B 584	49.342	44.279	-5.491	1.00 88.23	O
	ATOM	2949	N	PRO B 585	48.199	46.232	-5.571	1.00 83.06	N
	ATOM	2950	CA	PRO B 585	47.093	45.694	-4.759	1.00 82.46	C
	ATOM	2951	CB	PRO B 585	46.268	46.940	-4.404	1.00 84.18	C
45	ATOM	2952	CG	PRO B 585	47.129	48.115	-4.773	1.00 84.40	C
	ATOM	2953	CD	PRO B 585	47.949	47.642	-5.921	1.00 84.56	C
	ATOM	2954	C	PRO B 585	46.249	44.653	-5.483	1.00 81.73	C
	ATOM	2955	O	PRO B 585	46.091	44.730	-6.702	1.00 81.37	O
	ATOM	2956	N	ASN B 586	45.707	43.685	-4.711	1.00 76.02	N
50	ATOM	2957	CA	ASN B 586	44.872	42.560	-5.161	1.00 75.41	C
	ATOM	2958	CB	ASN B 586	43.439	42.984	-5.507	1.00 67.36	C
	ATOM	2959	CG	ASN B 586	42.850	43.927	-4.480	1.00 66.58	C
	ATOM	2960	OD1	ASN B 586	42.732	43.620	-3.282	1.00 65.30	O
	ATOM	2961	ND2	ASN B 586	42.487	45.114	-4.927	1.00 66.00	N

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	ATOM	2962	C	ASN B 586	45.561	41.652	-6.198	1.00	75.48	C
	ATOM	2963	O	ASN B 586	44.944	41.179	-7.159	1.00	75.17	O
	ATOM	2964	N	GLN B 587	46.867	41.406	-5.952	1.00	75.37	N
	ATOM	2965	CA	GLN B 587	47.771	40.593	-6.762	1.00	75.77	C
5	ATOM	2966	CB	GLN B 587	48.596	41.511	-7.682	1.00	77.05	C
	ATOM	2967	CG	GLN B 587	49.370	40.777	-8.771	1.00	77.33	C
	ATOM	2968	CD	GLN B 587	50.505	41.600	-9.320	1.00	77.36	C
	ATOM	2969	OE1	GLN B 587	51.415	42.028	-8.590	1.00	76.63	O
	ATOM	2970	NE2	GLN B 587	50.480	41.818	-10.626	1.00	76.94	N
10	ATOM	2971	C	GLN B 587	48.697	39.703	-5.886	1.00	75.88	C
	ATOM	2972	O	GLN B 587	49.258	40.174	-4.888	1.00	75.70	O
	ATOM	2973	N	CYS B 588	48.840	38.417	-6.288	1.00	76.72	N
	ATOM	2974	CA	CYS B 588	49.661	37.376	-5.651	1.00	77.12	C
	ATOM	2975	CB	CYS B 588	49.004	36.007	-5.795	1.00	76.84	C
15	ATOM	2976	SG	CYS B 588	47.486	35.776	-4.839	1.00	75.32	S
	ATOM	2977	C	CYS B 588	51.042	37.344	-6.275	1.00	78.16	C
	ATOM	2978	O	CYS B 588	51.168	37.476	-7.496	1.00	78.21	O
	ATOM	2979	N	VAL B 589	52.071	37.098	-5.453	1.00	81.28	N
	ATOM	2980	CA	VAL B 589	53.450	36.994	-5.933	1.00	82.14	C
20	ATOM	2981	CB	VAL B 589	54.367	38.201	-5.585	1.00	86.38	C
	ATOM	2982	CG1	VAL B 589	54.048	39.397	-6.474	1.00	86.47	C
	ATOM	2983	CG2	VAL B 589	54.288	38.581	-4.102	1.00	86.30	C
	ATOM	2984	C	VAL B 589	54.047	35.623	-5.603	1.00	82.75	C
	ATOM	2985	O	VAL B 589	54.615	35.423	-4.526	1.00	82.96	O
25	ATOM	2986	N	GLY B 590	53.875	34.685	-6.531	1.00	84.26	N
	ATOM	2987	CA	GLY B 590	54.358	33.316	-6.392	1.00	85.16	C
	ATOM	2988	C	GLY B 590	55.740	33.064	-6.953	1.00	85.81	C
	ATOM	2989	O	GLY B 590	56.349	33.954	-7.556	1.00	85.93	O
	ATOM	2990	N	HIS B 591	56.245	31.837	-6.753	1.00	87.71	N
30	ATOM	2991	CA	HIS B 591	57.560	31.434	-7.246	1.00	87.96	C
	ATOM	2992	CB	HIS B 591	58.072	30.175	-6.530	1.00	89.13	C
	ATOM	2993	CG	HIS B 591	59.559	30.007	-6.623	1.00	90.45	C
	ATOM	2994	ND1	HIS B 591	60.169	29.558	-7.790	1.00	91.31	N
	ATOM	2995	CE1	HIS B 591	61.465	29.535	-7.528	1.00	91.78	C
35	ATOM	2996	NE2	HIS B 591	61.723	29.934	-6.279	1.00	91.75	N
	ATOM	2997	CD2	HIS B 591	60.515	30.241	-5.693	1.00	91.22	C
	ATOM	2998	C	HIS B 591	57.477	31.186	-8.736	1.00	87.64	C
	ATOM	2999	O	HIS B 591	56.501	30.601	-9.202	1.00	87.29	O
	ATOM	3000	N	ARG B 592	58.508	31.634	-9.474	1.00	88.66	N
40	ATOM	3001	CA	ARG B 592	58.654	31.511	-10.933	1.00	88.43	C
	ATOM	3002	CB	ARG B 592	60.011	32.068	-11.395	1.00	91.97	C
	ATOM	3003	CG	ARG B 592	61.185	31.755	-10.466	1.00	93.65	C
	ATOM	3004	CD	ARG B 592	62.404	32.592	-10.810	1.00	97.07	C
	ATOM	3005	NE	ARG B 592	63.185	32.010	-11.907	1.00	99.77	N
45	ATOM	3006	CZ	ARG B 592	64.227	32.602	-12.488	1.00	100.88	C
	ATOM	3007	NH1	ARG B 592	64.624	33.808	-12.092	1.00	101.32	N
	ATOM	3008	NH2	ARG B 592	64.877	31.995	-13.472	1.00	100.99	N
	ATOM	3009	C	ARG B 592	58.426	30.092	-11.470	1.00	87.64	C
	ATOM	3010	O	ARG B 592	57.856	29.923	-12.553	1.00	87.56	O
50	ATOM	3011	N	GLU B 593	58.850	29.084	-10.691	1.00	86.51	N
	ATOM	3012	CA	GLU B 593	58.717	27.663	-11.009	1.00	85.58	C
	ATOM	3013	CB	GLU B 593	59.825	26.870	-10.292	1.00	87.81	C
	ATOM	3014	CG	GLU B 593	61.220	27.132	-10.843	1.00	88.88	C
	ATOM	3015	CD	GLU B 593	62.366	26.612	-9.994	1.00	90.22	C

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	ATOM	3016	OE1	GLU	B	593	62.983	27.423	-9.264	1.00	90.44	O
	ATOM	3017	OE2	GLU	B	593	62.650	25.394	-10.062	1.00	91.09	O
	ATOM	3018	C	GLU	B	593	57.320	27.111	-10.642	1.00	84.60	C
	ATOM	3019	O	GLU	B	593	56.904	26.084	-11.194	1.00	84.65	O
5	ATOM	3020	N	ALA	B	594	56.604	27.795	-9.710	1.00	79.49	N
	ATOM	3021	CA	ALA	B	594	55.274	27.415	-9.216	1.00	77.89	C
	ATOM	3022	CB	ALA	B	594	55.184	27.711	-7.729	1.00	78.50	C
	ATOM	3023	C	ALA	B	594	54.117	28.102	-9.930	1.00	76.77	C
	ATOM	3024	O	ALA	B	594	54.303	29.163	-10.513	1.00	76.59	O
10	ATOM	3025	N	SER	B	595	52.919	27.501	-9.868	1.00	73.12	N
	ATOM	3026	CA	SER	B	595	51.695	28.062	-10.438	1.00	72.12	C
	ATOM	3027	CB	SER	B	595	50.741	26.959	-10.896	1.00	75.26	C
	ATOM	3028	OG	SER	B	595	51.388	25.857	-11.509	1.00	75.51	O
	ATOM	3029	C	SER	B	595	51.049	28.821	-9.280	1.00	71.42	C
15	ATOM	3030	O	SER	B	595	51.114	28.338	-8.150	1.00	71.31	O
	ATOM	3031	N	ILE	B	596	50.441	29.996	-9.538	1.00	70.73	N
	ATOM	3032	CA	ILE	B	596	49.795	30.795	-8.491	1.00	69.99	C
	ATOM	3033	CB	ILE	B	596	50.542	32.116	-8.133	1.00	73.71	C
	ATOM	3034	CG1	ILE	B	596	49.947	32.816	-6.903	1.00	74.21	C
20	ATOM	3035	CD1	ILE	B	596	50.799	32.768	-5.658	1.00	75.24	C
	ATOM	3036	CG2	ILE	B	596	50.638	33.072	-9.302	1.00	74.55	C
	ATOM	3037	C	ILE	B	596	48.275	30.910	-8.656	1.00	69.25	C
	ATOM	3038	O	ILE	B	596	47.787	31.141	-9.761	1.00	69.32	O
	ATOM	3039	N	HIS	B	597	47.538	30.706	-7.547	1.00	67.64	N
25	ATOM	3040	CA	HIS	B	597	46.075	30.743	-7.455	1.00	66.81	C
	ATOM	3041	CB	HIS	B	597	45.519	29.399	-6.959	1.00	67.27	C
	ATOM	3042	CG	HIS	B	597	46.210	28.207	-7.539	1.00	67.71	C
	ATOM	3043	ND1	HIS	B	597	45.629	27.457	-8.539	1.00	68.36	N
	ATOM	3044	CE1	HIS	B	597	46.498	26.497	-8.816	1.00	68.31	C
30	ATOM	3045	NE2	HIS	B	597	47.595	26.596	-8.062	1.00	68.23	N
	ATOM	3046	CD2	HIS	B	597	47.421	27.677	-7.238	1.00	67.76	C
	ATOM	3047	C	HIS	B	597	45.674	31.849	-6.497	1.00	66.09	C
	ATOM	3048	O	HIS	B	597	46.177	31.913	-5.372	1.00	66.02	O
	ATOM	3049	N	ALA	B	598	44.783	32.728	-6.948	1.00	63.84	N
35	ATOM	3050	CA	ALA	B	598	44.309	33.849	-6.153	1.00	62.86	C
	ATOM	3051	CB	ALA	B	598	44.632	35.149	-6.858	1.00	63.48	C
	ATOM	3052	C	ALA	B	598	42.823	33.754	-5.945	1.00	62.40	C
	ATOM	3053	O	ALA	B	598	42.083	33.352	-6.850	1.00	62.27	O
	ATOM	3054	N	SER	B	599	42.377	34.126	-4.751	1.00	61.90	N
40	ATOM	3055	CA	SER	B	599	40.958	34.132	-4.437	1.00	61.05	C
	ATOM	3056	CB	SER	B	599	40.717	33.607	-3.025	1.00	61.08	C
	ATOM	3057	OG	SER	B	599	39.365	33.762	-2.632	1.00	60.21	O
	ATOM	3058	C	SER	B	599	40.513	35.586	-4.594	1.00	60.78	C
	ATOM	3059	O	SER	B	599	40.996	36.466	-3.878	1.00	60.38	O
45	ATOM	3060	N	CYS	B	600	39.650	35.845	-5.578	1.00	64.31	N
	ATOM	3061	CA	CYS	B	600	39.148	37.192	-5.861	1.00	64.47	C
	ATOM	3062	CB	CYS	B	600	39.469	37.618	-7.293	1.00	66.19	C
	ATOM	3063	SG	CYS	B	600	41.227	37.507	-7.728	1.00	68.52	S
	ATOM	3064	C	CYS	B	600	37.665	37.204	-5.589	1.00	64.12	C
50	ATOM	3065	O	CYS	B	600	36.912	36.457	-6.220	1.00	64.27	O
	ATOM	3066	N	CYS	B	601	37.257	38.024	-4.612	1.00	62.68	N
	ATOM	3067	CA	CYS	B	601	35.872	38.151	-4.174	1.00	62.41	C
	ATOM	3068	CB	CYS	B	601	35.733	37.829	-2.682	1.00	63.13	C
	ATOM	3069	SG	CYS	B	601	36.021	36.091	-2.241	1.00	64.17	S

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	ATOM	3070	C	CYS B 601	35.297	39.512	-4.472	1.00	62.08	C
	ATOM	3071	O	CYS B 601	35.930	40.538	-4.211	1.00	61.64	O
	ATOM	3072	N	HIS B 602	34.069	39.518	-4.967	1.00	62.51	N
	ATOM	3073	CA	HIS B 602	33.345	40.745	-5.182	1.00	62.47	C
5	ATOM	3074	CB	HIS B 602	32.826	40.929	-6.617	1.00	63.59	C
	ATOM	3075	CG	HIS B 602	31.839	42.056	-6.694	1.00	65.07	C
	ATOM	3076	ND1	HIS B 602	32.220	43.371	-6.446	1.00	65.53	N
	ATOM	3077	CE1	HIS B 602	31.113	44.084	-6.533	1.00	66.01	C
	ATOM	3078	NE2	HIS B 602	30.054	43.313	-6.801	1.00	66.23	N
10	ATOM	3079	CD2	HIS B 602	30.502	42.018	-6.886	1.00	65.94	C
	ATOM	3080	C	HIS B 602	32.201	40.698	-4.182	1.00	62.16	C
	ATOM	3081	O	HIS B 602	31.334	39.823	-4.266	1.00	62.15	O
	ATOM	3082	N	ALA B 603	32.219	41.614	-3.215	1.00	62.66	N
	ATOM	3083	CA	ALA B 603	31.200	41.685	-2.181	1.00	62.34	C
15	ATOM	3084	CB	ALA B 603	31.536	40.737	-1.033	1.00	63.20	C
	ATOM	3085	C	ALA B 603	31.166	43.102	-1.689	1.00	62.14	C
	ATOM	3086	O	ALA B 603	32.203	43.614	-1.276	1.00	61.88	O
	ATOM	3087	N	PRO B 604	29.981	43.744	-1.725	1.00	64.06	N
	ATOM	3088	CA	PRO B 604	29.861	45.144	-1.305	1.00	63.85	C
20	ATOM	3089	CB	PRO B 604	28.413	45.247	-0.855	1.00	65.98	C
	ATOM	3090	CG	PRO B 604	27.706	44.388	-1.885	1.00	66.43	C
	ATOM	3091	CD	PRO B 604	28.680	43.250	-2.225	1.00	66.17	C
	ATOM	3092	C	PRO B 604	30.888	45.852	-0.418	1.00	63.45	C
	ATOM	3093	O	PRO B 604	31.762	46.528	-0.969	1.00	64.30	O
25	ATOM	3094	N	GLY B 605	30.793	45.751	0.897	1.00	60.05	N
	ATOM	3095	CA	GLY B 605	31.725	46.479	1.759	1.00	58.93	C
	ATOM	3096	C	GLY B 605	33.072	45.841	2.023	1.00	58.13	C
	ATOM	3097	O	GLY B 605	33.765	46.266	2.946	1.00	58.44	O
	ATOM	3098	N	LEU B 606	33.462	44.831	1.244	1.00	54.47	N
30	ATOM	3099	CA	LEU B 606	34.716	44.137	1.476	1.00	54.00	C
	ATOM	3100	CB	LEU B 606	34.802	42.813	0.688	1.00	53.72	C
	ATOM	3101	CG	LEU B 606	35.943	41.869	1.058	1.00	52.83	C
	ATOM	3102	CD1	LEU B 606	35.850	41.425	2.531	1.00	51.59	C
	ATOM	3103	CD2	LEU B 606	35.967	40.674	0.122	1.00	52.38	C
35	ATOM	3104	C	LEU B 606	35.955	44.974	1.296	1.00	54.09	C
	ATOM	3105	O	LEU B 606	36.233	45.423	0.192	1.00	54.24	O
	ATOM	3106	N	GLU B 607	36.716	45.144	2.379	1.00	55.04	N
	ATOM	3107	CA	GLU B 607	37.954	45.906	2.384	1.00	55.42	C
	ATOM	3108	CB	GLU B 607	37.782	47.162	3.260	1.00	57.38	C
40	ATOM	3109	CG	GLU B 607	39.035	48.016	3.363	1.00	58.87	C
	ATOM	3110	CD	GLU B 607	39.038	49.093	4.430	1.00	60.85	C
	ATOM	3111	OE1	GLU B 607	38.094	49.119	5.255	1.00	61.65	O
	ATOM	3112	OE2	GLU B 607	39.983	49.920	4.436	1.00	61.21	O
	ATOM	3113	C	GLU B 607	39.086	45.011	2.911	1.00	55.44	C
45	ATOM	3114	O	GLU B 607	39.032	44.606	4.071	1.00	55.60	O
	ATOM	3115	N	CYS B 608	40.106	44.711	2.074	1.00	54.14	N
	ATOM	3116	CA	CYS B 608	41.252	43.877	2.462	1.00	54.04	C
	ATOM	3117	CB	CYS B 608	41.272	42.564	1.690	1.00	54.04	C
	ATOM	3118	SG	CYS B 608	39.741	41.610	1.802	1.00	53.76	S
50	ATOM	3119	C	CYS B 608	42.591	44.580	2.358	1.00	54.18	C
	ATOM	3120	O	CYS B 608	42.816	45.325	1.411	1.00	54.34	O
	ATOM	3121	N	LYS B 609	43.495	44.306	3.300	1.00	54.86	N
	ATOM	3122	CA	LYS B 609	44.852	44.864	3.327	1.00	55.43	C
	ATOM	3123	CB	LYS B 609	44.982	46.016	4.346	1.00	56.81	C

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	ATOM	3124	CG	LYS	B 609	44.900	45.609	5.805	1.00	57.46	C
	ATOM	3125	CD	LYS	B 609	44.750	46.814	6.731	1.00	59.08	C
	ATOM	3126	CE	LYS	B 609	45.905	46.964	7.704	1.00	60.80	C
	ATOM	3127	NZ	LYS	B 609	45.625	47.985	8.760	1.00	62.27	N
5	ATOM	3128	C	LYS	B 609	45.914	43.777	3.572	1.00	55.76	C
	ATOM	3129	O	LYS	B 609	45.605	42.720	4.135	1.00	56.22	O
	ATOM	3130	N	VAL	B 610	47.155	44.036	3.150	1.00	54.85	N
	ATOM	3131	CA	VAL	B 610	48.258	43.105	3.357	1.00	55.05	C
	ATOM	3132	CB	VAL	B 610	49.068	42.824	2.062	1.00	57.33	C
10	ATOM	3133	CG1	VAL	B 610	50.383	42.112	2.348	1.00	57.13	C
	ATOM	3134	CG2	VAL	B 610	48.243	42.004	1.085	1.00	56.76	C
	ATOM	3135	C	VAL	B 610	49.106	43.601	4.536	1.00	55.93	C
	ATOM	3136	O	VAL	B 610	49.336	44.803	4.686	1.00	55.91	O
	ATOM	3137	N	LYS	B 611	49.514	42.670	5.394	1.00	58.35	N
15	ATOM	3138	CA	LYS	B 611	50.359	42.932	6.540	1.00	59.67	C
	ATOM	3139	CB	LYS	B 611	49.598	42.751	7.846	1.00	62.48	C
	ATOM	3140	CG	LYS	B 611	48.894	44.000	8.315	1.00	62.55	C
	ATOM	3141	CD	LYS	B 611	48.464	43.842	9.738	1.00	62.02	C
	ATOM	3142	CE	LYS	B 611	49.373	44.550	10.701	1.00	61.73	C
20	ATOM	3143	NZ	LYS	B 611	48.814	44.504	12.076	1.00	63.02	N
	ATOM	3144	C	LYS	B 611	51.493	41.950	6.454	1.00	60.89	C
	ATOM	3145	O	LYS	B 611	51.277	40.797	6.083	1.00	61.07	O
	ATOM	3146	N	GLU	B 612	52.704	42.401	6.769	1.00	65.52	N
	ATOM	3147	CA	GLU	B 612	53.890	41.559	6.716	1.00	67.20	C
25	ATOM	3148	CB	GLU	B 612	54.738	41.890	5.479	1.00	69.75	C
	ATOM	3149	CG	GLU	B 612	54.102	41.580	4.134	1.00	72.07	C
	ATOM	3150	CD	GLU	B 612	54.824	42.139	2.912	1.00	74.93	C
	ATOM	3151	OE1	GLU	B 612	55.927	42.719	3.075	1.00	75.72	O
	ATOM	3152	OE2	GLU	B 612	54.281	41.993	1.788	1.00	75.17	O
30	ATOM	3153	C	GLU	B 612	54.745	41.777	7.932	1.00	67.85	C
	ATOM	3154	O	GLU	B 612	54.802	42.893	8.450	1.00	67.69	O
	ATOM	3155	N	HIS	B 613	55.425	40.709	8.375	1.00	70.43	N
	ATOM	3156	CA	HIS	B 613	56.382	40.719	9.485	1.00	71.72	C
	ATOM	3157	CB	HIS	B 613	55.762	40.455	10.861	1.00	72.33	C
35	ATOM	3158	CG	HIS	B 613	56.748	40.654	11.974	1.00	73.36	C
	ATOM	3159	ND1	HIS	B 613	57.589	39.633	12.387	1.00	73.70	N
	ATOM	3160	CE1	HIS	B 613	58.322	40.143	13.362	1.00	73.23	C
	ATOM	3161	NE2	HIS	B 613	58.015	41.420	13.589	1.00	72.77	N
	ATOM	3162	CD2	HIS	B 613	57.018	41.762	12.703	1.00	73.57	C
40	ATOM	3163	C	HIS	B 613	57.513	39.749	9.181	1.00	72.40	C
	ATOM	3164	O	HIS	B 613	57.266	38.577	8.884	1.00	72.35	O
	ATOM	3165	N	GLY	B 614	58.735	40.269	9.237	1.00	75.34	N
	ATOM	3166	CA	GLY	B 614	59.949	39.516	8.956	1.00	76.68	C
	ATOM	3167	C	GLY	B 614	60.985	39.550	10.059	1.00	77.54	C
45	ATOM	3168	O	GLY	B 614	60.958	40.446	10.909	1.00	77.67	O
	ATOM	3169	N	ILE	B 615	61.894	38.540	10.052	1.00	78.87	N
	ATOM	3170	CA	ILE	B 615	63.027	38.317	10.979	1.00	79.84	C
	ATOM	3171	CB	ILE	B 615	62.652	38.108	12.493	1.00	82.96	C
	ATOM	3172	CG1	ILE	B 615	61.263	37.475	12.710	1.00	83.14	C
50	ATOM	3173	CD1	ILE	B 615	61.280	36.003	12.683	1.00	83.42	C
	ATOM	3174	CG2	ILE	B 615	62.849	39.380	13.327	1.00	83.28	C
	ATOM	3175	C	ILE	B 615	63.943	37.177	10.458	1.00	80.22	C
	ATOM	3176	O	ILE	B 615	63.423	36.183	9.944	1.00	80.09	O
	ATOM	3177	N	PRO	B 616	65.289	37.276	10.591	1.00	79.85	N

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	ATOM	3178	CA	PRO B 616	66.159	36.200	10.088	1.00	80.08	C
	ATOM	3179	CB	PRO B 616	67.370	36.971	9.541	1.00	82.01	C
	ATOM	3180	CG	PRO B 616	67.277	38.388	10.173	1.00	81.86	C
	ATOM	3181	CD	PRO B 616	66.107	38.379	11.126	1.00	81.64	C
5	ATOM	3182	C	PRO B 616	66.561	35.181	11.164	1.00	80.04	C
	ATOM	3183	O	PRO B 616	66.838	34.014	10.864	1.00	79.99	O
	ATOM	3184	N	GLN B 619	65.988	31.467	12.228	1.00	97.95	N
	ATOM	3185	CA	GLN B 619	64.818	31.710	13.070	1.00	98.18	C
	ATOM	3186	CB	GLN B 619	64.133	33.018	12.679	1.00	99.99	C
10	ATOM	3187	CG	GLN B 619	64.286	34.089	13.749	1.00	100.87	C
	ATOM	3188	CD	GLN B 619	63.267	33.998	14.875	1.00	101.55	C
	ATOM	3189	OE1	GLN B 619	62.669	32.942	15.169	1.00	102.03	O
	ATOM	3190	NE2	GLN B 619	63.053	35.124	15.539	1.00	101.11	N
	ATOM	3191	C	GLN B 619	63.804	30.562	13.091	1.00	97.94	C
15	ATOM	3192	O	GLN B 619	63.628	29.897	12.072	1.00	98.16	O
	ATOM	3193	N	GLU B 620	63.127	30.340	14.243	1.00	94.15	N
	ATOM	3194	CA	GLU B 620	62.138	29.257	14.416	1.00	93.93	C
	ATOM	3195	CB	GLU B 620	61.942	28.898	15.905	1.00	95.67	C
	ATOM	3196	CG	GLU B 620	61.685	27.415	16.152	1.00	97.17	C
20	ATOM	3197	CD	GLU B 620	60.234	26.966	16.211	1.00	99.16	C
	ATOM	3198	OE1	GLU B 620	59.530	27.346	17.176	1.00	100.08	O
	ATOM	3199	OE2	GLU B 620	59.804	26.223	15.297	1.00	99.16	O
	ATOM	3200	C	GLU B 620	60.786	29.473	13.694	1.00	93.26	C
	ATOM	3201	O	GLU B 620	60.458	28.710	12.779	1.00	93.37	O
25	ATOM	3202	N	GLN B 621	59.998	30.485	14.115	1.00	87.28	N
	ATOM	3203	CA	GLN B 621	58.700	30.777	13.504	1.00	85.89	C
	ATOM	3204	CB	GLN B 621	57.568	29.950	14.133	1.00	87.11	C
	ATOM	3205	CG	GLN B 621	57.182	30.349	15.556	1.00	87.24	C
	ATOM	3206	CD	GLN B 621	55.691	30.342	15.770	1.00	88.14	C
30	ATOM	3207	OE1	GLN B 621	54.969	29.432	15.332	1.00	88.09	O
	ATOM	3208	NE2	GLN B 621	55.197	31.356	16.468	1.00	88.26	N
	ATOM	3209	C	GLN B 621	58.366	32.253	13.525	1.00	84.75	C
	ATOM	3210	O	GLN B 621	58.694	32.950	14.491	1.00	84.85	O
	ATOM	3211	N	VAL B 622	57.697	32.724	12.461	1.00	78.75	N
35	ATOM	3212	CA	VAL B 622	57.306	34.129	12.334	1.00	77.09	C
	ATOM	3213	CB	VAL B 622	58.078	34.874	11.203	1.00	80.68	C
	ATOM	3214	CG1	VAL B 622	57.753	34.324	9.821	1.00	81.02	C
	ATOM	3215	CG2	VAL B 622	57.883	36.383	11.268	1.00	80.40	C
	ATOM	3216	C	VAL B 622	55.775	34.302	12.354	1.00	75.68	C
40	ATOM	3217	O	VAL B 622	55.052	33.525	11.726	1.00	75.34	O
	ATOM	3218	N	THR B 623	55.307	35.301	13.119	1.00	70.40	N
	ATOM	3219	CA	THR B 623	53.901	35.617	13.343	1.00	68.81	C
	ATOM	3220	CB	THR B 623	53.567	35.230	14.814	1.00	72.33	C
	ATOM	3221	OG1	THR B 623	52.862	33.992	14.833	1.00	71.66	O
45	ATOM	3222	CG2	THR B 623	52.797	36.301	15.597	1.00	72.39	C
	ATOM	3223	C	THR B 623	53.515	37.052	12.933	1.00	67.86	C
	ATOM	3224	O	THR B 623	54.271	37.989	13.186	1.00	68.00	O
	ATOM	3225	N	VAL B 624	52.330	37.213	12.306	1.00	64.60	N
	ATOM	3226	CA	VAL B 624	51.748	38.505	11.891	1.00	63.05	C
50	ATOM	3227	CB	VAL B 624	52.143	39.034	10.477	1.00	65.35	C
	ATOM	3228	CG1	VAL B 624	51.604	38.157	9.355	1.00	65.05	C
	ATOM	3229	CG2	VAL B 624	51.712	40.479	10.285	1.00	64.43	C
	ATOM	3230	C	VAL B 624	50.250	38.441	12.146	1.00	62.30	C
	ATOM	3231	O	VAL B 624	49.585	37.526	11.674	1.00	61.94	O

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	ATOM	3232	N	ALA B 625	49.736	39.376	12.932	1.00	61.82	N
	ATOM	3233	CA	ALA B 625	48.330	39.393	13.282	1.00	61.21	C
	ATOM	3234	CB	ALA B 625	48.172	39.301	14.786	1.00	61.54	C
	ATOM	3235	C	ALA B 625	47.572	40.589	12.757	1.00	60.92	C
5	ATOM	3236	O	ALA B 625	48.161	41.638	12.505	1.00	60.94	O
	ATOM	3237	N	CYS B 626	46.251	40.420	12.600	1.00	62.19	N
	ATOM	3238	CA	CYS B 626	45.316	41.446	12.181	1.00	62.00	C
	ATOM	3239	CB	CYS B 626	44.181	40.852	11.351	1.00	61.53	C
	ATOM	3240	SG	CYS B 626	44.729	39.974	9.867	1.00	60.63	S
10	ATOM	3241	C	CYS B 626	44.791	42.077	13.468	1.00	62.54	C
	ATOM	3242	O	CYS B 626	44.401	41.370	14.405	1.00	62.53	O
	ATOM	3243	N	GLU B 627	44.799	43.408	13.509	1.00	66.87	N
	ATOM	3244	CA	GLU B 627	44.339	44.231	14.627	1.00	67.38	C
	ATOM	3245	CB	GLU B 627	44.695	45.721	14.392	1.00	69.87	C
15	ATOM	3246	CG	GLU B 627	45.784	46.001	13.360	1.00	72.16	C
	ATOM	3247	CD	GLU B 627	45.363	45.918	11.898	1.00	75.33	C
	ATOM	3248	OE1	GLU B 627	45.972	45.117	11.149	1.00	75.99	O
	ATOM	3249	OE2	GLU B 627	44.425	46.650	11.501	1.00	75.31	O
	ATOM	3250	C	GLU B 627	42.824	44.075	14.779	1.00	67.07	C
20	ATOM	3251	O	GLU B 627	42.156	43.619	13.845	1.00	67.11	O
	ATOM	3252	N	GLU B 628	42.281	44.454	15.948	1.00	68.37	N
	ATOM	3253	CA	GLU B 628	40.844	44.369	16.237	1.00	68.37	C
	ATOM	3254	CB	GLU B 628	40.514	44.963	17.627	1.00	71.24	C
	ATOM	3255	CG	GLU B 628	39.120	44.627	18.153	1.00	74.08	C
25	ATOM	3256	CD	GLU B 628	38.845	45.018	19.599	1.00	78.48	C
	ATOM	3257	OE1	GLU B 628	39.107	46.189	19.964	1.00	80.05	O
	ATOM	3258	OE2	GLU B 628	38.358	44.152	20.366	1.00	80.14	O
	ATOM	3259	C	GLU B 628	40.078	45.090	15.144	1.00	67.26	C
	ATOM	3260	O	GLU B 628	40.464	46.193	14.738	1.00	67.45	O
30	ATOM	3261	N	GLY B 629	39.026	44.437	14.665	1.00	63.31	N
	ATOM	3262	CA	GLY B 629	38.176	44.945	13.597	1.00	61.57	C
	ATOM	3263	C	GLY B 629	38.453	44.248	12.284	1.00	60.65	C
	ATOM	3264	O	GLY B 629	37.591	44.193	11.400	1.00	60.63	O
	ATOM	3265	N	TRP B 630	39.664	43.697	12.159	1.00	58.89	N
35	ATOM	3266	CA	TRP B 630	40.072	42.977	10.967	1.00	57.94	C
	ATOM	3267	CB	TRP B 630	41.426	43.461	10.459	1.00	56.85	C
	ATOM	3268	CG	TRP B 630	41.379	44.906	10.065	1.00	57.46	C
	ATOM	3269	CD1	TRP B 630	41.403	45.984	10.901	1.00	57.83	C
	ATOM	3270	NE1	TRP B 630	41.321	47.148	10.177	1.00	57.93	N
40	ATOM	3271	CE2	TRP B 630	41.249	46.839	8.844	1.00	57.67	C
	ATOM	3272	CD2	TRP B 630	41.256	45.429	8.739	1.00	57.43	C
	ATOM	3273	CE3	TRP B 630	41.195	44.847	7.464	1.00	56.71	C
	ATOM	3274	CZ3	TRP B 630	41.108	45.674	6.358	1.00	56.82	C
	ATOM	3275	CH2	TRP B 630	41.077	47.069	6.495	1.00	56.39	C
45	ATOM	3276	CZ2	TRP B 630	41.155	47.674	7.725	1.00	56.57	C
	ATOM	3277	C	TRP B 630	40.051	41.502	11.233	1.00	57.10	C
	ATOM	3278	O	TRP B 630	40.207	41.073	12.378	1.00	57.34	O
	ATOM	3279	N	THR B 631	39.822	40.730	10.168	1.00	52.78	N
	ATOM	3280	CA	THR B 631	39.723	39.290	10.167	1.00	51.32	C
50	ATOM	3281	CB	THR B 631	38.293	38.922	9.773	1.00	51.99	C
	ATOM	3282	OG1	THR B 631	37.392	39.396	10.777	1.00	51.79	O
	ATOM	3283	CG2	THR B 631	38.107	37.443	9.550	1.00	50.82	C
	ATOM	3284	C	THR B 631	40.744	38.722	9.197	1.00	51.00	C
	ATOM	3285	O	THR B 631	40.700	39.027	8.008	1.00	50.56	O

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	ATOM	3286	N	LEU B 632	41.646	37.875	9.694	1.00	50.70	N
	ATOM	3287	CA	LEU B 632	42.649	37.233	8.857	1.00	50.33	C
	ATOM	3288	CB	LEU B 632	43.651	36.477	9.731	1.00	50.25	C
	ATOM	3289	CG	LEU B 632	44.690	35.644	9.007	1.00	49.59	C
5	ATOM	3290	CD1	LEU B 632	45.708	36.509	8.381	1.00	49.63	C
	ATOM	3291	CD2	LEU B 632	45.386	34.745	9.961	1.00	49.87	C
	ATOM	3292	C	LEU B 632	41.965	36.267	7.916	1.00	50.17	C
	ATOM	3293	O	LEU B 632	41.327	35.330	8.379	1.00	50.24	O
	ATOM	3294	N	THR B 633	42.080	36.501	6.607	1.00	49.83	N
10	ATOM	3295	CA	THR B 633	41.469	35.636	5.589	1.00	49.74	C
	ATOM	3296	CB	THR B 633	40.691	36.455	4.545	1.00	45.88	C
	ATOM	3297	OG1	THR B 633	41.587	37.376	3.927	1.00	44.87	O
	ATOM	3298	CG2	THR B 633	39.477	37.182	5.136	1.00	45.09	C
	ATOM	3299	C	THR B 633	42.523	34.772	4.901	1.00	50.13	C
15	ATOM	3300	O	THR B 633	42.222	33.654	4.520	1.00	50.32	O
	ATOM	3301	N	GLY B 634	43.729	35.303	4.733	1.00	50.23	N
	ATOM	3302	CA	GLY B 634	44.820	34.609	4.066	1.00	50.78	C
	ATOM	3303	C	GLY B 634	46.140	34.710	4.793	1.00	51.61	C
	ATOM	3304	O	GLY B 634	46.465	35.740	5.388	1.00	51.21	O
20	ATOM	3305	N	CYS B 635	46.904	33.626	4.746	1.00	54.23	N
	ATOM	3306	CA	CYS B 635	48.200	33.528	5.396	1.00	55.68	C
	ATOM	3307	CB	CYS B 635	48.056	32.903	6.784	1.00	55.59	C
	ATOM	3308	SG	CYS B 635	49.635	32.444	7.552	1.00	56.18	S
	ATOM	3309	C	CYS B 635	49.179	32.742	4.524	1.00	56.70	C
25	ATOM	3310	O	CYS B 635	48.820	31.683	3.995	1.00	57.08	O
	ATOM	3311	N	SER B 636	50.407	33.260	4.374	1.00	57.68	N
	ATOM	3312	CA	SER B 636	51.478	32.619	3.603	1.00	59.41	C
	ATOM	3313	CB	SER B 636	51.220	32.699	2.099	1.00	63.69	C
	ATOM	3314	OG	SER B 636	51.226	34.035	1.626	1.00	63.68	O
30	ATOM	3315	C	SER B 636	52.816	33.230	3.959	1.00	60.57	C
	ATOM	3316	O	SER B 636	52.876	34.130	4.793	1.00	60.88	O
	ATOM	3317	N	ALA B 637	53.886	32.737	3.340	1.00	63.32	N
	ATOM	3318	CA	ALA B 637	55.247	33.223	3.559	1.00	64.95	C
	ATOM	3319	CB	ALA B 637	56.132	32.073	3.994	1.00	65.56	C
35	ATOM	3320	C	ALA B 637	55.782	33.814	2.267	1.00	66.19	C
	ATOM	3321	O	ALA B 637	55.192	33.591	1.205	1.00	66.44	O
	ATOM	3322	N	LEU B 638	56.895	34.562	2.343	1.00	68.82	N
	ATOM	3323	CA	LEU B 638	57.511	35.129	1.145	1.00	70.17	C
	ATOM	3324	CB	LEU B 638	58.206	36.469	1.425	1.00	70.44	C
40	ATOM	3325	CG	LEU B 638	57.325	37.716	1.355	1.00	71.03	C
	ATOM	3326	CD1	LEU B 638	58.138	38.978	1.643	1.00	70.92	C
	ATOM	3327	CD2	LEU B 638	56.598	37.827	0.001	1.00	70.95	C
	ATOM	3328	C	LEU B 638	58.498	34.111	0.551	1.00	71.25	C
	ATOM	3329	O	LEU B 638	59.251	33.474	1.314	1.00	71.34	O
45	ATOM	3330	N	PRO B 639	58.499	33.935	-0.803	1.00	71.69	N
	ATOM	3331	CA	PRO B 639	59.419	32.953	-1.424	1.00	71.83	C
	ATOM	3332	CB	PRO B 639	58.928	32.875	-2.882	1.00	73.61	C
	ATOM	3333	CG	PRO B 639	57.562	33.554	-2.893	1.00	73.64	C
	ATOM	3334	CD	PRO B 639	57.658	34.596	-1.824	1.00	73.30	C
50	ATOM	3335	C	PRO B 639	60.909	33.327	-1.329	1.00	71.98	C
	ATOM	3336	O	PRO B 639	61.736	32.557	-0.821	1.00	72.17	O
	ATOM	3337	N	SER B 642	63.922	30.173	2.266	1.00	102.54	N
	ATOM	3338	CA	SER B 642	64.126	28.911	1.553	1.00	102.51	C
	ATOM	3339	CB	SER B 642	65.576	28.781	1.095	1.00	106.12	C

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	ATOM	3340	OG	SER B 642	65.809	29.507	-0.102	1.00107.12	O
	ATOM	3341	C	SER B 642	63.695	27.667	2.349	1.00102.15	C
	ATOM	3342	O	SER B 642	63.402	26.623	1.746	1.00102.22	O
	ATOM	3343	N	HIS B 643	63.649	27.783	3.697	1.00 97.98	N
5	ATOM	3344	CA	HIS B 643	63.269	26.687	4.591	1.00 97.25	C
	ATOM	3345	CB	HIS B 643	64.363	26.453	5.655	1.00 98.90	C
	ATOM	3346	CG	HIS B 643	64.136	25.250	6.520	1.00101.21	C
	ATOM	3347	ND1	HIS B 643	63.918	23.993	5.973	1.00102.92	N
	ATOM	3348	CE1	HIS B 643	63.758	23.178	7.004	1.00103.54	C
10	ATOM	3349	NE2	HIS B 643	63.865	23.829	8.164	1.00103.74	N
	ATOM	3350	CD2	HIS B 643	64.113	25.150	7.868	1.00103.05	C
	ATOM	3351	C	HIS B 643	61.851	26.834	5.202	1.00 96.00	C
	ATOM	3352	O	HIS B 643	61.705	27.213	6.368	1.00 96.03	O
	ATOM	3353	N	VAL B 644	60.806	26.523	4.400	1.00 88.17	N
15	ATOM	3354	CA	VAL B 644	59.409	26.606	4.848	1.00 86.20	C
	ATOM	3355	CB	VAL B 644	58.501	27.638	4.118	1.00 89.28	C
	ATOM	3356	CG1	VAL B 644	58.803	29.061	4.574	1.00 88.83	C
	ATOM	3357	CG2	VAL B 644	58.585	27.508	2.596	1.00 89.07	C
	ATOM	3358	C	VAL B 644	58.740	25.251	5.027	1.00 84.56	C
20	ATOM	3359	O	VAL B 644	58.657	24.459	4.088	1.00 84.29	O
	ATOM	3360	N	LEU B 645	58.273	24.996	6.250	1.00 77.53	N
	ATOM	3361	CA	LEU B 645	57.578	23.772	6.632	1.00 75.38	C
	ATOM	3362	CB	LEU B 645	57.677	23.595	8.165	1.00 75.55	C
	ATOM	3363	CG	LEU B 645	58.820	22.711	8.732	1.00 75.68	C
25	ATOM	3364	CD1	LEU B 645	60.212	23.322	8.502	1.00 75.26	C
	ATOM	3365	CD2	LEU B 645	58.633	22.489	10.215	1.00 75.25	C
	ATOM	3366	C	LEU B 645	56.112	23.898	6.181	1.00 73.53	C
	ATOM	3367	O	LEU B 645	55.490	22.916	5.767	1.00 73.40	O
	ATOM	3368	N	GLY B 646	55.607	25.125	6.246	1.00 66.85	N
30	ATOM	3369	CA	GLY B 646	54.255	25.504	5.873	1.00 63.83	C
	ATOM	3370	C	GLY B 646	53.772	26.714	6.645	1.00 62.06	C
	ATOM	3371	O	GLY B 646	54.445	27.191	7.566	1.00 61.80	O
	ATOM	3372	N	ALA B 647	52.595	27.218	6.278	1.00 58.17	N
	ATOM	3373	CA	ALA B 647	51.989	28.367	6.951	1.00 56.19	C
35	ATOM	3374	CB	ALA B 647	52.102	29.605	6.077	1.00 56.84	C
	ATOM	3375	C	ALA B 647	50.513	28.073	7.291	1.00 54.76	C
	ATOM	3376	O	ALA B 647	49.873	27.285	6.586	1.00 54.27	O
	ATOM	3377	N	TYR B 648	49.980	28.693	8.368	1.00 50.14	N
	ATOM	3378	CA	TYR B 648	48.583	28.494	8.792	1.00 48.49	C
40	ATOM	3379	CB	TYR B 648	48.360	27.119	9.488	1.00 48.43	C
	ATOM	3380	CG	TYR B 648	49.334	26.811	10.605	1.00 47.29	C
	ATOM	3381	CD1	TYR B 648	50.478	26.055	10.369	1.00 47.36	C
	ATOM	3382	CE1	TYR B 648	51.394	25.787	11.388	1.00 47.07	C
	ATOM	3383	CZ	TYR B 648	51.166	26.276	12.663	1.00 45.95	C
45	ATOM	3384	OH	TYR B 648	52.061	25.992	13.674	1.00 45.65	O
	ATOM	3385	CE2	TYR B 648	50.021	27.014	12.923	1.00 44.78	C
	ATOM	3386	CD2	TYR B 648	49.116	27.277	11.895	1.00 45.25	C
	ATOM	3387	C	TYR B 648	48.042	29.626	9.658	1.00 47.40	C
	ATOM	3388	O	TYR B 648	48.804	30.328	10.309	1.00 46.98	O
50	ATOM	3389	N	ALA B 649	46.719	29.786	9.664	1.00 47.15	N
	ATOM	3390	CA	ALA B 649	46.019	30.787	10.456	1.00 46.58	C
	ATOM	3391	CB	ALA B 649	44.765	31.231	9.730	1.00 47.37	C
	ATOM	3392	C	ALA B 649	45.629	30.214	11.817	1.00 46.15	C
	ATOM	3393	O	ALA B 649	45.219	29.051	11.927	1.00 46.34	O

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	ATOM	3394	N	VAL B 650	45.750	31.030	12.855	1.00	44.74	N
	ATOM	3395	CA	VAL B 650	45.373	30.661	14.224	1.00	44.16	C
	ATOM	3396	CB	VAL B 650	46.603	30.359	15.146	1.00	46.30	C
	ATOM	3397	CG1	VAL B 650	46.155	29.812	16.494	1.00	44.69	C
5	ATOM	3398	CG2	VAL B 650	47.577	29.393	14.482	1.00	44.90	C
	ATOM	3399	C	VAL B 650	44.588	31.894	14.643	1.00	44.31	C
	ATOM	3400	O	VAL B 650	45.189	32.893	15.040	1.00	44.03	O
	ATOM	3401	N	ASP B 651	43.255	31.859	14.469	1.00	46.53	N
	ATOM	3402	CA	ASP B 651	42.373	32.999	14.750	1.00	47.35	C
10	ATOM	3403	CB	ASP B 651	42.384	33.367	16.246	1.00	50.53	C
	ATOM	3404	CG	ASP B 651	41.324	34.359	16.652	1.00	52.00	C
	ATOM	3405	OD1	ASP B 651	40.256	34.391	15.997	1.00	53.87	O
	ATOM	3406	OD2	ASP B 651	41.554	35.105	17.631	1.00	54.61	O
	ATOM	3407	C	ASP B 651	42.798	34.180	13.810	1.00	47.78	C
15	ATOM	3408	O	ASP B 651	42.732	34.012	12.592	1.00	47.81	O
	ATOM	3409	N	ASN B 652	43.281	35.322	14.341	1.00	48.04	N
	ATOM	3410	CA	ASN B 652	43.707	36.435	13.484	1.00	48.42	C
	ATOM	3411	CB	ASN B 652	43.183	37.753	14.015	1.00	50.35	C
	ATOM	3412	CG	ASN B 652	41.752	38.009	13.643	1.00	50.70	C
20	ATOM	3413	OD1	ASN B 652	41.119	37.266	12.859	1.00	51.37	O
	ATOM	3414	ND2	ASN B 652	41.211	39.082	14.206	1.00	51.48	N
	ATOM	3415	C	ASN B 652	45.219	36.483	13.282	1.00	48.74	C
	ATOM	3416	O	ASN B 652	45.756	37.467	12.784	1.00	48.04	O
	ATOM	3417	N	THR B 653	45.898	35.408	13.656	1.00	50.30	N
25	ATOM	3418	CA	THR B 653	47.335	35.346	13.552	1.00	51.00	C
	ATOM	3419	CB	THR B 653	47.930	34.993	14.930	1.00	53.38	C
	ATOM	3420	OG1	THR B 653	47.599	36.029	15.861	1.00	53.32	O
	ATOM	3421	CG2	THR B 653	49.432	34.806	14.897	1.00	53.09	C
	ATOM	3422	C	THR B 653	47.754	34.423	12.443	1.00	52.01	C
30	ATOM	3423	O	THR B 653	47.322	33.268	12.382	1.00	52.52	O
	ATOM	3424	N	CYS B 654	48.588	34.941	11.554	1.00	53.72	N
	ATOM	3425	CA	CYS B 654	49.147	34.154	10.475	1.00	54.88	C
	ATOM	3426	CB	CYS B 654	49.369	34.992	9.224	1.00	55.55	C
	ATOM	3427	SG	CYS B 654	50.488	34.228	8.028	1.00	55.79	S
35	ATOM	3428	C	CYS B 654	50.470	33.589	11.020	1.00	56.01	C
	ATOM	3429	O	CYS B 654	51.329	34.346	11.507	1.00	56.19	O
	ATOM	3430	N	VAL B 655	50.605	32.258	10.964	1.00	55.20	N
	ATOM	3431	CA	VAL B 655	51.774	31.555	11.451	1.00	56.32	C
	ATOM	3432	CB	VAL B 655	51.385	30.515	12.540	1.00	59.15	C
40	ATOM	3433	CG1	VAL B 655	52.601	29.733	13.038	1.00	58.78	C
	ATOM	3434	CG2	VAL B 655	50.672	31.181	13.704	1.00	58.25	C
	ATOM	3435	C	VAL B 655	52.515	30.922	10.280	1.00	57.77	C
	ATOM	3436	O	VAL B 655	51.910	30.224	9.467	1.00	57.89	O
	ATOM	3437	N	VAL B 656	53.830	31.169	10.216	1.00	61.77	N
45	ATOM	3438	CA	VAL B 656	54.755	30.626	9.225	1.00	63.68	C
	ATOM	3439	CB	VAL B 656	55.355	31.744	8.333	1.00	66.73	C
	ATOM	3440	CG1	VAL B 656	56.562	31.247	7.545	1.00	66.20	C
	ATOM	3441	CG2	VAL B 656	54.297	32.315	7.392	1.00	67.10	C
	ATOM	3442	C	VAL B 656	55.817	29.799	10.001	1.00	65.28	C
50	ATOM	3443	O	VAL B 656	56.416	30.296	10.967	1.00	65.57	O
	ATOM	3444	N	ARG B 657	56.028	28.543	9.587	1.00	69.23	N
	ATOM	3445	CA	ARG B 657	56.969	27.643	10.249	1.00	71.43	C
	ATOM	3446	CB	ARG B 657	56.272	26.320	10.602	1.00	73.42	C
	ATOM	3447	CG	ARG B 657	54.945	26.449	11.362	1.00	73.99	C

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	ATOM	3448	CD	ARG B 657	55.069	26.898	12.806	1.00	74.54	C
	ATOM	3449	NE	ARG B 657	56.272	26.387	13.459	1.00	75.10	N
	ATOM	3450	CZ	ARG B 657	56.388	25.185	14.013	1.00	76.00	C
	ATOM	3451	NH1	ARG B 657	55.366	24.336	13.999	1.00	75.65	N
5	ATOM	3452	NH2	ARG B 657	57.533	24.817	14.578	1.00	77.39	N
	ATOM	3453	C	ARG B 657	58.263	27.366	9.471	1.00	72.89	C
	ATOM	3454	O	ARG B 657	58.255	27.314	8.240	1.00	72.89	O
	ATOM	3455	N	SER B 658	59.368	27.157	10.221	1.00	76.51	N
	ATOM	3456	CA	SER B 658	60.724	26.856	9.736	1.00	78.24	C
10	ATOM	3457	CB	SER B 658	61.410	28.142	9.287	1.00	82.02	C
	ATOM	3458	OG	SER B 658	61.552	29.053	10.364	1.00	82.21	O
	ATOM	3459	C	SER B 658	61.554	26.177	10.863	1.00	79.54	C
	ATOM	3460	O	SER B 658	60.999	25.879	11.932	1.00	79.96	O
	ATOM	3461	N	ARG B 659	62.879	25.940	10.626	1.00	81.25	N
15	ATOM	3462	CA	ARG B 659	63.822	25.346	11.595	1.00	82.60	C
	ATOM	3463	CB	ARG B 659	63.975	23.825	11.416	1.00	86.96	C
	ATOM	3464	CG	ARG B 659	62.829	23.021	12.028	1.00	89.32	C
	ATOM	3465	CD	ARG B 659	63.078	21.525	11.977	1.00	92.74	C
	ATOM	3466	NE	ARG B 659	62.329	20.875	10.900	1.00	94.29	N
20	ATOM	3467	CZ	ARG B 659	62.816	20.625	9.688	1.00	95.33	C
	ATOM	3468	NH1	ARG B 659	64.061	20.973	9.378	1.00	95.40	N
	ATOM	3469	NH2	ARG B 659	62.064	20.021	8.776	1.00	95.41	N
	ATOM	3470	C	ARG B 659	65.190	26.063	11.645	1.00	82.64	C
	ATOM	3471	O	ARG B 659	66.089	25.805	10.839	1.00	83.00	O
25	ATOM	3472	N	ALA B 671	66.209	35.075	6.755	1.00	86.67	N
	ATOM	3473	CA	ALA B 671	65.054	35.940	6.521	1.00	86.82	C
	ATOM	3474	CB	ALA B 671	65.315	36.866	5.340	1.00	87.48	C
	ATOM	3475	C	ALA B 671	63.729	35.159	6.331	1.00	86.72	C
	ATOM	3476	O	ALA B 671	63.566	34.419	5.353	1.00	87.05	O
30	ATOM	3477	N	VAL B 672	62.794	35.314	7.296	1.00	82.98	N
	ATOM	3478	CA	VAL B 672	61.474	34.665	7.278	1.00	82.28	C
	ATOM	3479	CB	VAL B 672	61.257	33.568	8.367	1.00	86.15	C
	ATOM	3480	CG1	VAL B 672	60.356	32.454	7.842	1.00	85.93	C
	ATOM	3481	CG2	VAL B 672	62.570	32.996	8.905	1.00	86.52	C
35	ATOM	3482	C	VAL B 672	60.412	35.752	7.405	1.00	81.71	C
	ATOM	3483	O	VAL B 672	60.409	36.463	8.409	1.00	81.70	O
	ATOM	3484	N	THR B 673	59.523	35.888	6.397	1.00	77.59	N
	ATOM	3485	CA	THR B 673	58.443	36.886	6.410	1.00	76.72	C
	ATOM	3486	CB	THR B 673	58.639	37.976	5.325	1.00	86.99	C
40	ATOM	3487	OG1	THR B 673	59.839	38.692	5.603	1.00	87.86	O
	ATOM	3488	CG2	THR B 673	57.480	38.982	5.272	1.00	87.13	C
	ATOM	3489	C	THR B 673	57.057	36.243	6.345	1.00	75.66	C
	ATOM	3490	O	THR B 673	56.767	35.491	5.404	1.00	75.66	O
	ATOM	3491	N	ALA B 674	56.203	36.554	7.343	1.00	70.24	N
45	ATOM	3492	CA	ALA B 674	54.824	36.065	7.388	1.00	68.59	C
	ATOM	3493	CB	ALA B 674	54.384	35.817	8.824	1.00	69.15	C
	ATOM	3494	C	ALA B 674	53.953	37.133	6.731	1.00	67.41	C
	ATOM	3495	O	ALA B 674	53.998	38.300	7.128	1.00	67.18	O
	ATOM	3496	N	VAL B 675	53.206	36.733	5.691	1.00	65.14	N
50	ATOM	3497	CA	VAL B 675	52.306	37.588	4.902	1.00	63.90	C
	ATOM	3498	CB	VAL B 675	52.605	37.482	3.382	1.00	66.96	C
	ATOM	3499	CG1	VAL B 675	51.607	38.286	2.552	1.00	66.63	C
	ATOM	3500	CG2	VAL B 675	54.031	37.911	3.077	1.00	66.88	C
	ATOM	3501	C	VAL B 675	50.840	37.251	5.224	1.00	63.05	C

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	ATOM	3502	O	VAL B 675	50.390	36.120	4.999	1.00	63.01	O
	ATOM	3503	N	ALA B 676	50.103	38.242	5.730	1.00	61.45	N
	ATOM	3504	CA	ALA B 676	48.696	38.090	6.087	1.00	60.67	C
	ATOM	3505	CB	ALA B 676	48.511	38.374	7.570	1.00	61.54	C
5	ATOM	3506	C	ALA B 676	47.795	39.013	5.290	1.00	60.02	C
	ATOM	3507	O	ALA B 676	48.153	40.162	5.040	1.00	60.12	O
	ATOM	3508	N	ILE B 677	46.615	38.522	4.922	1.00	57.78	N
	ATOM	3509	CA	ILE B 677	45.601	39.311	4.231	1.00	57.04	C
	ATOM	3510	CB	ILE B 677	45.125	38.661	2.893	1.00	60.06	C
10	ATOM	3511	CG1	ILE B 677	46.250	38.695	1.827	1.00	59.45	C
	ATOM	3512	CD1	ILE B 677	46.020	37.827	0.587	1.00	58.81	C
	ATOM	3513	CG2	ILE B 677	43.859	39.357	2.356	1.00	60.46	C
	ATOM	3514	C	ILE B 677	44.489	39.491	5.278	1.00	56.75	C
	ATOM	3515	O	ILE B 677	43.938	38.493	5.755	1.00	56.70	O
15	ATOM	3516	N	CYS B 678	44.212	40.748	5.678	1.00	56.71	N
	ATOM	3517	CA	CYS B 678	43.189	41.073	6.676	1.00	56.45	C
	ATOM	3518	CB	CYS B 678	43.749	41.980	7.765	1.00	58.05	C
	ATOM	3519	SG	CYS B 678	45.291	41.405	8.502	1.00	60.60	S
	ATOM	3520	C	CYS B 678	42.034	41.739	5.983	1.00	55.85	C
20	ATOM	3521	O	CYS B 678	42.262	42.691	5.249	1.00	56.33	O
	ATOM	3522	N	CYS B 679	40.802	41.291	6.236	1.00	53.24	N
	ATOM	3523	CA	CYS B 679	39.616	41.884	5.640	1.00	52.71	C
	ATOM	3524	CB	CYS B 679	38.938	40.923	4.674	1.00	53.41	C
	ATOM	3525	SG	CYS B 679	40.024	40.323	3.362	1.00	53.45	S
25	ATOM	3526	C	CYS B 679	38.635	42.471	6.656	1.00	52.81	C
	ATOM	3527	O	CYS B 679	38.755	42.238	7.856	1.00	52.92	O
	ATOM	3528	N	ARG B 680	37.676	43.253	6.169	1.00	51.94	N
	ATOM	3529	CA	ARG B 680	36.666	43.934	6.965	1.00	52.11	C
	ATOM	3530	CB	ARG B 680	37.173	45.356	7.211	1.00	54.43	C
30	ATOM	3531	CG	ARG B 680	36.835	45.904	8.563	1.00	56.37	C
	ATOM	3532	CD	ARG B 680	37.797	46.992	9.006	1.00	59.33	C
	ATOM	3533	NE	ARG B 680	37.745	48.181	8.148	1.00	60.77	N
	ATOM	3534	CZ	ARG B 680	38.210	49.381	8.490	1.00	61.06	C
	ATOM	3535	NH1	ARG B 680	38.758	49.575	9.687	1.00	61.00	N
35	ATOM	3536	NH2	ARG B 680	38.130	50.396	7.639	1.00	60.38	N
	ATOM	3537	C	ARG B 680	35.376	43.955	6.139	1.00	51.94	C
	ATOM	3538	O	ARG B 680	35.447	43.687	4.937	1.00	51.70	O
	ATOM	3539	N	SER B 681	34.206	44.248	6.755	1.00	50.99	N
	ATOM	3540	CA	SER B 681	32.918	44.309	6.033	1.00	51.20	C
40	ATOM	3541	CB	SER B 681	32.312	42.921	5.846	1.00	53.97	C
	ATOM	3542	OG	SER B 681	31.399	42.903	4.761	1.00	54.15	O
	ATOM	3543	C	SER B 681	31.905	45.245	6.699	1.00	51.35	C
	ATOM	3544	O	SER B 681	31.940	46.460	6.467	1.00	51.96	O
	TER	3545		SER B 681						
45	ATOM	3546	N	THR A 61	29.207	-2.333	-6.445	1.00	71.46	N
	ATOM	3547	CA	THR A 61	29.389	-0.955	-5.962	1.00	71.34	C
	ATOM	3548	CB	THR A 61	28.571	0.084	-6.777	1.00	81.70	C
	ATOM	3549	OG1	THR A 61	27.352	-0.483	-7.277	1.00	82.09	O
	ATOM	3550	CG2	THR A 61	29.382	0.718	-7.904	1.00	82.43	C
50	ATOM	3551	C	THR A 61	29.174	-0.794	-4.447	1.00	70.33	C
	ATOM	3552	O	THR A 61	29.945	-0.067	-3.808	1.00	70.55	O
	ATOM	3553	N	ALA A 62	28.126	-1.466	-3.888	1.00	63.31	N
	ATOM	3554	CA	ALA A 62	27.761	-1.435	-2.470	1.00	61.73	C
	ATOM	3555	CB	ALA A 62	26.515	-2.261	-2.219	1.00	62.21	C

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	ATOM	3556	C	ALA A 62	28.896	-1.910	-1.587	1.00	60.68	C
	ATOM	3557	O	ALA A 62	29.497	-2.950	-1.836	1.00	61.01	O
	ATOM	3558	N	THR A 63	29.199	-1.111	-0.565	1.00	55.83	N
	ATOM	3559	CA	THR A 63	30.273	-1.324	0.404	1.00	53.73	C
5	ATOM	3560	CB	THR A 63	31.118	-0.036	0.528	1.00	58.03	C
	ATOM	3561	OG1	THR A 63	30.310	1.129	0.290	1.00	58.41	O
	ATOM	3562	CG2	THR A 63	32.292	-0.022	-0.427	1.00	57.98	C
	ATOM	3563	C	THR A 63	29.743	-1.766	1.762	1.00	52.47	C
	ATOM	3564	O	THR A 63	28.592	-1.497	2.105	1.00	52.33	O
10	ATOM	3565	N	PHE A 64	30.580	-2.460	2.531	1.00	47.35	N
	ATOM	3566	CA	PHE A 64	30.218	-2.879	3.873	1.00	45.45	C
	ATOM	3567	CB	PHE A 64	30.400	-4.382	4.070	1.00	46.06	C
	ATOM	3568	CG	PHE A 64	30.278	-4.844	5.504	1.00	44.59	C
	ATOM	3569	CD1	PHE A 64	29.038	-4.881	6.139	1.00	43.16	C
15	ATOM	3570	CE1	PHE A 64	28.930	-5.299	7.475	1.00	42.74	C
	ATOM	3571	CZ	PHE A 64	30.061	-5.702	8.170	1.00	42.68	C
	ATOM	3572	CE2	PHE A 64	31.296	-5.673	7.554	1.00	42.72	C
	ATOM	3573	CD2	PHE A 64	31.404	-5.248	6.221	1.00	43.04	C
	ATOM	3574	C	PHE A 64	31.080	-2.074	4.842	1.00	44.69	C
20	ATOM	3575	O	PHE A 64	32.289	-1.907	4.623	1.00	44.16	O
	ATOM	3576	N	HIS A 65	30.448	-1.555	5.902	1.00	43.94	N
	ATOM	3577	CA	HIS A 65	31.133	-0.755	6.917	1.00	43.41	C
	ATOM	3578	CB	HIS A 65	30.733	0.717	6.810	1.00	45.37	C
	ATOM	3579	CG	HIS A 65	30.999	1.306	5.461	1.00	46.96	C
25	ATOM	3580	ND1	HIS A 65	32.136	2.059	5.214	1.00	48.94	N
	ATOM	3581	CE1	HIS A 65	32.060	2.415	3.942	1.00	49.43	C
	ATOM	3582	NE2	HIS A 65	30.964	1.923	3.360	1.00	49.53	N
	ATOM	3583	CD2	HIS A 65	30.275	1.217	4.320	1.00	48.52	C
	ATOM	3584	C	HIS A 65	30.910	-1.312	8.312	1.00	42.72	C
30	ATOM	3585	O	HIS A 65	29.827	-1.789	8.644	1.00	42.52	O
	ATOM	3586	N	ARG A 66	31.957	-1.293	9.113	1.00	42.68	N
	ATOM	3587	CA	ARG A 66	31.915	-1.829	10.475	1.00	42.63	C
	ATOM	3588	CB	ARG A 66	32.457	-3.277	10.510	1.00	45.77	C
	ATOM	3589	CG	ARG A 66	33.874	-3.373	9.970	1.00	47.68	C
35	ATOM	3590	CD	ARG A 66	34.691	-4.461	10.600	1.00	52.86	C
	ATOM	3591	NE	ARG A 66	35.391	-4.008	11.802	1.00	58.01	N
	ATOM	3592	CZ	ARG A 66	36.709	-4.077	11.975	1.00	60.12	C
	ATOM	3593	NH1	ARG A 66	37.489	-4.573	11.015	1.00	60.20	N
	ATOM	3594	NH2	ARG A 66	37.261	-3.648	13.107	1.00	60.97	N
40	ATOM	3595	C	ARG A 66	32.742	-0.955	11.399	1.00	41.88	C
	ATOM	3596	O	ARG A 66	33.654	-0.253	10.939	1.00	41.37	O
	ATOM	3597	N	CYS A 67	32.453	-1.021	12.708	1.00	39.14	N
	ATOM	3598	CA	CYS A 67	33.218	-0.245	13.671	1.00	38.83	C
	ATOM	3599	CB	CYS A 67	32.586	-0.312	15.060	1.00	38.09	C
45	ATOM	3600	SG	CYS A 67	33.428	0.711	16.292	1.00	39.33	S
	ATOM	3601	C	CYS A 67	34.693	-0.707	13.675	1.00	38.30	C
	ATOM	3602	O	CYS A 67	34.968	-1.901	13.540	1.00	38.51	O
	ATOM	3603	N	ALA A 68	35.627	0.233	13.800	1.00	38.58	N
	ATOM	3604	CA	ALA A 68	37.064	-0.089	13.820	1.00	38.69	C
50	ATOM	3605	CB	ALA A 68	37.895	1.129	13.435	1.00	38.57	C
	ATOM	3606	C	ALA A 68	37.522	-0.657	15.182	1.00	39.17	C
	ATOM	3607	O	ALA A 68	38.621	-1.217	15.277	1.00	39.42	O
	ATOM	3608	N	LYS A 69	36.683	-0.521	16.225	1.00	40.90	N
	ATOM	3609	CA	LYS A 69	37.010	-1.011	17.554	1.00	41.62	C

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	ATOM	3610	CB	LYS	A	69	36.722	0.065	18.615	1.00	44.57	C
	ATOM	3611	CG	LYS	A	69	37.160	-0.324	20.011	1.00	46.69	C
	ATOM	3612	CD	LYS	A	69	37.337	0.890	20.885	1.00	49.96	C
	ATOM	3613	CE	LYS	A	69	37.873	0.551	22.256	1.00	52.60	C
5	ATOM	3614	NZ	LYS	A	69	38.204	1.789	23.030	1.00	55.51	N
	ATOM	3615	C	LYS	A	69	36.210	-2.280	17.777	1.00	41.75	C
	ATOM	3616	O	LYS	A	69	34.978	-2.225	17.905	1.00	41.79	O
	ATOM	3617	N	ASP	A	70	36.915	-3.426	17.795	1.00	43.81	N
	ATOM	3618	CA	ASP	A	70	36.301	-4.741	17.973	1.00	44.10	C
10	ATOM	3619	CB	ASP	A	70	37.294	-5.898	17.843	1.00	47.66	C
	ATOM	3620	CG	ASP	A	70	37.026	-6.714	16.591	1.00	50.06	C
	ATOM	3621	OD1	ASP	A	70	36.417	-7.809	16.713	1.00	50.91	O
	ATOM	3622	OD2	ASP	A	70	37.404	-6.244	15.480	1.00	51.92	O
	ATOM	3623	C	ASP	A	70	35.300	-4.910	19.122	1.00	43.30	C
15	ATOM	3624	O	ASP	A	70	34.169	-5.278	18.818	1.00	43.48	O
	ATOM	3625	N	PRO	A	71	35.614	-4.598	20.409	1.00	40.55	N
	ATOM	3626	CA	PRO	A	71	34.589	-4.729	21.467	1.00	40.12	C
	ATOM	3627	CB	PRO	A	71	35.307	-4.203	22.711	1.00	41.05	C
	ATOM	3628	CG	PRO	A	71	36.459	-3.420	22.207	1.00	40.63	C
20	ATOM	3629	CD	PRO	A	71	36.892	-4.120	20.977	1.00	41.18	C
	ATOM	3630	C	PRO	A	71	33.302	-3.926	21.230	1.00	40.11	C
	ATOM	3631	O	PRO	A	71	32.259	-4.247	21.784	1.00	40.41	O
	ATOM	3632	N	TRP	A	72	33.372	-2.890	20.397	1.00	41.01	N
	ATOM	3633	CA	TRP	A	72	32.235	-2.034	20.095	1.00	40.05	C
25	ATOM	3634	CB	TRP	A	72	32.701	-0.591	19.922	1.00	39.21	C
	ATOM	3635	CG	TRP	A	72	33.286	0.040	21.162	1.00	38.78	C
	ATOM	3636	CD1	TRP	A	72	33.443	-0.530	22.394	1.00	37.60	C
	ATOM	3637	NE1	TRP	A	72	34.003	0.370	23.261	1.00	37.15	N
	ATOM	3638	CE2	TRP	A	72	34.222	1.551	22.598	1.00	38.05	C
30	ATOM	3639	CD2	TRP	A	72	33.766	1.380	21.275	1.00	38.03	C
	ATOM	3640	CE3	TRP	A	72	33.864	2.457	20.379	1.00	37.63	C
	ATOM	3641	CZ3	TRP	A	72	34.418	3.644	20.821	1.00	36.45	C
	ATOM	3642	CH2	TRP	A	72	34.880	3.784	22.135	1.00	37.08	C
	ATOM	3643	CZ2	TRP	A	72	34.780	2.759	23.045	1.00	38.61	C
35	ATOM	3644	C	TRP	A	72	31.383	-2.479	18.928	1.00	39.69	C
	ATOM	3645	O	TRP	A	72	30.310	-1.929	18.762	1.00	39.66	O
	ATOM	3646	N	ARG	A	73	31.834	-3.462	18.122	1.00	39.77	N
	ATOM	3647	CA	ARG	A	73	31.093	-4.000	16.978	1.00	38.83	C
	ATOM	3648	CB	ARG	A	73	31.963	-4.994	16.193	1.00	40.18	C
40	ATOM	3649	CG	ARG	A	73	33.179	-4.440	15.453	1.00	40.08	C
	ATOM	3650	CD	ARG	A	73	33.924	-5.579	14.765	1.00	39.63	C
	ATOM	3651	NE	ARG	A	73	33.544	-5.748	13.361	1.00	40.88	N
	ATOM	3652	CZ	ARG	A	73	33.106	-6.877	12.798	1.00	40.55	C
	ATOM	3653	NH1	ARG	A	73	32.799	-6.907	11.507	1.00	38.82	N
45	ATOM	3654	NH2	ARG	A	73	32.959	-7.979	13.526	1.00	42.65	N
	ATOM	3655	C	ARG	A	73	29.851	-4.744	17.477	1.00	38.75	C
	ATOM	3656	O	ARG	A	73	29.862	-5.288	18.582	1.00	39.29	O
	ATOM	3657	N	LEU	A	74	28.773	-4.771	16.678	1.00	37.90	N
	ATOM	3658	CA	LEU	A	74	27.557	-5.495	17.041	1.00	37.02	C
50	ATOM	3659	CB	LEU	A	74	26.466	-4.577	17.564	1.00	35.97	C
	ATOM	3660	CG	LEU	A	74	26.727	-3.938	18.903	1.00	35.34	C
	ATOM	3661	CD1	LEU	A	74	25.707	-2.891	19.187	1.00	32.76	C
	ATOM	3662	CD2	LEU	A	74	26.753	-4.970	20.011	1.00	34.43	C
	ATOM	3663	C	LEU	A	74	27.058	-6.327	15.866	1.00	37.13	C

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	ATOM	3664	O	LEU A 74	25.954	-6.062	15.374	1.00	37.91	O
	ATOM	3665	N	PRO A 75	27.844	-7.347	15.397	1.00	36.70	N
	ATOM	3666	CA	PRO A 75	27.381	-8.197	14.275	1.00	36.21	C
	ATOM	3667	CB	PRO A 75	28.437	-9.302	14.207	1.00	37.48	C
5	ATOM	3668	CG	PRO A 75	29.179	-9.224	15.492	1.00	37.69	C
	ATOM	3669	CD	PRO A 75	29.165	-7.796	15.878	1.00	37.92	C
	ATOM	3670	C	PRO A 75	26.024	-8.817	14.535	1.00	35.85	C
	ATOM	3671	O	PRO A 75	25.699	-9.075	15.698	1.00	35.20	O
	ATOM	3672	N	GLY A 76	25.256	-9.043	13.467	1.00	34.74	N
10	ATOM	3673	CA	GLY A 76	23.914	-9.600	13.573	1.00	35.24	C
	ATOM	3674	C	GLY A 76	22.836	-8.575	13.283	1.00	35.81	C
	ATOM	3675	O	GLY A 76	21.694	-8.942	12.988	1.00	36.04	O
	ATOM	3676	N	THR A 77	23.187	-7.272	13.365	1.00	35.58	N
	ATOM	3677	CA	THR A 77	22.259	-6.161	13.099	1.00	35.86	C
15	ATOM	3678	CB	THR A 77	21.750	-5.494	14.402	1.00	42.91	C
	ATOM	3679	OG1	THR A 77	21.189	-6.491	15.265	1.00	42.32	O
	ATOM	3680	CG2	THR A 77	20.702	-4.439	14.142	1.00	43.08	C
	ATOM	3681	C	THR A 77	22.913	-5.245	12.081	1.00	35.89	C
	ATOM	3682	O	THR A 77	24.077	-4.918	12.248	1.00	36.44	O
20	ATOM	3683	N	TYR A 78	22.195	-4.891	10.996	1.00	34.85	N
	ATOM	3684	CA	TYR A 78	22.752	-4.080	9.911	1.00	35.44	C
	ATOM	3685	CB	TYR A 78	23.193	-4.986	8.683	1.00	34.45	C
	ATOM	3686	CG	TYR A 78	24.117	-6.099	9.111	1.00	33.32	C
	ATOM	3687	CD1	TYR A 78	25.490	-5.889	9.209	1.00	32.26	C
25	ATOM	3688	CE1	TYR A 78	26.336	-6.869	9.725	1.00	32.86	C
	ATOM	3689	CZ	TYR A 78	25.808	-8.072	10.171	1.00	33.41	C
	ATOM	3690	OH	TYR A 78	26.636	-9.027	10.697	1.00	36.06	O
	ATOM	3691	CE2	TYR A 78	24.446	-8.303	10.093	1.00	32.34	C
	ATOM	3692	CD2	TYR A 78	23.609	-7.322	9.554	1.00	33.11	C
30	ATOM	3693	C	TYR A 78	21.810	-2.972	9.463	1.00	35.96	C
	ATOM	3694	O	TYR A 78	20.592	-3.161	9.428	1.00	36.15	O
	ATOM	3695	N	VAL A 79	22.389	-1.824	9.118	1.00	37.37	N
	ATOM	3696	CA	VAL A 79	21.653	-0.693	8.589	1.00	38.36	C
	ATOM	3697	CB	VAL A 79	22.035	0.700	9.173	1.00	42.19	C
35	ATOM	3698	CG1	VAL A 79	21.083	1.787	8.655	1.00	41.49	C
	ATOM	3699	CG2	VAL A 79	22.086	0.684	10.704	1.00	40.87	C
	ATOM	3700	C	VAL A 79	21.959	-0.749	7.100	1.00	39.25	C
	ATOM	3701	O	VAL A 79	23.095	-0.466	6.679	1.00	38.93	O
	ATOM	3702	N	VAL A 80	20.945	-1.142	6.319	1.00	40.52	N
40	ATOM	3703	CA	VAL A 80	21.015	-1.237	4.867	1.00	42.09	C
	ATOM	3704	CB	VAL A 80	20.077	-2.350	4.288	1.00	46.38	C
	ATOM	3705	CG1	VAL A 80	20.148	-2.398	2.766	1.00	46.25	C
	ATOM	3706	CG2	VAL A 80	20.412	-3.725	4.873	1.00	45.62	C
	ATOM	3707	C	VAL A 80	20.647	0.177	4.402	1.00	43.21	C
45	ATOM	3708	O	VAL A 80	19.519	0.640	4.627	1.00	42.98	O
	ATOM	3709	N	VAL A 81	21.641	0.880	3.839	1.00	45.50	N
	ATOM	3710	CA	VAL A 81	21.494	2.252	3.351	1.00	47.28	C
	ATOM	3711	CB	VAL A 81	22.617	3.214	3.833	1.00	50.54	C
	ATOM	3712	CG1	VAL A 81	22.311	4.658	3.427	1.00	49.36	C
50	ATOM	3713	CG2	VAL A 81	22.829	3.110	5.343	1.00	50.43	C
	ATOM	3714	C	VAL A 81	21.385	2.207	1.845	1.00	48.57	C
	ATOM	3715	O	VAL A 81	22.316	1.770	1.170	1.00	48.68	O
	ATOM	3716	N	LEU A 82	20.242	2.649	1.335	1.00	50.97	N
	ATOM	3717	CA	LEU A 82	19.935	2.674	-0.087	1.00	53.13	C

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	ATOM	3718	CB	LEU	A	82	18.455	2.295	-0.316	1.00	52.31	C
	ATOM	3719	CG	LEU	A	82	17.909	1.058	0.436	1.00	51.19	C
	ATOM	3720	CD1	LEU	A	82	16.471	0.880	0.173	1.00	48.96	C
	ATOM	3721	CD2	LEU	A	82	18.617	-0.212	0.034	1.00	49.81	C
5	ATOM	3722	C	LEU	A	82	20.289	4.031	-0.733	1.00	55.12	C
	ATOM	3723	O	LEU	A	82	20.443	5.031	-0.022	1.00	55.48	O
	ATOM	3724	N	LYS	A	83	20.430	4.062	-2.080	1.00	60.35	N
	ATOM	3725	CA	LYS	A	83	20.778	5.267	-2.842	1.00	62.50	C
	ATOM	3726	CB	LYS	A	83	20.989	4.951	-4.319	1.00	65.11	C
10	ATOM	3727	CG	LYS	A	83	22.453	5.098	-4.738	1.00	66.66	C
	ATOM	3728	CD	LYS	A	83	23.236	3.795	-4.646	1.00	69.10	C
	ATOM	3729	CE	LYS	A	83	23.258	3.004	-5.936	1.00	70.55	C
	ATOM	3730	NZ	LYS	A	83	21.988	2.259	-6.174	1.00	71.87	N
	ATOM	3731	C	LYS	A	83	19.798	6.399	-2.623	1.00	63.89	C
15	ATOM	3732	O	LYS	A	83	18.633	6.125	-2.344	1.00	63.80	O
	ATOM	3733	N	GLU	A	84	20.272	7.668	-2.693	1.00	70.34	N
	ATOM	3734	CA	GLU	A	84	19.423	8.830	-2.415	1.00	72.78	C
	ATOM	3735	CB	GLU	A	84	20.130	10.189	-2.532	1.00	74.51	C
	ATOM	3736	CG	GLU	A	84	19.943	11.089	-1.308	1.00	76.74	C
20	ATOM	3737	CD	GLU	A	84	18.537	11.360	-0.773	1.00	79.84	C
	ATOM	3738	OE1	GLU	A	84	17.937	12.384	-1.178	1.00	81.00	O
	ATOM	3739	OE2	GLU	A	84	18.042	10.564	0.064	1.00	80.03	O
	ATOM	3740	C	GLU	A	84	18.016	8.841	-2.990	1.00	73.94	C
	ATOM	3741	O	GLU	A	84	17.072	8.816	-2.203	1.00	74.46	O
25	ATOM	3742	N	GLU	A	85	17.852	8.847	-4.325	1.00	78.15	N
	ATOM	3743	CA	GLU	A	85	16.506	8.862	-4.917	1.00	79.60	C
	ATOM	3744	CB	GLU	A	85	16.511	9.507	-6.330	1.00	82.05	C
	ATOM	3745	CG	GLU	A	85	16.539	11.038	-6.333	1.00	84.36	C
	ATOM	3746	CD	GLU	A	85	16.640	11.736	-7.686	1.00	87.70	C
30	ATOM	3747	OE1	GLU	A	85	17.503	11.337	-8.505	1.00	89.37	O
	ATOM	3748	OE2	GLU	A	85	15.863	12.694	-7.922	1.00	88.09	O
	ATOM	3749	C	GLU	A	85	15.805	7.471	-4.853	1.00	79.60	C
	ATOM	3750	O	GLU	A	85	15.534	6.850	-5.890	1.00	80.06	O
	ATOM	3751	N	THR	A	86	15.524	6.988	-3.618	1.00	76.63	N
35	ATOM	3752	CA	THR	A	86	14.871	5.696	-3.385	1.00	76.52	C
	ATOM	3753	CB	THR	A	86	15.825	4.682	-2.724	1.00	77.37	C
	ATOM	3754	OG1	THR	A	86	16.988	4.539	-3.536	1.00	77.26	O
	ATOM	3755	CG2	THR	A	86	15.186	3.314	-2.522	1.00	76.59	C
	ATOM	3756	C	THR	A	86	13.572	5.887	-2.625	1.00	76.63	C
40	ATOM	3757	O	THR	A	86	13.581	6.358	-1.488	1.00	76.54	O
	ATOM	3758	N	HIS	A	87	12.458	5.511	-3.262	1.00	75.40	N
	ATOM	3759	CA	HIS	A	87	11.110	5.612	-2.712	1.00	75.83	C
	ATOM	3760	CB	HIS	A	87	10.081	5.338	-3.824	1.00	78.38	C
	ATOM	3761	CG	HIS	A	87	8.728	5.916	-3.544	1.00	82.01	C
45	ATOM	3762	ND1	HIS	A	87	7.785	5.226	-2.790	1.00	84.50	N
	ATOM	3763	CE1	HIS	A	87	6.725	6.018	-2.728	1.00	85.76	C
	ATOM	3764	NE2	HIS	A	87	6.927	7.161	-3.394	1.00	86.17	N
	ATOM	3765	CD2	HIS	A	87	8.203	7.107	-3.919	1.00	84.48	C
	ATOM	3766	C	HIS	A	87	10.918	4.637	-1.553	1.00	74.94	C
50	ATOM	3767	O	HIS	A	87	11.562	3.589	-1.525	1.00	74.91	O
	ATOM	3768	N	LEU	A	88	10.030	4.969	-0.599	1.00	69.94	N
	ATOM	3769	CA	LEU	A	88	9.742	4.106	0.547	1.00	69.15	C
	ATOM	3770	CB	LEU	A	88	8.679	4.727	1.478	1.00	68.12	C
	ATOM	3771	CG	LEU	A	88	8.125	3.849	2.620	1.00	67.87	C

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	ATOM	3772	CD1	LEU	A	88	9.155	3.606	3.712	1.00	67.33	C
	ATOM	3773	CD2	LEU	A	88	6.878	4.445	3.205	1.00	66.46	C
	ATOM	3774	C	LEU	A	88	9.322	2.726	0.059	1.00	69.09	C
	ATOM	3775	O	LEU	A	88	9.776	1.733	0.620	1.00	69.08	O
5	ATOM	3776	N	SER	A	89	8.497	2.672	-1.015	1.00	70.03	N
	ATOM	3777	CA	SER	A	89	8.001	1.450	-1.668	1.00	70.02	C
	ATOM	3778	CB	SER	A	89	7.121	1.799	-2.861	1.00	74.97	C
	ATOM	3779	OG	SER	A	89	5.918	2.405	-2.419	1.00	76.06	O
	ATOM	3780	C	SER	A	89	9.140	0.537	-2.111	1.00	69.65	C
10	ATOM	3781	O	SER	A	89	8.999	-0.679	-2.034	1.00	69.67	O
	ATOM	3782	N	GLN	A	90	10.270	1.122	-2.539	1.00	69.18	N
	ATOM	3783	CA	GLN	A	90	11.453	0.373	-2.956	1.00	69.01	C
	ATOM	3784	CB	GLN	A	90	12.347	1.205	-3.891	1.00	70.79	C
	ATOM	3785	CG	GLN	A	90	11.558	1.917	-4.996	1.00	71.70	C
15	ATOM	3786	CD	GLN	A	90	12.434	2.578	-6.026	1.00	72.98	C
	ATOM	3787	OE1	GLN	A	90	13.072	3.617	-5.780	1.00	74.14	O
	ATOM	3788	NE2	GLN	A	90	12.475	1.987	-7.215	1.00	73.63	N
	ATOM	3789	C	GLN	A	90	12.221	-0.163	-1.729	1.00	68.83	C
	ATOM	3790	O	GLN	A	90	12.729	-1.279	-1.790	1.00	68.92	O
20	ATOM	3791	N	SER	A	91	12.282	0.614	-0.610	1.00	68.74	N
	ATOM	3792	CA	SER	A	91	12.944	0.193	0.639	1.00	68.31	C
	ATOM	3793	CB	SER	A	91	12.952	1.313	1.677	1.00	71.11	C
	ATOM	3794	OG	SER	A	91	13.828	2.373	1.345	1.00	71.89	O
	ATOM	3795	C	SER	A	91	12.190	-0.991	1.224	1.00	67.78	C
25	ATOM	3796	O	SER	A	91	12.812	-1.926	1.733	1.00	68.08	O
	ATOM	3797	N	GLU	A	92	10.846	-0.941	1.157	1.00	66.41	N
	ATOM	3798	CA	GLU	A	92	9.981	-1.998	1.660	1.00	65.79	C
	ATOM	3799	CB	GLU	A	92	8.515	-1.533	1.729	1.00	67.62	C
	ATOM	3800	CG	GLU	A	92	8.255	-0.502	2.814	1.00	68.90	C
30	ATOM	3801	CD	GLU	A	92	7.000	0.338	2.654	1.00	71.72	C
	ATOM	3802	OE1	GLU	A	92	6.763	0.859	1.537	1.00	74.02	O
	ATOM	3803	OE2	GLU	A	92	6.257	0.490	3.652	1.00	72.49	O
	ATOM	3804	C	GLU	A	92	10.140	-3.216	0.763	1.00	64.90	C
	ATOM	3805	O	GLU	A	92	10.218	-4.333	1.275	1.00	64.71	O
35	ATOM	3806	N	ARG	A	93	10.232	-2.992	-0.572	1.00	62.19	N
	ATOM	3807	CA	ARG	A	93	10.397	-4.044	-1.575	1.00	61.24	C
	ATOM	3808	CB	ARG	A	93	10.281	-3.478	-3.004	1.00	64.69	C
	ATOM	3809	CG	ARG	A	93	9.469	-4.346	-3.976	1.00	66.24	C
	ATOM	3810	CD	ARG	A	93	9.360	-3.719	-5.361	1.00	69.53	C
40	ATOM	3811	NE	ARG	A	93	8.412	-2.595	-5.401	1.00	72.38	N
	ATOM	3812	CZ	ARG	A	93	8.679	-1.384	-5.900	1.00	73.40	C
	ATOM	3813	NH1	ARG	A	93	9.878	-1.115	-6.412	1.00	73.28	N
	ATOM	3814	NH2	ARG	A	93	7.750	-0.433	-5.886	1.00	72.88	N
	ATOM	3815	C	ARG	A	93	11.717	-4.754	-1.366	1.00	59.98	C
45	ATOM	3816	O	ARG	A	93	11.724	-5.982	-1.313	1.00	59.89	O
	ATOM	3817	N	THR	A	94	12.822	-3.977	-1.211	1.00	55.66	N
	ATOM	3818	CA	THR	A	94	14.190	-4.460	-0.981	1.00	54.28	C
	ATOM	3819	CB	THR	A	94	15.193	-3.293	-1.049	1.00	53.59	C
	ATOM	3820	OG1	THR	A	94	14.974	-2.556	-2.245	1.00	52.88	O
50	ATOM	3821	CG2	THR	A	94	16.640	-3.753	-1.026	1.00	53.85	C
	ATOM	3822	C	THR	A	94	14.270	-5.229	0.352	1.00	53.89	C
	ATOM	3823	O	THR	A	94	15.022	-6.211	0.458	1.00	53.64	O
	ATOM	3824	N	ALA	A	95	13.489	-4.780	1.364	1.00	53.00	N
	ATOM	3825	CA	ALA	A	95	13.464	-5.426	2.673	1.00	52.43	C

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	ATOM	3826	CB	ALA A 95	12.688	-4.583	3.668	1.00	52.83	C
	ATOM	3827	C	ALA A 95	12.849	-6.819	2.521	1.00	52.16	C
	ATOM	3828	O	ALA A 95	13.442	-7.796	2.978	1.00	51.82	O
	ATOM	3829	N	ARG A 96	11.686	-6.897	1.825	1.00	53.15	N
5	ATOM	3830	CA	ARG A 96	10.923	-8.112	1.509	1.00	53.05	C
	ATOM	3831	CB	ARG A 96	9.637	-7.739	0.754	1.00	52.78	C
	ATOM	3832	CG	ARG A 96	8.360	-8.039	1.524	1.00	53.63	C
	ATOM	3833	CD	ARG A 96	7.224	-7.038	1.275	1.00	53.95	C
	ATOM	3834	NE	ARG A 96	7.259	-6.408	-0.056	1.00	55.19	N
10	ATOM	3835	CZ	ARG A 96	6.984	-5.122	-0.297	1.00	55.63	C
	ATOM	3836	NH1	ARG A 96	6.640	-4.309	0.697	1.00	55.67	N
	ATOM	3837	NH2	ARG A 96	7.048	-4.643	-1.533	1.00	54.51	N
	ATOM	3838	C	ARG A 96	11.808	-9.063	0.669	1.00	52.87	C
	ATOM	3839	O	ARG A 96	11.955	-10.231	1.028	1.00	52.51	O
15	ATOM	3840	N	ARG A 97	12.435	-8.537	-0.413	1.00	53.58	N
	ATOM	3841	CA	ARG A 97	13.333	-9.265	-1.306	1.00	53.78	C
	ATOM	3842	CB	ARG A 97	13.860	-8.336	-2.408	1.00	60.57	C
	ATOM	3843	CG	ARG A 97	14.383	-9.077	-3.624	1.00	63.43	C
	ATOM	3844	CD	ARG A 97	14.634	-8.155	-4.798	1.00	68.16	C
20	ATOM	3845	NE	ARG A 97	15.228	-8.865	-5.934	1.00	71.21	N
	ATOM	3846	CZ	ARG A 97	15.338	-8.363	-7.165	1.00	73.43	C
	ATOM	3847	NH1	ARG A 97	14.885	-7.139	-7.437	1.00	74.51	N
	ATOM	3848	NH2	ARG A 97	15.899	-9.081	-8.136	1.00	73.95	N
	ATOM	3849	C	ARG A 97	14.485	-9.925	-0.532	1.00	53.20	C
25	ATOM	3850	O	ARG A 97	14.864	-11.047	-0.857	1.00	53.61	O
	ATOM	3851	N	LEU A 98	15.022	-9.244	0.497	1.00	51.50	N
	ATOM	3852	CA	LEU A 98	16.112	-9.756	1.324	1.00	50.52	C
	ATOM	3853	CB	LEU A 98	16.726	-8.614	2.171	1.00	50.19	C
	ATOM	3854	CG	LEU A 98	17.806	-8.974	3.216	1.00	48.93	C
30	ATOM	3855	CD1	LEU A 98	19.031	-9.654	2.590	1.00	48.73	C
	ATOM	3856	CD2	LEU A 98	18.252	-7.766	3.934	1.00	48.11	C
	ATOM	3857	C	LEU A 98	15.614	-10.886	2.221	1.00	50.30	C
	ATOM	3858	O	LEU A 98	16.320	-11.873	2.421	1.00	50.14	O
	ATOM	3859	N	GLN A 99	14.404	-10.736	2.768	1.00	50.57	N
35	ATOM	3860	CA	GLN A 99	13.826	-11.734	3.647	1.00	50.46	C
	ATOM	3861	CB	GLN A 99	12.548	-11.229	4.274	1.00	51.50	C
	ATOM	3862	CG	GLN A 99	12.796	-10.183	5.322	1.00	51.93	C
	ATOM	3863	CD	GLN A 99	11.672	-10.208	6.309	1.00	52.70	C
	ATOM	3864	OE1	GLN A 99	10.543	-9.771	6.008	1.00	52.27	O
40	ATOM	3865	NE2	GLN A 99	11.961	-10.739	7.504	1.00	51.75	N
	ATOM	3866	C	GLN A 99	13.585	-13.026	2.916	1.00	50.38	C
	ATOM	3867	O	GLN A 99	13.987	-14.069	3.427	1.00	50.41	O
	ATOM	3868	N	ALA A 100	12.959	-12.951	1.712	1.00	51.50	N
	ATOM	3869	CA	ALA A 100	12.636	-14.072	0.833	1.00	51.13	C
45	ATOM	3870	CB	ALA A 100	11.886	-13.579	-0.383	1.00	51.59	C
	ATOM	3871	C	ALA A 100	13.908	-14.793	0.418	1.00	51.34	C
	ATOM	3872	O	ALA A 100	13.986	-16.021	0.580	1.00	51.15	O
	ATOM	3873	N	GLN A 101	14.923	-14.028	-0.054	1.00	53.40	N
	ATOM	3874	CA	GLN A 101	16.223	-14.567	-0.446	1.00	53.82	C
50	ATOM	3875	CB	GLN A 101	17.090	-13.492	-1.087	1.00	56.60	C
	ATOM	3876	CG	GLN A 101	16.661	-13.150	-2.497	1.00	58.16	C
	ATOM	3877	CD	GLN A 101	17.450	-12.013	-3.101	1.00	60.43	C
	ATOM	3878	OE1	GLN A 101	18.648	-11.805	-2.814	1.00	62.03	O
	ATOM	3879	NE2	GLN A 101	16.796	-11.261	-3.978	1.00	59.75	N

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	ATOM	3880	C	GLN A 101	16.973	-15.187	0.734	1.00	53.87	C
	ATOM	3881	O	GLN A 101	17.752	-16.115	0.531	1.00	54.16	O
	ATOM	3882	N	ALA A 102	16.764	-14.690	1.958	1.00	53.24	N
	ATOM	3883	CA	ALA A 102	17.459	-15.269	3.102	1.00	53.27	C
5	ATOM	3884	CB	ALA A 102	17.511	-14.281	4.244	1.00	54.17	C
	ATOM	3885	C	ALA A 102	16.803	-16.573	3.551	1.00	52.95	C
	ATOM	3886	O	ALA A 102	17.509	-17.510	3.922	1.00	52.48	O
	ATOM	3887	N	ALA A 103	15.453	-16.621	3.514	1.00	51.72	N
	ATOM	3888	CA	ALA A 103	14.626	-17.765	3.890	1.00	51.23	C
10	ATOM	3889	CB	ALA A 103	13.156	-17.373	3.866	1.00	51.75	C
	ATOM	3890	C	ALA A 103	14.899	-18.930	2.915	1.00	51.00	C
	ATOM	3891	O	ALA A 103	15.038	-20.077	3.350	1.00	50.53	O
	ATOM	3892	N	ARG A 104	15.038	-18.618	1.599	1.00	50.50	N
	ATOM	3893	CA	ARG A 104	15.362	-19.604	0.561	1.00	49.94	C
15	ATOM	3894	CB	ARG A 104	15.319	-18.971	-0.832	1.00	51.42	C
	ATOM	3895	CG	ARG A 104	13.922	-18.978	-1.428	1.00	53.17	C
	ATOM	3896	CD	ARG A 104	13.952	-18.700	-2.911	1.00	58.29	C
	ATOM	3897	NE	ARG A 104	13.605	-17.315	-3.198	1.00	61.74	N
	ATOM	3898	CZ	ARG A 104	12.359	-16.855	-3.306	1.00	64.87	C
20	ATOM	3899	NH1	ARG A 104	11.322	-17.677	-3.163	1.00	65.21	N
	ATOM	3900	NH2	ARG A 104	12.139	-15.566	-3.547	1.00	67.20	N
	ATOM	3901	C	ARG A 104	16.727	-20.232	0.843	1.00	49.32	C
	ATOM	3902	O	ARG A 104	16.942	-21.398	0.501	1.00	49.86	O
	ATOM	3903	N	AARG A 105	17.631	-19.469	1.488	0.50	46.01	N
25	ATOM	3904	N	BARG A 105	17.629	-19.461	1.477	0.50	46.32	N
	ATOM	3905	CA	AARG A 105	18.982	-19.888	1.866	0.50	45.20	C
	ATOM	3906	CA	BARG A 105	18.978	-19.865	1.858	0.50	45.80	C
	ATOM	3907	CB	AARG A 105	19.969	-18.716	1.743	0.50	43.34	C
	ATOM	3908	CB	BARG A 105	19.953	-18.686	1.693	0.50	44.23	C
30	ATOM	3909	CG	AARG A 105	20.221	-18.294	0.306	0.50	41.11	C
	ATOM	3910	CG	BARG A 105	20.902	-18.875	0.510	0.50	43.65	C
	ATOM	3911	CD	AARG A 105	21.675	-17.975	0.045	0.50	37.20	C
	ATOM	3912	CD	BARG A 105	21.063	-17.654	-0.380	0.50	42.78	C
	ATOM	3913	NE	AARG A 105	21.816	-17.306	-1.245	0.50	34.81	N
35	ATOM	3914	NE	BARG A 105	19.808	-17.227	-1.010	0.50	42.10	N
	ATOM	3915	CZ	AARG A 105	22.963	-16.872	-1.746	0.50	32.58	C
	ATOM	3916	CZ	BARG A 105	19.734	-16.504	-2.126	0.50	42.07	C
	ATOM	3917	NH1A	AARG A 105	24.095	-17.034	-1.073	0.50	32.42	N
	ATOM	3918	NH1B	AARG A 105	20.842	-16.127	-2.761	0.50	41.65	N
40	ATOM	3919	NH2A	AARG A 105	22.989	-16.275	-2.928	0.50	30.39	N
	ATOM	3920	NH2B	AARG A 105	18.553	-16.150	-2.616	0.50	41.52	N
	ATOM	3921	C	AARG A 105	19.025	-20.504	3.273	0.50	45.34	C
	ATOM	3922	C	BARG A 105	19.024	-20.473	3.276	0.50	45.68	C
	ATOM	3923	O	AARG A 105	20.112	-20.761	3.807	0.50	45.25	O
45	ATOM	3924	O	BARG A 105	20.114	-20.706	3.814	0.50	45.57	O
	ATOM	3925	N	GLY A 106	17.839	-20.745	3.842	1.00	44.97	N
	ATOM	3926	CA	GLY A 106	17.660	-21.344	5.167	1.00	44.87	C
	ATOM	3927	C	GLY A 106	17.964	-20.449	6.354	1.00	44.93	C
	ATOM	3928	O	GLY A 106	18.198	-20.952	7.459	1.00	44.78	O
50	ATOM	3929	N	TYR A 107	17.964	-19.120	6.137	1.00	46.60	N
	ATOM	3930	CA	TYR A 107	18.257	-18.111	7.157	1.00	46.56	C
	ATOM	3931	CB	TYR A 107	19.335	-17.159	6.646	1.00	47.28	C
	ATOM	3932	CG	TYR A 107	20.738	-17.707	6.702	1.00	46.61	C
	ATOM	3933	CD1	TYR A 107	21.469	-17.684	7.886	1.00	46.60	C

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	ATOM	3934	CE1 TYR A 107	22.781	-18.148	7.934	1.00	46.70	C
	ATOM	3935	CZ TYR A 107	23.372	-18.649	6.786	1.00	46.52	C
	ATOM	3936	OH TYR A 107	24.653	-19.126	6.828	1.00	46.25	O
	ATOM	3937	CE2 TYR A 107	22.668	-18.671	5.595	1.00	45.85	C
5	ATOM	3938	CD2 TYR A 107	21.359	-18.200	5.560	1.00	46.36	C
	ATOM	3939	C TYR A 107	17.050	-17.271	7.592	1.00	46.67	C
	ATOM	3940	O TYR A 107	16.351	-16.663	6.759	1.00	46.60	O
	ATOM	3941	N LEU A 108	16.831	-17.208	8.909	1.00	48.24	N
	ATOM	3942	CA LEU A 108	15.756	-16.390	9.457	1.00	48.73	C
10	ATOM	3943	CB LEU A 108	15.310	-16.935	10.810	1.00	49.13	C
	ATOM	3944	CG LEU A 108	13.946	-16.460	11.282	1.00	49.96	C
	ATOM	3945	CD1 LEU A 108	12.864	-17.462	10.925	1.00	49.53	C
	ATOM	3946	CD2 LEU A 108	13.960	-16.220	12.775	1.00	49.70	C
	ATOM	3947	C LEU A 108	16.258	-14.926	9.585	1.00	48.72	C
15	ATOM	3948	O LEU A 108	17.422	-14.702	9.941	1.00	48.60	O
	ATOM	3949	N THR A 109	15.397	-13.949	9.232	1.00	47.96	N
	ATOM	3950	CA THR A 109	15.707	-12.520	9.306	1.00	48.27	C
	ATOM	3951	CB THR A 109	16.178	-11.900	7.971	1.00	51.11	C
	ATOM	3952	OG1 THR A 109	15.105	-11.771	7.041	1.00	50.94	O
20	ATOM	3953	CG2 THR A 109	17.387	-12.582	7.379	1.00	51.11	C
	ATOM	3954	C THR A 109	14.553	-11.725	9.875	1.00	48.76	C
	ATOM	3955	O THR A 109	13.392	-12.124	9.735	1.00	48.93	O
	ATOM	3956	N LYS A 110	14.872	-10.580	10.502	1.00	49.93	N
	ATOM	3957	CA LYS A 110	13.870	-9.695	11.090	1.00	50.34	C
25	ATOM	3958	CB LYS A 110	13.905	-9.787	12.628	1.00	55.19	C
	ATOM	3959	CG LYS A 110	12.644	-9.264	13.308	1.00	58.45	C
	ATOM	3960	CD LYS A 110	12.638	-9.598	14.812	1.00	62.92	C
	ATOM	3961	CE LYS A 110	11.326	-9.258	15.491	1.00	64.55	C
	ATOM	3962	NZ LYS A 110	11.407	-9.462	16.966	1.00	67.00	N
30	ATOM	3963	C LYS A 110	14.117	-8.276	10.638	1.00	49.68	C
	ATOM	3964	O LYS A 110	15.205	-7.745	10.865	1.00	50.25	O
	ATOM	3965	N ILE A 111	13.132	-7.661	9.982	1.00	45.80	N
	ATOM	3966	CA ILE A 111	13.288	-6.266	9.573	1.00	44.84	C
	ATOM	3967	CB ILE A 111	12.552	-5.894	8.263	1.00	46.07	C
35	ATOM	3968	CG1 ILE A 111	12.886	-6.864	7.096	1.00	46.18	C
	ATOM	3969	CD1 ILE A 111	14.369	-6.968	6.588	1.00	45.56	C
	ATOM	3970	CG2 ILE A 111	12.742	-4.419	7.898	1.00	44.81	C
	ATOM	3971	C ILE A 111	12.794	-5.509	10.802	1.00	44.60	C
	ATOM	3972	O ILE A 111	11.598	-5.538	11.131	1.00	44.69	O
40	ATOM	3973	N LEU A 112	13.738	-4.918	11.534	1.00	44.12	N
	ATOM	3974	CA LEU A 112	13.432	-4.222	12.779	1.00	43.34	C
	ATOM	3975	CB LEU A 112	14.676	-4.148	13.679	1.00	43.01	C
	ATOM	3976	CG LEU A 112	15.363	-5.468	13.993	1.00	42.20	C
	ATOM	3977	CD1 LEU A 112	16.719	-5.231	14.621	1.00	41.66	C
45	ATOM	3978	CD2 LEU A 112	14.496	-6.353	14.857	1.00	39.83	C
	ATOM	3979	C LEU A 112	12.855	-2.854	12.568	1.00	43.11	C
	ATOM	3980	O LEU A 112	11.980	-2.451	13.322	1.00	43.19	O
	ATOM	3981	N HIS A 113	13.333	-2.136	11.553	1.00	42.54	N
	ATOM	3982	CA HIS A 113	12.886	-0.783	11.268	1.00	42.24	C
50	ATOM	3983	CB HIS A 113	13.712	0.188	12.141	1.00	42.56	C
	ATOM	3984	CG HIS A 113	13.199	1.589	12.173	1.00	41.70	C
	ATOM	3985	ND1 HIS A 113	13.718	2.568	11.336	1.00	41.60	N
	ATOM	3986	CE1 HIS A 113	13.034	3.665	11.605	1.00	40.48	C
	ATOM	3987	NE2 HIS A 113	12.124	3.452	12.564	1.00	40.02	N

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	ATOM	3988	CD2 HIS A 113	12.221	2.131	12.933	1.00	40.24	C
	ATOM	3989	C HIS A 113	13.082	-0.458	9.800	1.00	42.67	C
	ATOM	3990	O HIS A 113	14.068	-0.890	9.206	1.00	42.56	O
	ATOM	3991	N VAL A 114	12.141	0.294	9.214	1.00	47.96	N
5	ATOM	3992	CA VAL A 114	12.215	0.765	7.824	1.00	49.12	C
	ATOM	3993	CB VAL A 114	11.034	0.287	6.932	1.00	52.59	C
	ATOM	3994	CG1 VAL A 114	11.018	1.006	5.583	1.00	51.44	C
	ATOM	3995	CG2 VAL A 114	11.078	-1.230	6.729	1.00	52.02	C
	ATOM	3996	C VAL A 114	12.280	2.277	7.941	1.00	50.51	C
10	ATOM	3997	O VAL A 114	11.385	2.883	8.540	1.00	50.89	O
	ATOM	3998	N PHE A 115	13.351	2.881	7.426	1.00	55.75	N
	ATOM	3999	CA PHE A 115	13.514	4.326	7.518	1.00	57.48	C
	ATOM	4000	CB PHE A 115	14.992	4.746	7.397	1.00	58.79	C
	ATOM	4001	CG PHE A 115	15.842	4.343	8.576	1.00	60.01	C
15	ATOM	4002	CD1 PHE A 115	15.918	5.149	9.710	1.00	60.60	C
	ATOM	4003	CE1 PHE A 115	16.697	4.765	10.810	1.00	60.25	C
	ATOM	4004	CZ PHE A 115	17.407	3.586	10.773	1.00	60.39	C
	ATOM	4005	CE2 PHE A 115	17.347	2.779	9.656	1.00	59.53	C
	ATOM	4006	CD2 PHE A 115	16.568	3.158	8.558	1.00	59.76	C
20	ATOM	4007	C PHE A 115	12.633	5.104	6.547	1.00	58.56	C
	ATOM	4008	O PHE A 115	12.805	4.978	5.333	1.00	59.46	O
	ATOM	4009	N HIS A 116	11.689	5.906	7.079	1.00	62.69	N
	ATOM	4010	CA HIS A 116	10.804	6.756	6.271	1.00	63.85	C
	ATOM	4011	CB HIS A 116	9.450	7.028	7.002	1.00	66.38	C
25	ATOM	4012	CG HIS A 116	8.620	5.804	7.345	1.00	69.29	C
	ATOM	4013	ND1 HIS A 116	7.254	5.909	7.618	1.00	72.14	N
	ATOM	4014	CE1 HIS A 116	6.839	4.676	7.892	1.00	72.17	C
	ATOM	4015	NE2 HIS A 116	7.839	3.792	7.820	1.00	71.89	N
	ATOM	4016	CD2 HIS A 116	8.981	4.498	7.478	1.00	71.51	C
30	ATOM	4017	C HIS A 116	11.639	8.057	5.996	1.00	63.40	C
	ATOM	4018	O HIS A 116	12.464	8.066	5.066	1.00	63.07	O
	ATOM	4019	N GLY A 117	11.482	9.086	6.841	1.00	60.32	N
	ATOM	4020	CA GLY A 117	12.239	10.335	6.727	1.00	59.87	C
	ATOM	4021	C GLY A 117	13.684	10.211	7.197	1.00	59.43	C
35	ATOM	4022	O GLY A 117	14.081	9.169	7.733	1.00	59.41	O
	ATOM	4023	N LEU A 118	14.492	11.282	7.013	1.00	55.67	N
	ATOM	4024	CA LEU A 118	15.925	11.339	7.385	1.00	54.59	C
	ATOM	4025	CB LEU A 118	16.199	10.985	8.870	1.00	54.02	C
	ATOM	4026	CG LEU A 118	17.657	10.849	9.338	1.00	53.60	C
40	ATOM	4027	CD1 LEU A 118	18.269	12.202	9.645	1.00	52.47	C
	ATOM	4028	CD2 LEU A 118	17.737	9.983	10.559	1.00	52.26	C
	ATOM	4029	C LEU A 118	16.827	10.555	6.421	1.00	53.87	C
	ATOM	4030	O LEU A 118	17.760	11.142	5.880	1.00	54.13	O
	ATOM	4031	N LEU A 119	16.570	9.260	6.203	1.00	49.71	N
45	ATOM	4032	CA LEU A 119	17.392	8.488	5.272	1.00	49.00	C
	ATOM	4033	CB LEU A 119	18.726	8.023	5.897	1.00	48.88	C
	ATOM	4034	CG LEU A 119	18.668	6.946	6.954	1.00	48.28	C
	ATOM	4035	CD1 LEU A 119	19.482	5.759	6.530	1.00	48.31	C
	ATOM	4036	CD2 LEU A 119	19.207	7.463	8.258	1.00	49.05	C
50	ATOM	4037	C LEU A 119	16.661	7.340	4.559	1.00	48.51	C
	ATOM	4038	O LEU A 119	15.707	6.791	5.125	1.00	48.77	O
	ATOM	4039	N PRO A 120	17.094	6.961	3.320	1.00	46.77	N
	ATOM	4040	CA PRO A 120	16.429	5.846	2.623	1.00	46.14	C
	ATOM	4041	CB PRO A 120	16.584	6.224	1.142	1.00	48.10	C

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	ATOM	4042	CG	PRO A 120	17.842	7.070	1.086	1.00	48.38	C
	ATOM	4043	CD	PRO A 120	18.198	7.507	2.498	1.00	48.50	C
	ATOM	4044	C	PRO A 120	17.076	4.493	2.951	1.00	45.22	C
	ATOM	4045	O	PRO A 120	18.259	4.275	2.671	1.00	45.40	O
5	ATOM	4046	N	GLY A 121	16.311	3.597	3.553	1.00	40.94	N
	ATOM	4047	CA	GLY A 121	16.850	2.290	3.895	1.00	39.78	C
	ATOM	4048	C	GLY A 121	16.085	1.569	4.967	1.00	39.11	C
	ATOM	4049	O	GLY A 121	14.909	1.876	5.194	1.00	39.03	O
	ATOM	4050	N	PHE A 122	16.749	0.594	5.628	1.00	39.37	N
10	ATOM	4051	CA	PHE A 122	16.147	-0.217	6.704	1.00	38.88	C
	ATOM	4052	CB	PHE A 122	15.185	-1.286	6.134	1.00	40.96	C
	ATOM	4053	CG	PHE A 122	15.807	-2.280	5.175	1.00	41.85	C
	ATOM	4054	CD1	PHE A 122	15.958	-1.971	3.825	1.00	43.01	C
	ATOM	4055	CE1	PHE A 122	16.527	-2.899	2.939	1.00	45.02	C
15	ATOM	4056	CZ	PHE A 122	16.929	-4.143	3.399	1.00	44.60	C
	ATOM	4057	CE2	PHE A 122	16.779	-4.465	4.731	1.00	43.47	C
	ATOM	4058	CD2	PHE A 122	16.216	-3.539	5.616	1.00	42.83	C
	ATOM	4059	C	PHE A 122	17.171	-0.859	7.664	1.00	38.26	C
	ATOM	4060	O	PHE A 122	18.375	-0.937	7.369	1.00	38.20	O
20	ATOM	4061	N	LEU A 123	16.672	-1.321	8.811	1.00	38.71	N
	ATOM	4062	CA	LEU A 123	17.475	-1.962	9.838	1.00	38.58	C
	ATOM	4063	CB	LEU A 123	17.300	-1.237	11.190	1.00	39.06	C
	ATOM	4064	CG	LEU A 123	18.081	-1.815	12.384	1.00	39.51	C
	ATOM	4065	CD1	LEU A 123	19.569	-1.631	12.215	1.00	38.11	C
25	ATOM	4066	CD2	LEU A 123	17.613	-1.211	13.672	1.00	38.72	C
	ATOM	4067	C	LEU A 123	17.079	-3.434	9.913	1.00	38.81	C
	ATOM	4068	O	LEU A 123	15.899	-3.767	10.085	1.00	39.17	O
	ATOM	4069	N	VAL A 124	18.065	-4.312	9.779	1.00	39.99	N
	ATOM	4070	CA	VAL A 124	17.826	-5.758	9.752	1.00	40.02	C
30	ATOM	4071	CB	VAL A 124	17.993	-6.310	8.284	1.00	42.96	C
	ATOM	4072	CG1	VAL A 124	19.394	-6.040	7.713	1.00	41.95	C
	ATOM	4073	CG2	VAL A 124	17.648	-7.792	8.186	1.00	42.92	C
	ATOM	4074	C	VAL A 124	18.630	-6.581	10.765	1.00	39.93	C
	ATOM	4075	O	VAL A 124	19.801	-6.300	11.005	1.00	39.67	O
35	ATOM	4076	N	LYS A 125	17.973	-7.604	11.330	1.00	41.56	N
	ATOM	4077	CA	LYS A 125	18.576	-8.594	12.200	1.00	42.15	C
	ATOM	4078	CB	LYS A 125	17.748	-8.889	13.463	1.00	46.16	C
	ATOM	4079	CG	LYS A 125	18.628	-9.477	14.566	1.00	47.19	C
	ATOM	4080	CD	LYS A 125	17.875	-10.229	15.651	1.00	49.48	C
40	ATOM	4081	CE	LYS A 125	18.822	-10.508	16.803	1.00	51.92	C
	ATOM	4082	NZ	LYS A 125	18.619	-11.857	17.421	1.00	54.33	N
	ATOM	4083	C	LYS A 125	18.707	-9.850	11.291	1.00	42.16	C
	ATOM	4084	O	LYS A 125	17.708	-10.413	10.823	1.00	41.20	O
	ATOM	4085	N	MET A 126	19.952	-10.225	10.998	1.00	43.60	N
45	ATOM	4086	CA	MET A 126	20.304	-11.345	10.137	1.00	43.63	C
	ATOM	4087	CB	MET A 126	20.180	-10.916	8.661	1.00	46.37	C
	ATOM	4088	CG	MET A 126	21.320	-10.086	8.176	1.00	47.26	C
	ATOM	4089	SD	MET A 126	21.045	-9.455	6.525	1.00	53.22	S
	ATOM	4090	CE	MET A 126	22.775	-8.962	6.086	1.00	49.28	C
50	ATOM	4091	C	MET A 126	21.744	-11.741	10.440	1.00	43.72	C
	ATOM	4092	O	MET A 126	22.462	-10.957	11.054	1.00	43.53	O
	ATOM	4093	N	SER A 127	22.176	-12.941	9.988	1.00	44.21	N
	ATOM	4094	CA	SER A 127	23.550	-13.416	10.173	1.00	44.32	C
	ATOM	4095	CB	SER A 127	23.649	-14.916	9.886	1.00	48.51	C

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	ATOM	4096	OG	SER A 127	24.970	-15.413	10.056	1.00	48.85	O
	ATOM	4097	C	SER A 127	24.443	-12.649	9.211	1.00	44.19	C
	ATOM	4098	O	SER A 127	23.983	-12.242	8.152	1.00	43.60	O
	ATOM	4099	N	GLY A 128	25.705	-12.469	9.592	1.00	45.41	N
5	ATOM	4100	CA	GLY A 128	26.720	-11.810	8.775	1.00	46.38	C
	ATOM	4101	C	GLY A 128	26.931	-12.558	7.471	1.00	47.32	C
	ATOM	4102	O	GLY A 128	27.351	-11.971	6.471	1.00	47.12	O
	ATOM	4103	N	ASP A 129	26.584	-13.870	7.468	1.00	47.55	N
	ATOM	4104	CA	ASP A 129	26.655	-14.755	6.311	1.00	48.52	C
10	ATOM	4105	CB	ASP A 129	26.151	-16.154	6.696	1.00	51.79	C
	ATOM	4106	CG	ASP A 129	27.008	-16.879	7.727	1.00	53.70	C
	ATOM	4107	OD1	ASP A 129	28.101	-16.349	8.084	1.00	55.32	O
	ATOM	4108	OD2	ASP A 129	26.598	-17.976	8.175	1.00	54.96	O
	ATOM	4109	C	ASP A 129	25.862	-14.201	5.124	1.00	48.61	C
15	ATOM	4110	O	ASP A 129	26.216	-14.469	3.977	1.00	48.89	O
	ATOM	4111	N	LEU A 130	24.818	-13.407	5.395	1.00	45.31	N
	ATOM	4112	CA	LEU A 130	23.986	-12.807	4.353	1.00	45.55	C
	ATOM	4113	CB	LEU A 130	22.517	-12.752	4.793	1.00	45.33	C
	ATOM	4114	CG	LEU A 130	21.915	-14.097	5.207	1.00	45.54	C
20	ATOM	4115	CD1	LEU A 130	20.810	-13.892	6.204	1.00	46.25	C
	ATOM	4116	CD2	LEU A 130	21.422	-14.892	3.997	1.00	44.17	C
	ATOM	4117	C	LEU A 130	24.490	-11.446	3.828	1.00	46.04	C
	ATOM	4118	O	LEU A 130	23.775	-10.782	3.071	1.00	45.71	O
	ATOM	4119	N	LEU A 131	25.724	-11.044	4.204	1.00	47.71	N
25	ATOM	4120	CA	LEU A 131	26.286	-9.778	3.740	1.00	48.91	C
	ATOM	4121	CB	LEU A 131	27.516	-9.303	4.522	1.00	48.12	C
	ATOM	4122	CG	LEU A 131	27.165	-8.756	5.891	1.00	48.26	C
	ATOM	4123	CD1	LEU A 131	28.364	-8.687	6.777	1.00	46.73	C
	ATOM	4124	CD2	LEU A 131	26.341	-7.459	5.797	1.00	47.62	C
30	ATOM	4125	C	LEU A 131	26.502	-9.721	2.254	1.00	50.04	C
	ATOM	4126	O	LEU A 131	25.830	-8.905	1.605	1.00	49.78	O
	ATOM	4127	N	GLU A 132	27.385	-10.617	1.700	1.00	54.83	N
	ATOM	4128	CA	GLU A 132	27.678	-10.688	0.256	1.00	56.49	C
	ATOM	4129	CB	GLU A 132	28.633	-11.852	-0.101	1.00	59.67	C
35	ATOM	4130	CG	GLU A 132	30.096	-11.508	0.201	1.00	64.27	C
	ATOM	4131	CD	GLU A 132	31.198	-12.561	0.084	1.00	70.27	C
	ATOM	4132	OE1	GLU A 132	30.875	-13.770	-0.041	1.00	73.40	O
	ATOM	4133	OE2	GLU A 132	32.393	-12.171	0.128	1.00	71.23	O
	ATOM	4134	C	GLU A 132	26.400	-10.647	-0.590	1.00	56.19	C
40	ATOM	4135	O	GLU A 132	26.372	-9.997	-1.640	1.00	56.34	O
	ATOM	4136	N	LEU A 133	25.322	-11.261	-0.068	1.00	53.45	N
	ATOM	4137	CA	LEU A 133	23.990	-11.308	-0.663	1.00	53.52	C
	ATOM	4138	CB	LEU A 133	23.108	-12.275	0.142	1.00	53.58	C
	ATOM	4139	CG	LEU A 133	21.782	-12.701	-0.471	1.00	54.88	C
45	ATOM	4140	CD1	LEU A 133	21.350	-14.034	0.096	1.00	56.24	C
	ATOM	4141	CD2	LEU A 133	20.685	-11.671	-0.222	1.00	56.14	C
	ATOM	4142	C	LEU A 133	23.363	-9.927	-0.649	1.00	53.30	C
	ATOM	4143	O	LEU A 133	23.026	-9.394	-1.704	1.00	53.01	O
	ATOM	4144	N	ALA A 134	23.177	-9.369	0.566	1.00	54.34	N
50	ATOM	4145	CA	ALA A 134	22.570	-8.065	0.837	1.00	54.20	C
	ATOM	4146	CB	ALA A 134	22.635	-7.770	2.323	1.00	54.76	C
	ATOM	4147	C	ALA A 134	23.210	-6.939	0.025	1.00	54.32	C
	ATOM	4148	O	ALA A 134	22.507	-6.035	-0.431	1.00	53.89	O
	ATOM	4149	N	LEU A 135	24.537	-7.020	-0.186	1.00	55.42	N

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	ATOM	4150	CA	LEU A 135	25.293	-6.049	-0.972	1.00	55.95	C
	ATOM	4151	CB	LEU A 135	26.799	-6.283	-0.811	1.00	55.07	C
	ATOM	4152	CG	LEU A 135	27.372	-5.949	0.567	1.00	54.77	C
	ATOM	4153	CD1	LEU A 135	28.748	-6.525	0.733	1.00	52.97	C
5	ATOM	4154	CD2	LEU A 135	27.391	-4.451	0.811	1.00	53.66	C
	ATOM	4155	C	LEU A 135	24.875	-6.083	-2.448	1.00	56.75	C
	ATOM	4156	O	LEU A 135	24.800	-5.033	-3.098	1.00	57.21	O
	ATOM	4157	N	LYS A 136	24.565	-7.291	-2.965	1.00	60.97	N
	ATOM	4158	CA	LYS A 136	24.121	-7.497	-4.345	1.00	61.42	C
10	ATOM	4159	CB	LYS A 136	24.292	-8.961	-4.767	1.00	64.42	C
	ATOM	4160	CG	LYS A 136	25.677	-9.277	-5.301	1.00	66.16	C
	ATOM	4161	CD	LYS A 136	25.794	-10.758	-5.668	1.00	69.63	C
	ATOM	4162	CE	LYS A 136	25.696	-11.051	-7.163	1.00	71.66	C
	ATOM	4163	NZ	LYS A 136	24.294	-11.219	-7.659	1.00	71.76	N
15	ATOM	4164	C	LYS A 136	22.688	-7.005	-4.611	1.00	61.35	C
	ATOM	4165	O	LYS A 136	22.359	-6.775	-5.774	1.00	61.85	O
	ATOM	4166	N	LEU A 137	21.851	-6.829	-3.558	1.00	61.20	N
	ATOM	4167	CA	LEU A 137	20.460	-6.364	-3.663	1.00	61.19	C
	ATOM	4168	CB	LEU A 137	19.849	-6.140	-2.277	1.00	61.12	C
20	ATOM	4169	CG	LEU A 137	19.260	-7.323	-1.542	1.00	60.89	C
	ATOM	4170	CD1	LEU A 137	19.062	-6.970	-0.093	1.00	61.17	C
	ATOM	4171	CD2	LEU A 137	17.920	-7.734	-2.124	1.00	60.68	C
	ATOM	4172	C	LEU A 137	20.336	-5.062	-4.440	1.00	61.43	C
	ATOM	4173	O	LEU A 137	21.260	-4.242	-4.374	1.00	61.43	O
25	ATOM	4174	N	PRO A 138	19.206	-4.828	-5.163	1.00	64.48	N
	ATOM	4175	CA	PRO A 138	19.069	-3.565	-5.911	1.00	64.58	C
	ATOM	4176	CB	PRO A 138	17.844	-3.815	-6.793	1.00	66.51	C
	ATOM	4177	CG	PRO A 138	17.004	-4.786	-6.006	1.00	66.41	C
	ATOM	4178	CD	PRO A 138	18.008	-5.687	-5.336	1.00	66.33	C
30	ATOM	4179	C	PRO A 138	18.839	-2.391	-4.964	1.00	64.55	C
	ATOM	4180	O	PRO A 138	18.304	-2.594	-3.865	1.00	64.60	O
	ATOM	4181	N	HIS A 139	19.243	-1.173	-5.394	1.00	63.59	N
	ATOM	4182	CA	HIS A 139	19.134	0.105	-4.661	1.00	63.25	C
	ATOM	4183	CB	HIS A 139	17.706	0.409	-4.144	1.00	64.48	C
35	ATOM	4184	CG	HIS A 139	16.594	0.178	-5.123	1.00	66.85	C
	ATOM	4185	ND1	HIS A 139	16.440	0.975	-6.250	1.00	67.60	N
	ATOM	4186	CE1	HIS A 139	15.359	0.517	-6.865	1.00	67.94	C
	ATOM	4187	NE2	HIS A 139	14.803	-0.498	-6.196	1.00	68.08	N
	ATOM	4188	CD2	HIS A 139	15.579	-0.722	-5.079	1.00	67.76	C
40	ATOM	4189	C	HIS A 139	20.152	0.328	-3.522	1.00	62.56	C
	ATOM	4190	O	HIS A 139	20.275	1.466	-3.076	1.00	62.65	O
	ATOM	4191	N	VAL A 140	20.872	-0.718	-3.049	1.00	59.06	N
	ATOM	4192	CA	VAL A 140	21.841	-0.590	-1.944	1.00	57.85	C
	ATOM	4193	CB	VAL A 140	22.323	-1.980	-1.418	1.00	61.01	C
45	ATOM	4194	CG1	VAL A 140	23.382	-1.852	-0.323	1.00	60.80	C
	ATOM	4195	CG2	VAL A 140	21.154	-2.814	-0.917	1.00	60.75	C
	ATOM	4196	C	VAL A 140	23.011	0.375	-2.249	1.00	57.04	C
	ATOM	4197	O	VAL A 140	23.637	0.269	-3.303	1.00	56.49	O
	ATOM	4198	N	ASP A 141	23.291	1.316	-1.326	1.00	55.32	N
50	ATOM	4199	CA	ASP A 141	24.411	2.242	-1.459	1.00	54.33	C
	ATOM	4200	CB	ASP A 141	24.053	3.648	-0.978	1.00	56.54	C
	ATOM	4201	CG	ASP A 141	25.098	4.712	-1.283	1.00	58.25	C
	ATOM	4202	OD1	ASP A 141	26.147	4.373	-1.909	1.00	58.29	O
	ATOM	4203	OD2	ASP A 141	24.879	5.886	-0.894	1.00	60.72	O

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	ATOM	4204	C	ASP A 141	25.553	1.635	-0.656	1.00	53.30	C
	ATOM	4205	O	ASP A 141	26.676	1.530	-1.156	1.00	53.38	O
	ATOM	4206	N	TYR A 142	25.242	1.194	0.574	1.00	50.90	N
	ATOM	4207	CA	TYR A 142	26.145	0.517	1.513	1.00	49.75	C
5	ATOM	4208	CB	TYR A 142	27.266	1.442	2.067	1.00	51.31	C
	ATOM	4209	CG	TYR A 142	26.771	2.658	2.821	1.00	51.67	C
	ATOM	4210	CD1	TYR A 142	26.347	3.798	2.142	1.00	52.32	C
	ATOM	4211	CE1	TYR A 142	25.896	4.921	2.826	1.00	51.52	C
	ATOM	4212	CZ	TYR A 142	25.861	4.916	4.208	1.00	51.37	C
10	ATOM	4213	OH	TYR A 142	25.415	6.050	4.842	1.00	51.03	O
	ATOM	4214	CE2	TYR A 142	26.279	3.796	4.911	1.00	50.45	C
	ATOM	4215	CD2	TYR A 142	26.739	2.678	4.215	1.00	50.57	C
	ATOM	4216	C	TYR A 142	25.351	-0.137	2.654	1.00	48.59	C
	ATOM	4217	O	TYR A 142	24.158	0.117	2.824	1.00	48.89	O
15	ATOM	4218	N	ILE A 143	26.019	-0.987	3.411	1.00	44.99	N
	ATOM	4219	CA	ILE A 143	25.468	-1.666	4.563	1.00	43.64	C
	ATOM	4220	CB	ILE A 143	25.234	-3.184	4.296	1.00	46.83	C
	ATOM	4221	CG1	ILE A 143	24.225	-3.392	3.147	1.00	47.35	C
	ATOM	4222	CD1	ILE A 143	24.089	-4.723	2.696	1.00	45.23	C
20	ATOM	4223	CG2	ILE A 143	24.774	-3.931	5.570	1.00	46.75	C
	ATOM	4224	C	ILE A 143	26.458	-1.406	5.703	1.00	43.04	C
	ATOM	4225	O	ILE A 143	27.677	-1.559	5.524	1.00	42.66	O
	ATOM	4226	N	GLU A 144	25.934	-0.984	6.867	1.00	43.50	N
	ATOM	4227	CA	GLU A 144	26.789	-0.748	8.016	1.00	42.76	C
25	ATOM	4228	CB	GLU A 144	26.827	0.730	8.420	1.00	45.35	C
	ATOM	4229	CG	GLU A 144	27.988	1.028	9.351	1.00	47.33	C
	ATOM	4230	CD	GLU A 144	28.024	2.439	9.885	1.00	50.56	C
	ATOM	4231	OE1	GLU A 144	28.220	3.369	9.071	1.00	53.28	O
	ATOM	4232	OE2	GLU A 144	27.854	2.618	11.113	1.00	48.93	O
30	ATOM	4233	C	GLU A 144	26.402	-1.670	9.162	1.00	41.47	C
	ATOM	4234	O	GLU A 144	25.222	-1.837	9.440	1.00	41.22	O
	ATOM	4235	N	GLU A 145	27.400	-2.305	9.788	1.00	38.71	N
	ATOM	4236	CA	GLU A 145	27.203	-3.211	10.909	1.00	37.90	C
	ATOM	4237	CB	GLU A 145	28.450	-4.086	11.116	1.00	38.97	C
35	ATOM	4238	CG	GLU A 145	28.350	-5.099	12.248	1.00	40.26	C
	ATOM	4239	CD	GLU A 145	29.675	-5.745	12.610	1.00	42.74	C
	ATOM	4240	OE1	GLU A 145	30.539	-5.054	13.196	1.00	44.60	O
	ATOM	4241	OE2	GLU A 145	29.857	-6.942	12.298	1.00	44.73	O
	ATOM	4242	C	GLU A 145	26.953	-2.340	12.129	1.00	37.33	C
40	ATOM	4243	O	GLU A 145	27.748	-1.416	12.419	1.00	37.17	O
	ATOM	4244	N	ASP A 146	25.843	-2.627	12.849	1.00	36.00	N
	ATOM	4245	CA	ASP A 146	25.482	-1.886	14.044	1.00	34.82	C
	ATOM	4246	CB	ASP A 146	24.179	-2.410	14.657	1.00	37.17	C
	ATOM	4247	CG	ASP A 146	23.487	-1.428	15.602	1.00	39.00	C
45	ATOM	4248	OD1	ASP A 146	23.983	-0.276	15.745	1.00	39.55	O
	ATOM	4249	OD2	ASP A 146	22.451	-1.810	16.204	1.00	40.22	O
	ATOM	4250	C	ASP A 146	26.631	-1.915	15.045	1.00	34.22	C
	ATOM	4251	O	ASP A 146	27.447	-2.857	15.034	1.00	33.99	O
	ATOM	4252	N	SER A 147	26.740	-0.851	15.859	1.00	32.75	N
50	ATOM	4253	CA	SER A 147	27.782	-0.733	16.865	1.00	32.50	C
	ATOM	4254	CB	SER A 147	29.109	-0.231	16.286	1.00	36.97	C
	ATOM	4255	OG	SER A 147	29.131	1.129	15.874	1.00	38.76	O
	ATOM	4256	C	SER A 147	27.308	0.085	18.047	1.00	32.40	C
	ATOM	4257	O	SER A 147	26.266	0.744	17.994	1.00	32.55	O

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	ATOM	4258	N	SER A 148	28.074	0.000	19.127	1.00	33.20	N
	ATOM	4259	CA	SER A 148	27.853	0.625	20.407	1.00	33.16	C
	ATOM	4260	CB	SER A 148	28.636	-0.144	21.469	1.00	35.47	C
	ATOM	4261	OG	SER A 148	28.064	-1.427	21.666	1.00	35.21	O
5	ATOM	4262	C	SER A 148	28.213	2.087	20.487	1.00	32.91	C
	ATOM	4263	O	SER A 148	29.205	2.528	19.895	1.00	34.05	O
	ATOM	4264	N	VAL A 149	27.401	2.837	21.247	1.00	31.59	N
	ATOM	4265	CA	VAL A 149	27.601	4.251	21.601	1.00	30.73	C
	ATOM	4266	CB	VAL A 149	26.718	5.315	20.900	1.00	32.89	C
10	ATOM	4267	CG1	VAL A 149	26.918	5.305	19.393	1.00	32.80	C
	ATOM	4268	CG2	VAL A 149	25.256	5.172	21.267	1.00	32.80	C
	ATOM	4269	C	VAL A 149	27.579	4.326	23.148	1.00	30.20	C
	ATOM	4270	O	VAL A 149	26.996	3.449	23.813	1.00	29.63	O
	ATOM	4271	N	PHE A 150	28.244	5.328	23.718	1.00	29.59	N
15	ATOM	4272	CA	PHE A 150	28.305	5.410	25.170	1.00	29.74	C
	ATOM	4273	CB	PHE A 150	29.683	4.909	25.652	1.00	31.90	C
	ATOM	4274	CG	PHE A 150	30.031	3.509	25.204	1.00	32.59	C
	ATOM	4275	CD1	PHE A 150	29.617	2.400	25.945	1.00	30.93	C
	ATOM	4276	CE1	PHE A 150	29.922	1.102	25.527	1.00	29.04	C
20	ATOM	4277	CZ	PHE A 150	30.644	0.904	24.368	1.00	31.26	C
	ATOM	4278	CE2	PHE A 150	31.065	1.994	23.614	1.00	34.25	C
	ATOM	4279	CD2	PHE A 150	30.763	3.295	24.035	1.00	32.60	C
	ATOM	4280	C	PHE A 150	28.102	6.805	25.678	1.00	29.52	C
	ATOM	4281	O	PHE A 150	28.572	7.754	25.059	1.00	30.02	O
25	ATOM	4282	N	ALA A 151	27.456	6.931	26.847	1.00	27.19	N
	ATOM	4283	CA	ALA A 151	27.244	8.203	27.526	1.00	27.18	C
	ATOM	4284	CB	ALA A 151	26.545	7.975	28.866	1.00	26.77	C
	ATOM	4285	C	ALA A 151	28.631	8.740	27.753	1.00	27.63	C
	ATOM	4286	O	ALA A 151	29.519	7.980	28.138	1.00	27.53	O
30	ATOM	4287	N	GLN A 152	28.850	10.019	27.467	1.00	29.24	N
	ATOM	4288	CA	GLN A 152	30.162	10.625	27.665	1.00	30.10	C
	ATOM	4289	CB	GLN A 152	30.632	11.340	26.388	1.00	31.24	C
	ATOM	4290	CG	GLN A 152	30.977	10.390	25.235	1.00	31.81	C
	ATOM	4291	CD	GLN A 152	31.977	9.350	25.646	1.00	31.39	C
35	ATOM	4292	OE1	GLN A 152	33.170	9.618	25.828	1.00	31.63	O
	ATOM	4293	NE2	GLN A 152	31.505	8.141	25.848	1.00	31.82	N
	ATOM	4294	C	GLN A 152	30.203	11.530	28.920	1.00	30.89	C
	ATOM	4295	O	GLN A 152	31.047	12.454	28.989	1.00	31.47	O
	ATOM	4296	OXT	GLN A 152	29.385	11.327	29.846	1.00	53.75	O
40	TER	4297		GLN A 152						
	ATOM	4298	N	GLN H 1	18.365	-6.211	60.346	1.00	68.74	N
	ATOM	4299	CA	GLN H 1	17.462	-7.355	60.210	1.00	68.40	C
	ATOM	4300	CB	GLN H 1	16.514	-7.441	61.425	1.00	71.72	C
	ATOM	4301	CG	GLN H 1	16.425	-8.833	62.052	1.00	75.06	C
45	ATOM	4302	CD	GLN H 1	15.322	-9.708	61.484	1.00	79.05	C
	ATOM	4303	OE1	GLN H 1	14.232	-9.239	61.093	1.00	80.58	O
	ATOM	4304	NE2	GLN H 1	15.581	-11.018	61.443	1.00	81.46	N
	ATOM	4305	C	GLN H 1	16.681	-7.267	58.894	1.00	66.87	C
	ATOM	4306	O	GLN H 1	15.565	-6.732	58.855	1.00	67.08	O
50	ATOM	4307	N	VAL H 2	17.291	-7.780	57.812	1.00	58.52	N
	ATOM	4308	CA	VAL H 2	16.697	-7.771	56.477	1.00	56.61	C
	ATOM	4309	CB	VAL H 2	17.729	-7.866	55.326	1.00	59.34	C
	ATOM	4310	CG1	VAL H 2	17.036	-8.049	53.978	1.00	58.47	C
	ATOM	4311	CG2	VAL H 2	18.628	-6.640	55.294	1.00	58.90	C

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	ATOM	4312	C	VAL	H	2	15.636	-8.836	56.376	1.00	55.47	C
	ATOM	4313	O	VAL	H	2	15.905	-10.008	56.632	1.00	55.17	O
	ATOM	4314	N	GLN	H	3	14.434	-8.428	55.986	1.00	52.36	N
	ATOM	4315	CA	GLN	H	3	13.320	-9.337	55.824	1.00	51.14	C
5	ATOM	4316	CB	GLN	H	3	12.277	-9.090	56.927	1.00	54.31	C
	ATOM	4317	CG	GLN	H	3	12.440	-9.947	58.173	1.00	58.37	C
	ATOM	4318	CD	GLN	H	3	11.078	-10.394	58.674	1.00	63.86	C
	ATOM	4319	OE1	GLN	H	3	10.635	-11.537	58.428	1.00	66.18	O
	ATOM	4320	NE2	GLN	H	3	10.367	-9.501	59.383	1.00	65.83	N
10	ATOM	4321	C	GLN	H	3	12.671	-9.207	54.444	1.00	49.17	C
	ATOM	4322	O	GLN	H	3	12.191	-8.119	54.077	1.00	49.09	O
	ATOM	4323	N	LEU	H	4	12.663	-10.323	53.677	1.00	42.69	N
	ATOM	4324	CA	LEU	H	4	11.978	-10.428	52.377	1.00	40.71	C
	ATOM	4325	CB	LEU	H	4	12.848	-11.089	51.289	1.00	39.94	C
15	ATOM	4326	CG	LEU	H	4	13.624	-10.151	50.346	1.00	39.82	C
	ATOM	4327	CD1	LEU	H	4	14.678	-9.349	51.082	1.00	39.47	C
	ATOM	4328	CD2	LEU	H	4	14.345	-10.941	49.266	1.00	40.49	C
	ATOM	4329	C	LEU	H	4	10.741	-11.264	52.750	1.00	39.52	C
	ATOM	4330	O	LEU	H	4	10.879	-12.440	53.087	1.00	39.30	O
20	ATOM	4331	N	VAL	H	5	9.556	-10.618	52.823	1.00	38.02	N
	ATOM	4332	CA	VAL	H	5	8.303	-11.264	53.255	1.00	37.05	C
	ATOM	4333	CB	VAL	H	5	7.625	-10.549	54.464	1.00	39.90	C
	ATOM	4334	CG1	VAL	H	5	6.277	-11.184	54.823	1.00	39.11	C
	ATOM	4335	CG2	VAL	H	5	8.547	-10.532	55.671	1.00	39.19	C
25	ATOM	4336	C	VAL	H	5	7.339	-11.544	52.124	1.00	36.26	C
	ATOM	4337	O	VAL	H	5	6.703	-10.626	51.607	1.00	36.37	O
	ATOM	4338	N	GLN	H	6	7.197	-12.828	51.788	1.00	36.26	N
	ATOM	4339	CA	GLN	H	6	6.333	-13.279	50.712	1.00	35.44	C
	ATOM	4340	CB	GLN	H	6	6.948	-14.454	49.977	1.00	36.11	C
30	ATOM	4341	CG	GLN	H	6	8.292	-14.135	49.359	1.00	35.68	C
	ATOM	4342	CD	GLN	H	6	8.832	-15.313	48.611	1.00	35.29	C
	ATOM	4343	OE1	GLN	H	6	10.009	-15.648	48.722	1.00	35.36	O
	ATOM	4344	NE2	GLN	H	6	7.984	-15.983	47.829	1.00	34.39	N
	ATOM	4345	C	GLN	H	6	4.907	-13.604	51.107	1.00	35.60	C
35	ATOM	4346	O	GLN	H	6	4.616	-13.978	52.254	1.00	35.41	O
	ATOM	4347	N	SER	H	7	4.010	-13.471	50.119	1.00	37.84	N
	ATOM	4348	CA	SER	H	7	2.586	-13.749	50.234	1.00	37.70	C
	ATOM	4349	CB	SER	H	7	1.868	-13.309	48.962	1.00	41.61	C
	ATOM	4350	OG	SER	H	7	2.179	-14.141	47.855	1.00	42.93	O
40	ATOM	4351	C	SER	H	7	2.404	-15.252	50.504	1.00	37.69	C
	ATOM	4352	O	SER	H	7	3.341	-16.041	50.286	1.00	37.52	O
	ATOM	4353	N	GLY	H	8	1.225	-15.628	51.003	1.00	38.18	N
	ATOM	4354	CA	GLY	H	8	0.898	-17.006	51.362	1.00	37.75	C
	ATOM	4355	C	GLY	H	8	0.871	-17.970	50.203	1.00	37.86	C
45	ATOM	4356	O	GLY	H	8	0.929	-17.551	49.042	1.00	38.33	O
	ATOM	4357	N	ALA	H	9	0.785	-19.266	50.511	1.00	37.54	N
	ATOM	4358	CA	ALA	H	9	0.761	-20.326	49.506	1.00	37.86	C
	ATOM	4359	CB	ALA	H	9	0.786	-21.690	50.158	1.00	38.34	C
	ATOM	4360	C	ALA	H	9	-0.429	-20.217	48.595	1.00	38.77	C
50	ATOM	4361	O	ALA	H	9	-1.459	-19.637	48.957	1.00	39.44	O
	ATOM	4362	N	GLU	H	10	-0.284	-20.779	47.401	1.00	40.77	N
	ATOM	4363	CA	GLU	H	10	-1.321	-20.726	46.408	1.00	40.99	C
	ATOM	4364	CB	GLU	H	10	-0.922	-19.734	45.300	1.00	43.25	C
	ATOM	4365	CG	GLU	H	10	-0.604	-18.336	45.818	1.00	44.97	C

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	ATOM	4366	CD	GLU	H	10	-1.649	-17.245	45.662	1.00	47.42	C
	ATOM	4367	OE1	GLU	H	10	-1.243	-16.058	45.626	1.00	50.48	O
	ATOM	4368	OE2	GLU	H	10	-2.861	-17.562	45.574	1.00	48.05	O
	ATOM	4369	C	GLU	H	10	-1.643	-22.102	45.846	1.00	41.01	C
5	ATOM	4370	O	GLU	H	10	-0.794	-22.984	45.810	1.00	41.02	O
	ATOM	4371	N	VAL	H	11	-2.909	-22.270	45.440	1.00	41.86	N
	ATOM	4372	CA	VAL	H	11	-3.455	-23.470	44.820	1.00	41.75	C
	ATOM	4373	CB	VAL	H	11	-4.302	-24.368	45.763	1.00	45.31	C
	ATOM	4374	CG1	VAL	H	11	-5.635	-23.731	46.138	1.00	45.11	C
10	ATOM	4375	CG2	VAL	H	11	-4.507	-25.743	45.154	1.00	44.78	C
	ATOM	4376	C	VAL	H	11	-4.158	-23.013	43.541	1.00	41.53	C
	ATOM	4377	O	VAL	H	11	-5.064	-22.170	43.579	1.00	41.95	O
	ATOM	4378	N	LYS	H	12	-3.678	-23.493	42.406	1.00	37.19	N
	ATOM	4379	CA	LYS	H	12	-4.224	-23.054	41.148	1.00	36.89	C
15	ATOM	4380	CB	LYS	H	12	-3.227	-22.096	40.467	1.00	40.46	C
	ATOM	4381	CG	LYS	H	12	-3.002	-20.760	41.164	1.00	41.16	C
	ATOM	4382	CD	LYS	H	12	-4.138	-19.770	40.924	1.00	43.18	C
	ATOM	4383	CE	LYS	H	12	-4.056	-18.537	41.802	1.00	44.49	C
	ATOM	4384	NZ	LYS	H	12	-5.317	-17.757	41.722	1.00	46.46	N
20	ATOM	4385	C	LYS	H	12	-4.510	-24.219	40.241	1.00	36.70	C
	ATOM	4386	O	LYS	H	12	-3.950	-25.291	40.441	1.00	37.46	O
	ATOM	4387	N	LYS	H	13	-5.390	-24.013	39.249	1.00	34.94	N
	ATOM	4388	CA	LYS	H	13	-5.747	-25.014	38.250	1.00	34.34	C
	ATOM	4389	CB	LYS	H	13	-7.225	-24.888	37.875	1.00	34.82	C
25	ATOM	4390	CG	LYS	H	13	-8.159	-25.495	38.870	1.00	33.31	C
	ATOM	4391	CD	LYS	H	13	-8.549	-26.908	38.507	0.50	31.12	C
	ATOM	4392	CE	LYS	H	13	-9.192	-27.567	39.692	1.00	29.81	C
	ATOM	4393	NZ	LYS	H	13	-9.850	-26.570	40.582	1.00	28.22	N
	ATOM	4394	C	LYS	H	13	-4.907	-24.737	37.003	1.00	34.36	C
30	ATOM	4395	O	LYS	H	13	-4.475	-23.590	36.814	1.00	34.42	O
	ATOM	4396	N	PRO	H	14	-4.681	-25.715	36.099	1.00	35.09	N
	ATOM	4397	CA	PRO	H	14	-3.892	-25.401	34.894	1.00	35.13	C
	ATOM	4398	CB	PRO	H	14	-3.741	-26.763	34.218	1.00	36.01	C
	ATOM	4399	CG	PRO	H	14	-4.013	-27.768	35.309	1.00	35.54	C
35	ATOM	4400	CD	PRO	H	14	-5.073	-27.135	36.127	1.00	36.10	C
	ATOM	4401	C	PRO	H	14	-4.599	-24.340	34.027	1.00	35.67	C
	ATOM	4402	O	PRO	H	14	-5.823	-24.374	33.882	1.00	36.68	O
	ATOM	4403	N	GLY	H	15	-3.841	-23.388	33.498	1.00	36.81	N
	ATOM	4404	CA	GLY	H	15	-4.387	-22.289	32.703	1.00	36.68	C
40	ATOM	4405	C	GLY	H	15	-4.548	-21.002	33.512	1.00	36.92	C
	ATOM	4406	O	GLY	H	15	-4.583	-19.902	32.937	1.00	37.30	O
	ATOM	4407	N	ALA	H	16	-4.642	-21.130	34.860	1.00	34.25	N
	ATOM	4408	CA	ALA	H	16	-4.775	-20.023	35.790	1.00	34.15	C
	ATOM	4409	CB	ALA	H	16	-5.066	-20.551	37.191	1.00	34.86	C
45	ATOM	4410	C	ALA	H	16	-3.509	-19.141	35.814	1.00	34.65	C
	ATOM	4411	O	ALA	H	16	-2.532	-19.403	35.083	1.00	34.81	O
	ATOM	4412	N	SER	H	17	-3.539	-18.092	36.673	1.00	34.29	N
	ATOM	4413	CA	SER	H	17	-2.468	-17.119	36.862	1.00	34.51	C
	ATOM	4414	CB	SER	H	17	-2.916	-15.752	36.354	1.00	39.22	C
50	ATOM	4415	OG	SER	H	17	-2.755	-15.664	34.950	1.00	41.91	O
	ATOM	4416	C	SER	H	17	-2.130	-16.981	38.321	1.00	34.19	C
	ATOM	4417	O	SER	H	17	-2.978	-17.244	39.178	1.00	34.75	O
	ATOM	4418	N	VAL	H	18	-0.919	-16.512	38.620	1.00	31.41	N
	ATOM	4419	CA	VAL	H	18	-0.522	-16.295	39.998	1.00	30.99	C

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	ATOM	4420	CB	VAL	H	18	0.025	-17.579	40.699	1.00	33.21	C
	ATOM	4421	CG1	VAL	H	18	1.424	-17.962	40.219	1.00	32.75	C
	ATOM	4422	CG2	VAL	H	18	-0.007	-17.431	42.208	1.00	33.08	C
	ATOM	4423	C	VAL	H	18	0.363	-15.041	40.139	1.00	31.28	C
5	ATOM	4424	O	VAL	H	18	1.234	-14.814	39.291	1.00	31.23	O
	ATOM	4425	N	LYS	H	19	0.104	-14.222	41.186	1.00	32.24	N
	ATOM	4426	CA	LYS	H	19	0.874	-13.034	41.534	1.00	32.94	C
	ATOM	4427	CB	LYS	H	19	0.056	-11.738	41.464	1.00	34.56	C
	ATOM	4428	CG	LYS	H	19	0.534	-10.764	40.370	1.00	35.94	C
10	ATOM	4429	CD	LYS	H	19	0.801	-9.352	40.871	1.00	37.08	C
	ATOM	4430	CE	LYS	H	19	0.331	-8.306	39.880	1.00	37.33	C
	ATOM	4431	NZ	LYS	H	19	0.864	-6.943	40.202	1.00	38.66	N
	ATOM	4432	C	LYS	H	19	1.383	-13.260	42.947	1.00	33.45	C
	ATOM	4433	O	LYS	H	19	0.573	-13.430	43.873	1.00	34.45	O
15	ATOM	4434	N	VAL	H	20	2.709	-13.319	43.119	1.00	31.10	N
	ATOM	4435	CA	VAL	H	20	3.297	-13.531	44.439	1.00	30.89	C
	ATOM	4436	CB	VAL	H	20	4.253	-14.767	44.458	1.00	33.33	C
	ATOM	4437	CG1	VAL	H	20	5.001	-14.892	45.787	1.00	32.49	C
	ATOM	4438	CG2	VAL	H	20	3.505	-16.055	44.132	1.00	32.50	C
20	ATOM	4439	C	VAL	H	20	3.991	-12.230	44.838	1.00	31.28	C
	ATOM	4440	O	VAL	H	20	4.737	-11.678	44.043	1.00	30.80	O
	ATOM	4441	N	SER	H	21	3.745	-11.746	46.059	1.00	34.27	N
	ATOM	4442	CA	SER	H	21	4.353	-10.514	46.569	1.00	34.76	C
	ATOM	4443	CB	SER	H	21	3.345	-9.717	47.397	1.00	40.20	C
25	ATOM	4444	OG	SER	H	21	3.437	-9.943	48.798	1.00	41.15	O
	ATOM	4445	C	SER	H	21	5.588	-10.859	47.404	1.00	35.29	C
	ATOM	4446	O	SER	H	21	5.689	-11.980	47.909	1.00	35.35	O
	ATOM	4447	N	CYS	H	22	6.509	-9.887	47.549	1.00	37.90	N
	ATOM	4448	CA	CYS	H	22	7.751	-9.987	48.302	1.00	38.59	C
30	ATOM	4449	CB	CYS	H	22	8.867	-10.463	47.381	1.00	40.41	C
	ATOM	4450	SG	CYS	H	22	10.521	-10.452	48.125	1.00	40.84	S
	ATOM	4451	C	CYS	H	22	8.052	-8.609	48.869	1.00	39.33	C
	ATOM	4452	O	CYS	H	22	8.573	-7.753	48.150	1.00	39.20	O
	ATOM	4453	N	LYS	H	23	7.710	-8.372	50.138	1.00	39.81	N
35	ATOM	4454	CA	LYS	H	23	7.959	-7.084	50.776	1.00	40.65	C
	ATOM	4455	CB	LYS	H	23	6.859	-6.747	51.793	1.00	44.57	C
	ATOM	4456	CG	LYS	H	23	6.829	-5.276	52.194	1.00	46.83	C
	ATOM	4457	CD	LYS	H	23	5.506	-4.882	52.861	1.00	51.00	C
	ATOM	4458	CE	LYS	H	23	5.621	-3.662	53.763	1.00	52.40	C
40	ATOM	4459	NZ	LYS	H	23	5.689	-2.374	52.993	1.00	54.11	N
	ATOM	4460	C	LYS	H	23	9.362	-7.039	51.401	1.00	40.85	C
	ATOM	4461	O	LYS	H	23	9.719	-7.920	52.192	1.00	40.78	O
	ATOM	4462	N	VAL	H	24	10.153	-6.007	51.034	1.00	40.79	N
	ATOM	4463	CA	VAL	H	24	11.516	-5.801	51.549	1.00	41.07	C
45	ATOM	4464	CB	VAL	H	24	12.520	-5.376	50.451	1.00	44.26	C
	ATOM	4465	CG1	VAL	H	24	13.900	-5.088	51.036	1.00	43.62	C
	ATOM	4466	CG2	VAL	H	24	12.613	-6.425	49.362	1.00	44.33	C
	ATOM	4467	C	VAL	H	24	11.543	-4.806	52.704	1.00	41.36	C
	ATOM	4468	O	VAL	H	24	10.912	-3.749	52.635	1.00	41.13	O
50	ATOM	4469	N	SER	H	25	12.305	-5.150	53.757	1.00	42.50	N
	ATOM	4470	CA	SER	H	25	12.533	-4.327	54.947	1.00	42.85	C
	ATOM	4471	CB	SER	H	25	11.501	-4.642	56.022	1.00	44.78	C
	ATOM	4472	OG	SER	H	25	11.948	-5.687	56.865	1.00	45.31	O
	ATOM	4473	C	SER	H	25	13.956	-4.612	55.452	1.00	43.10	C

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	ATOM	4474	O	SER	H	25	14.435	-5.741	55.323	1.00	43.21	O
	ATOM	4475	N	GLY	H	26	14.621	-3.610	56.005	1.00	44.19	N
	ATOM	4476	CA	GLY	H	26	15.966	-3.814	56.531	1.00	44.18	C
	ATOM	4477	C	GLY	H	26	17.079	-3.262	55.671	1.00	44.51	C
5	ATOM	4478	O	GLY	H	26	18.245	-3.290	56.091	1.00	44.83	O
	ATOM	4479	N	TYR	H	27	16.721	-2.773	54.452	1.00	43.70	N
	ATOM	4480	CA	TYR	H	27	17.619	-2.151	53.473	1.00	43.68	C
	ATOM	4481	CB	TYR	H	27	18.573	-3.177	52.768	1.00	45.07	C
	ATOM	4482	CG	TYR	H	27	17.975	-4.014	51.647	1.00	45.84	C
10	ATOM	4483	CD1	TYR	H	27	17.632	-3.438	50.424	1.00	45.51	C
	ATOM	4484	CE1	TYR	H	27	17.091	-4.197	49.393	1.00	45.17	C
	ATOM	4485	CZ	TYR	H	27	16.928	-5.560	49.556	1.00	45.76	C
	ATOM	4486	OH	TYR	H	27	16.399	-6.293	48.522	1.00	46.88	O
	ATOM	4487	CE2	TYR	H	27	17.275	-6.162	50.755	1.00	45.55	C
15	ATOM	4488	CD2	TYR	H	27	17.811	-5.389	51.787	1.00	46.05	C
	ATOM	4489	C	TYR	H	27	16.814	-1.270	52.496	1.00	43.50	C
	ATOM	4490	O	TYR	H	27	15.587	-1.435	52.399	1.00	43.73	O
	ATOM	4491	N	THR	H	28	17.491	-0.335	51.784	1.00	43.40	N
	ATOM	4492	CA	THR	H	28	16.818	0.532	50.808	1.00	44.00	C
20	ATOM	4493	CB	THR	H	28	17.704	1.730	50.394	1.00	53.83	C
	ATOM	4494	OG1	THR	H	28	18.086	2.469	51.548	1.00	56.35	O
	ATOM	4495	CG2	THR	H	28	17.003	2.659	49.413	1.00	54.29	C
	ATOM	4496	C	THR	H	28	16.421	-0.327	49.580	1.00	43.85	C
	ATOM	4497	O	THR	H	28	17.291	-0.724	48.782	1.00	43.61	O
25	ATOM	4498	N	PHE	H	29	15.109	-0.604	49.441	1.00	41.13	N
	ATOM	4499	CA	PHE	H	29	14.524	-1.406	48.361	1.00	40.53	C
	ATOM	4500	CB	PHE	H	29	13.029	-1.084	48.221	1.00	41.34	C
	ATOM	4501	CG	PHE	H	29	12.296	-1.857	47.157	1.00	40.96	C
	ATOM	4502	CD1	PHE	H	29	12.194	-3.245	47.226	1.00	40.17	C
30	ATOM	4503	CE1	PHE	H	29	11.512	-3.960	46.241	1.00	37.42	C
	ATOM	4504	CZ	PHE	H	29	10.901	-3.289	45.206	1.00	38.49	C
	ATOM	4505	CE2	PHE	H	29	10.978	-1.915	45.125	1.00	40.05	C
	ATOM	4506	CD2	PHE	H	29	11.677	-1.199	46.099	1.00	40.81	C
	ATOM	4507	C	PHE	H	29	15.216	-1.251	47.018	1.00	40.40	C
35	ATOM	4508	O	PHE	H	29	15.551	-2.256	46.383	1.00	40.69	O
	ATOM	4509	N	THR	H	30	15.447	-0.003	46.609	1.00	40.02	N
	ATOM	4510	CA	THR	H	30	16.053	0.385	45.333	1.00	39.83	C
	ATOM	4511	CB	THR	H	30	15.612	1.813	44.968	1.00	41.35	C
	ATOM	4512	OG1	THR	H	30	15.852	2.691	46.083	1.00	41.01	O
40	ATOM	4513	CG2	THR	H	30	14.148	1.886	44.522	1.00	39.88	C
	ATOM	4514	C	THR	H	30	17.573	0.150	45.188	1.00	40.07	C
	ATOM	4515	O	THR	H	30	18.113	0.316	44.089	1.00	40.18	O
	ATOM	4516	N	ASP	H	31	18.261	-0.230	46.271	1.00	41.78	N
	ATOM	4517	CA	ASP	H	31	19.703	-0.470	46.231	1.00	42.27	C
45	ATOM	4518	CB	ASP	H	31	20.246	-0.617	47.659	1.00	46.00	C
	ATOM	4519	CG	ASP	H	31	20.648	0.649	48.368	1.00	47.93	C
	ATOM	4520	OD1	ASP	H	31	20.579	1.727	47.743	1.00	51.68	O
	ATOM	4521	OD2	ASP	H	31	21.037	0.561	49.552	1.00	50.02	O
	ATOM	4522	C	ASP	H	31	20.096	-1.742	45.487	1.00	42.08	C
50	ATOM	4523	O	ASP	H	31	21.140	-1.768	44.828	1.00	42.31	O
	ATOM	4524	N	TYR	H	32	19.308	-2.821	45.653	1.00	40.03	N
	ATOM	4525	CA	TYR	H	32	19.637	-4.106	45.075	1.00	39.39	C
	ATOM	4526	CB	TYR	H	32	19.890	-5.116	46.208	1.00	41.21	C
	ATOM	4527	CG	TYR	H	32	20.814	-4.595	47.292	1.00	42.82	C

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	ATOM	4528	CD1 TYR H	32	20.389	-4.504	48.617	1.00	43.77	C
	ATOM	4529	CE1 TYR H	32	21.230	-4.018	49.617	1.00	43.50	C
	ATOM	4530	CZ TYR H	32	22.517	-3.611	49.296	1.00	43.78	C
	ATOM	4531	OH TYR H	32	23.374	-3.136	50.268	1.00	43.95	O
5	ATOM	4532	CE2 TYR H	32	22.954	-3.675	47.981	1.00	43.19	C
	ATOM	4533	CD2 TYR H	32	22.112	-4.181	46.993	1.00	43.02	C
	ATOM	4534	C TYR H	32	18.596	-4.627	44.139	1.00	38.80	C
	ATOM	4535	O TYR H	32	17.408	-4.394	44.367	1.00	39.01	O
	ATOM	4536	N TYR H	33	19.037	-5.361	43.088	1.00	36.02	N
10	ATOM	4537	CA TYR H	33	18.130	-5.976	42.123	1.00	35.58	C
	ATOM	4538	CB TYR H	33	18.879	-6.545	40.903	1.00	35.25	C
	ATOM	4539	CG TYR H	33	19.663	-5.542	40.087	1.00	36.97	C
	ATOM	4540	CD1 TYR H	33	19.037	-4.743	39.133	1.00	36.59	C
	ATOM	4541	CE1 TYR H	33	19.764	-3.839	38.354	1.00	36.38	C
15	ATOM	4542	CZ TYR H	33	21.139	-3.753	38.500	1.00	37.33	C
	ATOM	4543	OH TYR H	33	21.877	-2.860	37.746	1.00	38.79	O
	ATOM	4544	CE2 TYR H	33	21.784	-4.554	39.429	1.00	37.67	C
	ATOM	4545	CD2 TYR H	33	21.047	-5.443	40.211	1.00	38.05	C
	ATOM	4546	C TYR H	33	17.405	-7.115	42.835	1.00	35.36	C
20	ATOM	4547	O TYR H	33	17.909	-7.647	43.822	1.00	35.46	O
	ATOM	4548	N MET H	34	16.249	-7.510	42.321	1.00	36.65	N
	ATOM	4549	CA MET H	34	15.470	-8.585	42.899	1.00	36.16	C
	ATOM	4550	CB MET H	34	14.109	-8.043	43.369	1.00	38.96	C
	ATOM	4551	CG MET H	34	13.228	-9.080	44.033	1.00	41.05	C
25	ATOM	4552	SD MET H	34	13.861	-9.731	45.595	1.00	45.60	S
	ATOM	4553	CE MET H	34	13.785	-8.264	46.613	1.00	42.62	C
	ATOM	4554	C MET H	34	15.308	-9.732	41.904	1.00	35.50	C
	ATOM	4555	O MET H	34	14.761	-9.538	40.826	1.00	35.07	O
	ATOM	4556	N ASN H	35	15.784	-10.923	42.282	1.00	34.95	N
30	ATOM	4557	CA ASN H	35	15.671	-12.139	41.490	1.00	34.11	C
	ATOM	4558	CB ASN H	35	16.905	-13.010	41.649	1.00	37.99	C
	ATOM	4559	CG ASN H	35	18.158	-12.355	41.154	1.00	38.92	C
	ATOM	4560	OD1 ASN H	35	18.476	-12.378	39.955	1.00	39.35	O
	ATOM	4561	ND2 ASN H	35	18.895	-11.753	42.069	1.00	38.99	N
35	ATOM	4562	C ASN H	35	14.463	-12.915	41.977	1.00	33.60	C
	ATOM	4563	O ASN H	35	13.965	-12.689	43.081	1.00	32.95	O
	ATOM	4564	N TRP H	36	13.982	-13.818	41.124	1.00	32.06	N
	ATOM	4565	CA TRP H	36	12.883	-14.709	41.388	1.00	31.15	C
	ATOM	4566	CB TRP H	36	11.611	-14.259	40.698	1.00	27.96	C
40	ATOM	4567	CG TRP H	36	10.886	-13.178	41.455	1.00	28.09	C
	ATOM	4568	CD1 TRP H	36	10.967	-11.834	41.232	1.00	27.78	C
	ATOM	4569	NE1 TRP H	36	10.137	-11.156	42.101	1.00	26.66	N
	ATOM	4570	CE2 TRP H	36	9.498	-12.059	42.914	1.00	26.32	C
	ATOM	4571	CD2 TRP H	36	9.944	-13.349	42.538	1.00	27.23	C
45	ATOM	4572	CE3 TRP H	36	9.437	-14.461	43.226	1.00	27.48	C
	ATOM	4573	CZ3 TRP H	36	8.522	-14.253	44.253	1.00	29.03	C
	ATOM	4574	CH2 TRP H	36	8.087	-12.962	44.592	1.00	28.89	C
	ATOM	4575	CZ2 TRP H	36	8.556	-11.852	43.928	1.00	27.21	C
	ATOM	4576	C TRP H	36	13.399	-16.038	40.902	1.00	31.20	C
50	ATOM	4577	O TRP H	36	13.795	-16.163	39.738	1.00	31.13	O
	ATOM	4578	N VAL H	37	13.500	-16.995	41.838	1.00	31.53	N
	ATOM	4579	CA VAL H	37	14.020	-18.348	41.654	1.00	31.40	C
	ATOM	4580	CB VAL H	37	15.340	-18.547	42.490	1.00	34.90	C
	ATOM	4581	CG1 VAL H	37	15.858	-19.976	42.428	1.00	35.64	C

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	ATOM	4582	CG2 VAL H 37	16.439 -17.591 42.043 1.00 34.68	C
	ATOM	4583	C VAL H 37	12.931 -19.286 42.121 1.00 31.06	C
	ATOM	4584	O VAL H 37	12.152 -18.911 42.977 1.00 31.89	O
	ATOM	4585	N ARG H 38	12.869 -20.502 41.588 1.00 31.77	N
5	ATOM	4586	CA ARG H 38	11.877 -21.485 42.017 1.00 31.14	C
	ATOM	4587	CB ARG H 38	10.630 -21.480 41.120 1.00 33.02	C
	ATOM	4588	CG ARG H 38	10.881 -22.112 39.776 1.00 32.16	C
	ATOM	4589	CD ARG H 38	9.613 -22.386 39.041 1.00 30.77	C
	ATOM	4590	NE ARG H 38	9.922 -23.071 37.789 1.00 31.18	N
10	ATOM	4591	CZ ARG H 38	9.024 -23.326 36.849 1.00 29.23	C
	ATOM	4592	NH1 ARG H 38	7.760 -22.943 37.007 1.00 27.88	N
	ATOM	4593	NH2 ARG H 38	9.386 -23.949 35.731 1.00 26.85	N
	ATOM	4594	C ARG H 38	12.470 -22.901 42.183 1.00 30.94	C
	ATOM	4595	O ARG H 38	13.512 -23.245 41.600 1.00 30.33	O
15	ATOM	4596	N GLN H 39	11.795 -23.709 42.998 1.00 31.50	N
	ATOM	4597	CA GLN H 39	12.233 -25.055 43.233 1.00 31.55	C
	ATOM	4598	CB GLN H 39	13.047 -25.086 44.520 1.00 32.09	C
	ATOM	4599	CG GLN H 39	13.628 -26.430 44.824 1.00 30.32	C
	ATOM	4600	CD GLN H 39	14.544 -26.334 45.986 1.00 30.33	C
20	ATOM	4601	OE1 GLN H 39	14.276 -25.645 46.973 1.00 30.12	O
	ATOM	4602	NE2 GLN H 39	15.664 -27.016 45.891 1.00 32.56	N
	ATOM	4603	C GLN H 39	11.056 -26.046 43.262 1.00 32.29	C
	ATOM	4604	O GLN H 39	10.214 -25.977 44.169 1.00 32.64	O
	ATOM	4605	N ALA H 40	10.997 -26.966 42.273 1.00 32.91	N
25	ATOM	4606	CA ALA H 40	9.939 -27.980 42.260 1.00 33.97	C
	ATOM	4607	CB ALA H 40	9.857 -28.665 40.915 1.00 34.69	C
	ATOM	4608	C ALA H 40	10.240 -28.998 43.353 1.00 35.27	C
	ATOM	4609	O ALA H 40	11.423 -29.265 43.641 1.00 34.93	O
	ATOM	4610	N PRO H 41	9.190 -29.546 44.015 1.00 39.91	N
30	ATOM	4611	CA PRO H 41	9.428 -30.503 45.116 1.00 40.81	C
	ATOM	4612	CB PRO H 41	8.027 -31.048 45.423 1.00 41.99	C
	ATOM	4613	CG PRO H 41	7.168 -30.596 44.280 1.00 41.52	C
	ATOM	4614	CD PRO H 41	7.743 -29.319 43.832 1.00 41.14	C
	ATOM	4615	C PRO H 41	10.482 -31.595 44.857 1.00 41.48	C
35	ATOM	4616	O PRO H 41	10.370 -32.369 43.893 1.00 41.96	O
	ATOM	4617	N GLY H 42	11.514 -31.608 45.707 1.00 40.30	N
	ATOM	4618	CA GLY H 42	12.601 -32.576 45.618 1.00 40.34	C
	ATOM	4619	C GLY H 42	13.591 -32.355 44.483 1.00 40.79	C
	ATOM	4620	O GLY H 42	14.492 -33.170 44.274 1.00 40.68	O
40	ATOM	4621	N GLN H 43	13.457 -31.237 43.761 1.00 41.79	N
	ATOM	4622	CA GLN H 43	14.333 -30.913 42.646 1.00 41.63	C
	ATOM	4623	CB GLN H 43	13.502 -30.722 41.374 1.00 44.35	C
	ATOM	4624	CG GLN H 43	12.765 -31.983 40.967 1.00 48.55	C
	ATOM	4625	CD GLN H 43	11.630 -31.651 40.029 1.00 55.63	C
45	ATOM	4626	OE1 GLN H 43	11.817 -31.034 38.949 1.00 56.93	O
	ATOM	4627	NE2 GLN H 43	10.409 -32.063 40.426 1.00 57.43	N
	ATOM	4628	C GLN H 43	15.241 -29.707 42.933 1.00 40.59	C
	ATOM	4629	O GLN H 43	15.239 -29.154 44.039 1.00 39.90	O
	ATOM	4630	N GLY H 44	16.014 -29.331 41.919 1.00 38.58	N
50	ATOM	4631	CA GLY H 44	16.950 -28.216 41.965 1.00 38.45	C
	ATOM	4632	C GLY H 44	16.337 -26.849 41.749 1.00 38.10	C
	ATOM	4633	O GLY H 44	15.117 -26.685 41.803 1.00 38.17	O
	ATOM	4634	N LEU H 45	17.206 -25.860 41.476 1.00 36.20	N
	ATOM	4635	CA LEU H 45	16.833 -24.462 41.304 1.00 35.58	C

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	ATOM	4636	CB	LEU	H	45	17.777	-23.566	42.111	1.00	34.68	C
	ATOM	4637	CG	LEU	H	45	17.954	-23.939	43.573	1.00	34.33	C
	ATOM	4638	CD1	LEU	H	45	19.227	-23.335	44.133	1.00	33.58	C
	ATOM	4639	CD2	LEU	H	45	16.711	-23.602	44.395	1.00	32.03	C
5	ATOM	4640	C	LEU	H	45	16.741	-23.975	39.885	1.00	35.57	C
	ATOM	4641	O	LEU	H	45	17.533	-24.361	39.034	1.00	36.16	O
	ATOM	4642	N	GLU	H	46	15.774	-23.108	39.637	1.00	33.52	N
	ATOM	4643	CA	GLU	H	46	15.550	-22.500	38.341	1.00	33.02	C
	ATOM	4644	CB	GLU	H	46	14.368	-23.171	37.660	1.00	34.37	C
10	ATOM	4645	CG	GLU	H	46	14.021	-22.646	36.285	1.00	37.24	C
	ATOM	4646	CD	GLU	H	46	13.144	-23.618	35.523	1.00	42.30	C
	ATOM	4647	OE1	GLU	H	46	13.455	-23.877	34.337	1.00	42.37	O
	ATOM	4648	OE2	GLU	H	46	12.164	-24.140	36.114	1.00	44.02	O
	ATOM	4649	C	GLU	H	46	15.301	-21.004	38.564	1.00	32.57	C
15	ATOM	4650	O	GLU	H	46	14.476	-20.623	39.401	1.00	32.00	O
	ATOM	4651	N	TRP	H	47	16.047	-20.164	37.825	1.00	32.73	N
	ATOM	4652	CA	TRP	H	47	15.942	-18.720	37.885	1.00	31.59	C
	ATOM	4653	CB	TRP	H	47	17.293	-18.123	37.505	1.00	31.62	C
	ATOM	4654	CG	TRP	H	47	17.357	-16.624	37.496	1.00	31.89	C
20	ATOM	4655	CD1	TRP	H	47	17.512	-15.802	38.575	1.00	31.63	C
	ATOM	4656	NE1	TRP	H	47	17.580	-14.489	38.167	1.00	31.70	N
	ATOM	4657	CE2	TRP	H	47	17.483	-14.445	36.798	1.00	32.74	C
	ATOM	4658	CD2	TRP	H	47	17.353	-15.777	36.342	1.00	31.58	C
	ATOM	4659	CE3	TRP	H	47	17.210	-16.009	34.967	1.00	31.29	C
25	ATOM	4660	CZ3	TRP	H	47	17.213	-14.927	34.100	1.00	31.61	C
	ATOM	4661	CH2	TRP	H	47	17.325	-13.613	34.577	1.00	32.11	C
	ATOM	4662	CZ2	TRP	H	47	17.483	-13.347	35.920	1.00	32.82	C
	ATOM	4663	C	TRP	H	47	14.851	-18.282	36.905	1.00	31.22	C
	ATOM	4664	O	TRP	H	47	14.912	-18.650	35.732	1.00	30.72	O
30	ATOM	4665	N	ILE	H	48	13.844	-17.517	37.389	1.00	29.39	N
	ATOM	4666	CA	ILE	H	48	12.743	-16.998	36.571	1.00	29.17	C
	ATOM	4667	CB	ILE	H	48	11.443	-16.864	37.395	1.00	31.66	C
	ATOM	4668	CG1	ILE	H	48	10.980	-18.237	37.899	1.00	30.54	C
	ATOM	4669	CD1	ILE	H	48	10.244	-18.166	39.191	1.00	29.61	C
35	ATOM	4670	CG2	ILE	H	48	10.328	-16.150	36.583	1.00	30.56	C
	ATOM	4671	C	ILE	H	48	13.123	-15.678	35.858	1.00	29.63	C
	ATOM	4672	O	ILE	H	48	12.859	-15.514	34.668	1.00	29.38	O
	ATOM	4673	N	GLY	H	49	13.720	-14.759	36.606	1.00	32.15	N
	ATOM	4674	CA	GLY	H	49	14.138	-13.460	36.103	1.00	32.43	C
40	ATOM	4675	C	GLY	H	49	14.577	-12.510	37.196	1.00	33.00	C
	ATOM	4676	O	GLY	H	49	14.602	-12.875	38.370	1.00	33.64	O
	ATOM	4677	N	ASP	H	50	14.941	-11.287	36.817	1.00	34.93	N
	ATOM	4678	CA	ASP	H	50	15.342	-10.245	37.758	1.00	35.13	C
	ATOM	4679	CB	ASP	H	50	16.870	-10.187	38.024	1.00	37.15	C
45	ATOM	4680	CG	ASP	H	50	17.756	-9.693	36.906	1.00	38.66	C
	ATOM	4681	OD1	ASP	H	50	17.282	-8.883	36.083	1.00	41.87	O
	ATOM	4682	OD2	ASP	H	50	18.936	-10.105	36.860	1.00	39.44	O
	ATOM	4683	C	ASP	H	50	14.731	-8.886	37.413	1.00	35.42	C
	ATOM	4684	O	ASP	H	50	14.233	-8.691	36.294	1.00	35.21	O
50	ATOM	4685	N	ILE	H	51	14.764	-7.959	38.375	1.00	33.12	N
	ATOM	4686	CA	ILE	H	51	14.203	-6.639	38.191	1.00	33.13	C
	ATOM	4687	CB	ILE	H	51	12.681	-6.612	38.585	1.00	35.44	C
	ATOM	4688	CG1	ILE	H	51	11.980	-5.323	38.107	1.00	34.68	C
	ATOM	4689	CD1	ILE	H	51	10.639	-5.481	37.730	1.00	33.37	C

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	ATOM	4690	CG2 ILE H 51	12.451	-6.860	40.091	1.00	35.10	C
	ATOM	4691	C ILE H 51	15.050	-5.549	38.867	1.00	33.61	C
	ATOM	4692	O ILE H 51	15.658	-5.761	39.924	1.00	33.17	O
	ATOM	4693	N ASN H 52	15.106	-4.380	38.211	1.00	36.13	N
5	ATOM	4694	CA ASN H 52	15.794	-3.206	38.719	1.00	35.88	C
	ATOM	4695	CB ASN H 52	16.431	-2.395	37.602	1.00	35.87	C
	ATOM	4696	CG ASN H 52	17.133	-1.171	38.115	1.00	36.70	C
	ATOM	4697	OD1 ASN H 52	16.794	-0.618	39.169	1.00	38.52	O
	ATOM	4698	ND2 ASN H 52	18.132	-0.716	37.392	1.00	37.81	N
10	ATOM	4699	C ASN H 52	14.660	-2.448	39.405	1.00	35.33	C
	ATOM	4700	O ASN H 52	13.697	-2.060	38.732	1.00	35.02	O
	ATOM	4701	N PRO H 53	14.722	-2.294	40.755	1.00	35.99	N
	ATOM	4702	CA PRO H 53	13.602	-1.623	41.467	1.00	35.84	C
	ATOM	4703	CB PRO H 53	13.841	-1.933	42.943	1.00	37.28	C
15	ATOM	4704	CG PRO H 53	15.266	-2.402	43.022	1.00	37.53	C
	ATOM	4705	CD PRO H 53	15.796	-2.730	41.677	1.00	37.47	C
	ATOM	4706	C PRO H 53	13.490	-0.136	41.183	1.00	35.76	C
	ATOM	4707	O PRO H 53	12.461	0.468	41.490	1.00	35.23	O
	ATOM	4708	N ASN H 54	14.544	0.441	40.553	1.00	35.74	N
20	ATOM	4709	CA ASN H 54	14.558	1.848	40.204	1.00	35.61	C
	ATOM	4710	CB ASN H 54	15.965	2.325	39.923	1.00	31.91	C
	ATOM	4711	CG ASN H 54	16.777	2.344	41.176	1.00	33.76	C
	ATOM	4712	OD1 ASN H 54	17.737	1.594	41.329	1.00	39.09	O
	ATOM	4713	ND2 ASN H 54	16.410	3.186	42.119	1.00	33.45	N
25	ATOM	4714	C ASN H 54	13.592	2.176	39.083	1.00	35.42	C
	ATOM	4715	O ASN H 54	12.747	3.050	39.249	1.00	35.56	O
	ATOM	4716	N ASN H 55	13.690	1.457	37.966	1.00	35.33	N
	ATOM	4717	CA ASN H 55	12.869	1.672	36.791	1.00	35.14	C
	ATOM	4718	CB ASN H 55	13.796	1.946	35.610	1.00	37.96	C
30	ATOM	4719	CG ASN H 55	14.549	0.761	35.073	1.00	41.14	C
	ATOM	4720	OD1 ASN H 55	14.868	0.695	33.878	1.00	43.72	O
	ATOM	4721	ND2 ASN H 55	14.857	-0.205	35.914	1.00	44.14	N
	ATOM	4722	C ASN H 55	11.840	0.567	36.462	1.00	34.70	C
	ATOM	4723	O ASN H 55	10.960	0.795	35.628	1.00	35.15	O
35	ATOM	4724	N GLY H 56	11.959	-0.602	37.090	1.00	31.80	N
	ATOM	4725	CA GLY H 56	11.069	-1.723	36.820	1.00	31.01	C
	ATOM	4726	C GLY H 56	11.526	-2.491	35.589	1.00	31.10	C
	ATOM	4727	O GLY H 56	10.724	-3.177	34.949	1.00	30.58	O
	ATOM	4728	N GLY H 57	12.820	-2.375	35.260	1.00	32.33	N
40	ATOM	4729	CA GLY H 57	13.425	-3.027	34.098	1.00	32.32	C
	ATOM	4730	C GLY H 57	13.715	-4.484	34.370	1.00	32.32	C
	ATOM	4731	O GLY H 57	14.598	-4.784	35.174	1.00	32.90	O
	ATOM	4732	N ALA H 58	12.956	-5.395	33.735	1.00	30.56	N
	ATOM	4733	CA ALA H 58	13.077	-6.834	33.956	1.00	30.36	C
45	ATOM	4734	CB ALA H 58	11.709	-7.455	34.213	1.00	29.63	C
	ATOM	4735	C ALA H 58	13.807	-7.593	32.860	1.00	30.96	C
	ATOM	4736	O ALA H 58	13.745	-7.234	31.679	1.00	31.12	O
	ATOM	4737	N ILE H 59	14.539	-8.632	33.280	1.00	31.91	N
	ATOM	4738	CA ILE H 59	15.252	-9.549	32.403	1.00	31.68	C
50	ATOM	4739	CB ILE H 59	16.784	-9.523	32.573	1.00	32.42	C
	ATOM	4740	CG1 ILE H 59	17.317	-8.143	32.167	1.00	31.40	C
	ATOM	4741	CD1 ILE H 59	18.760	-7.920	32.404	1.00	31.91	C
	ATOM	4742	CG2 ILE H 59	17.437	-10.637	31.756	1.00	30.36	C
	ATOM	4743	C ILE H 59	14.609	-10.890	32.721	1.00	32.11	C

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	ATOM	4744	O	ILE	H	59	14.363	-11.177	33.896	1.00	32.90	O
	ATOM	4745	N	TYR	H	60	14.260	-11.668	31.695	1.00	32.48	N
	ATOM	4746	CA	TYR	H	60	13.601	-12.936	31.941	1.00	32.29	C
	ATOM	4747	CB	TYR	H	60	12.193	-12.949	31.322	1.00	31.67	C
5	ATOM	4748	CG	TYR	H	60	11.248	-11.917	31.880	1.00	31.25	C
	ATOM	4749	CD1	TYR	H	60	10.417	-12.211	32.964	1.00	31.40	C
	ATOM	4750	CE1	TYR	H	60	9.528	-11.260	33.473	1.00	31.06	C
	ATOM	4751	CZ	TYR	H	60	9.451	-10.006	32.879	1.00	30.95	C
	ATOM	4752	OH	TYR	H	60	8.597	-9.027	33.334	1.00	31.15	O
10	ATOM	4753	CE2	TYR	H	60	10.254	-9.707	31.794	1.00	29.14	C
	ATOM	4754	CD2	TYR	H	60	11.138	-10.664	31.296	1.00	30.46	C
	ATOM	4755	C	TYR	H	60	14.347	-14.099	31.382	1.00	32.47	C
	ATOM	4756	O	TYR	H	60	15.019	-13.981	30.356	1.00	32.02	O
	ATOM	4757	N	ASN	H	61	14.178	-15.248	32.040	1.00	34.06	N
15	ATOM	4758	CA	ASN	H	61	14.689	-16.501	31.573	1.00	34.98	C
	ATOM	4759	CB	ASN	H	61	14.575	-17.547	32.661	1.00	32.75	C
	ATOM	4760	CG	ASN	H	61	14.974	-18.945	32.251	1.00	31.32	C
	ATOM	4761	OD1	ASN	H	61	14.862	-19.369	31.095	1.00	31.54	O
	ATOM	4762	ND2	ASN	H	61	15.442	-19.690	33.206	1.00	28.47	N
20	ATOM	4763	C	ASN	H	61	13.692	-16.807	30.446	1.00	36.49	C
	ATOM	4764	O	ASN	H	61	12.486	-16.894	30.700	1.00	36.32	O
	ATOM	4765	N	GLN	H	62	14.203	-16.921	29.208	1.00	40.25	N
	ATOM	4766	CA	GLN	H	62	13.490	-17.192	27.957	1.00	42.61	C
	ATOM	4767	CB	GLN	H	62	14.472	-17.473	26.806	1.00	46.63	C
25	ATOM	4768	CG	GLN	H	62	15.748	-18.281	27.194	1.00	51.33	C
	ATOM	4769	CD	GLN	H	62	16.927	-17.406	27.621	1.00	55.11	C
	ATOM	4770	OE1	GLN	H	62	16.868	-16.611	28.597	1.00	53.73	O
	ATOM	4771	NE2	GLN	H	62	18.031	-17.548	26.891	1.00	56.37	N
	ATOM	4772	C	GLN	H	62	12.427	-18.266	28.057	1.00	43.04	C
30	ATOM	4773	O	GLN	H	62	11.409	-18.168	27.384	1.00	43.45	O
	ATOM	4774	N	LYS	H	63	12.625	-19.251	28.929	1.00	43.48	N
	ATOM	4775	CA	LYS	H	63	11.675	-20.328	29.180	1.00	44.75	C
	ATOM	4776	CB	LYS	H	63	12.313	-21.339	30.150	1.00	46.81	C
	ATOM	4777	CG	LYS	H	63	11.330	-22.346	30.717	1.00	48.47	C
35	ATOM	4778	CD	LYS	H	63	12.005	-23.381	31.519	1.00	50.88	C
	ATOM	4779	CE	LYS	H	63	10.991	-24.339	32.050	1.00	51.93	C
	ATOM	4780	NZ	LYS	H	63	11.656	-25.406	32.830	1.00	54.83	N
	ATOM	4781	C	LYS	H	63	10.302	-19.807	29.711	1.00	45.59	C
	ATOM	4782	O	LYS	H	63	9.295	-20.496	29.545	1.00	45.76	O
40	ATOM	4783	N	PHE	H	64	10.280	-18.607	30.358	1.00	48.96	N
	ATOM	4784	CA	PHE	H	64	9.099	-17.937	30.942	1.00	49.93	C
	ATOM	4785	CB	PHE	H	64	9.288	-17.705	32.444	1.00	49.86	C
	ATOM	4786	CG	PHE	H	64	9.790	-18.855	33.269	1.00	50.13	C
	ATOM	4787	CD1	PHE	H	64	8.928	-19.849	33.695	1.00	48.57	C
45	ATOM	4788	CE1	PHE	H	64	9.391	-20.892	34.474	1.00	48.76	C
	ATOM	4789	CZ	PHE	H	64	10.710	-20.942	34.850	1.00	48.36	C
	ATOM	4790	CE2	PHE	H	64	11.571	-19.952	34.461	1.00	48.71	C
	ATOM	4791	CD2	PHE	H	64	11.114	-18.906	33.680	1.00	49.25	C
	ATOM	4792	C	PHE	H	64	8.782	-16.549	30.311	1.00	51.38	C
50	ATOM	4793	O	PHE	H	64	7.921	-15.809	30.853	1.00	52.00	O
	ATOM	4794	N	LYS	H	65	9.485	-16.163	29.204	1.00	54.08	N
	ATOM	4795	CA	LYS	H	65	9.177	-14.882	28.574	1.00	54.14	C
	ATOM	4796	CB	LYS	H	65	10.224	-14.500	27.508	1.00	56.96	C
	ATOM	4797	C	LYS	H	65	7.733	-14.996	27.993	1.00	53.83	C

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	ATOM	4798	O	LYS	H	65	7.327	-16.055	27.483	1.00	53.61	O
	ATOM	4799	N	GLY	H	66	6.960	-13.934	28.168	1.00	53.49	N
	ATOM	4800	CA	GLY	H	66	5.580	-13.887	27.700	1.00	52.48	C
	ATOM	4801	C	GLY	H	66	4.595	-14.583	28.614	1.00	51.60	C
5	ATOM	4802	O	GLY	H	66	3.393	-14.606	28.304	1.00	52.39	O
	ATOM	4803	N	ARG	H	67	5.090	-15.167	29.736	1.00	45.58	N
	ATOM	4804	CA	ARG	H	67	4.244	-15.851	30.720	1.00	44.16	C
	ATOM	4805	CB	ARG	H	67	4.558	-17.336	30.799	1.00	43.50	C
	ATOM	4806	CG	ARG	H	67	3.705	-18.163	29.869	1.00	42.99	C
10	ATOM	4807	CD	ARG	H	67	3.310	-19.486	30.465	1.00	42.63	C
	ATOM	4808	NE	ARG	H	67	4.445	-20.270	30.957	1.00	41.04	N
	ATOM	4809	CZ	ARG	H	67	4.412	-21.002	32.067	1.00	40.29	C
	ATOM	4810	NH1	ARG	H	67	3.312	-21.049	32.807	1.00	40.06	N
	ATOM	4811	NH2	ARG	H	67	5.475	-21.692	32.443	1.00	40.01	N
15	ATOM	4812	C	ARG	H	67	4.426	-15.251	32.069	1.00	43.18	C
	ATOM	4813	O	ARG	H	67	3.473	-15.137	32.837	1.00	42.46	O
	ATOM	4814	N	ALA	H	68	5.666	-14.889	32.374	1.00	42.75	N
	ATOM	4815	CA	ALA	H	68	6.018	-14.294	33.647	1.00	42.13	C
	ATOM	4816	CB	ALA	H	68	7.318	-14.893	34.174	1.00	42.56	C
20	ATOM	4817	C	ALA	H	68	6.150	-12.803	33.492	1.00	41.57	C
	ATOM	4818	O	ALA	H	68	6.651	-12.322	32.475	1.00	42.01	O
	ATOM	4819	N	THR	H	69	5.694	-12.072	34.489	1.00	38.81	N
	ATOM	4820	CA	THR	H	69	5.789	-10.622	34.527	1.00	37.94	C
	ATOM	4821	CB	THR	H	69	4.430	-9.928	34.216	1.00	37.21	C
25	ATOM	4822	OG1	THR	H	69	4.004	-10.287	32.903	1.00	37.48	O
	ATOM	4823	CG2	THR	H	69	4.520	-8.423	34.275	1.00	35.86	C
	ATOM	4824	C	THR	H	69	6.350	-10.300	35.894	1.00	37.70	C
	ATOM	4825	O	THR	H	69	5.813	-10.743	36.921	1.00	37.65	O
	ATOM	4826	N	LEU	H	70	7.441	-9.569	35.908	1.00	36.37	N
30	ATOM	4827	CA	LEU	H	70	8.068	-9.155	37.147	1.00	36.33	C
	ATOM	4828	CB	LEU	H	70	9.577	-9.457	37.097	1.00	36.52	C
	ATOM	4829	CG	LEU	H	70	10.125	-10.718	37.807	1.00	36.35	C
	ATOM	4830	CD1	LEU	H	70	9.231	-11.930	37.668	1.00	35.06	C
	ATOM	4831	CD2	LEU	H	70	11.478	-11.063	37.286	1.00	35.67	C
35	ATOM	4832	C	LEU	H	70	7.810	-7.663	37.224	1.00	36.30	C
	ATOM	4833	O	LEU	H	70	8.031	-6.955	36.238	1.00	36.51	O
	ATOM	4834	N	THR	H	71	7.277	-7.189	38.360	1.00	35.94	N
	ATOM	4835	CA	THR	H	71	6.992	-5.772	38.586	1.00	35.73	C
	ATOM	4836	CB	THR	H	71	5.491	-5.424	38.394	1.00	33.76	C
40	ATOM	4837	OG1	THR	H	71	4.685	-6.130	39.340	1.00	33.22	O
	ATOM	4838	CG2	THR	H	71	4.999	-5.606	36.961	1.00	32.02	C
	ATOM	4839	C	THR	H	71	7.443	-5.411	39.981	1.00	36.60	C
	ATOM	4840	O	THR	H	71	7.740	-6.299	40.786	1.00	37.10	O
	ATOM	4841	N	VAL	H	72	7.504	-4.110	40.270	1.00	39.56	N
45	ATOM	4842	CA	VAL	H	72	7.852	-3.602	41.597	1.00	40.54	C
	ATOM	4843	CB	VAL	H	72	9.337	-3.188	41.807	1.00	43.89	C
	ATOM	4844	CG1	VAL	H	72	10.262	-4.404	41.864	1.00	42.94	C
	ATOM	4845	CG2	VAL	H	72	9.802	-2.153	40.782	1.00	42.96	C
	ATOM	4846	C	VAL	H	72	6.905	-2.474	41.956	1.00	41.56	C
50	ATOM	4847	O	VAL	H	72	6.095	-2.056	41.121	1.00	41.80	O
	ATOM	4848	N	ASP	H	73	6.989	-2.012	43.212	1.00	43.60	N
	ATOM	4849	CA	ASP	H	73	6.249	-0.885	43.746	1.00	44.88	C
	ATOM	4850	CB	ASP	H	73	4.883	-1.263	44.341	1.00	47.82	C
	ATOM	4851	CG	ASP	H	73	4.072	-0.063	44.843	1.00	50.09	C

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	ATOM	4852	OD1 ASP H 73	4.453	1.094	44.541	1.00	52.99	O
	ATOM	4853	OD2 ASP H 73	3.068	-0.280	45.541	1.00	52.46	O
	ATOM	4854	C ASP H 73	7.181	-0.214	44.743	1.00	45.05	C
	ATOM	4855	O ASP H 73	7.290	-0.653	45.893	1.00	45.03	O
5	ATOM	4856	N LYS H 74	7.892	0.829	44.262	1.00	44.09	N
	ATOM	4857	CA LYS H 74	8.876	1.623	45.009	1.00	44.46	C
	ATOM	4858	CB LYS H 74	9.363	2.794	44.140	1.00	46.36	C
	ATOM	4859	CG LYS H 74	10.723	2.611	43.495	1.00	47.03	C
	ATOM	4860	CD LYS H 74	10.764	3.251	42.097	1.00	49.55	C
10	ATOM	4861	CE LYS H 74	11.207	4.696	42.049	1.00	49.11	C
	ATOM	4862	NZ LYS H 74	12.699	4.833	42.128	1.00	51.92	N
	ATOM	4863	C LYS H 74	8.272	2.172	46.307	1.00	44.71	C
	ATOM	4864	O LYS H 74	8.929	2.151	47.354	1.00	44.47	O
	ATOM	4865	N SER H 75	7.008	2.645	46.219	1.00	45.91	N
15	ATOM	4866	CA SER H 75	6.244	3.239	47.307	1.00	46.63	C
	ATOM	4867	CB SER H 75	4.935	3.820	46.773	1.00	50.56	C
	ATOM	4868	OG SER H 75	3.783	3.062	47.107	1.00	52.14	O
	ATOM	4869	C SER H 75	6.002	2.275	48.471	1.00	46.54	C
	ATOM	4870	O SER H 75	5.903	2.702	49.625	1.00	46.52	O
20	ATOM	4871	N THR H 76	5.913	0.974	48.167	1.00	48.04	N
	ATOM	4872	CA THR H 76	5.664	-0.031	49.190	1.00	47.46	C
	ATOM	4873	CB THR H 76	4.250	-0.603	49.032	1.00	55.80	C
	ATOM	4874	OG1 THR H 76	3.818	-1.119	50.287	1.00	56.91	O
	ATOM	4875	CG2 THR H 76	4.157	-1.663	47.976	1.00	55.67	C
25	ATOM	4876	C THR H 76	6.812	-1.019	49.444	1.00	46.86	C
	ATOM	4877	O THR H 76	6.665	-1.888	50.314	1.00	46.89	O
	ATOM	4878	N SER H 77	7.964	-0.872	48.715	1.00	43.60	N
	ATOM	4879	CA SER H 77	9.149	-1.760	48.813	1.00	43.18	C
	ATOM	4880	CB SER H 77	9.832	-1.620	50.176	1.00	46.46	C
30	ATOM	4881	OG SER H 77	10.520	-0.388	50.289	1.00	47.06	O
	ATOM	4882	C SER H 77	8.732	-3.226	48.562	1.00	42.36	C
	ATOM	4883	O SER H 77	9.132	-4.141	49.290	1.00	42.38	O
	ATOM	4884	N THR H 78	7.900	-3.426	47.543	1.00	40.07	N
	ATOM	4885	CA THR H 78	7.345	-4.721	47.192	1.00	39.43	C
35	ATOM	4886	CB THR H 78	5.841	-4.743	47.543	1.00	43.96	C
	ATOM	4887	OG1 THR H 78	5.679	-4.333	48.893	1.00	44.36	O
	ATOM	4888	CG2 THR H 78	5.212	-6.108	47.392	1.00	43.71	C
	ATOM	4889	C THR H 78	7.608	-5.120	45.744	1.00	38.97	C
	ATOM	4890	O THR H 78	7.375	-4.335	44.816	1.00	38.96	O
40	ATOM	4891	N ALA H 79	8.066	-6.367	45.563	1.00	38.68	N
	ATOM	4892	CA ALA H 79	8.307	-6.962	44.252	1.00	38.65	C
	ATOM	4893	CB ALA H 79	9.651	-7.682	44.230	1.00	38.91	C
	ATOM	4894	C ALA H 79	7.164	-7.950	44.005	1.00	38.43	C
	ATOM	4895	O ALA H 79	6.607	-8.510	44.954	1.00	38.06	O
45	ATOM	4896	N TYR H 80	6.801	-8.138	42.738	1.00	39.56	N
	ATOM	4897	CA TYR H 80	5.755	-9.077	42.361	1.00	39.75	C
	ATOM	4898	CB TYR H 80	4.451	-8.381	41.929	1.00	41.50	C
	ATOM	4899	CG TYR H 80	3.877	-7.440	42.957	1.00	42.25	C
	ATOM	4900	CD1 TYR H 80	4.126	-6.070	42.891	1.00	43.81	C
50	ATOM	4901	CE1 TYR H 80	3.610	-5.194	43.845	1.00	45.50	C
	ATOM	4902	CZ TYR H 80	2.828	-5.687	44.878	1.00	47.13	C
	ATOM	4903	OH TYR H 80	2.327	-4.822	45.819	1.00	50.47	O
	ATOM	4904	CE2 TYR H 80	2.565	-7.049	44.963	1.00	45.06	C
	ATOM	4905	CD2 TYR H 80	3.080	-7.914	43.997	1.00	43.03	C

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	ATOM	4906	C	TYR	H	80	6.231	-9.937	41.228	1.00	39.61	C
	ATOM	4907	O	TYR	H	80	7.072	-9.507	40.443	1.00	39.90	O
	ATOM	4908	N	MET	H	81	5.693	-11.165	41.155	1.00	40.49	N
	ATOM	4909	CA	MET	H	81	5.921	-12.126	40.098	1.00	40.76	C
5	ATOM	4910	CB	MET	H	81	6.877	-13.250	40.476	1.00	44.10	C
	ATOM	4911	CG	MET	H	81	7.023	-14.272	39.345	1.00	46.08	C
	ATOM	4912	SD	MET	H	81	7.005	-15.957	39.951	1.00	52.30	S
	ATOM	4913	CE	MET	H	81	5.265	-16.251	40.216	1.00	50.75	C
	ATOM	4914	C	MET	H	81	4.582	-12.705	39.711	1.00	40.40	C
10	ATOM	4915	O	MET	H	81	3.904	-13.334	40.527	1.00	39.80	O
	ATOM	4916	N	GLU	H	82	4.209	-12.483	38.462	1.00	40.17	N
	ATOM	4917	CA	GLU	H	82	2.989	-13.014	37.912	1.00	40.31	C
	ATOM	4918	CB	GLU	H	82	2.191	-11.919	37.188	1.00	42.84	C
	ATOM	4919	CG	GLU	H	82	0.901	-12.425	36.566	1.00	46.03	C
15	ATOM	4920	CD	GLU	H	82	0.120	-11.362	35.825	1.00	50.45	C
	ATOM	4921	OE1	GLU	H	82	0.116	-11.386	34.573	1.00	51.84	O
	ATOM	4922	OE2	GLU	H	82	-0.482	-10.494	36.498	1.00	51.93	O
	ATOM	4923	C	GLU	H	82	3.381	-14.111	36.939	1.00	39.36	C
	ATOM	4924	O	GLU	H	82	4.218	-13.878	36.070	1.00	39.31	O
20	ATOM	4925	N	LEU	H	83	2.797	-15.294	37.073	1.00	35.96	N
	ATOM	4926	CA	LEU	H	83	3.070	-16.375	36.121	1.00	35.08	C
	ATOM	4927	CB	LEU	H	83	3.801	-17.555	36.769	1.00	33.73	C
	ATOM	4928	CG	LEU	H	83	4.336	-18.646	35.833	1.00	32.25	C
	ATOM	4929	CD1	LEU	H	83	5.306	-18.082	34.806	1.00	29.34	C
25	ATOM	4930	CD2	LEU	H	83	4.946	-19.799	36.642	1.00	27.95	C
	ATOM	4931	C	LEU	H	83	1.716	-16.769	35.563	1.00	35.35	C
	ATOM	4932	O	LEU	H	83	0.827	-17.132	36.328	1.00	35.78	O
	ATOM	4933	N	ARG	H	84	1.531	-16.606	34.257	1.00	36.94	N
	ATOM	4934	CA	ARG	H	84	0.265	-16.896	33.590	1.00	37.22	C
30	ATOM	4935	CB	ARG	H	84	-0.053	-15.819	32.560	1.00	38.41	C
	ATOM	4936	CG	ARG	H	84	-0.244	-14.445	33.162	1.00	38.93	C
	ATOM	4937	CD	ARG	H	84	-0.398	-13.405	32.070	1.00	37.60	C
	ATOM	4938	NE	ARG	H	84	0.795	-13.281	31.224	1.00	37.61	N
	ATOM	4939	CZ	ARG	H	84	1.883	-12.589	31.559	1.00	37.93	C
35	ATOM	4940	NH1	ARG	H	84	1.948	-11.967	32.734	1.00	35.84	N
	ATOM	4941	NH2	ARG	H	84	2.921	-12.527	30.729	1.00	37.18	N
	ATOM	4942	C	ARG	H	84	0.270	-18.269	32.924	1.00	37.57	C
	ATOM	4943	O	ARG	H	84	1.343	-18.865	32.815	1.00	37.43	O
	ATOM	4944	N	SER	H	85	-0.940	-18.761	32.469	1.00	40.08	N
40	ATOM	4945	CA	SER	H	85	-1.170	-20.052	31.798	1.00	40.28	C
	ATOM	4946	CB	SER	H	85	-0.710	-20.016	30.342	1.00	44.33	C
	ATOM	4947	OG	SER	H	85	-0.907	-18.746	29.748	1.00	46.34	O
	ATOM	4948	C	SER	H	85	-0.385	-21.107	32.544	1.00	40.47	C
	ATOM	4949	O	SER	H	85	0.529	-21.743	31.978	1.00	40.81	O
45	ATOM	4950	N	LEU	H	86	-0.682	-21.240	33.841	1.00	37.74	N
	ATOM	4951	CA	LEU	H	86	0.042	-22.178	34.694	1.00	37.31	C
	ATOM	4952	CB	LEU	H	86	-0.400	-22.040	36.171	1.00	35.82	C
	ATOM	4953	CG	LEU	H	86	-0.108	-20.710	36.907	1.00	33.72	C
	ATOM	4954	CD1	LEU	H	86	-0.741	-20.698	38.234	1.00	31.78	C
50	ATOM	4955	CD2	LEU	H	86	1.344	-20.487	37.133	1.00	30.33	C
	ATOM	4956	C	LEU	H	86	-0.068	-23.613	34.197	1.00	37.44	C
	ATOM	4957	O	LEU	H	86	-1.147	-24.039	33.798	1.00	37.39	O
	ATOM	4958	N	ARG	H	87	1.078	-24.323	34.153	1.00	39.75	N
	ATOM	4959	CA	ARG	H	87	1.204	-25.737	33.761	1.00	40.02	C

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	ATOM	4960	CB	ARG	H	87	2.538	-26.025	33.040	1.00	46.07	C
	ATOM	4961	CG	ARG	H	87	3.162	-24.975	32.138	1.00	49.17	C
	ATOM	4962	CD	ARG	H	87	3.961	-25.643	31.016	1.00	55.18	C
	ATOM	4963	NE	ARG	H	87	4.710	-24.698	30.166	1.00	62.43	N
5	ATOM	4964	CZ	ARG	H	87	4.178	-23.758	29.366	1.00	65.67	C
	ATOM	4965	NH1	ARG	H	87	4.967	-22.976	28.635	1.00	66.58	N
	ATOM	4966	NH2	ARG	H	87	2.857	-23.580	29.313	1.00	66.85	N
	ATOM	4967	C	ARG	H	87	1.278	-26.475	35.088	1.00	39.32	C
	ATOM	4968	O	ARG	H	87	1.607	-25.840	36.076	1.00	39.93	O
10	ATOM	4969	N	SER	H	88	1.034	-27.795	35.145	1.00	39.07	N
	ATOM	4970	CA	SER	H	88	1.152	-28.496	36.437	1.00	38.47	C
	ATOM	4971	CB	SER	H	88	0.481	-29.861	36.399	1.00	42.09	C
	ATOM	4972	OG	SER	H	88	1.313	-30.789	35.726	1.00	42.47	O
	ATOM	4973	C	SER	H	88	2.625	-28.617	36.848	1.00	37.93	C
15	ATOM	4974	O	SER	H	88	2.914	-28.680	38.033	1.00	37.45	O
	ATOM	4975	N	ASP	H	89	3.561	-28.593	35.871	1.00	39.35	N
	ATOM	4976	CA	ASP	H	89	4.978	-28.652	36.176	1.00	39.09	C
	ATOM	4977	CB	ASP	H	89	5.802	-29.252	35.029	1.00	43.14	C
	ATOM	4978	CG	ASP	H	89	5.857	-28.444	33.753	1.00	46.42	C
20	ATOM	4979	OD1	ASP	H	89	5.177	-27.395	33.682	1.00	50.34	O
	ATOM	4980	OD2	ASP	H	89	6.591	-28.859	32.817	1.00	49.07	O
	ATOM	4981	C	ASP	H	89	5.495	-27.302	36.652	1.00	38.27	C
	ATOM	4982	O	ASP	H	89	6.700	-27.137	36.840	1.00	38.94	O
	ATOM	4983	N	ASP	H	90	4.581	-26.340	36.867	1.00	34.36	N
25	ATOM	4984	CA	ASP	H	90	4.891	-25.026	37.414	1.00	33.25	C
	ATOM	4985	CB	ASP	H	90	3.992	-23.924	36.830	1.00	34.96	C
	ATOM	4986	CG	ASP	H	90	4.457	-23.330	35.508	1.00	36.50	C
	ATOM	4987	OD1	ASP	H	90	5.701	-23.326	35.242	1.00	38.06	O
	ATOM	4988	OD2	ASP	H	90	3.597	-22.862	34.742	1.00	39.01	O
30	ATOM	4989	C	ASP	H	90	4.752	-25.094	38.933	1.00	32.30	C
	ATOM	4990	O	ASP	H	90	4.973	-24.081	39.597	1.00	32.26	O
	ATOM	4991	N	THR	H	91	4.387	-26.292	39.487	1.00	31.70	N
	ATOM	4992	CA	THR	H	91	4.248	-26.583	40.934	1.00	30.50	C
	ATOM	4993	CB	THR	H	91	3.627	-27.975	41.179	1.00	31.21	C
35	ATOM	4994	OG1	THR	H	91	2.343	-28.019	40.548	1.00	31.96	O
	ATOM	4995	CG2	THR	H	91	3.497	-28.320	42.672	1.00	29.18	C
	ATOM	4996	C	THR	H	91	5.648	-26.479	41.537	1.00	30.09	C
	ATOM	4997	O	THR	H	91	6.565	-27.192	41.099	1.00	30.40	O
	ATOM	4998	N	ALA	H	92	5.820	-25.564	42.501	1.00	27.54	N
40	ATOM	4999	CA	ALA	H	92	7.113	-25.293	43.101	1.00	27.08	C
	ATOM	5000	CB	ALA	H	92	8.039	-24.715	42.023	1.00	27.16	C
	ATOM	5001	C	ALA	H	92	6.985	-24.262	44.214	1.00	27.49	C
	ATOM	5002	O	ALA	H	92	5.937	-23.613	44.370	1.00	27.34	O
	ATOM	5003	N	VAL	H	93	8.095	-24.087	44.956	1.00	28.68	N
45	ATOM	5004	CA	VAL	H	93	8.236	-23.082	45.992	1.00	29.08	C
	ATOM	5005	CB	VAL	H	93	9.024	-23.575	47.217	1.00	31.38	C
	ATOM	5006	CG1	VAL	H	93	9.225	-22.448	48.214	1.00	30.97	C
	ATOM	5007	CG2	VAL	H	93	8.315	-24.733	47.882	1.00	29.73	C
	ATOM	5008	C	VAL	H	93	8.960	-21.950	45.245	1.00	29.78	C
50	ATOM	5009	O	VAL	H	93	10.013	-22.190	44.646	1.00	30.76	O
	ATOM	5010	N	TYR	H	94	8.366	-20.750	45.237	1.00	29.08	N
	ATOM	5011	CA	TYR	H	94	8.860	-19.551	44.566	1.00	29.17	C
	ATOM	5012	CB	TYR	H	94	7.700	-18.821	43.850	1.00	29.17	C
	ATOM	5013	CG	TYR	H	94	7.230	-19.591	42.633	1.00	30.73	C

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	ATOM	5014	CD1 TYR H 94	7.592	-19.192	41.346	1.00	29.47	C
	ATOM	5015	CE1 TYR H 94	7.202	-19.926	40.228	1.00	27.65	C
	ATOM	5016	CZ TYR H 94	6.464	-21.091	40.392	1.00	28.93	C
	ATOM	5017	OH TYR H 94	6.084	-21.844	39.310	1.00	31.00	O
5	ATOM	5018	CE2 TYR H 94	6.101	-21.513	41.656	1.00	28.56	C
	ATOM	5019	CD2 TYR H 94	6.483	-20.766	42.768	1.00	30.16	C
	ATOM	5020	C TYR H 94	9.538	-18.650	45.585	1.00	29.49	C
	ATOM	5021	O TYR H 94	8.953	-18.332	46.622	1.00	29.34	O
	ATOM	5022	N TYR H 95	10.772	-18.248	45.295	1.00	28.90	N
10	ATOM	5023	CA TYR H 95	11.537	-17.389	46.162	1.00	29.15	C
	ATOM	5024	CB TYR H 95	12.858	-18.064	46.529	1.00	28.29	C
	ATOM	5025	CG TYR H 95	12.748	-19.297	47.385	1.00	27.68	C
	ATOM	5026	CD1 TYR H 95	12.695	-19.203	48.772	1.00	27.06	C
	ATOM	5027	CE1 TYR H 95	12.620	-20.340	49.567	1.00	26.75	C
15	ATOM	5028	CZ TYR H 95	12.635	-21.594	48.980	1.00	27.72	C
	ATOM	5029	OH TYR H 95	12.547	-22.722	49.765	1.00	29.10	O
	ATOM	5030	CE2 TYR H 95	12.736	-21.713	47.607	1.00	26.18	C
	ATOM	5031	CD2 TYR H 95	12.795	-20.569	46.819	1.00	27.03	C
	ATOM	5032	C TYR H 95	11.928	-16.108	45.463	1.00	30.36	C
20	ATOM	5033	O TYR H 95	12.384	-16.141	44.309	1.00	30.54	O
	ATOM	5034	N CYS H 96	11.827	-14.983	46.188	1.00	32.42	N
	ATOM	5035	CA CYS H 96	12.353	-13.724	45.717	1.00	33.74	C
	ATOM	5036	CB CYS H 96	11.451	-12.542	46.050	1.00	35.01	C
	ATOM	5037	SG CYS H 96	11.029	-12.402	47.800	1.00	41.45	S
25	ATOM	5038	C CYS H 96	13.708	-13.659	46.469	1.00	33.69	C
	ATOM	5039	O CYS H 96	13.801	-14.040	47.641	1.00	33.77	O
	ATOM	5040	N THR H 97	14.770	-13.262	45.776	1.00	34.56	N
	ATOM	5041	CA THR H 97	16.100	-13.174	46.370	1.00	34.49	C
	ATOM	5042	CB THR H 97	16.868	-14.503	46.337	1.00	30.99	C
30	ATOM	5043	OG1 THR H 97	18.158	-14.289	46.930	1.00	31.12	O
	ATOM	5044	CG2 THR H 97	16.996	-15.114	44.939	1.00	27.91	C
	ATOM	5045	C THR H 97	16.881	-11.998	45.837	1.00	35.36	C
	ATOM	5046	O THR H 97	16.789	-11.698	44.650	1.00	35.40	O
	ATOM	5047	N SER H 98	17.628	-11.318	46.726	1.00	34.13	N
35	ATOM	5048	CA SER H 98	18.456	-10.179	46.385	1.00	35.08	C
	ATOM	5049	CB SER H 98	17.777	-8.875	46.767	1.00	35.74	C
	ATOM	5050	OG SER H 98	17.731	-8.696	48.167	1.00	35.51	O
	ATOM	5051	C SER H 98	19.816	-10.340	47.047	1.00	36.31	C
	ATOM	5052	O SER H 98	20.009	-11.268	47.840	1.00	36.87	O
40	ATOM	5053	N GLY H 99	20.764	-9.480	46.684	1.00	37.34	N
	ATOM	5054	CA GLY H 99	22.105	-9.553	47.238	1.00	38.31	C
	ATOM	5055	C GLY H 99	23.055	-8.478	46.772	1.00	39.06	C
	ATOM	5056	O GLY H 99	22.700	-7.611	45.959	1.00	39.08	O
	ATOM	5057	N ILE H 100	24.281	-8.547	47.305	1.00	38.95	N
45	ATOM	5058	CA ILE H 100	25.340	-7.599	47.020	1.00	40.13	C
	ATOM	5059	CB ILE H 100	25.140	-6.256	47.805	1.00	42.20	C
	ATOM	5060	CG1 ILE H 100	26.069	-5.121	47.313	1.00	42.37	C
	ATOM	5061	CD1 ILE H 100	25.744	-4.595	45.877	1.00	43.04	C
	ATOM	5062	CG2 ILE H 100	25.130	-6.426	49.330	1.00	40.23	C
50	ATOM	5063	C ILE H 100	26.728	-8.186	47.196	1.00	41.35	C
	ATOM	5064	O ILE H 100	27.060	-8.671	48.274	1.00	41.53	O
	ATOM	5065	N ILE H 101	27.525	-8.156	46.129	1.00	44.91	N
	ATOM	5066	CA ILE H 101	28.906	-8.594	46.151	1.00	46.66	C
	ATOM	5067	CB ILE H 101	29.304	-9.331	44.856	1.00	48.93	C

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	ATOM	5068	CG1 ILE H 101	28.684	-10.741	44.774	1.00	48.02	C
	ATOM	5069	CD1 ILE H 101	28.863	-11.484	43.376	1.00	46.04	C
	ATOM	5070	CG2 ILE H 101	30.830	-9.364	44.707	1.00	48.63	C
	ATOM	5071	C ILE H 101	29.645	-7.249	46.324	1.00	48.39	C
5	ATOM	5072	O ILE H 101	29.673	-6.407	45.409	1.00	49.10	O
	ATOM	5073	N THR H 102	30.154	-7.018	47.527	1.00	53.02	N
	ATOM	5074	CA THR H 102	30.862	-5.802	47.911	1.00	54.64	C
	ATOM	5075	CB THR H 102	29.844	-4.709	48.295	1.00	57.94	C
	ATOM	5076	OG1 THR H 102	30.542	-3.493	48.467	1.00	58.87	O
10	ATOM	5077	CG2 THR H 102	29.063	-5.030	49.554	1.00	57.98	C
	ATOM	5078	C THR H 102	31.909	-6.182	48.982	1.00	55.73	C
	ATOM	5079	O THR H 102	32.287	-7.365	49.048	1.00	55.75	O
	ATOM	5080	N GLU H 103	32.384	-5.213	49.815	1.00	60.61	N
	ATOM	5081	CA GLU H 103	33.353	-5.551	50.865	1.00	61.61	C
15	ATOM	5082	CB GLU H 103	33.831	-4.314	51.662	1.00	64.25	C
	ATOM	5083	CG GLU H 103	34.914	-4.619	52.703	1.00	67.99	C
	ATOM	5084	CD GLU H 103	36.021	-5.604	52.336	1.00	72.61	C
	ATOM	5085	OE1 GLU H 103	36.476	-5.599	51.165	1.00	73.35	O
	ATOM	5086	OE2 GLU H 103	36.436	-6.380	53.232	1.00	73.54	O
20	ATOM	5087	C GLU H 103	32.709	-6.598	51.766	1.00	60.94	C
	ATOM	5088	O GLU H 103	33.245	-7.702	51.904	1.00	60.83	O
	ATOM	5089	N ILE H 104	31.520	-6.266	52.303	1.00	58.77	N
	ATOM	5090	CA ILE H 104	30.728	-7.160	53.134	1.00	57.69	C
	ATOM	5091	CB ILE H 104	30.207	-6.434	54.412	1.00	60.80	C
25	ATOM	5092	CG1 ILE H 104	31.348	-5.716	55.219	1.00	61.34	C
	ATOM	5093	CD1 ILE H 104	32.692	-6.537	55.580	1.00	61.00	C
	ATOM	5094	CG2 ILE H 104	29.350	-7.346	55.296	1.00	60.83	C
	ATOM	5095	C ILE H 104	29.619	-7.698	52.217	1.00	56.89	C
	ATOM	5096	O ILE H 104	28.593	-7.031	52.022	1.00	56.88	O
30	ATOM	5097	N ALA H 105	29.864	-8.890	51.615	1.00	54.42	N
	ATOM	5098	CA ALA H 105	28.935	-9.570	50.701	1.00	53.29	C
	ATOM	5099	CB ALA H 105	29.660	-10.615	49.872	1.00	53.60	C
	ATOM	5100	C ALA H 105	27.785	-10.202	51.460	1.00	52.34	C
	ATOM	5101	O ALA H 105	28.001	-10.855	52.469	1.00	52.43	O
35	ATOM	5102	N GLU H 106	26.559	-9.992	50.988	1.00	50.41	N
	ATOM	5103	CA GLU H 106	25.353	-10.515	51.629	1.00	49.37	C
	ATOM	5104	CB GLU H 106	24.671	-9.418	52.455	1.00	50.89	C
	ATOM	5105	CG GLU H 106	25.547	-8.694	53.455	1.00	52.55	C
	ATOM	5106	CD GLU H 106	24.775	-7.645	54.233	1.00	55.73	C
40	ATOM	5107	OE1 GLU H 106	23.922	-8.046	55.063	1.00	57.24	O
	ATOM	5108	OE2 GLU H 106	25.009	-6.430	54.008	1.00	56.45	O
	ATOM	5109	C GLU H 106	24.351	-10.980	50.591	1.00	48.34	C
	ATOM	5110	O GLU H 106	24.347	-10.485	49.465	1.00	48.32	O
	ATOM	5111	N ASP H 107	23.480	-11.914	50.986	1.00	46.83	N
45	ATOM	5112	CA ASP H 107	22.401	-12.427	50.147	1.00	45.62	C
	ATOM	5113	CB ASP H 107	22.777	-13.754	49.468	1.00	47.87	C
	ATOM	5114	CG ASP H 107	22.576	-15.008	50.291	1.00	49.03	C
	ATOM	5115	OD1 ASP H 107	22.962	-15.008	51.486	1.00	51.82	O
	ATOM	5116	OD2 ASP H 107	22.045	-15.991	49.744	1.00	48.51	O
50	ATOM	5117	C ASP H 107	21.160	-12.533	51.018	1.00	44.28	C
	ATOM	5118	O ASP H 107	21.269	-12.875	52.189	1.00	44.54	O
	ATOM	5119	N PHE H 108	20.000	-12.195	50.470	1.00	40.84	N
	ATOM	5120	CA PHE H 108	18.733	-12.221	51.184	1.00	39.40	C
	ATOM	5121	CB PHE H 108	18.199	-10.794	51.403	1.00	41.16	C

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	ATOM	5122	CG	PHE	H 108	19.290	-9.805	51.729	1.00	42.98	C
	ATOM	5123	CD1	PHE	H 108	19.928	-9.828	52.967	1.00	43.66	C
	ATOM	5124	CE1	PHE	H 108	20.954	-8.924	53.263	1.00	44.22	C
	ATOM	5125	CZ	PHE	H 108	21.364	-8.016	52.312	1.00	44.60	C
5	ATOM	5126	CE2	PHE	H 108	20.759	-7.997	51.067	1.00	45.37	C
	ATOM	5127	CD2	PHE	H 108	19.729	-8.892	50.777	1.00	44.02	C
	ATOM	5128	C	PHE	H 108	17.750	-13.035	50.392	1.00	38.33	C
	ATOM	5129	O	PHE	H 108	17.775	-13.001	49.164	1.00	38.44	O
	ATOM	5130	N	TRP	H 109	16.893	-13.788	51.093	1.00	34.79	N
10	ATOM	5131	CA	TRP	H 109	15.877	-14.625	50.482	1.00	32.79	C
	ATOM	5132	CB	TRP	H 109	16.317	-16.073	50.541	1.00	30.93	C
	ATOM	5133	CG	TRP	H 109	17.423	-16.438	49.596	1.00	30.32	C
	ATOM	5134	CD1	TRP	H 109	18.756	-16.175	49.740	1.00	28.01	C
	ATOM	5135	NE1	TRP	H 109	19.464	-16.736	48.706	1.00	26.73	N
15	ATOM	5136	CE2	TRP	H 109	18.595	-17.405	47.879	1.00	26.51	C
	ATOM	5137	CD2	TRP	H 109	17.298	-17.252	48.421	1.00	28.55	C
	ATOM	5138	CE3	TRP	H 109	16.211	-17.840	47.758	1.00	26.57	C
	ATOM	5139	CZ3	TRP	H 109	16.450	-18.536	46.587	1.00	28.11	C
	ATOM	5140	CH2	TRP	H 109	17.752	-18.678	46.074	1.00	26.55	C
20	ATOM	5141	CZ2	TRP	H 109	18.836	-18.132	46.709	1.00	26.03	C
	ATOM	5142	C	TRP	H 109	14.522	-14.485	51.170	1.00	32.49	C
	ATOM	5143	O	TRP	H 109	14.437	-14.152	52.349	1.00	31.70	O
	ATOM	5144	N	GLY	H 110	13.466	-14.755	50.423	1.00	32.00	N
	ATOM	5145	CA	GLY	H 110	12.127	-14.725	50.969	1.00	31.63	C
25	ATOM	5146	C	GLY	H 110	11.931	-16.055	51.652	1.00	31.48	C
	ATOM	5147	O	GLY	H 110	12.811	-16.930	51.585	1.00	30.61	O
	ATOM	5148	N	GLN	H 111	10.788	-16.241	52.319	1.00	32.17	N
	ATOM	5149	CA	GLN	H 111	10.565	-17.529	52.973	1.00	32.15	C
	ATOM	5150	CB	GLN	H 111	9.540	-17.382	54.111	1.00	32.48	C
30	ATOM	5151	CG	GLN	H 111	8.073	-17.273	53.657	1.00	33.06	C
	ATOM	5152	CD	GLN	H 111	7.616	-15.865	53.394	1.00	35.58	C
	ATOM	5153	OE1	GLN	H 111	8.374	-14.985	52.939	1.00	37.87	O
	ATOM	5154	NE2	GLN	H 111	6.347	-15.628	53.662	1.00	35.46	N
	ATOM	5155	C	GLN	H 111	10.092	-18.558	51.913	1.00	32.38	C
35	ATOM	5156	O	GLN	H 111	9.980	-19.750	52.213	1.00	32.74	O
	ATOM	5157	N	GLY	H 112	9.793	-18.074	50.708	1.00	30.97	N
	ATOM	5158	CA	GLY	H 112	9.284	-18.907	49.636	1.00	30.95	C
	ATOM	5159	C	GLY	H 112	7.770	-18.999	49.666	1.00	31.30	C
	ATOM	5160	O	GLY	H 112	7.147	-18.808	50.721	1.00	30.98	O
40	ATOM	5161	N	THR	H 113	7.172	-19.279	48.492	1.00	33.14	N
	ATOM	5162	CA	THR	H 113	5.730	-19.445	48.321	1.00	34.00	C
	ATOM	5163	CB	THR	H 113	5.064	-18.200	47.678	1.00	39.72	C
	ATOM	5164	OG1	THR	H 113	5.278	-17.078	48.523	1.00	41.05	O
	ATOM	5165	CG2	THR	H 113	3.559	-18.367	47.493	1.00	39.55	C
45	ATOM	5166	C	THR	H 113	5.442	-20.719	47.532	1.00	33.87	C
	ATOM	5167	O	THR	H 113	5.842	-20.815	46.380	1.00	33.36	O
	ATOM	5168	N	LEU	H 114	4.716	-21.668	48.137	1.00	33.36	N
	ATOM	5169	CA	LEU	H 114	4.348	-22.887	47.440	1.00	33.18	C
	ATOM	5170	CB	LEU	H 114	4.008	-24.032	48.414	1.00	32.10	C
50	ATOM	5171	CG	LEU	H 114	3.429	-25.299	47.784	1.00	32.52	C
	ATOM	5172	CD1	LEU	H 114	4.495	-26.113	46.981	1.00	32.96	C
	ATOM	5173	CD2	LEU	H 114	2.729	-26.145	48.814	1.00	31.61	C
	ATOM	5174	C	LEU	H 114	3.157	-22.579	46.531	1.00	33.46	C
	ATOM	5175	O	LEU	H 114	2.122	-22.077	46.992	1.00	33.61	O

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	ATOM	5176	N	VAL H 115	3.321	-22.857	45.234	1.00	33.02	N
	ATOM	5177	CA	VAL H 115	2.275	-22.674	44.236	1.00	32.90	C
	ATOM	5178	CB	VAL H 115	2.607	-21.606	43.157	1.00	35.77	C
	ATOM	5179	CG1	VAL H 115	1.467	-21.456	42.147	1.00	35.48	C
5	ATOM	5180	CG2	VAL H 115	2.957	-20.255	43.795	1.00	35.38	C
	ATOM	5181	C	VAL H 115	2.031	-24.074	43.665	1.00	33.24	C
	ATOM	5182	O	VAL H 115	2.902	-24.651	43.008	1.00	33.16	O
	ATOM	5183	N	THR H 116	0.869	-24.641	43.989	1.00	34.85	N
	ATOM	5184	CA	THR H 116	0.509	-25.957	43.503	1.00	35.27	C
10	ATOM	5185	CB	THR H 116	-0.159	-26.803	44.601	1.00	36.94	C
	ATOM	5186	OG1	THR H 116	0.649	-26.757	45.773	1.00	36.22	O
	ATOM	5187	CG2	THR H 116	-0.360	-28.254	44.174	1.00	35.44	C
	ATOM	5188	C	THR H 116	-0.398	-25.773	42.288	1.00	35.86	C
	ATOM	5189	O	THR H 116	-1.443	-25.129	42.417	1.00	36.38	O
15	ATOM	5190	N	VAL H 117	0.011	-26.313	41.120	1.00	34.74	N
	ATOM	5191	CA	VAL H 117	-0.774	-26.259	39.897	1.00	35.49	C
	ATOM	5192	CB	VAL H 117	-0.083	-25.582	38.683	1.00	38.05	C
	ATOM	5193	CG1	VAL H 117	-1.092	-25.343	37.561	1.00	36.70	C
	ATOM	5194	CG2	VAL H 117	0.637	-24.284	39.073	1.00	37.66	C
20	ATOM	5195	C	VAL H 117	-1.184	-27.705	39.584	1.00	36.66	C
	ATOM	5196	O	VAL H 117	-0.330	-28.566	39.326	1.00	36.06	O
	ATOM	5197	N	SER H 118	-2.501	-27.963	39.615	1.00	40.15	N
	ATOM	5198	CA	SER H 118	-3.073	-29.278	39.369	1.00	41.03	C
	ATOM	5199	CB	SER H 118	-2.808	-30.161	40.589	1.00	43.44	C
25	ATOM	5200	OG	SER H 118	-3.598	-31.334	40.645	1.00	43.97	O
	ATOM	5201	C	SER H 118	-4.590	-29.206	39.095	1.00	41.66	C
	ATOM	5202	O	SER H 118	-5.283	-28.303	39.601	1.00	41.95	O
	ATOM	5203	N	SER H 119	-5.103	-30.210	38.339	1.00	42.75	N
	ATOM	5204	CA	SER H 119	-6.521	-30.412	38.008	1.00	42.86	C
30	ATOM	5205	CB	SER H 119	-6.675	-31.610	37.085	1.00	46.76	C
	ATOM	5206	OG	SER H 119	-5.866	-31.482	35.932	1.00	48.92	O
	ATOM	5207	C	SER H 119	-7.303	-30.747	39.276	1.00	43.18	C
	ATOM	5208	O	SER H 119	-8.541	-30.649	39.268	1.00	44.08	O
	ATOM	5209	N	ALA H 120	-6.588	-31.186	40.358	1.00	40.98	N
35	ATOM	5210	CA	ALA H 120	-7.178	-31.579	41.629	1.00	41.20	C
	ATOM	5211	CB	ALA H 120	-6.133	-32.207	42.530	1.00	41.61	C
	ATOM	5212	C	ALA H 120	-7.875	-30.426	42.325	1.00	41.51	C
	ATOM	5213	O	ALA H 120	-7.539	-29.261	42.100	1.00	41.99	O
	ATOM	5214	N	SER H 121	-8.865	-30.757	43.154	1.00	42.89	N
40	ATOM	5215	CA	SER H 121	-9.667	-29.800	43.910	1.00	43.14	C
	ATOM	5216	CB	SER H 121	-11.147	-30.117	43.737	1.00	46.93	C
	ATOM	5217	OG	SER H 121	-11.435	-30.484	42.397	1.00	48.04	O
	ATOM	5218	C	SER H 121	-9.272	-29.927	45.363	1.00	42.82	C
	ATOM	5219	O	SER H 121	-8.983	-31.034	45.796	1.00	43.44	O
45	ATOM	5220	N	THR H 122	-9.224	-28.829	46.121	1.00	41.94	N
	ATOM	5221	CA	THR H 122	-8.813	-28.965	47.515	1.00	41.52	C
	ATOM	5222	CB	THR H 122	-8.398	-27.663	48.220	1.00	39.57	C
	ATOM	5223	OG1	THR H 122	-9.047	-27.565	49.492	1.00	38.83	O
	ATOM	5224	CG2	THR H 122	-8.519	-26.414	47.348	1.00	38.63	C
50	ATOM	5225	C	THR H 122	-9.681	-29.957	48.267	1.00	41.75	C
	ATOM	5226	O	THR H 122	-10.901	-29.894	48.165	1.00	41.91	O
	ATOM	5227	N	LYS H 123	-9.039	-30.938	48.924	1.00	42.28	N
	ATOM	5228	CA	LYS H 123	-9.709	-32.028	49.640	1.00	42.34	C
	ATOM	5229	CB	LYS H 123	-9.748	-33.275	48.732	1.00	44.49	C

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	ATOM	5230	CG	LYS	H	123	-10.679	-34.360	49.230	1.00	45.57	C
	ATOM	5231	CD	LYS	H	123	-10.496	-35.692	48.507	1.00	47.72	C
	ATOM	5232	CE	LYS	H	123	-11.262	-36.796	49.228	1.00	49.42	C
	ATOM	5233	NZ	LYS	H	123	-10.689	-37.163	50.577	1.00	51.60	N
5	ATOM	5234	C	LYS	H	123	-8.991	-32.357	50.948	1.00	41.90	C
	ATOM	5235	O	LYS	H	123	-7.755	-32.376	50.989	1.00	41.91	O
	ATOM	5236	N	GLY	H	124	-9.778	-32.609	51.991	1.00	40.43	N
	ATOM	5237	CA	GLY	H	124	-9.295	-32.986	53.317	1.00	40.19	C
	ATOM	5238	C	GLY	H	124	-8.870	-34.450	53.342	1.00	40.25	C
10	ATOM	5239	O	GLY	H	124	-9.370	-35.263	52.541	1.00	39.78	O
	ATOM	5240	N	PRO	H	125	-7.925	-34.847	54.229	1.00	40.21	N
	ATOM	5241	CA	PRO	H	125	-7.482	-36.245	54.211	1.00	40.07	C
	ATOM	5242	CB	PRO	H	125	-6.140	-36.184	54.929	1.00	41.43	C
	ATOM	5243	CG	PRO	H	125	-6.324	-35.100	55.933	1.00	41.68	C
15	ATOM	5244	CD	PRO	H	125	-7.183	-34.066	55.245	1.00	41.27	C
	ATOM	5245	C	PRO	H	125	-8.404	-37.229	54.903	1.00	39.77	C
	ATOM	5246	O	PRO	H	125	-9.165	-36.871	55.815	1.00	38.97	O
	ATOM	5247	N	SER	H	126	-8.291	-38.485	54.463	1.00	39.77	N
	ATOM	5248	CA	SER	H	126	-8.972	-39.616	55.048	1.00	40.54	C
20	ATOM	5249	CB	SER	H	126	-9.378	-40.620	53.974	1.00	45.57	C
	ATOM	5250	OG	SER	H	126	-10.620	-40.281	53.367	1.00	47.93	O
	ATOM	5251	C	SER	H	126	-7.890	-40.169	56.012	1.00	40.47	C
	ATOM	5252	O	SER	H	126	-6.758	-40.475	55.575	1.00	41.10	O
	ATOM	5253	N	VAL	H	127	-8.193	-40.198	57.331	1.00	38.55	N
25	ATOM	5254	CA	VAL	H	127	-7.207	-40.650	58.316	1.00	38.28	C
	ATOM	5255	CB	VAL	H	127	-6.957	-39.612	59.469	1.00	41.68	C
	ATOM	5256	CG1	VAL	H	127	-5.831	-40.060	60.399	1.00	42.88	C
	ATOM	5257	CG2	VAL	H	127	-6.634	-38.229	58.900	1.00	41.41	C
	ATOM	5258	C	VAL	H	127	-7.520	-42.075	58.773	1.00	37.82	C
30	ATOM	5259	O	VAL	H	127	-8.504	-42.293	59.473	1.00	37.19	O
	ATOM	5260	N	PHE	H	128	-6.698	-43.054	58.334	1.00	37.96	N
	ATOM	5261	CA	PHE	H	128	-6.897	-44.469	58.693	1.00	37.97	C
	ATOM	5262	CB	PHE	H	128	-6.894	-45.378	57.448	1.00	38.56	C
	ATOM	5263	CG	PHE	H	128	-7.894	-44.977	56.401	1.00	39.12	C
35	ATOM	5264	CD1	PHE	H	128	-9.254	-44.918	56.699	1.00	39.77	C
	ATOM	5265	CE1	PHE	H	128	-10.187	-44.524	55.731	1.00	37.84	C
	ATOM	5266	CZ	PHE	H	128	-9.767	-44.203	54.461	1.00	38.59	C
	ATOM	5267	CE2	PHE	H	128	-8.418	-44.244	54.149	1.00	39.97	C
	ATOM	5268	CD2	PHE	H	128	-7.483	-44.644	55.118	1.00	39.73	C
40	ATOM	5269	C	PHE	H	128	-5.856	-44.949	59.685	1.00	37.91	C
	ATOM	5270	O	PHE	H	128	-4.705	-44.542	59.556	1.00	37.67	O
	ATOM	5271	N	PRO	H	129	-6.210	-45.822	60.663	1.00	38.44	N
	ATOM	5272	CA	PRO	H	129	-5.182	-46.318	61.601	1.00	38.45	C
	ATOM	5273	CB	PRO	H	129	-6.011	-46.978	62.713	1.00	39.86	C
45	ATOM	5274	CG	PRO	H	129	-7.245	-47.470	62.014	1.00	39.14	C
	ATOM	5275	CD	PRO	H	129	-7.535	-46.415	60.957	1.00	39.73	C
	ATOM	5276	C	PRO	H	129	-4.269	-47.374	60.991	1.00	38.59	C
	ATOM	5277	O	PRO	H	129	-4.677	-48.158	60.126	1.00	38.45	O
	ATOM	5278	N	LEU	H	130	-3.035	-47.405	61.472	1.00	37.24	N
50	ATOM	5279	CA	LEU	H	130	-2.037	-48.412	61.122	1.00	37.65	C
	ATOM	5280	CB	LEU	H	130	-0.727	-47.793	60.595	1.00	36.89	C
	ATOM	5281	CG	LEU	H	130	-0.791	-47.165	59.209	1.00	35.49	C
	ATOM	5282	CD1	LEU	H	130	0.492	-46.467	58.878	1.00	35.07	C
	ATOM	5283	CD2	LEU	H	130	-1.055	-48.191	58.171	1.00	35.20	C

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	ATOM	5284	C	LEU	H 130	-1.890	-49.097	62.481	1.00	38.65	C
	ATOM	5285	O	LEU	H 130	-1.083	-48.695	63.324	1.00	38.40	O
	ATOM	5286	N	ALA	H 131	-2.789	-50.062	62.710	1.00	40.73	N
	ATOM	5287	CA	ALA	H 131	-2.959	-50.812	63.932	1.00	42.92	C
5	ATOM	5288	CB	ALA	H 131	-4.177	-51.696	63.834	1.00	43.35	C
	ATOM	5289	C	ALA	H 131	-1.769	-51.610	64.428	1.00	44.78	C
	ATOM	5290	O	ALA	H 131	-1.168	-52.362	63.653	1.00	45.28	O
	ATOM	5291	N	PRO	H 132	-1.419	-51.466	65.736	1.00	50.50	N
	ATOM	5292	CA	PRO	H 132	-0.319	-52.273	66.278	1.00	52.22	C
10	ATOM	5293	CB	PRO	H 132	-0.073	-51.684	67.667	1.00	53.34	C
	ATOM	5294	CG	PRO	H 132	-1.292	-50.942	68.010	1.00	52.73	C
	ATOM	5295	CD	PRO	H 132	-2.049	-50.625	66.777	1.00	51.89	C
	ATOM	5296	C	PRO	H 132	-0.799	-53.721	66.319	1.00	54.12	C
	ATOM	5297	O	PRO	H 132	-1.850	-54.022	66.901	1.00	54.24	O
15	ATOM	5298	N	SER	H 133	-0.074	-54.596	65.616	1.00	59.56	N
	ATOM	5299	CA	SER	H 133	-0.390	-56.016	65.512	1.00	61.66	C
	ATOM	5300	CB	SER	H 133	-0.627	-56.370	64.043	1.00	67.07	C
	ATOM	5301	OG	SER	H 133	-1.210	-57.653	63.870	1.00	69.07	O
	ATOM	5302	C	SER	H 133	0.784	-56.832	66.074	1.00	62.67	C
20	ATOM	5303	O	SER	H 133	1.775	-56.249	66.520	1.00	63.05	O
	ATOM	5304	N	SER	H 134	0.677	-58.182	66.050	1.00	65.34	N
	ATOM	5305	CA	SER	H 134	1.762	-59.078	66.467	1.00	66.17	C
	ATOM	5306	CB	SER	H 134	1.264	-60.514	66.629	1.00	68.11	C
	ATOM	5307	OG	SER	H 134	0.579	-60.991	65.482	1.00	68.00	O
25	ATOM	5308	C	SER	H 134	2.835	-58.977	65.351	1.00	66.66	C
	ATOM	5309	O	SER	H 134	4.025	-59.150	65.625	1.00	67.11	O
	ATOM	5310	N	LYS	H 135	2.382	-58.630	64.103	1.00	67.19	N
	ATOM	5311	CA	LYS	H 135	3.159	-58.415	62.870	1.00	67.61	C
	ATOM	5312	CB	LYS	H 135	2.248	-58.589	61.635	1.00	70.13	C
30	ATOM	5313	C	LYS	H 135	3.888	-57.022	62.866	1.00	67.97	C
	ATOM	5314	O	LYS	H 135	4.746	-56.762	62.006	1.00	67.50	O
	ATOM	5315	N	SER	H 136	3.538	-56.150	63.850	1.00	68.33	N
	ATOM	5316	CA	SER	H 136	4.120	-54.822	64.065	1.00	68.40	C
	ATOM	5317	CB	SER	H 136	3.127	-53.712	63.728	1.00	70.88	C
35	ATOM	5318	OG	SER	H 136	2.316	-53.364	64.835	1.00	70.60	O
	ATOM	5319	C	SER	H 136	4.736	-54.653	65.483	1.00	68.63	C
	ATOM	5320	O	SER	H 136	5.051	-53.525	65.860	1.00	68.81	O
	ATOM	5321	N	THR	H 137	4.920	-55.777	66.253	1.00	68.87	N
	ATOM	5322	CA	THR	H 137	5.549	-55.800	67.595	1.00	68.83	C
40	ATOM	5323	CB	THR	H 137	4.649	-56.367	68.708	1.00	78.28	C
	ATOM	5324	OG1	THR	H 137	4.312	-57.723	68.423	1.00	79.55	O
	ATOM	5325	CG2	THR	H 137	3.414	-55.544	68.953	1.00	78.24	C
	ATOM	5326	C	THR	H 137	6.883	-56.554	67.523	1.00	68.41	C
	ATOM	5327	O	THR	H 137	6.918	-57.700	67.077	1.00	68.50	O
45	ATOM	5328	N	SER	H 138	7.971	-55.893	67.948	1.00	68.49	N
	ATOM	5329	CA	SER	H 138	9.355	-56.390	67.943	1.00	68.20	C
	ATOM	5330	CB	SER	H 138	10.213	-55.529	67.007	1.00	72.61	C
	ATOM	5331	OG	SER	H 138	11.591	-55.863	67.001	1.00	73.19	O
	ATOM	5332	C	SER	H 138	9.909	-56.406	69.384	1.00	67.56	C
50	ATOM	5333	O	SER	H 138	10.585	-55.465	69.827	1.00	67.76	O
	ATOM	5334	N	GLY	H 139	9.591	-57.484	70.100	1.00	66.36	N
	ATOM	5335	CA	GLY	H 139	9.981	-57.669	71.493	1.00	64.49	C
	ATOM	5336	C	GLY	H 139	9.037	-56.870	72.363	1.00	63.43	C
	ATOM	5337	O	GLY	H 139	7.816	-57.105	72.343	1.00	63.40	O

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	ATOM	5338	N	GLY H 140	9.600	-55.911	73.097	1.00	58.87	N
	ATOM	5339	CA	GLY H 140	8.819	-55.044	73.970	1.00	57.08	C
	ATOM	5340	C	GLY H 140	8.259	-53.831	73.253	1.00	56.04	C
	ATOM	5341	O	GLY H 140	7.432	-53.114	73.821	1.00	56.27	O
5	ATOM	5342	N	THR H 141	8.704	-53.595	71.996	1.00	51.81	N
	ATOM	5343	CA	THR H 141	8.296	-52.480	71.146	1.00	50.39	C
	ATOM	5344	CB	THR H 141	9.512	-51.922	70.421	1.00	48.78	C
	ATOM	5345	OG1	THR H 141	10.373	-51.373	71.401	1.00	48.99	O
	ATOM	5346	CG2	THR H 141	9.168	-50.828	69.433	1.00	48.95	C
10	ATOM	5347	C	THR H 141	7.178	-52.869	70.194	1.00	49.72	C
	ATOM	5348	O	THR H 141	7.182	-53.963	69.647	1.00	50.09	O
	ATOM	5349	N	ALA H 142	6.234	-51.955	69.991	1.00	47.37	N
	ATOM	5350	CA	ALA H 142	5.084	-52.109	69.110	1.00	46.20	C
	ATOM	5351	CB	ALA H 142	3.807	-52.198	69.941	1.00	46.49	C
15	ATOM	5352	C	ALA H 142	5.019	-50.887	68.205	1.00	45.46	C
	ATOM	5353	O	ALA H 142	5.051	-49.758	68.698	1.00	45.62	O
	ATOM	5354	N	ALA H 143	4.941	-51.096	66.898	1.00	42.89	N
	ATOM	5355	CA	ALA H 143	4.842	-49.984	65.963	1.00	42.36	C
	ATOM	5356	CB	ALA H 143	5.633	-50.269	64.692	1.00	42.68	C
20	ATOM	5357	C	ALA H 143	3.377	-49.750	65.629	1.00	42.23	C
	ATOM	5358	O	ALA H 143	2.619	-50.685	65.367	1.00	42.73	O
	ATOM	5359	N	LEU H 144	2.974	-48.504	65.670	1.00	43.06	N
	ATOM	5360	CA	LEU H 144	1.622	-48.105	65.320	1.00	42.54	C
	ATOM	5361	CB	LEU H 144	0.651	-48.041	66.530	1.00	42.39	C
25	ATOM	5362	CG	LEU H 144	0.937	-47.062	67.692	1.00	41.93	C
	ATOM	5363	CD1	LEU H 144	0.364	-45.679	67.428	1.00	42.12	C
	ATOM	5364	CD2	LEU H 144	0.277	-47.541	68.926	1.00	41.53	C
	ATOM	5365	C	LEU H 144	1.750	-46.786	64.599	1.00	42.34	C
	ATOM	5366	O	LEU H 144	2.808	-46.152	64.640	1.00	42.24	O
30	ATOM	5367	N	GLY H 145	0.693	-46.390	63.933	1.00	42.41	N
	ATOM	5368	CA	GLY H 145	0.685	-45.135	63.211	1.00	41.96	C
	ATOM	5369	C	GLY H 145	-0.655	-44.892	62.580	1.00	41.44	C
	ATOM	5370	O	GLY H 145	-1.624	-45.589	62.880	1.00	40.99	O
	ATOM	5371	N	CYS H 146	-0.725	-43.886	61.728	1.00	41.32	N
35	ATOM	5372	CA	CYS H 146	-1.933	-43.608	60.980	1.00	41.14	C
	ATOM	5373	CB	CYS H 146	-2.973	-42.790	61.745	1.00	43.82	C
	ATOM	5374	SG	CYS H 146	-2.500	-41.082	62.046	1.00	51.35	S
	ATOM	5375	C	CYS H 146	-1.615	-43.082	59.579	1.00	38.98	C
	ATOM	5376	O	CYS H 146	-0.629	-42.376	59.397	1.00	38.06	O
40	ATOM	5377	N	LEU H 147	-2.390	-43.559	58.584	1.00	35.03	N
	ATOM	5378	CA	LEU H 147	-2.274	-43.273	57.160	1.00	33.53	C
	ATOM	5379	CB	LEU H 147	-2.683	-44.528	56.374	1.00	32.83	C
	ATOM	5380	CG	LEU H 147	-2.680	-44.405	54.872	1.00	32.20	C
	ATOM	5381	CD1	LEU H 147	-1.269	-44.465	54.315	1.00	30.70	C
45	ATOM	5382	CD2	LEU H 147	-3.513	-45.468	54.265	1.00	31.15	C
	ATOM	5383	C	LEU H 147	-3.159	-42.122	56.777	1.00	33.17	C
	ATOM	5384	O	LEU H 147	-4.387	-42.260	56.807	1.00	33.47	O
	ATOM	5385	N	VAL H 148	-2.541	-40.980	56.431	1.00	31.62	N
	ATOM	5386	CA	VAL H 148	-3.218	-39.743	56.030	1.00	30.88	C
50	ATOM	5387	CB	VAL H 148	-2.395	-38.529	56.510	1.00	33.37	C
	ATOM	5388	CG1	VAL H 148	-3.013	-37.207	56.079	1.00	33.39	C
	ATOM	5389	CG2	VAL H 148	-2.212	-38.569	58.014	1.00	32.03	C
	ATOM	5390	C	VAL H 148	-3.358	-39.832	54.520	1.00	31.14	C
	ATOM	5391	O	VAL H 148	-2.436	-39.491	53.775	1.00	31.01	O

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	ATOM	5392	N	LYS H 149	-4.501	-40.351	54.065	1.00	35.35	N
	ATOM	5393	CA	LYS H 149	-4.733	-40.583	52.640	1.00	35.64	C
	ATOM	5394	CB	LYS H 149	-5.229	-42.040	52.423	1.00	36.58	C
	ATOM	5395	CG	LYS H 149	-4.956	-42.584	51.024	1.00	35.92	C
5	ATOM	5396	CD	LYS H 149	-5.470	-43.986	50.768	1.00	34.65	C
	ATOM	5397	CE	LYS H 149	-4.829	-44.589	49.535	1.00	34.60	C
	ATOM	5398	NZ	LYS H 149	-5.570	-44.286	48.272	1.00	33.84	N
	ATOM	5399	C	LYS H 149	-5.703	-39.611	51.993	1.00	36.65	C
	ATOM	5400	O	LYS H 149	-6.601	-39.074	52.654	1.00	36.56	O
10	ATOM	5401	N	ASP H 150	-5.514	-39.427	50.666	1.00	40.25	N
	ATOM	5402	CA	ASP H 150	-6.321	-38.673	49.718	1.00	41.18	C
	ATOM	5403	CB	ASP H 150	-7.567	-39.506	49.341	1.00	43.09	C
	ATOM	5404	CG	ASP H 150	-7.266	-40.827	48.636	1.00	45.22	C
	ATOM	5405	OD1	ASP H 150	-6.204	-40.921	47.946	1.00	46.44	O
15	ATOM	5406	OD2	ASP H 150	-8.088	-41.762	48.756	1.00	47.88	O
	ATOM	5407	C	ASP H 150	-6.662	-37.218	50.062	1.00	41.50	C
	ATOM	5408	O	ASP H 150	-7.846	-36.873	50.250	1.00	42.08	O
	ATOM	5409	N	TYR H 151	-5.624	-36.367	50.119	1.00	38.45	N
	ATOM	5410	CA	TYR H 151	-5.769	-34.941	50.426	1.00	38.12	C
20	ATOM	5411	CB	TYR H 151	-5.261	-34.632	51.837	1.00	38.09	C
	ATOM	5412	CG	TYR H 151	-3.756	-34.726	52.008	1.00	39.05	C
	ATOM	5413	CD1	TYR H 151	-2.941	-33.614	51.810	1.00	38.24	C
	ATOM	5414	CE1	TYR H 151	-1.558	-33.691	51.965	1.00	39.24	C
	ATOM	5415	CZ	TYR H 151	-0.977	-34.884	52.359	1.00	40.25	C
25	ATOM	5416	OH	TYR H 151	0.382	-34.941	52.525	1.00	39.93	O
	ATOM	5417	CE2	TYR H 151	-1.768	-36.004	52.578	1.00	39.95	C
	ATOM	5418	CD2	TYR H 151	-3.150	-35.919	52.406	1.00	39.59	C
	ATOM	5419	C	TYR H 151	-5.057	-34.057	49.403	1.00	37.73	C
	ATOM	5420	O	TYR H 151	-4.088	-34.485	48.767	1.00	37.25	O
30	ATOM	5421	N	PHE H 152	-5.524	-32.812	49.267	1.00	38.52	N
	ATOM	5422	CA	PHE H 152	-4.946	-31.844	48.342	1.00	38.48	C
	ATOM	5423	CB	PHE H 152	-5.490	-32.068	46.934	1.00	40.18	C
	ATOM	5424	CG	PHE H 152	-4.894	-31.160	45.888	1.00	41.34	C
	ATOM	5425	CD1	PHE H 152	-5.509	-29.959	45.555	1.00	41.88	C
35	ATOM	5426	CE1	PHE H 152	-4.956	-29.116	44.596	1.00	40.85	C
	ATOM	5427	CZ	PHE H 152	-3.793	-29.472	43.957	1.00	41.32	C
	ATOM	5428	CE2	PHE H 152	-3.171	-30.664	44.262	1.00	42.11	C
	ATOM	5429	CD2	PHE H 152	-3.718	-31.506	45.232	1.00	42.28	C
	ATOM	5430	C	PHE H 152	-5.227	-30.396	48.776	1.00	38.21	C
40	ATOM	5431	O	PHE H 152	-6.345	-30.105	49.193	1.00	38.37	O
	ATOM	5432	N	PRO H 153	-4.262	-29.460	48.637	1.00	37.63	N
	ATOM	5433	CA	PRO H 153	-2.856	-29.654	48.216	1.00	37.14	C
	ATOM	5434	CB	PRO H 153	-2.503	-28.276	47.627	1.00	38.46	C
	ATOM	5435	CG	PRO H 153	-3.271	-27.302	48.533	1.00	38.66	C
45	ATOM	5436	CD	PRO H 153	-4.512	-28.051	49.023	1.00	38.89	C
	ATOM	5437	C	PRO H 153	-2.019	-29.955	49.467	1.00	36.80	C
	ATOM	5438	O	PRO H 153	-2.564	-30.281	50.530	1.00	35.92	O
	ATOM	5439	N	GLU H 154	-0.707	-29.803	49.362	1.00	38.45	N
	ATOM	5440	CA	GLU H 154	0.140	-29.971	50.534	1.00	39.17	C
50	ATOM	5441	CB	GLU H 154	1.586	-30.256	50.110	1.00	40.07	C
	ATOM	5442	CG	GLU H 154	1.844	-31.704	49.778	1.00	39.86	C
	ATOM	5443	CD	GLU H 154	2.575	-32.452	50.870	1.00	41.40	C
	ATOM	5444	OE1	GLU H 154	1.935	-32.791	51.899	1.00	39.34	O
	ATOM	5445	OE2	GLU H 154	3.792	-32.707	50.690	1.00	40.96	O

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	ATOM	5446	C	GLU	H 154	0.086	-28.627	51.292	1.00	39.78	C
	ATOM	5447	O	GLU	H 154	-0.203	-27.593	50.684	1.00	40.94	O
	ATOM	5448	N	PRO	H 155	0.329	-28.583	52.606	1.00	39.89	N
	ATOM	5449	CA	PRO	H 155	0.748	-29.659	53.508	1.00	40.30	C
5	ATOM	5450	CB	PRO	H 155	1.955	-29.007	54.198	1.00	41.14	C
	ATOM	5451	CG	PRO	H 155	1.613	-27.484	54.206	1.00	40.60	C
	ATOM	5452	CD	PRO	H 155	0.400	-27.298	53.313	1.00	40.40	C
	ATOM	5453	C	PRO	H 155	-0.277	-30.062	54.572	1.00	40.39	C
	ATOM	5454	O	PRO	H 155	-1.321	-29.429	54.753	1.00	40.68	O
10	ATOM	5455	N	VAL	H 156	0.070	-31.125	55.299	1.00	40.76	N
	ATOM	5456	CA	VAL	H 156	-0.656	-31.620	56.464	1.00	41.17	C
	ATOM	5457	CB	VAL	H 156	-1.372	-33.006	56.338	1.00	44.37	C
	ATOM	5458	CG1	VAL	H 156	-2.552	-32.955	55.402	1.00	44.61	C
	ATOM	5459	CG2	VAL	H 156	-0.421	-34.115	55.932	1.00	44.73	C
15	ATOM	5460	C	VAL	H 156	0.428	-31.633	57.547	1.00	41.27	C
	ATOM	5461	O	VAL	H 156	1.621	-31.640	57.222	1.00	41.37	O
	ATOM	5462	N	THR	H 157	0.024	-31.609	58.815	1.00	42.73	N
	ATOM	5463	CA	THR	H 157	0.944	-31.688	59.945	1.00	43.31	C
	ATOM	5464	CB	THR	H 157	1.066	-30.372	60.692	1.00	51.85	C
20	ATOM	5465	OG1	THR	H 157	-0.225	-30.013	61.169	1.00	53.32	O
	ATOM	5466	CG2	THR	H 157	1.645	-29.269	59.837	1.00	52.43	C
	ATOM	5467	C	THR	H 157	0.372	-32.766	60.823	1.00	43.04	C
	ATOM	5468	O	THR	H 157	-0.837	-32.769	61.075	1.00	43.16	O
	ATOM	5469	N	VAL	H 158	1.218	-33.702	61.258	1.00	42.04	N
25	ATOM	5470	CA	VAL	H 158	0.762	-34.783	62.119	1.00	41.33	C
	ATOM	5471	CB	VAL	H 158	0.904	-36.199	61.497	1.00	44.48	C
	ATOM	5472	CG1	VAL	H 158	0.205	-37.244	62.370	1.00	43.66	C
	ATOM	5473	CG2	VAL	H 158	0.386	-36.247	60.062	1.00	43.70	C
	ATOM	5474	C	VAL	H 158	1.489	-34.716	63.443	1.00	41.19	C
30	ATOM	5475	O	VAL	H 158	2.714	-34.555	63.468	1.00	41.13	O
	ATOM	5476	N	SER	H 159	0.742	-34.872	64.538	1.00	39.19	N
	ATOM	5477	CA	SER	H 159	1.321	-34.918	65.872	1.00	38.85	C
	ATOM	5478	CB	SER	H 159	1.085	-33.620	66.628	1.00	44.06	C
	ATOM	5479	OG	SER	H 159	-0.294	-33.309	66.665	1.00	45.99	O
35	ATOM	5480	C	SER	H 159	0.690	-36.100	66.576	1.00	38.25	C
	ATOM	5481	O	SER	H 159	-0.317	-36.612	66.088	1.00	38.11	O
	ATOM	5482	N	TRP	H 160	1.298	-36.569	67.678	1.00	37.81	N
	ATOM	5483	CA	TRP	H 160	0.777	-37.699	68.436	1.00	37.51	C
	ATOM	5484	CB	TRP	H 160	1.727	-38.897	68.409	1.00	35.41	C
40	ATOM	5485	CG	TRP	H 160	1.727	-39.594	67.084	1.00	33.57	C
	ATOM	5486	CD1	TRP	H 160	2.497	-39.291	65.999	1.00	32.52	C
	ATOM	5487	NE1	TRP	H 160	2.168	-40.108	64.941	1.00	32.10	N
	ATOM	5488	CE2	TRP	H 160	1.152	-40.946	65.323	1.00	32.47	C
	ATOM	5489	CD2	TRP	H 160	0.853	-40.654	66.675	1.00	32.41	C
45	ATOM	5490	CE3	TRP	H 160	-0.164	-41.391	67.324	1.00	31.63	C
	ATOM	5491	CZ3	TRP	H 160	-0.822	-42.391	66.618	1.00	30.74	C
	ATOM	5492	CH2	TRP	H 160	-0.489	-42.670	65.284	1.00	32.74	C
	ATOM	5493	CZ2	TRP	H 160	0.499	-41.962	64.615	1.00	33.08	C
	ATOM	5494	C	TRP	H 160	0.491	-37.258	69.832	1.00	38.37	C
50	ATOM	5495	O	TRP	H 160	1.337	-36.589	70.445	1.00	38.65	O
	ATOM	5496	N	ASN	H 161	-0.733	-37.608	70.333	1.00	41.10	N
	ATOM	5497	CA	ASN	H 161	-1.268	-37.291	71.666	1.00	41.33	C
	ATOM	5498	CB	ASN	H 161	-0.608	-38.115	72.754	1.00	39.01	C
	ATOM	5499	CG	ASN	H 161	-0.959	-39.565	72.709	1.00	40.08	C

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	ATOM	5500	OD1 ASN H 161	-1.800 -40.012 71.921	1.00 42.08	O
	ATOM	5501	ND2 ASN H 161	-0.316 -40.332 73.572	1.00 40.37	N
	ATOM	5502	C ASN H 161	-1.160 -35.818 71.967	1.00 41.97	C
	ATOM	5503	O ASN H 161	-0.749 -35.429 73.063	1.00 41.89	O
5	ATOM	5504	N SER H 162	-1.520 -35.003 70.969	1.00 43.03	N
	ATOM	5505	CA SER H 162	-1.504 -33.546 71.006	1.00 44.28	C
	ATOM	5506	CB SER H 162	-2.604 -32.994 71.916	1.00 48.12	C
	ATOM	5507	OG SER H 162	-3.879 -33.486 71.532	1.00 49.19	O
	ATOM	5508	C SER H 162	-0.129 -32.962 71.300	1.00 44.82	C
10	ATOM	5509	O SER H 162	-0.040 -31.882 71.884	1.00 45.65	O
	ATOM	5510	N GLY H 163	0.926 -33.660 70.866	1.00 43.69	N
	ATOM	5511	CA GLY H 163	2.300 -33.212 71.054	1.00 43.54	C
	ATOM	5512	C GLY H 163	3.008 -33.848 72.227	1.00 43.65	C
	ATOM	5513	O GLY H 163	4.231 -33.740 72.342	1.00 44.06	O
15	ATOM	5514	N ALA H 164	2.253 -34.537 73.097	1.00 43.46	N
	ATOM	5515	CA ALA H 164	2.803 -35.215 74.268	1.00 42.83	C
	ATOM	5516	CB ALA H 164	1.691 -35.699 75.172	1.00 43.09	C
	ATOM	5517	C ALA H 164	3.708 -36.377 73.871	1.00 42.66	C
	ATOM	5518	O ALA H 164	4.661 -36.664 74.599	1.00 43.15	O
20	ATOM	5519	N LEU H 165	3.425 -37.024 72.709	1.00 41.20	N
	ATOM	5520	CA LEU H 165	4.184 -38.144 72.164	1.00 40.42	C
	ATOM	5521	CB LEU H 165	3.241 -39.285 71.782	1.00 40.23	C
	ATOM	5522	CG LEU H 165	3.914 -40.565 71.280	1.00 40.86	C
	ATOM	5523	CD1 LEU H 165	4.868 -41.160 72.341	1.00 40.45	C
25	ATOM	5524	CD2 LEU H 165	2.879 -41.586 70.766	1.00 39.93	C
	ATOM	5525	C LEU H 165	5.088 -37.717 70.984	1.00 40.26	C
	ATOM	5526	O LEU H 165	4.611 -37.453 69.880	1.00 39.93	O
	ATOM	5527	N THR H 166	6.406 -37.655 71.232	1.00 41.78	N
	ATOM	5528	CA THR H 166	7.389 -37.249 70.213	1.00 41.15	C
30	ATOM	5529	CB THR H 166	8.031 -35.911 70.593	1.00 41.57	C
	ATOM	5530	OG1 THR H 166	8.403 -35.966 71.971	1.00 42.01	O
	ATOM	5531	CG2 THR H 166	7.110 -34.738 70.358	1.00 40.82	C
	ATOM	5532	C THR H 166	8.462 -38.311 69.950	1.00 40.78	C
	ATOM	5533	O THR H 166	8.880 -38.465 68.803	1.00 40.56	O
35	ATOM	5534	N SER H 167	8.920 -39.026 71.006	1.00 41.78	N
	ATOM	5535	CA SER H 167	9.944 -40.069 70.886	1.00 41.46	C
	ATOM	5536	CB SER H 167	10.249 -40.690 72.247	1.00 44.40	C
	ATOM	5537	OG SER H 167	10.852 -39.749 73.121	1.00 44.64	O
	ATOM	5538	C SER H 167	9.542 -41.146 69.873	1.00 41.40	C
40	ATOM	5539	O SER H 167	8.408 -41.644 69.907	1.00 42.04	O
	ATOM	5540	N GLY H 168	10.455 -41.443 68.955	1.00 40.97	N
	ATOM	5541	CA GLY H 168	10.275 -42.456 67.920	1.00 40.88	C
	ATOM	5542	C GLY H 168	9.265 -42.202 66.819	1.00 40.90	C
	ATOM	5543	O GLY H 168	8.962 -43.122 66.050	1.00 41.22	O
45	ATOM	5544	N VAL H 169	8.745 -40.962 66.724	1.00 40.23	N
	ATOM	5545	CA VAL H 169	7.762 -40.552 65.715	1.00 39.61	C
	ATOM	5546	CB VAL H 169	6.932 -39.295 66.150	1.00 41.28	C
	ATOM	5547	CG1 VAL H 169	6.112 -38.715 65.009	1.00 41.01	C
	ATOM	5548	CG2 VAL H 169	6.024 -39.614 67.324	1.00 40.95	C
50	ATOM	5549	C VAL H 169	8.502 -40.353 64.393	1.00 39.60	C
	ATOM	5550	O VAL H 169	9.623 -39.843 64.387	1.00 39.71	O
	ATOM	5551	N HIS H 170	7.876 -40.775 63.288	1.00 40.37	N
	ATOM	5552	CA HIS H 170	8.407 -40.649 61.956	1.00 39.81	C
	ATOM	5553	CB HIS H 170	9.025 -41.970 61.496	1.00 41.60	C

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	ATOM	5554	CG	HIS	H	170	10.439	-42.184	61.953	1.00	43.22	C
	ATOM	5555	ND1	HIS	H	170	10.836	-43.381	62.528	1.00	44.20	N
	ATOM	5556	CE1	HIS	H	170	12.122	-43.243	62.797	1.00	42.49	C
	ATOM	5557	NE2	HIS	H	170	12.572	-42.049	62.430	1.00	43.71	N
5	ATOM	5558	CD2	HIS	H	170	11.513	-41.364	61.878	1.00	43.57	C
	ATOM	5559	C	HIS	H	170	7.263	-40.274	61.054	1.00	39.79	C
	ATOM	5560	O	HIS	H	170	6.354	-41.090	60.853	1.00	40.30	O
	ATOM	5561	N	THR	H	171	7.267	-39.026	60.542	1.00	36.48	N
	ATOM	5562	CA	THR	H	171	6.234	-38.583	59.620	1.00	35.19	C
10	ATOM	5563	CB	THR	H	171	5.600	-37.260	60.010	1.00	31.80	C
	ATOM	5564	OG1	THR	H	171	5.032	-37.414	61.304	1.00	31.78	O
	ATOM	5565	CG2	THR	H	171	4.498	-36.837	59.045	1.00	30.94	C
	ATOM	5566	C	THR	H	171	6.936	-38.578	58.296	1.00	35.08	C
	ATOM	5567	O	THR	H	171	7.919	-37.860	58.105	1.00	35.43	O
15	ATOM	5568	N	PHE	H	172	6.473	-39.434	57.406	1.00	31.58	N
	ATOM	5569	CA	PHE	H	172	7.060	-39.593	56.110	1.00	31.17	C
	ATOM	5570	CB	PHE	H	172	6.659	-40.955	55.544	1.00	32.20	C
	ATOM	5571	CG	PHE	H	172	7.342	-42.086	56.257	1.00	31.20	C
	ATOM	5572	CD1	PHE	H	172	6.758	-42.681	57.369	1.00	29.49	C
20	ATOM	5573	CE1	PHE	H	172	7.400	-43.713	58.043	1.00	29.23	C
	ATOM	5574	CZ	PHE	H	172	8.640	-44.147	57.617	1.00	30.02	C
	ATOM	5575	CE2	PHE	H	172	9.242	-43.563	56.526	1.00	29.22	C
	ATOM	5576	CD2	PHE	H	172	8.588	-42.539	55.839	1.00	31.36	C
	ATOM	5577	C	PHE	H	172	6.685	-38.501	55.129	1.00	31.66	C
25	ATOM	5578	O	PHE	H	172	5.551	-37.989	55.149	1.00	31.55	O
	ATOM	5579	N	PRO	H	173	7.623	-38.166	54.210	1.00	33.02	N
	ATOM	5580	CA	PRO	H	173	7.295	-37.211	53.151	1.00	33.36	C
	ATOM	5581	CB	PRO	H	173	8.549	-37.245	52.275	1.00	33.80	C
	ATOM	5582	CG	PRO	H	173	9.603	-37.676	53.156	1.00	33.34	C
30	ATOM	5583	CD	PRO	H	173	8.996	-38.677	54.045	1.00	33.60	C
	ATOM	5584	C	PRO	H	173	6.079	-37.748	52.370	1.00	34.09	C
	ATOM	5585	O	PRO	H	173	5.968	-38.978	52.158	1.00	34.99	O
	ATOM	5586	N	ALA	H	174	5.143	-36.857	51.981	1.00	35.84	N
	ATOM	5587	CA	ALA	H	174	3.949	-37.267	51.237	1.00	36.26	C
35	ATOM	5588	CB	ALA	H	174	3.010	-36.088	51.087	1.00	36.88	C
	ATOM	5589	C	ALA	H	174	4.327	-37.787	49.858	1.00	36.52	C
	ATOM	5590	O	ALA	H	174	5.438	-37.508	49.399	1.00	36.79	O
	ATOM	5591	N	VAL	H	175	3.424	-38.558	49.206	1.00	37.51	N
	ATOM	5592	CA	VAL	H	175	3.603	-39.072	47.841	1.00	38.03	C
40	ATOM	5593	CB	VAL	H	175	3.808	-40.600	47.678	1.00	41.33	C
	ATOM	5594	CG1	VAL	H	175	5.153	-41.042	48.234	1.00	40.26	C
	ATOM	5595	CG2	VAL	H	175	2.650	-41.406	48.264	1.00	41.47	C
	ATOM	5596	C	VAL	H	175	2.455	-38.578	46.983	1.00	38.57	C
	ATOM	5597	O	VAL	H	175	1.340	-38.433	47.483	1.00	38.68	O
45	ATOM	5598	N	LEU	H	176	2.721	-38.316	45.706	1.00	40.23	N
	ATOM	5599	CA	LEU	H	176	1.671	-37.866	44.820	1.00	41.44	C
	ATOM	5600	CB	LEU	H	176	2.128	-36.695	43.929	1.00	41.23	C
	ATOM	5601	CG	LEU	H	176	1.023	-36.000	43.096	1.00	41.83	C
	ATOM	5602	CD1	LEU	H	176	-0.203	-35.580	43.971	1.00	40.65	C
50	ATOM	5603	CD2	LEU	H	176	1.595	-34.816	42.347	1.00	38.24	C
	ATOM	5604	C	LEU	H	176	1.163	-39.054	44.019	1.00	42.31	C
	ATOM	5605	O	LEU	H	176	1.903	-39.642	43.211	1.00	42.59	O
	ATOM	5606	N	GLN	H	177	-0.105	-39.422	44.284	1.00	43.34	N
	ATOM	5607	CA	GLN	H	177	-0.818	-40.542	43.655	1.00	43.78	C

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	ATOM	5608	CB	GLN	H	177	-2.041	-40.932	44.507	1.00	45.34	C
	ATOM	5609	CG	GLN	H	177	-1.677	-41.510	45.861	1.00	47.20	C
	ATOM	5610	CD	GLN	H	177	-2.849	-41.520	46.813	1.00	52.34	C
	ATOM	5611	OE1	GLN	H	177	-3.379	-42.585	47.179	1.00	54.03	O
5	ATOM	5612	NE2	GLN	H	177	-3.281	-40.339	47.259	1.00	53.08	N
	ATOM	5613	C	GLN	H	177	-1.258	-40.205	42.239	1.00	43.33	C
	ATOM	5614	O	GLN	H	177	-1.396	-39.038	41.910	1.00	43.36	O
	ATOM	5615	N	SER	H	178	-1.515	-41.215	41.408	1.00	44.66	N
	ATOM	5616	CA	SER	H	178	-1.973	-41.012	40.036	1.00	45.12	C
10	ATOM	5617	CB	SER	H	178	-2.138	-42.341	39.326	1.00	51.63	C
	ATOM	5618	OG	SER	H	178	-1.273	-42.323	38.202	1.00	54.90	O
	ATOM	5619	C	SER	H	178	-3.254	-40.188	39.946	1.00	45.01	C
	ATOM	5620	O	SER	H	178	-3.491	-39.542	38.936	1.00	44.98	O
	ATOM	5621	N	SER	H	179	-4.059	-40.180	41.020	1.00	43.45	N
15	ATOM	5622	CA	SER	H	179	-5.281	-39.401	41.127	1.00	42.95	C
	ATOM	5623	CB	SER	H	179	-6.101	-39.900	42.308	1.00	45.76	C
	ATOM	5624	OG	SER	H	179	-5.343	-39.907	43.505	1.00	46.43	O
	ATOM	5625	C	SER	H	179	-4.986	-37.894	41.311	1.00	42.78	C
	ATOM	5626	O	SER	H	179	-5.899	-37.077	41.218	1.00	42.52	O
20	ATOM	5627	N	GLY	H	180	-3.734	-37.541	41.592	1.00	42.23	N
	ATOM	5628	CA	GLY	H	180	-3.330	-36.158	41.817	1.00	42.03	C
	ATOM	5629	C	GLY	H	180	-3.564	-35.730	43.250	1.00	42.15	C
	ATOM	5630	O	GLY	H	180	-3.528	-34.534	43.561	1.00	42.00	O
	ATOM	5631	N	LEU	H	181	-3.810	-36.713	44.137	1.00	41.07	N
25	ATOM	5632	CA	LEU	H	181	-4.025	-36.492	45.561	1.00	40.92	C
	ATOM	5633	CB	LEU	H	181	-5.291	-37.210	46.081	1.00	40.28	C
	ATOM	5634	CG	LEU	H	181	-6.651	-36.699	45.564	1.00	40.61	C
	ATOM	5635	CD1	LEU	H	181	-7.789	-37.501	46.143	1.00	40.93	C
	ATOM	5636	CD2	LEU	H	181	-6.857	-35.215	45.842	1.00	38.97	C
30	ATOM	5637	C	LEU	H	181	-2.787	-36.989	46.299	1.00	40.94	C
	ATOM	5638	O	LEU	H	181	-2.084	-37.889	45.804	1.00	41.24	O
	ATOM	5639	N	TYR	H	182	-2.499	-36.386	47.470	1.00	40.23	N
	ATOM	5640	CA	TYR	H	182	-1.349	-36.777	48.267	1.00	39.58	C
	ATOM	5641	CB	TYR	H	182	-0.702	-35.569	48.945	1.00	40.66	C
35	ATOM	5642	CG	TYR	H	182	-0.147	-34.567	47.970	1.00	39.74	C
	ATOM	5643	CD1	TYR	H	182	1.169	-34.650	47.530	1.00	39.27	C
	ATOM	5644	CE1	TYR	H	182	1.686	-33.736	46.616	1.00	38.20	C
	ATOM	5645	CZ	TYR	H	182	0.883	-32.712	46.142	1.00	39.01	C
	ATOM	5646	OH	TYR	H	182	1.389	-31.806	45.241	1.00	39.50	O
40	ATOM	5647	CE2	TYR	H	182	-0.433	-32.610	46.566	1.00	38.18	C
	ATOM	5648	CD2	TYR	H	182	-0.936	-33.529	47.482	1.00	38.30	C
	ATOM	5649	C	TYR	H	182	-1.745	-37.807	49.285	1.00	39.40	C
	ATOM	5650	O	TYR	H	182	-2.929	-37.986	49.575	1.00	39.80	O
	ATOM	5651	N	SER	H	183	-0.753	-38.486	49.831	1.00	38.17	N
45	ATOM	5652	CA	SER	H	183	-0.954	-39.502	50.840	1.00	37.90	C
	ATOM	5653	CB	SER	H	183	-1.294	-40.837	50.188	1.00	44.16	C
	ATOM	5654	OG	SER	H	183	-1.621	-41.796	51.176	1.00	47.34	O
	ATOM	5655	C	SER	H	183	0.318	-39.618	51.643	1.00	37.07	C
	ATOM	5656	O	SER	H	183	1.403	-39.533	51.070	1.00	37.05	O
50	ATOM	5657	N	LEU	H	184	0.193	-39.787	52.969	1.00	36.77	N
	ATOM	5658	CA	LEU	H	184	1.323	-39.950	53.887	1.00	36.09	C
	ATOM	5659	CB	LEU	H	184	2.054	-38.617	54.264	1.00	35.69	C
	ATOM	5660	CG	LEU	H	184	1.473	-37.626	55.305	1.00	34.71	C
	ATOM	5661	CD1	LEU	H	184	1.737	-38.072	56.732	1.00	31.95	C

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	ATOM	5662	CD2 LEU H 184	2.169 -36.304 55.183 1.00 32.48	C
	ATOM	5663	C LEU H 184	1.019 -40.788 55.105 1.00 35.91	C
	ATOM	5664	O LEU H 184	-0.124 -40.903 55.513 1.00 35.56	O
	ATOM	5665	N SER H 185	2.067 -41.331 55.711 1.00 38.03	N
5	ATOM	5666	CA SER H 185	2.014 -42.115 56.929 1.00 38.53	C
	ATOM	5667	CB SER H 185	2.640 -43.478 56.686 1.00 45.62	C
	ATOM	5668	OG SER H 185	1.752 -44.260 55.910 1.00 50.12	O
	ATOM	5669	C SER H 185	2.805 -41.418 58.009 1.00 38.06	C
	ATOM	5670	O SER H 185	3.828 -40.803 57.723 1.00 38.33	O
10	ATOM	5671	N SER H 186	2.330 -41.501 59.242 1.00 36.36	N
	ATOM	5672	CA SER H 186	3.023 -41.008 60.421 1.00 36.19	C
	ATOM	5673	CB SER H 186	2.267 -39.906 61.138 1.00 39.07	C
	ATOM	5674	OG SER H 186	2.988 -39.544 62.307 1.00 39.07	O
	ATOM	5675	C SER H 186	3.078 -42.248 61.257 1.00 36.44	C
15	ATOM	5676	O SER H 186	2.092 -42.979 61.346 1.00 36.86	O
	ATOM	5677	N VAL H 187	4.230 -42.534 61.824 1.00 35.85	N
	ATOM	5678	CA VAL H 187	4.426 -43.763 62.579 1.00 35.28	C
	ATOM	5679	CB VAL H 187	5.194 -44.701 61.599 1.00 38.47	C
	ATOM	5680	CG1 VAL H 187	6.512 -45.229 62.140 1.00 38.49	C
20	ATOM	5681	CG2 VAL H 187	4.307 -45.795 61.036 1.00 38.13	C
	ATOM	5682	C VAL H 187	5.146 -43.472 63.907 1.00 35.38	C
	ATOM	5683	O VAL H 187	5.846 -42.454 64.026 1.00 35.23	O
	ATOM	5684	N VAL H 188	4.963 -44.370 64.904 1.00 34.50	N
	ATOM	5685	CA VAL H 188	5.574 -44.285 66.239 1.00 34.10	C
25	ATOM	5686	CB VAL H 188	4.799 -43.317 67.177 1.00 36.55	C
	ATOM	5687	CG1 VAL H 188	3.408 -43.836 67.504 1.00 36.24	C
	ATOM	5688	CG2 VAL H 188	5.577 -43.014 68.446 1.00 35.79	C
	ATOM	5689	C VAL H 188	5.773 -45.673 66.855 1.00 33.91	C
	ATOM	5690	O VAL H 188	4.960 -46.587 66.644 1.00 33.56	O
30	ATOM	5691	N THR H 189	6.861 -45.817 67.620 1.00 32.94	N
	ATOM	5692	CA THR H 189	7.211 -47.039 68.341 1.00 32.71	C
	ATOM	5693	CB THR H 189	8.608 -47.516 68.025 1.00 34.27	C
	ATOM	5694	OG1 THR H 189	9.535 -46.463 68.314 1.00 34.37	O
	ATOM	5695	CG2 THR H 189	8.733 -48.014 66.586 1.00 33.87	C
35	ATOM	5696	C THR H 189	6.942 -46.742 69.798 1.00 33.03	C
	ATOM	5697	O THR H 189	7.429 -45.757 70.372 1.00 32.91	O
	ATOM	5698	N VAL H 190	6.084 -47.564 70.358 1.00 33.89	N
	ATOM	5699	CA VAL H 190	5.573 -47.450 71.709 1.00 34.54	C
	ATOM	5700	CB VAL H 190	4.067 -46.998 71.641 1.00 37.67	C
40	ATOM	5701	CG1 VAL H 190	3.916 -45.665 70.910 1.00 36.78	C
	ATOM	5702	CG2 VAL H 190	3.183 -48.052 70.983 1.00 37.37	C
	ATOM	5703	C VAL H 190	5.747 -48.799 72.436 1.00 34.99	C
	ATOM	5704	O VAL H 190	5.915 -49.818 71.761 1.00 34.56	O
	ATOM	5705	N PRO H 191	5.745 -48.832 73.792 1.00 36.18	N
45	ATOM	5706	CA PRO H 191	5.857 -50.120 74.485 1.00 36.94	C
	ATOM	5707	CB PRO H 191	5.944 -49.737 75.957 1.00 38.66	C
	ATOM	5708	CG PRO H 191	6.022 -48.255 76.022 1.00 38.66	C
	ATOM	5709	CD PRO H 191	5.564 -47.709 74.736 1.00 37.74	C
	ATOM	5710	C PRO H 191	4.596 -50.945 74.240 1.00 38.39	C
50	ATOM	5711	O PRO H 191	3.491 -50.385 74.264 1.00 38.10	O
	ATOM	5712	N SER H 192	4.762 -52.271 73.991 1.00 42.35	N
	ATOM	5713	CA SER H 192	3.668 -53.216 73.734 1.00 43.99	C
	ATOM	5714	CB SER H 192	4.218 -54.605 73.461 1.00 48.10	C
	ATOM	5715	OG SER H 192	5.089 -54.552 72.350 1.00 50.49	O

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	ATOM	5716	C	SER H 192	2.714	-53.307	74.902	1.00	44.82	C
	ATOM	5717	O	SER H 192	1.500	-53.383	74.709	1.00	45.71	O
	ATOM	5718	N	SER H 193	3.265	-53.308	76.115	1.00	45.48	N
	ATOM	5719	CA	SER H 193	2.505	-53.406	77.343	1.00	46.08	C
5	ATOM	5720	CB	SER H 193	3.455	-53.585	78.522	1.00	52.05	C
	ATOM	5721	OG	SER H 193	4.320	-52.470	78.694	1.00	54.08	O
	ATOM	5722	C	SER H 193	1.560	-52.220	77.575	1.00	46.18	C
	ATOM	5723	O	SER H 193	0.684	-52.315	78.427	1.00	46.34	O
	ATOM	5724	N	SER H 194	1.733	-51.116	76.837	1.00	47.14	N
10	ATOM	5725	CA	SER H 194	0.909	-49.918	77.002	1.00	47.97	C
	ATOM	5726	CB	SER H 194	1.714	-48.646	76.754	1.00	50.64	C
	ATOM	5727	OG	SER H 194	2.110	-48.572	75.396	1.00	50.71	O
	ATOM	5728	C	SER H 194	-0.322	-49.941	76.129	1.00	48.36	C
	ATOM	5729	O	SER H 194	-1.208	-49.112	76.328	1.00	48.48	O
15	ATOM	5730	N	LEU H 195	-0.391	-50.874	75.165	1.00	49.60	N
	ATOM	5731	CA	LEU H 195	-1.563	-50.994	74.303	1.00	50.20	C
	ATOM	5732	CB	LEU H 195	-1.290	-51.941	73.120	1.00	48.95	C
	ATOM	5733	CG	LEU H 195	-0.043	-51.651	72.274	1.00	48.35	C
	ATOM	5734	CD1	LEU H 195	0.314	-52.823	71.407	1.00	46.81	C
20	ATOM	5735	CD2	LEU H 195	-0.177	-50.362	71.465	1.00	46.82	C
	ATOM	5736	C	LEU H 195	-2.726	-51.497	75.199	1.00	51.22	C
	ATOM	5737	O	LEU H 195	-2.515	-52.283	76.148	1.00	51.51	O
	ATOM	5738	N	GLY H 196	-3.924	-50.989	74.949	1.00	54.03	N
	ATOM	5739	CA	GLY H 196	-5.056	-51.364	75.782	1.00	54.57	C
25	ATOM	5740	C	GLY H 196	-5.159	-50.385	76.930	1.00	54.72	C
	ATOM	5741	O	GLY H 196	-6.229	-49.789	77.144	1.00	55.83	O
	ATOM	5742	N	THR H 197	-4.029	-50.167	77.645	1.00	51.43	N
	ATOM	5743	CA	THR H 197	-3.959	-49.211	78.757	1.00	50.67	C
	ATOM	5744	CB	THR H 197	-3.040	-49.688	79.886	1.00	54.18	C
30	ATOM	5745	OG1	THR H 197	-2.413	-48.558	80.486	1.00	54.49	O
	ATOM	5746	CG2	THR H 197	-1.996	-50.700	79.423	1.00	54.12	C
	ATOM	5747	C	THR H 197	-3.838	-47.727	78.318	1.00	50.19	C
	ATOM	5748	O	THR H 197	-4.698	-46.929	78.689	1.00	50.56	O
	ATOM	5749	N	GLN H 198	-2.790	-47.360	77.541	1.00	46.29	N
35	ATOM	5750	CA	GLN H 198	-2.573	-45.990	77.048	1.00	45.20	C
	ATOM	5751	CB	GLN H 198	-1.074	-45.657	76.966	1.00	46.60	C
	ATOM	5752	CG	GLN H 198	-0.699	-44.395	76.166	1.00	46.10	C
	ATOM	5753	CD	GLN H 198	-0.834	-43.087	76.908	1.00	45.88	C
	ATOM	5754	OE1	GLN H 198	-0.258	-42.885	77.982	1.00	46.73	O
40	ATOM	5755	NE2	GLN H 198	-1.575	-42.154	76.339	1.00	43.65	N
	ATOM	5756	C	GLN H 198	-3.272	-45.746	75.710	1.00	44.90	C
	ATOM	5757	O	GLN H 198	-3.260	-46.607	74.835	1.00	44.53	O
	ATOM	5758	N	THR H 199	-3.864	-44.549	75.562	1.00	44.61	N
	ATOM	5759	CA	THR H 199	-4.582	-44.105	74.378	1.00	44.51	C
45	ATOM	5760	CB	THR H 199	-5.822	-43.271	74.804	1.00	50.95	C
	ATOM	5761	OG1	THR H 199	-6.879	-44.170	75.179	1.00	50.37	O
	ATOM	5762	CG2	THR H 199	-6.323	-42.339	73.716	1.00	50.30	C
	ATOM	5763	C	THR H 199	-3.624	-43.396	73.432	1.00	44.67	C
	ATOM	5764	O	THR H 199	-2.958	-42.430	73.840	1.00	44.83	O
50	ATOM	5765	N	TYR H 200	-3.551	-43.881	72.162	1.00	43.84	N
	ATOM	5766	CA	TYR H 200	-2.691	-43.289	71.129	1.00	43.76	C
	ATOM	5767	CB	TYR H 200	-1.695	-44.303	70.532	1.00	42.64	C
	ATOM	5768	CG	TYR H 200	-0.713	-44.826	71.555	1.00	42.17	C
	ATOM	5769	CD1	TYR H 200	-0.821	-46.119	72.057	1.00	41.42	C

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	ATOM	5770	CE1 TYR H 200	0.060 -46.596 73.022	1.00 43.03	C
	ATOM	5771	CZ TYR H 200	1.060 -45.769 73.506	1.00 44.30	C
	ATOM	5772	OH TYR H 200	1.931 -46.207 74.473	1.00 44.64	O
	ATOM	5773	CE2 TYR H 200	1.177 -44.473 73.027	1.00 42.68	C
5	ATOM	5774	CD2 TYR H 200	0.295 -44.012 72.058	1.00 41.82	C
	ATOM	5775	C TYR H 200	-3.568 -42.671 70.073	1.00 44.12	C
	ATOM	5776	O TYR H 200	-4.346 -43.376 69.438	1.00 44.64	O
	ATOM	5777	N ILE H 201	-3.478 -41.341 69.924	1.00 45.25	N
	ATOM	5778	CA ILE H 201	-4.261 -40.568 68.978	1.00 45.08	C
10	ATOM	5779	CB ILE H 201	-5.259 -39.629 69.716	1.00 48.08	C
	ATOM	5780	CG1 ILE H 201	-6.301 -40.428 70.507	1.00 48.14	C
	ATOM	5781	CD1 ILE H 201	-7.026 -39.622 71.525	1.00 47.00	C
	ATOM	5782	CG2 ILE H 201	-5.941 -38.620 68.748	1.00 47.65	C
	ATOM	5783	C ILE H 201	-3.354 -39.747 68.120	1.00 45.19	C
15	ATOM	5784	O ILE H 201	-2.536 -38.997 68.649	1.00 45.45	O
	ATOM	5785	N CYS H 202	-3.529 -39.830 66.801	1.00 47.01	N
	ATOM	5786	CA CYS H 202	-2.766 -38.969 65.913	1.00 47.41	C
	ATOM	5787	CB CYS H 202	-2.269 -39.679 64.661	1.00 48.99	C
	ATOM	5788	SG CYS H 202	-3.563 -40.439 63.666	1.00 51.00	S
20	ATOM	5789	C CYS H 202	-3.625 -37.786 65.575	1.00 46.88	C
	ATOM	5790	O CYS H 202	-4.827 -37.925 65.317	1.00 46.61	O
	ATOM	5791	N ASN H 203	-3.002 -36.622 65.595	1.00 43.51	N
	ATOM	5792	CA ASN H 203	-3.641 -35.361 65.318	1.00 42.92	C
	ATOM	5793	CB ASN H 203	-3.364 -34.364 66.447	1.00 44.17	C
25	ATOM	5794	CG ASN H 203	-3.356 -35.013 67.808	1.00 44.22	C
	ATOM	5795	OD1 ASN H 203	-2.293 -35.182 68.423	1.00 45.30	O
	ATOM	5796	ND2 ASN H 203	-4.523 -35.429 68.304	1.00 42.41	N
	ATOM	5797	C ASN H 203	-3.167 -34.866 63.973	1.00 43.03	C
	ATOM	5798	O ASN H 203	-2.014 -34.447 63.813	1.00 42.92	O
30	ATOM	5799	N VAL H 204	-4.073 -34.951 63.002	1.00 41.20	N
	ATOM	5800	CA VAL H 204	-3.857 -34.549 61.622	1.00 42.13	C
	ATOM	5801	CB VAL H 204	-4.389 -35.643 60.654	1.00 45.04	C
	ATOM	5802	CG1 VAL H 204	-4.129 -35.286 59.192	1.00 44.39	C
	ATOM	5803	CG2 VAL H 204	-3.775 -36.994 60.988	1.00 44.18	C
35	ATOM	5804	C VAL H 204	-4.504 -33.178 61.406	1.00 42.92	C
	ATOM	5805	O VAL H 204	-5.590 -32.917 61.919	1.00 43.23	O
	ATOM	5806	N ASN H 205	-3.838 -32.304 60.660	1.00 42.67	N
	ATOM	5807	CA ASN H 205	-4.355 -30.975 60.419	1.00 43.85	C
	ATOM	5808	CB ASN H 205	-3.832 -30.016 61.513	1.00 52.11	C
40	ATOM	5809	CG ASN H 205	-4.085 -28.529 61.357	1.00 54.54	C
	ATOM	5810	OD1 ASN H 205	-5.200 -28.051 61.082	1.00 56.73	O
	ATOM	5811	ND2 ASN H 205	-3.023 -27.759 61.568	1.00 56.17	N
	ATOM	5812	C ASN H 205	-4.013 -30.537 59.003	1.00 43.84	C
	ATOM	5813	O ASN H 205	-2.849 -30.424 58.635	1.00 44.02	O
45	ATOM	5814	N HIS H 206	-5.047 -30.344 58.198	1.00 44.82	N
	ATOM	5815	CA HIS H 206	-4.917 -29.910 56.828	1.00 45.25	C
	ATOM	5816	CB HIS H 206	-5.631 -30.894 55.875	1.00 45.95	C
	ATOM	5817	CG HIS H 206	-5.406 -30.614 54.416	1.00 45.29	C
	ATOM	5818	ND1 HIS H 206	-6.469 -30.466 53.541	1.00 44.62	N
50	ATOM	5819	CE1 HIS H 206	-5.926 -30.210 52.361	1.00 44.66	C
	ATOM	5820	NE2 HIS H 206	-4.588 -30.204 52.426	1.00 43.63	N
	ATOM	5821	CD2 HIS H 206	-4.246 -30.443 53.731	1.00 43.66	C
	ATOM	5822	C HIS H 206	-5.501 -28.508 56.751	1.00 45.79	C
	ATOM	5823	O HIS H 206	-6.715 -28.351 56.622	1.00 45.85	O

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	ATOM	5824	N	LYS H 207	-4.636	-27.486	56.866	1.00	48.69	N
	ATOM	5825	CA	LYS H 207	-5.073	-26.090	56.797	1.00	49.52	C
	ATOM	5826	CB	LYS H 207	-3.973	-25.102	57.244	1.00	52.73	C
	ATOM	5827	CG	LYS H 207	-3.698	-25.153	58.757	1.00	54.37	C
5	ATOM	5828	CD	LYS H 207	-2.424	-24.390	59.192	1.00	57.42	C
	ATOM	5829	CE	LYS H 207	-2.105	-24.591	60.666	1.00	58.66	C
	ATOM	5830	NZ	LYS H 207	-0.771	-24.039	61.045	1.00	59.36	N
	ATOM	5831	C	LYS H 207	-5.734	-25.717	55.436	1.00	49.64	C
	ATOM	5832	O	LYS H 207	-6.827	-25.135	55.481	1.00	49.98	O
10	ATOM	5833	N	PRO H 208	-5.177	-26.105	54.241	1.00	48.55	N
	ATOM	5834	CA	PRO H 208	-5.831	-25.743	52.972	1.00	48.51	C
	ATOM	5835	CB	PRO H 208	-4.939	-26.395	51.913	1.00	50.10	C
	ATOM	5836	CG	PRO H 208	-3.601	-26.500	52.539	1.00	50.11	C
	ATOM	5837	CD	PRO H 208	-3.896	-26.811	53.980	1.00	50.33	C
15	ATOM	5838	C	PRO H 208	-7.293	-26.141	52.793	1.00	48.80	C
	ATOM	5839	O	PRO H 208	-7.900	-25.719	51.808	1.00	48.87	O
	ATOM	5840	N	SER H 209	-7.858	-26.930	53.715	1.00	48.44	N
	ATOM	5841	CA	SER H 209	-9.256	-27.370	53.651	1.00	49.06	C
	ATOM	5842	CB	SER H 209	-9.362	-28.789	53.086	1.00	52.19	C
20	ATOM	5843	OG	SER H 209	-8.821	-29.774	53.953	1.00	53.12	O
	ATOM	5844	C	SER H 209	-9.907	-27.277	55.025	1.00	49.40	C
	ATOM	5845	O	SER H 209	-11.010	-27.801	55.232	1.00	48.91	O
	ATOM	5846	N	ASN H 210	-9.208	-26.598	55.962	1.00	52.27	N
	ATOM	5847	CA	ASN H 210	-9.612	-26.391	57.353	1.00	53.33	C
25	ATOM	5848	CB	ASN H 210	-10.561	-25.186	57.487	1.00	62.28	C
	ATOM	5849	CG	ASN H 210	-10.006	-23.886	56.913	1.00	64.49	C
	ATOM	5850	OD1	ASN H 210	-10.715	-23.147	56.200	1.00	66.62	O
	ATOM	5851	ND2	ASN H 210	-8.724	-23.575	57.202	1.00	66.39	N
	ATOM	5852	C	ASN H 210	-10.164	-27.686	57.966	1.00	53.49	C
30	ATOM	5853	O	ASN H 210	-11.266	-27.717	58.535	1.00	54.39	O
	ATOM	5854	N	THR H 211	-9.381	-28.769	57.804	1.00	51.76	N
	ATOM	5855	CA	THR H 211	-9.697	-30.107	58.275	1.00	51.69	C
	ATOM	5856	CB	THR H 211	-9.605	-31.119	57.109	1.00	56.69	C
	ATOM	5857	OG1	THR H 211	-10.355	-30.642	55.997	1.00	56.69	O
35	ATOM	5858	CG2	THR H 211	-10.087	-32.511	57.488	1.00	56.46	C
	ATOM	5859	C	THR H 211	-8.781	-30.475	59.432	1.00	51.76	C
	ATOM	5860	O	THR H 211	-7.564	-30.456	59.289	1.00	51.86	O
	ATOM	5861	N	LYS H 212	-9.374	-30.815	60.571	1.00	52.58	N
	ATOM	5862	CA	LYS H 212	-8.649	-31.236	61.759	1.00	52.88	C
40	ATOM	5863	CB	LYS H 212	-8.760	-30.198	62.905	1.00	57.19	C
	ATOM	5864	CG	LYS H 212	-7.967	-28.912	62.648	1.00	59.49	C
	ATOM	5865	CD	LYS H 212	-8.096	-27.819	63.750	1.00	64.42	C
	ATOM	5866	CE	LYS H 212	-7.237	-26.588	63.446	1.00	66.39	C
	ATOM	5867	NZ	LYS H 212	-7.448	-25.458	64.402	1.00	67.98	N
45	ATOM	5868	C	LYS H 212	-9.279	-32.566	62.120	1.00	52.46	C
	ATOM	5869	O	LYS H 212	-10.500	-32.634	62.315	1.00	52.24	O
	ATOM	5870	N	VAL H 213	-8.462	-33.642	62.130	1.00	52.14	N
	ATOM	5871	CA	VAL H 213	-8.911	-35.010	62.435	1.00	51.80	C
	ATOM	5872	CB	VAL H 213	-8.849	-35.947	61.178	1.00	53.43	C
50	ATOM	5873	CG1	VAL H 213	-9.397	-37.336	61.474	1.00	53.01	C
	ATOM	5874	CG2	VAL H 213	-9.561	-35.347	59.976	1.00	52.33	C
	ATOM	5875	C	VAL H 213	-8.046	-35.550	63.574	1.00	51.85	C
	ATOM	5876	O	VAL H 213	-6.824	-35.424	63.501	1.00	52.15	O
	ATOM	5877	N	ASP H 214	-8.669	-36.136	64.612	1.00	53.48	N

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	ATOM	5878	CA	ASP H 214	-7.965	-36.736	65.751	1.00	53.86	C
	ATOM	5879	CB	ASP H 214	-8.387	-36.089	67.088	1.00	56.39	C
	ATOM	5880	CG	ASP H 214	-7.910	-34.663	67.310	1.00	57.01	C
	ATOM	5881	OD1	ASP H 214	-6.703	-34.396	67.099	1.00	57.31	O
5	ATOM	5882	OD2	ASP H 214	-8.745	-33.811	67.709	1.00	58.01	O
	ATOM	5883	C	ASP H 214	-8.343	-38.208	65.737	1.00	54.11	C
	ATOM	5884	O	ASP H 214	-9.446	-38.528	66.173	1.00	54.36	O
	ATOM	5885	N	LYS H 215	-7.473	-39.101	65.207	1.00	52.90	N
	ATOM	5886	CA	LYS H 215	-7.797	-40.534	65.117	1.00	53.22	C
10	ATOM	5887	CB	LYS H 215	-7.483	-41.088	63.703	1.00	56.11	C
	ATOM	5888	CG	LYS H 215	-7.893	-42.553	63.414	1.00	57.35	C
	ATOM	5889	CD	LYS H 215	-9.403	-42.846	63.265	1.00	58.11	C
	ATOM	5890	CE	LYS H 215	-10.060	-42.078	62.133	1.00	60.19	C
	ATOM	5891	NZ	LYS H 215	-11.487	-42.445	61.939	1.00	60.89	N
15	ATOM	5892	C	LYS H 215	-7.161	-41.380	66.213	1.00	53.16	C
	ATOM	5893	O	LYS H 215	-5.976	-41.244	66.472	1.00	53.39	O
	ATOM	5894	N	LYS H 216	-7.953	-42.249	66.849	1.00	53.65	N
	ATOM	5895	CA	LYS H 216	-7.477	-43.146	67.897	1.00	54.12	C
	ATOM	5896	CB	LYS H 216	-8.567	-43.416	68.955	1.00	58.22	C
20	ATOM	5897	CG	LYS H 216	-8.021	-43.973	70.274	1.00	60.25	C
	ATOM	5898	CD	LYS H 216	-9.120	-44.242	71.299	1.00	62.93	C
	ATOM	5899	CE	LYS H 216	-8.660	-45.084	72.473	1.00	64.24	C
	ATOM	5900	NZ	LYS H 216	-9.798	-45.529	73.343	1.00	65.23	N
	ATOM	5901	C	LYS H 216	-7.038	-44.441	67.227	1.00	54.02	C
25	ATOM	5902	O	LYS H 216	-7.794	-45.024	66.445	1.00	54.32	O
	ATOM	5903	N	VAL H 217	-5.805	-44.869	67.501	1.00	53.53	N
	ATOM	5904	CA	VAL H 217	-5.255	-46.094	66.930	1.00	53.75	C
	ATOM	5905	CB	VAL H 217	-3.773	-45.938	66.476	1.00	54.72	C
	ATOM	5906	CG1	VAL H 217	-3.304	-47.164	65.703	1.00	53.88	C
30	ATOM	5907	CG2	VAL H 217	-3.584	-44.684	65.635	1.00	54.18	C
	ATOM	5908	C	VAL H 217	-5.458	-47.205	67.967	1.00	54.41	C
	ATOM	5909	O	VAL H 217	-4.896	-47.135	69.069	1.00	54.34	O
	ATOM	5910	N	GLU H 218	-6.297	-48.198	67.641	1.00	58.00	N
	ATOM	5911	CA	GLU H 218	-6.541	-49.298	68.576	1.00	59.39	C
35	ATOM	5912	CB	GLU H 218	-8.042	-49.466	68.893	1.00	61.87	C
	ATOM	5913	CG	GLU H 218	-8.506	-48.459	69.931	1.00	63.95	C
	ATOM	5914	CD	GLU H 218	-9.886	-48.680	70.514	1.00	66.94	C
	ATOM	5915	OE1	GLU H 218	-9.996	-49.452	71.498	1.00	67.96	O
	ATOM	5916	OE2	GLU H 218	-10.853	-48.071	69.997	1.00	67.64	O
40	ATOM	5917	C	GLU H 218	-5.881	-50.586	68.089	1.00	59.79	C
	ATOM	5918	O	GLU H 218	-5.735	-50.736	66.869	1.00	59.81	O
	ATOM	5919	N	PRO H 219	-5.455	-51.506	69.002	1.00	58.97	N
	ATOM	5920	CA	PRO H 219	-4.796	-52.744	68.551	1.00	59.69	C
	ATOM	5921	CB	PRO H 219	-4.318	-53.396	69.851	1.00	60.67	C
45	ATOM	5922	CG	PRO H 219	-4.426	-52.346	70.885	1.00	60.16	C
	ATOM	5923	CD	PRO H 219	-5.538	-51.468	70.473	1.00	59.98	C
	ATOM	5924	C	PRO H 219	-5.681	-53.690	67.744	1.00	60.57	C
	ATOM	5925	O	PRO H 219	-6.884	-53.795	68.007	1.00	60.36	O
	ATOM	5926	N	LYS H 220	-5.054	-54.371	66.753	1.00	63.14	N
50	ATOM	5927	CA	LYS H 220	-5.625	-55.344	65.804	1.00	64.45	C
	ATOM	5928	CB	LYS H 220	-5.754	-56.762	66.412	1.00	68.34	C
	ATOM	5929	CG	LYS H 220	-4.394	-57.444	66.582	1.00	69.74	C
	ATOM	5930	CD	LYS H 220	-4.422	-58.965	66.354	1.00	72.01	C
	ATOM	5931	CE	LYS H 220	-3.063	-59.528	65.941	1.00	73.29	C

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	ATOM	5932	NZ	LYS	H	220	-2.020	-59.383	67.000	1.00	72.76	N
	ATOM	5933	C	LYS	H	220	-6.879	-54.888	65.029	1.00	64.63	C
	ATOM	5934	O	LYS	H	220	-7.977	-54.800	65.584	1.00	65.10	O
	TER	5935		LYS	H	220						
5	ATOM	5936	N	ASP	L	1	22.210	-21.472	26.568	1.00	56.85	N
	ATOM	5937	CA	ASP	L	1	22.330	-21.465	28.026	1.00	56.71	C
	ATOM	5938	CB	ASP	L	1	21.135	-22.182	28.681	1.00	57.15	C
	ATOM	5939	CG	ASP	L	1	19.767	-21.565	28.475	1.00	56.62	C
	ATOM	5940	OD1	ASP	L	1	18.823	-21.992	29.165	1.00	57.04	O
10	ATOM	5941	OD2	ASP	L	1	19.639	-20.650	27.616	1.00	55.70	O
	ATOM	5942	C	ASP	L	1	23.584	-22.187	28.427	1.00	56.90	C
	ATOM	5943	O	ASP	L	1	24.000	-23.116	27.730	1.00	57.33	O
	ATOM	5944	N	ILE	L	2	24.185	-21.795	29.554	1.00	52.23	N
	ATOM	5945	CA	ILE	L	2	25.383	-22.493	30.003	1.00	51.70	C
15	ATOM	5946	CB	ILE	L	2	26.464	-21.565	30.606	1.00	52.39	C
	ATOM	5947	CG1	ILE	L	2	26.870	-20.458	29.592	1.00	51.26	C
	ATOM	5948	CD1	ILE	L	2	27.608	-19.281	30.157	1.00	49.94	C
	ATOM	5949	CG2	ILE	L	2	27.677	-22.399	31.050	1.00	51.52	C
	ATOM	5950	C	ILE	L	2	24.966	-23.628	30.924	1.00	51.93	C
20	ATOM	5951	O	ILE	L	2	24.290	-23.395	31.925	1.00	52.00	O
	ATOM	5952	N	GLN	L	3	25.345	-24.857	30.579	1.00	51.79	N
	ATOM	5953	CA	GLN	L	3	25.024	-26.020	31.397	1.00	52.27	C
	ATOM	5954	CB	GLN	L	3	25.036	-27.271	30.524	1.00	55.08	C
	ATOM	5955	CG	GLN	L	3	24.306	-28.464	31.126	1.00	58.73	C
25	ATOM	5956	CD	GLN	L	3	24.497	-29.727	30.290	1.00	63.45	C
	ATOM	5957	OE1	GLN	L	3	23.522	-30.336	29.801	1.00	65.29	O
	ATOM	5958	NE2	GLN	L	3	25.763	-30.151	30.100	1.00	63.83	N
	ATOM	5959	C	GLN	L	3	26.044	-26.133	32.544	1.00	51.64	C
	ATOM	5960	O	GLN	L	3	27.250	-26.016	32.310	1.00	51.78	O
30	ATOM	5961	N	MET	L	4	25.559	-26.317	33.778	1.00	47.22	N
	ATOM	5962	CA	MET	L	4	26.415	-26.483	34.948	1.00	47.02	C
	ATOM	5963	CB	MET	L	4	26.090	-25.492	36.094	1.00	48.37	C
	ATOM	5964	CG	MET	L	4	26.228	-24.009	35.752	1.00	47.31	C
	ATOM	5965	SD	MET	L	4	27.893	-23.449	35.315	1.00	47.54	S
35	ATOM	5966	CE	MET	L	4	28.636	-23.200	36.902	1.00	44.49	C
	ATOM	5967	C	MET	L	4	26.249	-27.940	35.415	1.00	47.54	C
	ATOM	5968	O	MET	L	4	25.136	-28.358	35.764	1.00	48.06	O
	ATOM	5969	N	THR	L	5	27.347	-28.717	35.393	1.00	47.71	N
	ATOM	5970	CA	THR	L	5	27.347	-30.123	35.795	1.00	47.70	C
40	ATOM	5971	CB	THR	L	5	27.842	-31.010	34.637	1.00	54.99	C
	ATOM	5972	OG1	THR	L	5	26.905	-30.933	33.566	1.00	54.57	O
	ATOM	5973	CG2	THR	L	5	27.993	-32.462	35.034	1.00	55.48	C
	ATOM	5974	C	THR	L	5	28.113	-30.302	37.105	1.00	47.80	C
	ATOM	5975	O	THR	L	5	29.334	-30.135	37.155	1.00	47.96	O
45	ATOM	5976	N	GLN	L	6	27.384	-30.636	38.163	1.00	46.99	N
	ATOM	5977	CA	GLN	L	6	27.948	-30.854	39.490	1.00	46.64	C
	ATOM	5978	CB	GLN	L	6	26.979	-30.388	40.561	1.00	46.69	C
	ATOM	5979	CG	GLN	L	6	27.473	-29.192	41.290	1.00	46.69	C
	ATOM	5980	CD	GLN	L	6	26.398	-28.724	42.214	1.00	47.74	C
50	ATOM	5981	OE1	GLN	L	6	25.462	-28.038	41.814	1.00	48.86	O
	ATOM	5982	NE2	GLN	L	6	26.506	-29.097	43.474	1.00	47.32	N
	ATOM	5983	C	GLN	L	6	28.221	-32.306	39.703	1.00	46.53	C
	ATOM	5984	O	GLN	L	6	27.469	-33.152	39.223	1.00	46.90	O
	ATOM	5985	N	SER	L	7	29.290	-32.610	40.434	1.00	47.89	N

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	ATOM	5986	CA	SER L	7	29.648	-33.992	40.747	1.00	47.55	C
	ATOM	5987	CB	SER L	7	30.461	-34.637	39.624	1.00	53.00	C
	ATOM	5988	OG	SER L	7	31.854	-34.461	39.816	1.00	54.36	O
	ATOM	5989	C	SER L	7	30.363	-34.063	42.106	1.00	46.96	C
5	ATOM	5990	O	SER L	7	31.159	-33.166	42.425	1.00	46.83	O
	ATOM	5991	N	PRO L	8	30.063	-35.101	42.932	1.00	44.47	N
	ATOM	5992	CA	PRO L	8	29.095	-36.187	42.675	1.00	43.81	C
	ATOM	5993	CB	PRO L	8	29.527	-37.268	43.671	1.00	44.49	C
	ATOM	5994	CG	PRO L	8	30.105	-36.504	44.831	1.00	44.40	C
10	ATOM	5995	CD	PRO L	8	30.683	-35.229	44.271	1.00	44.80	C
	ATOM	5996	C	PRO L	8	27.667	-35.682	42.902	1.00	43.24	C
	ATOM	5997	O	PRO L	8	27.487	-34.581	43.407	1.00	43.02	O
	ATOM	5998	N	SER L	9	26.660	-36.461	42.531	1.00	45.08	N
	ATOM	5999	CA	SER L	9	25.290	-36.032	42.750	1.00	44.98	C
15	ATOM	6000	CB	SER L	9	24.317	-36.869	41.929	1.00	53.47	C
	ATOM	6001	OG	SER L	9	24.234	-38.196	42.429	1.00	55.85	O
	ATOM	6002	C	SER L	9	24.990	-36.118	44.248	1.00	44.31	C
	ATOM	6003	O	SER L	9	24.023	-35.517	44.723	1.00	44.36	O
	ATOM	6004	N	SER L	10	25.835	-36.851	44.983	1.00	42.97	N
20	ATOM	6005	CA	SER L	10	25.761	-37.025	46.431	1.00	43.00	C
	ATOM	6006	CB	SER L	10	24.482	-37.750	46.858	1.00	46.65	C
	ATOM	6007	OG	SER L	10	24.473	-39.113	46.472	1.00	46.34	O
	ATOM	6008	C	SER L	10	26.978	-37.758	46.977	1.00	42.84	C
	ATOM	6009	O	SER L	10	27.524	-38.632	46.301	1.00	42.42	O
25	ATOM	6010	N	LEU L	11	27.369	-37.419	48.218	1.00	43.95	N
	ATOM	6011	CA	LEU L	11	28.477	-38.056	48.924	1.00	44.60	C
	ATOM	6012	CB	LEU L	11	29.840	-37.376	48.655	1.00	43.65	C
	ATOM	6013	CG	LEU L	11	30.050	-35.977	49.201	1.00	43.43	C
	ATOM	6014	CD1	LEU L	11	30.710	-36.005	50.555	1.00	42.72	C
30	ATOM	6015	CD2	LEU L	11	30.855	-35.148	48.245	1.00	42.84	C
	ATOM	6016	C	LEU L	11	28.212	-38.224	50.426	1.00	45.27	C
	ATOM	6017	O	LEU L	11	27.590	-37.361	51.054	1.00	45.55	O
	ATOM	6018	N	SER L	12	28.693	-39.339	51.000	1.00	49.17	N
	ATOM	6019	CA	SER L	12	28.548	-39.600	52.434	1.00	49.59	C
35	ATOM	6020	CB	SER L	12	28.161	-41.050	52.686	1.00	55.29	C
	ATOM	6021	OG	SER L	12	29.090	-41.919	52.060	1.00	56.49	O
	ATOM	6022	C	SER L	12	29.896	-39.301	53.079	1.00	49.19	C
	ATOM	6023	O	SER L	12	30.920	-39.742	52.555	1.00	49.39	O
	ATOM	6024	N	ALA L	13	29.910	-38.553	54.190	1.00	46.40	N
40	ATOM	6025	CA	ALA L	13	31.151	-38.225	54.867	1.00	46.48	C
	ATOM	6026	CB	ALA L	13	31.737	-36.958	54.279	1.00	47.13	C
	ATOM	6027	C	ALA L	13	31.007	-38.110	56.400	1.00	46.95	C
	ATOM	6028	O	ALA L	13	29.897	-37.961	56.921	1.00	47.43	O
	ATOM	6029	N	SER L	14	32.135	-38.210	57.121	1.00	47.06	N
45	ATOM	6030	CA	SER L	14	32.155	-38.129	58.578	1.00	47.44	C
	ATOM	6031	CB	SER L	14	33.177	-39.108	59.144	1.00	49.65	C
	ATOM	6032	OG	SER L	14	33.166	-40.349	58.452	1.00	49.68	O
	ATOM	6033	C	SER L	14	32.501	-36.713	58.977	1.00	47.79	C
	ATOM	6034	O	SER L	14	33.000	-35.961	58.140	1.00	48.05	O
50	ATOM	6035	N	VAL L	15	32.217	-36.319	60.235	1.00	50.60	N
	ATOM	6036	CA	VAL L	15	32.562	-34.973	60.720	1.00	51.01	C
	ATOM	6037	CB	VAL L	15	31.920	-34.675	62.107	1.00	53.74	C
	ATOM	6038	CG1	VAL L	15	32.622	-33.524	62.838	1.00	53.21	C
	ATOM	6039	CG2	VAL L	15	30.434	-34.380	61.957	1.00	54.09	C

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	ATOM	6040	C	VAL	L	15	34.117	-34.920	60.742	1.00	51.52	C
	ATOM	6041	O	VAL	L	15	34.762	-35.919	61.115	1.00	52.11	O
	ATOM	6042	N	GLY	L	16	34.688	-33.802	60.298	1.00	49.65	N
	ATOM	6043	CA	GLY	L	16	36.135	-33.643	60.244	1.00	49.60	C
5	ATOM	6044	C	GLY	L	16	36.734	-34.025	58.898	1.00	49.74	C
	ATOM	6045	O	GLY	L	16	37.899	-33.697	58.644	1.00	50.19	O
	ATOM	6046	N	ASP	L	17	35.957	-34.706	58.011	1.00	46.62	N
	ATOM	6047	CA	ASP	L	17	36.428	-35.063	56.670	1.00	46.94	C
	ATOM	6048	CB	ASP	L	17	35.444	-36.009	55.954	1.00	48.31	C
10	ATOM	6049	CG	ASP	L	17	35.505	-37.499	56.264	1.00	49.58	C
	ATOM	6050	OD1	ASP	L	17	36.164	-37.889	57.279	1.00	50.77	O
	ATOM	6051	OD2	ASP	L	17	34.885	-38.287	55.506	1.00	50.35	O
	ATOM	6052	C	ASP	L	17	36.594	-33.780	55.795	1.00	47.49	C
	ATOM	6053	O	ASP	L	17	36.003	-32.717	56.074	1.00	46.93	O
15	ATOM	6054	N	ARG	L	18	37.424	-33.903	54.739	1.00	50.29	N
	ATOM	6055	CA	ARG	L	18	37.638	-32.845	53.774	1.00	50.82	C
	ATOM	6056	CB	ARG	L	18	39.102	-32.726	53.347	1.00	55.70	C
	ATOM	6057	CG	ARG	L	18	39.294	-31.683	52.250	1.00	57.09	C
	ATOM	6058	CD	ARG	L	18	40.645	-31.769	51.588	1.00	59.25	C
20	ATOM	6059	NE	ARG	L	18	41.103	-30.430	51.205	1.00	61.18	N
	ATOM	6060	CZ	ARG	L	18	41.328	-30.035	49.950	1.00	61.70	C
	ATOM	6061	NH1	ARG	L	18	41.164	-30.884	48.935	1.00	60.94	N
	ATOM	6062	NH2	ARG	L	18	41.727	-28.789	49.701	1.00	62.16	N
	ATOM	6063	C	ARG	L	18	36.783	-33.281	52.608	1.00	50.66	C
25	ATOM	6064	O	ARG	L	18	36.908	-34.416	52.149	1.00	51.17	O
	ATOM	6065	N	VAL	L	19	35.885	-32.409	52.152	1.00	49.11	N
	ATOM	6066	CA	VAL	L	19	35.008	-32.749	51.033	1.00	48.70	C
	ATOM	6067	CB	VAL	L	19	33.506	-32.966	51.407	1.00	52.67	C
	ATOM	6068	CG1	VAL	L	19	33.332	-34.141	52.371	1.00	53.11	C
30	ATOM	6069	CG2	VAL	L	19	32.872	-31.706	51.979	1.00	52.81	C
	ATOM	6070	C	VAL	L	19	35.177	-31.771	49.920	1.00	48.30	C
	ATOM	6071	O	VAL	L	19	35.312	-30.571	50.161	1.00	47.96	O
	ATOM	6072	N	THR	L	20	35.201	-32.282	48.700	1.00	46.55	N
	ATOM	6073	CA	THR	L	20	35.312	-31.414	47.546	1.00	46.73	C
35	ATOM	6074	CB	THR	L	20	36.756	-31.283	46.976	1.00	57.01	C
	ATOM	6075	OG1	THR	L	20	37.040	-32.349	46.069	1.00	57.18	O
	ATOM	6076	CG2	THR	L	20	37.840	-31.144	48.050	1.00	55.86	C
	ATOM	6077	C	THR	L	20	34.227	-31.752	46.525	1.00	46.73	C
	ATOM	6078	O	THR	L	20	34.106	-32.904	46.100	1.00	46.55	O
40	ATOM	6079	N	ILE	L	21	33.435	-30.736	46.152	1.00	46.14	N
	ATOM	6080	CA	ILE	L	21	32.352	-30.822	45.166	1.00	46.26	C
	ATOM	6081	CB	ILE	L	21	31.046	-30.148	45.704	1.00	49.00	C
	ATOM	6082	CG1	ILE	L	21	30.549	-30.817	47.000	1.00	48.32	C
	ATOM	6083	CD1	ILE	L	21	29.896	-29.880	47.932	1.00	48.21	C
45	ATOM	6084	CG2	ILE	L	21	29.937	-30.095	44.635	1.00	48.85	C
	ATOM	6085	C	ILE	L	21	32.865	-30.137	43.891	1.00	46.47	C
	ATOM	6086	O	ILE	L	21	33.395	-29.036	43.950	1.00	46.17	O
	ATOM	6087	N	THR	L	22	32.694	-30.795	42.751	1.00	49.56	N
	ATOM	6088	CA	THR	L	22	33.118	-30.306	41.438	1.00	50.44	C
50	ATOM	6089	CB	THR	L	22	33.889	-31.444	40.734	1.00	54.95	C
	ATOM	6090	OG1	THR	L	22	35.285	-31.203	40.889	1.00	54.79	O
	ATOM	6091	CG2	THR	L	22	33.508	-31.646	39.262	1.00	54.61	C
	ATOM	6092	C	THR	L	22	31.930	-29.718	40.647	1.00	51.14	C
	ATOM	6093	O	THR	L	22	30.801	-30.197	40.781	1.00	51.53	O

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	ATOM	6094	N	CYS L	23	32.196	-28.692	39.833	1.00	50.38	N
	ATOM	6095	CA	CYS L	23	31.207	-28.039	38.995	1.00	51.14	C
	ATOM	6096	CB	CYS L	23	30.596	-26.828	39.691	1.00	50.93	C
	ATOM	6097	SG	CYS L	23	29.281	-26.022	38.735	1.00	52.84	S
5	ATOM	6098	C	CYS L	23	31.826	-27.660	37.670	1.00	51.69	C
	ATOM	6099	O	CYS L	23	32.752	-26.846	37.611	1.00	52.15	O
	ATOM	6100	N	LYS L	24	31.316	-28.247	36.605	1.00	53.93	N
	ATOM	6101	CA	LYS L	24	31.806	-27.961	35.275	1.00	54.47	C
	ATOM	6102	CB	LYS L	24	32.116	-29.258	34.517	1.00	59.23	C
10	ATOM	6103	CG	LYS L	24	33.580	-29.381	34.094	1.00	61.73	C
	ATOM	6104	CD	LYS L	24	34.556	-29.488	35.299	1.00	66.24	C
	ATOM	6105	CE	LYS L	24	34.743	-30.882	35.877	1.00	67.90	C
	ATOM	6106	NZ	LYS L	24	35.248	-31.875	34.875	1.00	69.79	N
	ATOM	6107	C	LYS L	24	30.836	-27.105	34.501	1.00	54.17	C
15	ATOM	6108	O	LYS L	24	29.637	-27.378	34.510	1.00	54.15	O
	ATOM	6109	N	ALA L	25	31.357	-26.079	33.817	1.00	52.91	N
	ATOM	6110	CA	ALA L	25	30.574	-25.175	32.977	1.00	52.26	C
	ATOM	6111	CB	ALA L	25	31.050	-23.745	33.167	1.00	52.76	C
	ATOM	6112	C	ALA L	25	30.740	-25.596	31.517	1.00	51.83	C
20	ATOM	6113	O	ALA L	25	31.843	-25.954	31.104	1.00	52.27	O
	ATOM	6114	N	SER L	26	29.652	-25.575	30.743	1.00	51.04	N
	ATOM	6115	CA	SER L	26	29.668	-25.938	29.326	1.00	50.38	C
	ATOM	6116	CB	SER L	26	28.246	-26.220	28.840	1.00	53.14	C
	ATOM	6117	OG	SER L	26	27.532	-25.048	28.477	1.00	52.96	O
25	ATOM	6118	C	SER L	26	30.382	-24.874	28.424	1.00	50.46	C
	ATOM	6119	O	SER L	26	30.699	-25.166	27.264	1.00	50.04	O
	ATOM	6120	N	GLN L	27	30.619	-23.657	28.965	1.00	51.58	N
	ATOM	6121	CA	GLN L	27	31.266	-22.527	28.287	1.00	51.81	C
	ATOM	6122	CB	GLN L	27	30.193	-21.580	27.689	1.00	54.30	C
30	ATOM	6123	CG	GLN L	27	29.623	-22.051	26.347	1.00	57.45	C
	ATOM	6124	CD	GLN L	27	28.101	-22.122	26.304	1.00	61.11	C
	ATOM	6125	OE1	GLN L	27	27.415	-21.091	26.177	1.00	61.77	O
	ATOM	6126	NE2	GLN L	27	27.533	-23.345	26.397	1.00	61.28	N
	ATOM	6127	C	GLN L	27	32.090	-21.755	29.303	1.00	51.14	C
35	ATOM	6128	O	GLN L	27	31.780	-21.855	30.489	1.00	50.86	O
	ATOM	6129	N	ASN L	28	33.113	-20.951	28.864	1.00	52.46	N
	ATOM	6130	CA	ASN L	28	33.903	-20.144	29.820	1.00	51.45	C
	ATOM	6131	CB	ASN L	28	34.967	-19.252	29.154	1.00	55.57	C
	ATOM	6132	CG	ASN L	28	35.947	-18.572	30.134	1.00	57.24	C
40	ATOM	6133	OD1	ASN L	28	35.585	-18.024	31.182	1.00	58.39	O
	ATOM	6134	ND2	ASN L	28	37.241	-18.581	29.816	1.00	60.49	N
	ATOM	6135	C	ASN L	28	32.909	-19.291	30.600	1.00	50.28	C
	ATOM	6136	O	ASN L	28	31.907	-18.837	30.038	1.00	50.84	O
	ATOM	6137	N	VAL L	29	33.165	-19.106	31.889	1.00	45.24	N
45	ATOM	6138	CA	VAL L	29	32.290	-18.373	32.793	1.00	44.06	C
	ATOM	6139	CB	VAL L	29	31.470	-19.465	33.572	1.00	47.07	C
	ATOM	6140	CG1	VAL L	29	31.261	-19.157	35.035	1.00	47.35	C
	ATOM	6141	CG2	VAL L	29	30.153	-19.788	32.876	1.00	46.45	C
	ATOM	6142	C	VAL L	29	33.133	-17.376	33.650	1.00	43.44	C
50	ATOM	6143	O	VAL L	29	32.585	-16.616	34.473	1.00	42.83	O
	ATOM	6144	N	GLY L	30	34.455	-17.372	33.387	1.00	42.12	N
	ATOM	6145	CA	GLY L	30	35.440	-16.549	34.084	1.00	40.99	C
	ATOM	6146	C	GLY L	30	35.441	-17.007	35.521	1.00	40.51	C
	ATOM	6147	O	GLY L	30	35.707	-18.181	35.792	1.00	40.80	O

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	ATOM	6148	N	THR	L	31	35.081	-16.118	36.442	1.00	38.61	N
	ATOM	6149	CA	THR	L	31	34.967	-16.498	37.841	1.00	37.83	C
	ATOM	6150	CB	THR	L	31	36.071	-15.881	38.693	1.00	37.80	C
	ATOM	6151	OG1	THR	L	31	35.913	-14.466	38.723	1.00	38.78	O
5	ATOM	6152	CG2	THR	L	31	37.476	-16.297	38.271	1.00	37.41	C
	ATOM	6153	C	THR	L	31	33.584	-16.080	38.321	1.00	37.83	C
	ATOM	6154	O	THR	L	31	33.424	-15.772	39.495	1.00	37.69	O
	ATOM	6155	N	ASN	L	32	32.579	-16.034	37.418	1.00	39.84	N
	ATOM	6156	CA	ASN	L	32	31.214	-15.646	37.784	1.00	39.91	C
10	ATOM	6157	CB	ASN	L	32	30.497	-14.961	36.630	1.00	47.46	C
	ATOM	6158	CG	ASN	L	32	31.172	-13.721	36.132	1.00	49.20	C
	ATOM	6159	OD1	ASN	L	32	31.568	-13.647	34.966	1.00	53.55	O
	ATOM	6160	ND2	ASN	L	32	31.326	-12.720	36.987	1.00	49.76	N
	ATOM	6161	C	ASN	L	32	30.460	-16.883	38.222	1.00	39.24	C
15	ATOM	6162	O	ASN	L	32	29.530	-17.329	37.546	1.00	38.51	O
	ATOM	6163	N	VAL	L	33	30.901	-17.460	39.350	1.00	39.99	N
	ATOM	6164	CA	VAL	L	33	30.340	-18.662	39.948	1.00	39.37	C
	ATOM	6165	CB	VAL	L	33	31.244	-19.898	39.694	1.00	42.16	C
	ATOM	6166	CG1	VAL	L	33	31.022	-21.022	40.708	1.00	42.02	C
20	ATOM	6167	CG2	VAL	L	33	31.027	-20.421	38.290	1.00	42.01	C
	ATOM	6168	C	VAL	L	33	30.010	-18.401	41.414	1.00	38.91	C
	ATOM	6169	O	VAL	L	33	30.835	-17.857	42.152	1.00	39.90	O
	ATOM	6170	N	VAL	L	34	28.789	-18.751	41.810	1.00	36.44	N
	ATOM	6171	CA	VAL	L	34	28.279	-18.630	43.177	1.00	35.84	C
25	ATOM	6172	CB	VAL	L	34	27.084	-17.621	43.262	1.00	39.53	C
	ATOM	6173	CG1	VAL	L	34	25.958	-17.969	42.293	1.00	37.69	C
	ATOM	6174	CG2	VAL	L	34	26.562	-17.455	44.688	1.00	39.60	C
	ATOM	6175	C	VAL	L	34	27.979	-20.070	43.734	1.00	35.64	C
	ATOM	6176	O	VAL	L	34	27.652	-20.983	42.961	1.00	35.53	O
30	ATOM	6177	N	TRP	L	35	28.150	-20.275	45.047	1.00	34.01	N
	ATOM	6178	CA	TRP	L	35	27.897	-21.579	45.694	1.00	33.88	C
	ATOM	6179	CB	TRP	L	35	29.176	-22.172	46.304	1.00	31.62	C
	ATOM	6180	CG	TRP	L	35	30.116	-22.752	45.288	1.00	32.66	C
	ATOM	6181	CD1	TRP	L	35	31.178	-22.128	44.692	1.00	33.43	C
35	ATOM	6182	NE1	TRP	L	35	31.787	-22.981	43.793	1.00	33.02	N
	ATOM	6183	CE2	TRP	L	35	31.132	-24.186	43.809	1.00	32.45	C
	ATOM	6184	CD2	TRP	L	35	30.070	-24.078	44.740	1.00	32.54	C
	ATOM	6185	CE3	TRP	L	35	29.216	-25.175	44.923	1.00	31.79	C
	ATOM	6186	CZ3	TRP	L	35	29.453	-26.331	44.204	1.00	33.40	C
40	ATOM	6187	CH2	TRP	L	35	30.526	-26.423	43.306	1.00	34.47	C
	ATOM	6188	CZ2	TRP	L	35	31.375	-25.357	43.086	1.00	33.47	C
	ATOM	6189	C	TRP	L	35	26.832	-21.387	46.751	1.00	33.58	C
	ATOM	6190	O	TRP	L	35	26.909	-20.440	47.551	1.00	33.70	O
	ATOM	6191	N	TYR	L	36	25.801	-22.229	46.723	1.00	33.53	N
45	ATOM	6192	CA	TYR	L	36	24.706	-22.105	47.693	1.00	33.31	C
	ATOM	6193	CB	TYR	L	36	23.341	-21.884	47.015	1.00	33.22	C
	ATOM	6194	CG	TYR	L	36	23.193	-20.622	46.198	1.00	32.66	C
	ATOM	6195	CD1	TYR	L	36	23.388	-20.636	44.826	1.00	33.32	C
	ATOM	6196	CE1	TYR	L	36	23.211	-19.488	44.059	1.00	33.23	C
50	ATOM	6197	CZ	TYR	L	36	22.843	-18.301	44.667	1.00	32.01	C
	ATOM	6198	OH	TYR	L	36	22.687	-17.178	43.882	1.00	33.10	O
	ATOM	6199	CE2	TYR	L	36	22.629	-18.265	46.032	1.00	30.99	C
	ATOM	6200	CD2	TYR	L	36	22.785	-19.429	46.786	1.00	32.50	C
	ATOM	6201	C	TYR	L	36	24.603	-23.337	48.545	1.00	33.80	C

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	ATOM	6202	O	TYR	L	36	24.955	-24.438	48.103	1.00	34.28	O
	ATOM	6203	N	GLN	L	37	24.082	-23.160	49.757	1.00	34.69	N
	ATOM	6204	CA	GLN	L	37	23.865	-24.258	50.686	1.00	34.82	C
	ATOM	6205	CB	GLN	L	37	24.685	-24.095	51.967	1.00	35.20	C
5	ATOM	6206	CG	GLN	L	37	24.378	-25.212	52.940	1.00	36.67	C
	ATOM	6207	CD	GLN	L	37	24.841	-24.909	54.311	1.00	38.23	C
	ATOM	6208	OE1	GLN	L	37	24.286	-24.022	54.984	1.00	38.57	O
	ATOM	6209	NE2	GLN	L	37	25.873	-25.654	54.749	1.00	37.92	N
	ATOM	6210	C	GLN	L	37	22.374	-24.341	51.020	1.00	34.83	C
10	ATOM	6211	O	GLN	L	37	21.748	-23.354	51.458	1.00	34.67	O
	ATOM	6212	N	GLN	L	38	21.819	-25.526	50.847	1.00	33.45	N
	ATOM	6213	CA	GLN	L	38	20.428	-25.664	51.158	1.00	33.41	C
	ATOM	6214	CB	GLN	L	38	19.576	-25.771	49.887	1.00	34.64	C
	ATOM	6215	CG	GLN	L	38	18.186	-25.214	50.119	1.00	33.82	C
15	ATOM	6216	CD	GLN	L	38	17.210	-25.598	49.057	1.00	34.80	C
	ATOM	6217	OE1	GLN	L	38	17.546	-26.241	48.041	1.00	36.47	O
	ATOM	6218	NE2	GLN	L	38	15.962	-25.212	49.280	1.00	34.82	N
	ATOM	6219	C	GLN	L	38	20.152	-26.789	52.091	1.00	33.67	C
	ATOM	6220	O	GLN	L	38	20.590	-27.917	51.873	1.00	32.86	O
20	ATOM	6221	N	LYS	L	39	19.388	-26.466	53.118	1.00	36.79	N
	ATOM	6222	CA	LYS	L	39	18.915	-27.391	54.130	1.00	38.34	C
	ATOM	6223	CB	LYS	L	39	19.180	-26.834	55.532	1.00	40.15	C
	ATOM	6224	CG	LYS	L	39	20.615	-27.089	55.927	1.00	41.30	C
	ATOM	6225	CD	LYS	L	39	20.952	-26.528	57.264	1.00	43.61	C
25	ATOM	6226	CE	LYS	L	39	22.320	-27.017	57.658	1.00	45.71	C
	ATOM	6227	NZ	LYS	L	39	22.632	-26.733	59.093	1.00	48.25	N
	ATOM	6228	C	LYS	L	39	17.411	-27.642	53.870	1.00	39.22	C
	ATOM	6229	O	LYS	L	39	16.725	-26.733	53.390	1.00	39.57	O
	ATOM	6230	N	PRO	L	40	16.886	-28.860	54.155	1.00	41.15	N
30	ATOM	6231	CA	PRO	L	40	15.446	-29.130	53.907	1.00	41.47	C
	ATOM	6232	CB	PRO	L	40	15.242	-30.525	54.487	1.00	43.33	C
	ATOM	6233	CG	PRO	L	40	16.614	-31.158	54.408	1.00	43.44	C
	ATOM	6234	CD	PRO	L	40	17.573	-30.046	54.709	1.00	42.40	C
	ATOM	6235	C	PRO	L	40	14.506	-28.117	54.553	1.00	41.90	C
35	ATOM	6236	O	PRO	L	40	14.731	-27.696	55.689	1.00	42.06	O
	ATOM	6237	N	GLY	L	41	13.493	-27.704	53.787	1.00	42.50	N
	ATOM	6238	CA	GLY	L	41	12.500	-26.722	54.211	1.00	42.27	C
	ATOM	6239	C	GLY	L	41	13.043	-25.320	54.424	1.00	42.43	C
	ATOM	6240	O	GLY	L	41	12.424	-24.511	55.123	1.00	42.71	O
40	ATOM	6241	N	LYS	L	42	14.215	-25.020	53.849	1.00	41.74	N
	ATOM	6242	CA	LYS	L	42	14.845	-23.705	53.990	1.00	41.40	C
	ATOM	6243	CB	LYS	L	42	16.068	-23.754	54.943	1.00	45.27	C
	ATOM	6244	CG	LYS	L	42	15.787	-24.137	56.401	1.00	48.00	C
	ATOM	6245	CD	LYS	L	42	15.184	-23.007	57.259	1.00	54.05	C
45	ATOM	6246	CE	LYS	L	42	15.133	-23.352	58.748	1.00	58.44	C
	ATOM	6247	NZ	LYS	L	42	14.054	-24.333	59.099	1.00	60.51	N
	ATOM	6248	C	LYS	L	42	15.258	-23.152	52.625	1.00	40.29	C
	ATOM	6249	O	LYS	L	42	15.492	-23.917	51.678	1.00	39.82	O
	ATOM	6250	N	ALA	L	43	15.330	-21.817	52.532	1.00	36.19	N
50	ATOM	6251	CA	ALA	L	43	15.762	-21.131	51.333	1.00	35.56	C
	ATOM	6252	CB	ALA	L	43	15.529	-19.644	51.494	1.00	36.11	C
	ATOM	6253	C	ALA	L	43	17.263	-21.370	51.223	1.00	35.48	C
	ATOM	6254	O	ALA	L	43	17.931	-21.506	52.263	1.00	35.06	O
	ATOM	6255	N	PRO	L	44	17.840	-21.401	50.005	1.00	33.19	N

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	ATOM	6256	CA	PRO L	44	19.301	-21.561	49.907	1.00	33.73	C
	ATOM	6257	CB	PRO L	44	19.545	-21.629	48.394	1.00	34.29	C
	ATOM	6258	CG	PRO L	44	18.173	-21.960	47.790	1.00	33.06	C
	ATOM	6259	CD	PRO L	44	17.218	-21.257	48.672	1.00	33.28	C
5	ATOM	6260	C	PRO L	44	20.054	-20.382	50.556	1.00	34.65	C
	ATOM	6261	O	PRO L	44	19.468	-19.329	50.880	1.00	34.57	O
	ATOM	6262	N	LYS L	45	21.347	-20.565	50.792	1.00	38.85	N
	ATOM	6263	CA	LYS L	45	22.181	-19.522	51.389	1.00	39.67	C
	ATOM	6264	CB	LYS L	45	22.438	-19.813	52.879	1.00	45.77	C
10	ATOM	6265	CG	LYS L	45	23.384	-18.821	53.564	1.00	49.42	C
	ATOM	6266	CD	LYS L	45	23.602	-19.119	55.060	1.00	52.87	C
	ATOM	6267	CE	LYS L	45	24.984	-19.662	55.385	1.00	56.40	C
	ATOM	6268	NZ	LYS L	45	25.206	-19.859	56.861	1.00	57.24	N
	ATOM	6269	C	LYS L	45	23.479	-19.474	50.608	1.00	39.39	C
15	ATOM	6270	O	LYS L	45	24.154	-20.496	50.497	1.00	39.67	O
	ATOM	6271	N	ALA L	46	23.833	-18.303	50.068	1.00	38.49	N
	ATOM	6272	CA	ALA L	46	25.079	-18.139	49.295	1.00	38.18	C
	ATOM	6273	CB	ALA L	46	25.068	-16.815	48.536	1.00	38.68	C
	ATOM	6274	C	ALA L	46	26.281	-18.213	50.213	1.00	37.91	C
20	ATOM	6275	O	ALA L	46	26.315	-17.545	51.240	1.00	38.05	O
	ATOM	6276	N	LEU L	47	27.244	-19.042	49.856	1.00	39.06	N
	ATOM	6277	CA	LEU L	47	28.466	-19.244	50.636	1.00	39.93	C
	ATOM	6278	CB	LEU L	47	28.803	-20.751	50.768	1.00	38.95	C
	ATOM	6279	CG	LEU L	47	27.769	-21.683	51.394	1.00	38.15	C
25	ATOM	6280	CD1	LEU L	47	28.170	-23.097	51.187	1.00	38.31	C
	ATOM	6281	CD2	LEU L	47	27.583	-21.433	52.887	1.00	36.24	C
	ATOM	6282	C	LEU L	47	29.632	-18.496	49.988	1.00	40.92	C
	ATOM	6283	O	LEU L	47	30.196	-17.588	50.592	1.00	41.18	O
	ATOM	6284	N	ILE L	48	29.964	-18.880	48.749	1.00	44.28	N
30	ATOM	6285	CA	ILE L	48	31.033	-18.307	47.936	1.00	45.02	C
	ATOM	6286	CB	ILE L	48	31.926	-19.462	47.374	1.00	47.96	C
	ATOM	6287	CG1	ILE L	48	32.438	-20.457	48.447	1.00	48.50	C
	ATOM	6288	CD1	ILE L	48	33.626	-20.029	49.325	1.00	50.10	C
	ATOM	6289	CG2	ILE L	48	33.026	-18.971	46.451	1.00	47.55	C
35	ATOM	6290	C	ILE L	48	30.409	-17.507	46.779	1.00	45.24	C
	ATOM	6291	O	ILE L	48	29.334	-17.870	46.296	1.00	45.27	O
	ATOM	6292	N	HIS L	49	31.103	-16.438	46.338	1.00	45.01	N
	ATOM	6293	CA	HIS L	49	30.802	-15.568	45.193	1.00	45.03	C
	ATOM	6294	CB	HIS L	49	30.154	-14.225	45.605	1.00	45.28	C
40	ATOM	6295	CG	HIS L	49	31.071	-13.194	46.196	1.00	46.33	C
	ATOM	6296	ND1	HIS L	49	30.934	-12.768	47.513	1.00	47.80	N
	ATOM	6297	CE1	HIS L	49	31.875	-11.850	47.694	1.00	46.74	C
	ATOM	6298	NE2	HIS L	49	32.582	-11.648	46.580	1.00	45.90	N
	ATOM	6299	CD2	HIS L	49	32.075	-12.490	45.618	1.00	46.18	C
45	ATOM	6300	C	HIS L	49	32.130	-15.364	44.435	1.00	45.12	C
	ATOM	6301	O	HIS L	49	33.197	-15.688	44.973	1.00	45.08	O
	ATOM	6302	N	SER L	50	32.089	-14.851	43.200	1.00	45.08	N
	ATOM	6303	CA	SER L	50	33.310	-14.620	42.424	1.00	45.32	C
	ATOM	6304	CB	SER L	50	34.062	-13.404	42.958	1.00	47.10	C
50	ATOM	6305	OG	SER L	50	33.218	-12.267	42.935	1.00	47.36	O
	ATOM	6306	C	SER L	50	34.227	-15.859	42.360	1.00	45.50	C
	ATOM	6307	O	SER L	50	35.449	-15.727	42.261	1.00	45.66	O
	ATOM	6308	N	ALA L	51	33.617	-17.059	42.407	1.00	44.44	N
	ATOM	6309	CA	ALA L	51	34.251	-18.382	42.379	1.00	44.12	C

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	ATOM	6310	CB	ALA	L	51	35.088	-18.570	41.116	1.00	44.39	C
	ATOM	6311	C	ALA	L	51	35.057	-18.790	43.636	1.00	44.07	C
	ATOM	6312	O	ALA	L	51	35.193	-19.991	43.876	1.00	44.06	O
	ATOM	6313	N	SER	L	52	35.562	-17.809	44.435	1.00	43.12	N
5	ATOM	6314	CA	SER	L	52	36.412	-18.060	45.601	1.00	43.05	C
	ATOM	6315	CB	SER	L	52	37.862	-18.247	45.136	1.00	48.02	C
	ATOM	6316	OG	SER	L	52	38.362	-17.144	44.385	1.00	49.01	O
	ATOM	6317	C	SER	L	52	36.361	-16.984	46.710	1.00	42.91	C
	ATOM	6318	O	SER	L	52	37.338	-16.833	47.444	1.00	42.66	O
10	ATOM	6319	N	TYR	L	53	35.259	-16.250	46.850	1.00	42.91	N
	ATOM	6320	CA	TYR	L	53	35.173	-15.239	47.907	1.00	43.64	C
	ATOM	6321	CB	TYR	L	53	35.124	-13.803	47.343	1.00	45.60	C
	ATOM	6322	CG	TYR	L	53	36.444	-13.333	46.762	1.00	47.95	C
	ATOM	6323	CD1	TYR	L	53	37.263	-12.449	47.463	1.00	49.33	C
15	ATOM	6324	CE1	TYR	L	53	38.486	-12.028	46.941	1.00	51.54	C
	ATOM	6325	CZ	TYR	L	53	38.901	-12.494	45.701	1.00	52.74	C
	ATOM	6326	OH	TYR	L	53	40.109	-12.102	45.166	1.00	54.08	O
	ATOM	6327	CE2	TYR	L	53	38.102	-13.375	44.988	1.00	51.57	C
	ATOM	6328	CD2	TYR	L	53	36.883	-13.785	45.517	1.00	49.77	C
20	ATOM	6329	C	TYR	L	53	33.978	-15.537	48.792	1.00	43.54	C
	ATOM	6330	O	TYR	L	53	32.869	-15.680	48.286	1.00	43.97	O
	ATOM	6331	N	ARG	L	54	34.191	-15.649	50.107	1.00	44.12	N
	ATOM	6332	CA	ARG	L	54	33.099	-15.967	51.017	1.00	44.02	C
	ATOM	6333	CB	ARG	L	54	33.630	-16.556	52.337	1.00	45.36	C
25	ATOM	6334	CG	ARG	L	54	34.415	-17.871	52.169	1.00	45.41	C
	ATOM	6335	CD	ARG	L	54	34.801	-18.543	53.479	1.00	45.27	C
	ATOM	6336	NE	ARG	L	54	35.031	-17.588	54.562	1.00	45.59	N
	ATOM	6337	CZ	ARG	L	54	36.214	-17.075	54.889	1.00	45.25	C
	ATOM	6338	NH1	ARG	L	54	37.313	-17.438	54.228	1.00	46.53	N
30	ATOM	6339	NH2	ARG	L	54	36.312	-16.200	55.884	1.00	43.46	N
	ATOM	6340	C	ARG	L	54	32.170	-14.788	51.288	1.00	43.62	C
	ATOM	6341	O	ARG	L	54	32.622	-13.642	51.275	1.00	43.47	O
	ATOM	6342	N	TYR	L	55	30.874	-15.070	51.547	1.00	42.55	N
	ATOM	6343	CA	TYR	L	55	29.885	-14.047	51.888	1.00	42.49	C
35	ATOM	6344	CB	TYR	L	55	28.454	-14.551	51.626	1.00	43.15	C
	ATOM	6345	CG	TYR	L	55	27.971	-14.345	50.211	1.00	40.73	C
	ATOM	6346	CD1	TYR	L	55	27.107	-13.306	49.898	1.00	39.08	C
	ATOM	6347	CE1	TYR	L	55	26.661	-13.102	48.595	1.00	39.34	C
	ATOM	6348	CZ	TYR	L	55	27.069	-13.960	47.586	1.00	40.25	C
40	ATOM	6349	OH	TYR	L	55	26.619	-13.753	46.300	1.00	41.11	O
	ATOM	6350	CE2	TYR	L	55	27.914	-15.022	47.881	1.00	39.64	C
	ATOM	6351	CD2	TYR	L	55	28.372	-15.197	49.185	1.00	39.59	C
	ATOM	6352	C	TYR	L	55	30.061	-13.712	53.363	1.00	43.19	C
	ATOM	6353	O	TYR	L	55	30.784	-14.419	54.051	1.00	43.16	O
45	ATOM	6354	N	SER	L	56	29.404	-12.660	53.856	1.00	47.71	N
	ATOM	6355	CA	SER	L	56	29.488	-12.258	55.259	1.00	48.97	C
	ATOM	6356	CB	SER	L	56	28.743	-10.944	55.479	1.00	52.35	C
	ATOM	6357	OG	SER	L	56	28.905	-10.432	56.790	1.00	53.47	O
	ATOM	6358	C	SER	L	56	28.913	-13.364	56.168	1.00	49.79	C
50	ATOM	6359	O	SER	L	56	27.770	-13.801	55.961	1.00	50.71	O
	ATOM	6360	N	GLY	L	57	29.717	-13.822	57.136	1.00	49.68	N
	ATOM	6361	CA	GLY	L	57	29.326	-14.858	58.088	1.00	49.76	C
	ATOM	6362	C	GLY	L	57	29.752	-16.262	57.722	1.00	50.00	C
	ATOM	6363	O	GLY	L	57	29.681	-17.156	58.566	1.00	50.19	O

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	ATOM	6364	N	VAL L 58	30.190	-16.477	56.469	1.00	48.13	N
	ATOM	6365	CA	VAL L 58	30.605	-17.800	56.001	1.00	48.12	C
	ATOM	6366	CB	VAL L 58	30.515	-17.984	54.457	1.00	50.39	C
	ATOM	6367	CG1	VAL L 58	30.712	-19.447	54.060	1.00	50.48	C
5	ATOM	6368	CG2	VAL L 58	29.188	-17.471	53.908	1.00	49.49	C
	ATOM	6369	C	VAL L 58	31.980	-18.207	56.600	1.00	48.56	C
	ATOM	6370	O	VAL L 58	32.961	-17.470	56.413	1.00	48.80	O
	ATOM	6371	N	PRO L 59	32.041	-19.376	57.315	1.00	48.30	N
	ATOM	6372	CA	PRO L 59	33.300	-19.828	57.939	1.00	48.02	C
10	ATOM	6373	CB	PRO L 59	32.870	-21.084	58.696	1.00	49.71	C
	ATOM	6374	CG	PRO L 59	31.408	-20.958	58.854	1.00	49.95	C
	ATOM	6375	CD	PRO L 59	30.942	-20.312	57.625	1.00	50.04	C
	ATOM	6376	C	PRO L 59	34.403	-20.188	56.966	1.00	48.07	C
	ATOM	6377	O	PRO L 59	34.091	-20.726	55.905	1.00	48.20	O
15	ATOM	6378	N	SER L 60	35.696	-19.958	57.357	1.00	47.98	N
	ATOM	6379	CA	SER L 60	36.911	-20.228	56.556	1.00	47.81	C
	ATOM	6380	CB	SER L 60	38.159	-19.667	57.236	1.00	52.01	C
	ATOM	6381	OG	SER L 60	38.809	-20.542	58.146	1.00	52.78	O
	ATOM	6382	C	SER L 60	37.085	-21.690	56.096	1.00	47.74	C
20	ATOM	6383	O	SER L 60	37.919	-22.014	55.235	1.00	47.83	O
	ATOM	6384	N	ARG L 61	36.264	-22.562	56.673	1.00	47.49	N
	ATOM	6385	CA	ARG L 61	36.141	-23.993	56.411	1.00	46.91	C
	ATOM	6386	CB	ARG L 61	35.009	-24.444	57.334	1.00	46.33	C
	ATOM	6387	CG	ARG L 61	34.720	-25.909	57.486	1.00	45.30	C
25	ATOM	6388	CD	ARG L 61	33.383	-26.090	58.181	1.00	42.83	C
	ATOM	6389	NE	ARG L 61	33.114	-25.021	59.142	1.00	40.16	N
	ATOM	6390	CZ	ARG L 61	31.920	-24.722	59.641	1.00	39.72	C
	ATOM	6391	NH1	ARG L 61	30.856	-25.431	59.300	1.00	38.03	N
	ATOM	6392	NH2	ARG L 61	31.786	-23.726	60.509	1.00	41.31	N
30	ATOM	6393	C	ARG L 61	35.721	-24.139	54.918	1.00	46.94	C
	ATOM	6394	O	ARG L 61	36.228	-25.017	54.212	1.00	46.82	O
	ATOM	6395	N	PHE L 62	34.798	-23.240	54.450	1.00	45.76	N
	ATOM	6396	CA	PHE L 62	34.282	-23.212	53.084	1.00	45.44	C
	ATOM	6397	CB	PHE L 62	32.859	-22.607	53.032	1.00	46.91	C
35	ATOM	6398	CG	PHE L 62	31.808	-23.370	53.797	1.00	47.13	C
	ATOM	6399	CD1	PHE L 62	31.219	-24.509	53.255	1.00	45.95	C
	ATOM	6400	CE1	PHE L 62	30.255	-25.221	53.969	1.00	44.62	C
	ATOM	6401	CZ	PHE L 62	29.864	-24.788	55.218	1.00	44.33	C
	ATOM	6402	CE2	PHE L 62	30.427	-23.655	55.765	1.00	45.45	C
40	ATOM	6403	CD2	PHE L 62	31.404	-22.951	55.059	1.00	46.95	C
	ATOM	6404	C	PHE L 62	35.198	-22.420	52.160	1.00	45.13	C
	ATOM	6405	O	PHE L 62	35.434	-21.229	52.384	1.00	45.05	O
	ATOM	6406	N	SER L 63	35.689	-23.070	51.107	1.00	42.27	N
	ATOM	6407	CA	SER L 63	36.546	-22.423	50.142	1.00	41.87	C
45	ATOM	6408	CB	SER L 63	38.021	-22.695	50.454	1.00	44.94	C
	ATOM	6409	OG	SER L 63	38.673	-23.608	49.580	1.00	44.80	O
	ATOM	6410	C	SER L 63	36.164	-22.884	48.745	1.00	41.88	C
	ATOM	6411	O	SER L 63	35.832	-24.055	48.548	1.00	41.65	O
	ATOM	6412	N	GLY L 64	36.201	-21.949	47.799	1.00	42.15	N
50	ATOM	6413	CA	GLY L 64	35.912	-22.211	46.404	1.00	41.93	C
	ATOM	6414	C	GLY L 64	37.149	-21.904	45.599	1.00	41.92	C
	ATOM	6415	O	GLY L 64	38.019	-21.177	46.078	1.00	42.11	O
	ATOM	6416	N	SER L 65	37.254	-22.454	44.385	1.00	43.26	N
	ATOM	6417	CA	SER L 65	38.413	-22.218	43.532	1.00	43.66	C

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	ATOM	6418	CB	SER L 65	39.617	-23.025	44.023	1.00	47.22	C
	ATOM	6419	OG	SER L 65	39.558	-24.379	43.604	1.00	47.15	O
	ATOM	6420	C	SER L 65	38.124	-22.542	42.055	1.00	43.94	C
	ATOM	6421	O	SER L 65	37.341	-23.441	41.749	1.00	44.29	O
5	ATOM	6422	N	GLY L 66	38.778	-21.826	41.159	1.00	42.77	N
	ATOM	6423	CA	GLY L 66	38.620	-22.062	39.739	1.00	43.01	C
	ATOM	6424	C	GLY L 66	38.334	-20.824	38.928	1.00	43.61	C
	ATOM	6425	O	GLY L 66	38.107	-19.725	39.467	1.00	43.03	O
	ATOM	6426	N	SER L 67	38.369	-21.028	37.605	1.00	47.58	N
10	ATOM	6427	CA	SER L 67	38.092	-20.040	36.573	1.00	49.01	C
	ATOM	6428	CB	SER L 67	39.209	-19.002	36.442	1.00	55.53	C
	ATOM	6429	OG	SER L 67	40.476	-19.594	36.212	1.00	57.40	O
	ATOM	6430	C	SER L 67	37.843	-20.773	35.264	1.00	49.24	C
	ATOM	6431	O	SER L 67	38.337	-21.891	35.075	1.00	49.83	O
15	ATOM	6432	N	GLY L 68	37.048	-20.158	34.400	1.00	49.15	N
	ATOM	6433	CA	GLY L 68	36.725	-20.723	33.105	1.00	49.84	C
	ATOM	6434	C	GLY L 68	35.631	-21.758	33.153	1.00	50.48	C
	ATOM	6435	O	GLY L 68	34.450	-21.417	33.087	1.00	50.56	O
	ATOM	6436	N	THR L 69	36.005	-23.029	33.239	1.00	52.49	N
20	ATOM	6437	CA	THR L 69	34.995	-24.087	33.237	1.00	53.25	C
	ATOM	6438	CB	THR L 69	35.014	-24.851	31.898	1.00	60.09	C
	ATOM	6439	OG1	THR L 69	36.348	-25.281	31.635	1.00	62.23	O
	ATOM	6440	CG2	THR L 69	34.494	-24.036	30.733	1.00	59.76	C
	ATOM	6441	C	THR L 69	35.123	-25.068	34.386	1.00	53.36	C
25	ATOM	6442	O	THR L 69	34.238	-25.898	34.542	1.00	53.85	O
	ATOM	6443	N	ASP L 70	36.209	-25.009	35.174	1.00	54.55	N
	ATOM	6444	CA	ASP L 70	36.414	-25.968	36.269	1.00	54.28	C
	ATOM	6445	CB	ASP L 70	37.664	-26.830	36.043	1.00	58.24	C
	ATOM	6446	CG	ASP L 70	37.716	-27.402	34.641	1.00	61.54	C
30	ATOM	6447	OD1	ASP L 70	38.246	-26.708	33.738	1.00	64.93	O
	ATOM	6448	OD2	ASP L 70	37.203	-28.534	34.438	1.00	63.54	O
	ATOM	6449	C	ASP L 70	36.431	-25.305	37.604	1.00	53.41	C
	ATOM	6450	O	ASP L 70	37.334	-24.533	37.911	1.00	53.31	O
	ATOM	6451	N	PHE L 71	35.404	-25.604	38.397	1.00	50.17	N
35	ATOM	6452	CA	PHE L 71	35.201	-25.042	39.725	1.00	49.47	C
	ATOM	6453	CB	PHE L 71	33.974	-24.116	39.708	1.00	51.00	C
	ATOM	6454	CG	PHE L 71	34.086	-22.998	38.693	1.00	50.77	C
	ATOM	6455	CD1	PHE L 71	34.677	-21.781	39.034	1.00	50.21	C
	ATOM	6456	CE1	PHE L 71	34.796	-20.761	38.100	1.00	48.73	C
40	ATOM	6457	CZ	PHE L 71	34.339	-20.954	36.813	1.00	50.48	C
	ATOM	6458	CE2	PHE L 71	33.756	-22.151	36.453	1.00	50.21	C
	ATOM	6459	CD2	PHE L 71	33.627	-23.171	37.391	1.00	49.56	C
	ATOM	6460	C	PHE L 71	35.022	-26.139	40.754	1.00	48.86	C
	ATOM	6461	O	PHE L 71	34.523	-27.212	40.414	1.00	49.08	O
45	ATOM	6462	N	THR L 72	35.463	-25.882	42.000	1.00	45.72	N
	ATOM	6463	CA	THR L 72	35.342	-26.804	43.123	1.00	45.67	C
	ATOM	6464	CB	THR L 72	36.629	-27.649	43.384	1.00	55.18	C
	ATOM	6465	OG1	THR L 72	37.719	-26.792	43.707	1.00	56.02	O
	ATOM	6466	CG2	THR L 72	36.989	-28.607	42.256	1.00	54.40	C
50	ATOM	6467	C	THR L 72	34.981	-26.052	44.398	1.00	45.58	C
	ATOM	6468	O	THR L 72	35.434	-24.923	44.599	1.00	45.53	O
	ATOM	6469	N	LEU L 73	34.178	-26.690	45.259	1.00	43.61	N
	ATOM	6470	CA	LEU L 73	33.791	-26.187	46.568	1.00	43.91	C
	ATOM	6471	CB	LEU L 73	32.269	-26.178	46.789	1.00	43.61	C

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	ATOM	6472	CG	LEU	L	73	31.787	-25.738	48.188	1.00	42.87	C
	ATOM	6473	CD1	LEU	L	73	32.052	-24.243	48.448	1.00	41.69	C
	ATOM	6474	CD2	LEU	L	73	30.320	-26.026	48.360	1.00	42.64	C
	ATOM	6475	C	LEU	L	73	34.452	-27.130	47.547	1.00	44.46	C
5	ATOM	6476	O	LEU	L	73	34.296	-28.350	47.438	1.00	44.01	O
	ATOM	6477	N	THR	L	74	35.202	-26.559	48.496	1.00	47.69	N
	ATOM	6478	CA	THR	L	74	35.931	-27.312	49.498	1.00	48.44	C
	ATOM	6479	CB	THR	L	74	37.462	-27.235	49.259	1.00	55.13	C
	ATOM	6480	OG1	THR	L	74	37.743	-27.702	47.936	1.00	55.72	O
10	ATOM	6481	CG2	THR	L	74	38.266	-28.080	50.250	1.00	55.22	C
	ATOM	6482	C	THR	L	74	35.516	-26.966	50.910	1.00	48.94	C
	ATOM	6483	O	THR	L	74	35.572	-25.802	51.327	1.00	49.20	O
	ATOM	6484	N	ILE	L	75	35.090	-28.004	51.641	1.00	50.46	N
	ATOM	6485	CA	ILE	L	75	34.751	-27.917	53.051	1.00	51.27	C
15	ATOM	6486	CB	ILE	L	75	33.341	-28.446	53.487	1.00	52.71	C
	ATOM	6487	CG1	ILE	L	75	32.199	-28.003	52.520	1.00	52.80	C
	ATOM	6488	CD1	ILE	L	75	30.804	-28.695	52.674	1.00	52.64	C
	ATOM	6489	CG2	ILE	L	75	33.080	-28.049	54.945	1.00	51.73	C
	ATOM	6490	C	ILE	L	75	35.871	-28.767	53.620	1.00	52.02	C
20	ATOM	6491	O	ILE	L	75	35.865	-29.989	53.431	1.00	52.25	O
	ATOM	6492	N	SER	L	76	36.877	-28.118	54.215	1.00	55.10	N
	ATOM	6493	CA	SER	L	76	38.008	-28.814	54.825	1.00	55.71	C
	ATOM	6494	CB	SER	L	76	39.256	-27.944	54.741	1.00	56.80	C
	ATOM	6495	OG	SER	L	76	39.034	-26.697	55.377	1.00	54.97	O
25	ATOM	6496	C	SER	L	76	37.560	-28.980	56.277	1.00	56.22	C
	ATOM	6497	O	SER	L	76	37.178	-27.974	56.883	1.00	57.07	O
	ATOM	6498	N	SER	L	77	37.550	-30.209	56.830	1.00	55.64	N
	ATOM	6499	CA	SER	L	77	37.063	-30.441	58.206	1.00	55.10	C
	ATOM	6500	CB	SER	L	77	37.941	-29.759	59.258	1.00	59.19	C
30	ATOM	6501	OG	SER	L	77	37.344	-29.806	60.544	1.00	60.15	O
	ATOM	6502	C	SER	L	77	35.559	-30.065	58.336	1.00	54.34	C
	ATOM	6503	O	SER	L	77	35.197	-28.990	58.842	1.00	54.33	O
	ATOM	6504	N	LEU	L	78	34.705	-30.973	57.836	1.00	51.78	N
	ATOM	6505	CA	LEU	L	78	33.238	-30.914	57.806	1.00	51.20	C
35	ATOM	6506	CB	LEU	L	78	32.780	-32.188	57.064	1.00	50.91	C
	ATOM	6507	CG	LEU	L	78	31.367	-32.325	56.492	1.00	50.98	C
	ATOM	6508	CD1	LEU	L	78	31.110	-31.348	55.349	1.00	51.38	C
	ATOM	6509	CD2	LEU	L	78	31.210	-33.695	55.901	1.00	51.24	C
	ATOM	6510	C	LEU	L	78	32.623	-30.843	59.226	1.00	50.94	C
40	ATOM	6511	O	LEU	L	78	33.069	-31.552	60.123	1.00	51.31	O
	ATOM	6512	N	GLN	L	79	31.610	-29.994	59.432	1.00	51.20	N
	ATOM	6513	CA	GLN	L	79	30.949	-29.853	60.739	1.00	51.10	C
	ATOM	6514	CB	GLN	L	79	30.917	-28.388	61.178	1.00	52.91	C
	ATOM	6515	CG	GLN	L	79	32.303	-27.787	61.335	1.00	54.51	C
45	ATOM	6516	CD	GLN	L	79	33.108	-28.408	62.443	1.00	55.63	C
	ATOM	6517	OE1	GLN	L	79	32.937	-28.053	63.617	1.00	56.61	O
	ATOM	6518	NE2	GLN	L	79	34.002	-29.340	62.093	1.00	54.86	N
	ATOM	6519	C	GLN	L	79	29.540	-30.441	60.744	1.00	50.74	C
	ATOM	6520	O	GLN	L	79	28.983	-30.614	59.665	1.00	50.68	O
50	ATOM	6521	N	PRO	L	80	28.926	-30.763	61.911	1.00	50.81	N
	ATOM	6522	CA	PRO	L	80	27.555	-31.311	61.890	1.00	50.26	C
	ATOM	6523	CB	PRO	L	80	27.182	-31.414	63.383	1.00	52.07	C
	ATOM	6524	CG	PRO	L	80	28.155	-30.529	64.104	1.00	52.53	C
	ATOM	6525	CD	PRO	L	80	29.420	-30.658	63.300	1.00	52.84	C

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	ATOM	6526	C	PRO L 80	26.560 -30.443	61.113	1.00	49.13	C
	ATOM	6527	O	PRO L 80	25.747 -30.985	60.363	1.00	48.89	O
	ATOM	6528	N	GLU L 81	26.657 -29.108	61.252	1.00	45.92	N
	ATOM	6529	CA	GLU L 81	25.779 -28.146	60.568	1.00	45.07	C
5	ATOM	6530	CB	GLU L 81	25.809 -26.760	61.255	1.00	46.99	C
	ATOM	6531	CG	GLU L 81	27.163 -26.064	61.302	1.00	49.87	C
	ATOM	6532	CD	GLU L 81	28.074 -26.312	62.498	1.00	55.34	C
	ATOM	6533	OE1	GLU L 81	29.196 -25.752	62.498	1.00	57.55	O
	ATOM	6534	OE2	GLU L 81	27.681 -27.050	63.434	1.00	55.65	O
10	ATOM	6535	C	GLU L 81	25.991 -28.038	59.037	1.00	43.58	C
	ATOM	6536	O	GLU L 81	25.227 -27.338	58.372	1.00	43.34	O
	ATOM	6537	N	ASP L 82	27.002 -28.747	58.488	1.00	39.81	N
	ATOM	6538	CA	ASP L 82	27.364 -28.743	57.066	1.00	38.29	C
	ATOM	6539	CB	ASP L 82	28.891 -28.745	56.898	1.00	40.15	C
15	ATOM	6540	CG	ASP L 82	29.552 -27.564	57.581	1.00	40.53	C
	ATOM	6541	OD1	ASP L 82	28.819 -26.599	57.962	1.00	42.85	O
	ATOM	6542	OD2	ASP L 82	30.781 -27.597	57.752	1.00	37.44	O
	ATOM	6543	C	ASP L 82	26.732 -29.799	56.196	1.00	37.24	C
	ATOM	6544	O	ASP L 82	26.961 -29.820	54.989	1.00	37.45	O
20	ATOM	6545	N	PHE L 83	25.961 -30.686	56.779	1.00	37.68	N
	ATOM	6546	CA	PHE L 83	25.327 -31.713	55.975	1.00	36.49	C
	ATOM	6547	CB	PHE L 83	25.027 -32.974	56.796	1.00	37.55	C
	ATOM	6548	CG	PHE L 83	26.300 -33.645	57.260	1.00	37.22	C
	ATOM	6549	CD1	PHE L 83	26.935 -34.597	56.465	1.00	37.78	C
25	ATOM	6550	CE1	PHE L 83	28.125 -35.210	56.892	1.00	39.15	C
	ATOM	6551	CZ	PHE L 83	28.678 -34.879	58.118	1.00	37.38	C
	ATOM	6552	CE2	PHE L 83	28.069 -33.923	58.910	1.00	37.72	C
	ATOM	6553	CD2	PHE L 83	26.877 -33.312	58.485	1.00	37.40	C
	ATOM	6554	C	PHE L 83	24.116 -31.017	55.399	1.00	35.60	C
30	ATOM	6555	O	PHE L 83	23.238 -30.560	56.143	1.00	35.59	O
	ATOM	6556	N	ALA L 84	24.155 -30.826	54.064	1.00	33.80	N
	ATOM	6557	CA	ALA L 84	23.175 -30.112	53.263	1.00	32.88	C
	ATOM	6558	CB	ALA L 84	23.371 -28.610	53.472	1.00	33.61	C
	ATOM	6559	C	ALA L 84	23.395 -30.443	51.799	1.00	32.44	C
35	ATOM	6560	O	ALA L 84	24.182 -31.322	51.472	1.00	32.28	O
	ATOM	6561	N	THR L 85	22.672 -29.749	50.924	1.00	33.93	N
	ATOM	6562	CA	THR L 85	22.781 -29.859	49.485	1.00	33.75	C
	ATOM	6563	CB	THR L 85	21.406 -30.043	48.814	1.00	36.16	C
	ATOM	6564	OG1	THR L 85	20.890 -31.323	49.189	1.00	37.98	O
40	ATOM	6565	CG2	THR L 85	21.465 -29.971	47.293	1.00	34.24	C
	ATOM	6566	C	THR L 85	23.487 -28.594	49.068	1.00	33.83	C
	ATOM	6567	O	THR L 85	23.167 -27.500	49.557	1.00	33.64	O
	ATOM	6568	N	TYR L 86	24.470 -28.748	48.181	1.00	35.00	N
	ATOM	6569	CA	TYR L 86	25.237 -27.625	47.680	1.00	35.32	C
45	ATOM	6570	CB	TYR L 86	26.742 -27.813	47.992	1.00	35.87	C
	ATOM	6571	CG	TYR L 86	26.986 -27.771	49.485	1.00	34.56	C
	ATOM	6572	CD1	TYR L 86	26.843 -28.913	50.266	1.00	34.62	C
	ATOM	6573	CE1	TYR L 86	27.002 -28.867	51.653	1.00	36.49	C
	ATOM	6574	CZ	TYR L 86	27.292 -27.661	52.270	1.00	36.32	C
50	ATOM	6575	OH	TYR L 86	27.445 -27.595	53.630	1.00	35.42	O
	ATOM	6576	CE2	TYR L 86	27.412 -26.509	51.511	1.00	35.47	C
	ATOM	6577	CD2	TYR L 86	27.239 -26.566	50.133	1.00	34.34	C
	ATOM	6578	C	TYR L 86	24.948 -27.434	46.229	1.00	35.92	C
	ATOM	6579	O	TYR L 86	24.757 -28.420	45.521	1.00	36.14	O

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	ATOM	6580	N	TYR	L	87	24.866	-26.177	45.787	1.00	36.01	N
	ATOM	6581	CA	TYR	L	87	24.608	-25.867	44.383	1.00	36.79	C
	ATOM	6582	CB	TYR	L	87	23.206	-25.252	44.193	1.00	36.76	C
	ATOM	6583	CG	TYR	L	87	22.035	-26.162	44.451	1.00	37.00	C
5	ATOM	6584	CD1	TYR	L	87	21.310	-26.077	45.636	1.00	35.97	C
	ATOM	6585	CE1	TYR	L	87	20.196	-26.874	45.859	1.00	34.84	C
	ATOM	6586	CZ	TYR	L	87	19.780	-27.766	44.883	1.00	36.00	C
	ATOM	6587	OH	TYR	L	87	18.697	-28.590	45.114	1.00	36.03	O
	ATOM	6588	CE2	TYR	L	87	20.474	-27.855	43.691	1.00	36.88	C
10	ATOM	6589	CD2	TYR	L	87	21.589	-27.047	43.477	1.00	36.94	C
	ATOM	6590	C	TYR	L	87	25.584	-24.833	43.886	1.00	37.38	C
	ATOM	6591	O	TYR	L	87	25.830	-23.853	44.590	1.00	37.27	O
	ATOM	6592	N	CYS	L	88	26.085	-25.002	42.659	1.00	40.93	N
	ATOM	6593	CA	CYS	L	88	26.938	-24.001	42.018	1.00	42.62	C
15	ATOM	6594	CB	CYS	L	88	28.123	-24.636	41.291	1.00	45.72	C
	ATOM	6595	SG	CYS	L	88	27.658	-25.811	39.983	1.00	52.13	S
	ATOM	6596	C	CYS	L	88	26.021	-23.263	41.042	1.00	42.21	C
	ATOM	6597	O	CYS	L	88	25.048	-23.837	40.545	1.00	42.20	O
	ATOM	6598	N	GLN	L	89	26.311	-22.015	40.753	1.00	40.17	N
20	ATOM	6599	CA	GLN	L	89	25.515	-21.282	39.777	1.00	39.81	C
	ATOM	6600	CB	GLN	L	89	24.377	-20.507	40.458	1.00	41.13	C
	ATOM	6601	CG	GLN	L	89	23.473	-19.682	39.509	1.00	40.14	C
	ATOM	6602	CD	GLN	L	89	23.135	-18.326	40.080	1.00	39.80	C
	ATOM	6603	OE1	GLN	L	89	22.678	-18.199	41.212	1.00	38.03	O
25	ATOM	6604	NE2	GLN	L	89	23.362	-17.278	39.311	1.00	38.89	N
	ATOM	6605	C	GLN	L	89	26.416	-20.339	39.018	1.00	39.72	C
	ATOM	6606	O	GLN	L	89	27.340	-19.781	39.600	1.00	39.49	O
	ATOM	6607	N	GLN	L	90	26.168	-20.161	37.728	1.00	39.65	N
	ATOM	6608	CA	GLN	L	90	26.938	-19.207	36.927	1.00	39.94	C
30	ATOM	6609	CB	GLN	L	90	27.333	-19.746	35.522	1.00	40.31	C
	ATOM	6610	CG	GLN	L	90	26.178	-20.008	34.535	1.00	41.32	C
	ATOM	6611	CD	GLN	L	90	25.651	-18.791	33.795	1.00	41.40	C
	ATOM	6612	OE1	GLN	L	90	26.367	-17.817	33.566	1.00	41.70	O
	ATOM	6613	NE2	GLN	L	90	24.382	-18.826	33.403	1.00	40.08	N
35	ATOM	6614	C	GLN	L	90	26.117	-17.949	36.815	1.00	39.91	C
	ATOM	6615	O	GLN	L	90	24.893	-18.001	36.896	1.00	40.31	O
	ATOM	6616	N	TYR	L	91	26.773	-16.832	36.610	1.00	42.16	N
	ATOM	6617	CA	TYR	L	91	26.113	-15.549	36.424	1.00	42.57	C
	ATOM	6618	CB	TYR	L	91	25.816	-14.846	37.756	1.00	43.87	C
40	ATOM	6619	CG	TYR	L	91	27.014	-14.605	38.638	1.00	44.54	C
	ATOM	6620	CD1	TYR	L	91	27.434	-15.564	39.554	1.00	45.40	C
	ATOM	6621	CE1	TYR	L	91	28.526	-15.337	40.389	1.00	46.27	C
	ATOM	6622	CZ	TYR	L	91	29.200	-14.129	40.324	1.00	46.44	C
	ATOM	6623	OH	TYR	L	91	30.280	-13.883	41.140	1.00	47.42	O
45	ATOM	6624	CE2	TYR	L	91	28.787	-13.158	39.427	1.00	45.72	C
	ATOM	6625	CD2	TYR	L	91	27.700	-13.399	38.596	1.00	44.80	C
	ATOM	6626	C	TYR	L	91	26.904	-14.710	35.429	1.00	42.85	C
	ATOM	6627	O	TYR	L	91	26.881	-13.473	35.461	1.00	43.21	O
	ATOM	6628	N	LYS	L	92	27.603	-15.417	34.523	1.00	43.34	N
50	ATOM	6629	CA	LYS	L	92	28.413	-14.836	33.469	1.00	43.40	C
	ATOM	6630	CB	LYS	L	92	29.357	-15.919	32.888	1.00	46.23	C
	ATOM	6631	CG	LYS	L	92	30.074	-15.560	31.574	1.00	47.10	C
	ATOM	6632	CD	LYS	L	92	31.042	-14.408	31.743	1.00	49.55	C
	ATOM	6633	CE	LYS	L	92	31.846	-14.082	30.521	1.00	50.74	C

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	ATOM	6634	NZ	LYS	L	92	32.784	-12.973	30.837	1.00	52.36	N
	ATOM	6635	C	LYS	L	92	27.457	-14.322	32.407	1.00	42.96	C
	ATOM	6636	O	LYS	L	92	27.618	-13.208	31.900	1.00	43.96	O
	ATOM	6637	N	THR	L	93	26.442	-15.141	32.115	1.00	40.59	N
5	ATOM	6638	CA	THR	L	93	25.413	-14.951	31.107	1.00	39.38	C
	ATOM	6639	CB	THR	L	93	25.820	-15.877	29.934	1.00	48.83	C
	ATOM	6640	OG1	THR	L	93	26.305	-15.086	28.865	1.00	50.32	O
	ATOM	6641	CG2	THR	L	93	24.731	-16.848	29.463	1.00	49.52	C
	ATOM	6642	C	THR	L	93	24.004	-15.212	31.659	1.00	38.07	C
10	ATOM	6643	O	THR	L	93	23.853	-15.855	32.698	1.00	38.40	O
	ATOM	6644	N	TYR	L	94	22.982	-14.722	30.945	1.00	35.62	N
	ATOM	6645	CA	TYR	L	94	21.575	-14.957	31.245	1.00	34.10	C
	ATOM	6646	CB	TYR	L	94	20.769	-13.714	30.947	1.00	33.22	C
	ATOM	6647	CG	TYR	L	94	20.811	-12.655	32.015	1.00	31.94	C
15	ATOM	6648	CD1	TYR	L	94	21.254	-11.372	31.728	1.00	31.62	C
	ATOM	6649	CE1	TYR	L	94	21.256	-10.376	32.697	1.00	30.55	C
	ATOM	6650	CZ	TYR	L	94	20.809	-10.660	33.971	1.00	30.11	C
	ATOM	6651	OH	TYR	L	94	20.807	-9.676	34.914	1.00	30.54	O
	ATOM	6652	CE2	TYR	L	94	20.355	-11.928	34.278	1.00	30.32	C
20	ATOM	6653	CD2	TYR	L	94	20.333	-12.908	33.293	1.00	30.17	C
	ATOM	6654	C	TYR	L	94	21.039	-16.142	30.363	1.00	33.68	C
	ATOM	6655	O	TYR	L	94	21.445	-16.278	29.204	1.00	34.00	O
	ATOM	6656	N	PRO	L	95	20.114	-16.990	30.849	1.00	33.52	N
	ATOM	6657	CA	PRO	L	95	19.551	-16.990	32.206	1.00	33.51	C
25	ATOM	6658	CB	PRO	L	95	18.325	-17.900	32.061	1.00	33.90	C
	ATOM	6659	CG	PRO	L	95	18.746	-18.906	31.009	1.00	33.21	C
	ATOM	6660	CD	PRO	L	95	19.608	-18.126	30.044	1.00	33.76	C
	ATOM	6661	C	PRO	L	95	20.589	-17.590	33.151	1.00	33.59	C
	ATOM	6662	O	PRO	L	95	21.468	-18.349	32.704	1.00	33.52	O
30	ATOM	6663	N	TYR	L	96	20.506	-17.260	34.439	1.00	32.59	N
	ATOM	6664	CA	TYR	L	96	21.412	-17.861	35.405	1.00	32.70	C
	ATOM	6665	CB	TYR	L	96	21.192	-17.279	36.792	1.00	33.23	C
	ATOM	6666	CG	TYR	L	96	21.402	-15.786	36.937	1.00	33.68	C
	ATOM	6667	CD1	TYR	L	96	22.389	-15.122	36.210	1.00	32.41	C
35	ATOM	6668	CE1	TYR	L	96	22.627	-13.765	36.396	1.00	33.57	C
	ATOM	6669	CZ	TYR	L	96	21.876	-13.049	37.325	1.00	34.22	C
	ATOM	6670	OH	TYR	L	96	22.047	-11.693	37.514	1.00	34.04	O
	ATOM	6671	CE2	TYR	L	96	20.904	-13.693	38.065	1.00	33.52	C
	ATOM	6672	CD2	TYR	L	96	20.687	-15.055	37.880	1.00	33.85	C
40	ATOM	6673	C	TYR	L	96	21.078	-19.357	35.439	1.00	32.50	C
	ATOM	6674	O	TYR	L	96	19.902	-19.729	35.388	1.00	32.59	O
	ATOM	6675	N	THR	L	97	22.099	-20.211	35.478	1.00	31.55	N
	ATOM	6676	CA	THR	L	97	21.868	-21.654	35.513	1.00	31.13	C
	ATOM	6677	CB	THR	L	97	22.236	-22.312	34.185	1.00	34.58	C
45	ATOM	6678	OG1	THR	L	97	23.557	-21.895	33.797	1.00	34.96	O
	ATOM	6679	CG2	THR	L	97	21.224	-22.025	33.089	1.00	31.79	C
	ATOM	6680	C	THR	L	97	22.587	-22.246	36.695	1.00	31.22	C
	ATOM	6681	O	THR	L	97	23.660	-21.783	37.039	1.00	31.91	O
	ATOM	6682	N	PHE	L	98	21.997	-23.268	37.301	1.00	30.43	N
50	ATOM	6683	CA	PHE	L	98	22.488	-23.970	38.483	1.00	30.36	C
	ATOM	6684	CB	PHE	L	98	21.350	-24.035	39.525	1.00	31.46	C
	ATOM	6685	CG	PHE	L	98	20.771	-22.723	39.991	1.00	30.09	C
	ATOM	6686	CD1	PHE	L	98	19.717	-22.129	39.310	1.00	29.35	C
	ATOM	6687	CE1	PHE	L	98	19.176	-20.912	39.744	1.00	30.21	C

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	ATOM	6688	CZ PHE L 98	19.681 -20.295 40.869 1.00 30.76	C
	ATOM	6689	CE2 PHE L 98	20.718 -20.884 41.567 1.00 31.50	C
	ATOM	6690	CD2 PHE L 98	21.257 -22.097 41.130 1.00 30.65	C
	ATOM	6691	C PHE L 98	22.912 -25.412 38.194 1.00 31.08	C
5	ATOM	6692	O PHE L 98	22.371 -26.057 37.288 1.00 31.54	O
	ATOM	6693	N GLY L 99	23.848 -25.931 38.992 1.00 31.10	N
	ATOM	6694	CA GLY L 99	24.268 -27.322 38.897 1.00 31.76	C
	ATOM	6695	C GLY L 99	23.154 -28.144 39.516 1.00 32.76	C
	ATOM	6696	O GLY L 99	22.357 -27.604 40.285 1.00 32.39	O
10	ATOM	6697	N GLN L 100	23.044 -29.442 39.188 1.00 37.75	N
	ATOM	6698	CA GLN L 100	21.957 -30.268 39.732 1.00 38.91	C
	ATOM	6699	CB GLN L 100	21.883 -31.620 39.018 1.00 42.84	C
	ATOM	6700	CG GLN L 100	22.723 -32.744 39.657 1.00 47.52	C
	ATOM	6701	CD GLN L 100	24.193 -32.714 39.296 1.00 53.54	C
15	ATOM	6702	OE1 GLN L 100	24.679 -31.830 38.544 1.00 56.03	O
	ATOM	6703	NE2 GLN L 100	24.926 -33.695 39.827 1.00 53.33	N
	ATOM	6704	C GLN L 100	21.947 -30.425 41.256 1.00 38.63	C
	ATOM	6705	O GLN L 100	20.949 -30.874 41.811 1.00 38.90	O
	ATOM	6706	N GLY L 101	23.040 -30.031 41.903 1.00 37.47	N
20	ATOM	6707	CA GLY L 101	23.215 -30.130 43.345 1.00 37.46	C
	ATOM	6708	C GLY L 101	23.971 -31.370 43.799 1.00 37.80	C
	ATOM	6709	O GLY L 101	23.979 -32.409 43.121 1.00 37.80	O
	ATOM	6710	N THR L 102	24.600 -31.262 44.975 1.00 38.01	N
	ATOM	6711	CA THR L 102	25.355 -32.332 45.626 1.00 38.18	C
25	ATOM	6712	CB THR L 102	26.857 -32.048 45.560 1.00 37.47	C
	ATOM	6713	OG1 THR L 102	27.239 -31.991 44.187 1.00 37.34	O
	ATOM	6714	CG2 THR L 102	27.686 -33.090 46.293 1.00 36.20	C
	ATOM	6715	C THR L 102	24.872 -32.391 47.051 1.00 38.92	C
	ATOM	6716	O THR L 102	25.002 -31.400 47.778 1.00 39.21	O
30	ATOM	6717	N LYS L 103	24.305 -33.536 47.448 1.00 39.90	N
	ATOM	6718	CA LYS L 103	23.816 -33.740 48.809 1.00 40.50	C
	ATOM	6719	CB LYS L 103	22.614 -34.708 48.783 1.00 43.66	C
	ATOM	6720	CG LYS L 103	22.074 -35.170 50.128 1.00 44.21	C
	ATOM	6721	CD LYS L 103	21.181 -34.143 50.801 1.00 47.30	C
35	ATOM	6722	CE LYS L 103	20.098 -34.754 51.671 1.00 48.07	C
	ATOM	6723	NZ LYS L 103	18.983 -35.366 50.887 1.00 46.44	N
	ATOM	6724	C LYS L 103	24.973 -34.325 49.623 1.00 41.09	C
	ATOM	6725	O LYS L 103	25.585 -35.297 49.165 1.00 41.23	O
	ATOM	6726	N VAL L 104	25.288 -33.735 50.804 1.00 41.91	N
40	ATOM	6727	CA VAL L 104	26.344 -34.228 51.701 1.00 42.63	C
	ATOM	6728	CB VAL L 104	27.353 -33.152 52.216 1.00 46.25	C
	ATOM	6729	CG1 VAL L 104	28.513 -33.796 52.973 1.00 45.95	C
	ATOM	6730	CG2 VAL L 104	27.894 -32.297 51.068 1.00 46.86	C
	ATOM	6731	C VAL L 104	25.605 -34.958 52.828 1.00 43.33	C
45	ATOM	6732	O VAL L 104	24.945 -34.337 53.664 1.00 43.49	O
	ATOM	6733	N GLU L 105	25.666 -36.290 52.785 1.00 45.65	N
	ATOM	6734	CA GLU L 105	25.041 -37.218 53.715 1.00 46.28	C
	ATOM	6735	CB GLU L 105	24.630 -38.473 52.900 1.00 49.45	C
	ATOM	6736	CG GLU L 105	24.050 -39.629 53.716 1.00 53.16	C
50	ATOM	6737	CD GLU L 105	24.192 -41.052 53.185 1.00 56.19	C
	ATOM	6738	OE1 GLU L 105	25.316 -41.453 52.799 1.00 58.04	O
	ATOM	6739	OE2 GLU L 105	23.170 -41.777 53.178 1.00 56.86	O
	ATOM	6740	C GLU L 105	26.042 -37.570 54.872 1.00 45.84	C
	ATOM	6741	O GLU L 105	27.268 -37.550 54.669 1.00 46.09	O

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	ATOM	6742	N	ILE L 106	25.513 -37.894 56.085 1.00 41.84	N
	ATOM	6743	CA	ILE L 106	26.350 -38.291 57.229 1.00 40.89	C
	ATOM	6744	CB	ILE L 106	25.700 -38.018 58.619 1.00 42.54	C
	ATOM	6745	CG1	ILE L 106	25.286 -36.539 58.799 1.00 41.14	C
5	ATOM	6746	CD1	ILE L 106	23.905 -36.324 59.160 1.00 37.55	C
	ATOM	6747	CG2	ILE L 106	26.614 -38.464 59.762 1.00 41.89	C
	ATOM	6748	C	ILE L 106	26.704 -39.765 57.072 1.00 40.69	C
	ATOM	6749	O	ILE L 106	25.813 -40.602 56.916 1.00 40.09	O
	ATOM	6750	N	LYS L 107	28.003 -40.076 57.090 1.00 41.25	N
10	ATOM	6751	CA	LYS L 107	28.470 -41.452 57.013 1.00 41.49	C
	ATOM	6752	CB	LYS L 107	29.890 -41.527 56.411 1.00 45.73	C
	ATOM	6753	CG	LYS L 107	30.579 -42.895 56.507 1.00 48.18	C
	ATOM	6754	CD	LYS L 107	31.416 -43.278 55.268 1.00 52.95	C
	ATOM	6755	CE	LYS L 107	32.535 -42.312 54.834 1.00 56.59	C
15	ATOM	6756	NZ	LYS L 107	33.554 -42.020 55.906 1.00 59.72	N
	ATOM	6757	C	LYS L 107	28.411 -41.994 58.454 1.00 40.56	C
	ATOM	6758	O	LYS L 107	28.785 -41.290 59.395 1.00 40.70	O
	ATOM	6759	N	ARG L 108	27.914 -43.215 58.623 1.00 38.36	N
	ATOM	6760	CA	ARG L 108	27.796 -43.878 59.918 1.00 37.76	C
20	ATOM	6761	CB	ARG L 108	26.458 -43.477 60.593 1.00 37.49	C
	ATOM	6762	CG	ARG L 108	25.280 -44.208 59.967 1.00 37.62	C
	ATOM	6763	CD	ARG L 108	23.925 -44.045 60.583 1.00 37.54	C
	ATOM	6764	NE	ARG L 108	23.807 -44.383 62.003 1.00 37.19	N
	ATOM	6765	CZ	ARG L 108	23.849 -45.608 62.521 1.00 36.68	C
25	ATOM	6766	NH1	ARG L 108	24.092 -46.656 61.753 1.00 35.86	N
	ATOM	6767	NH2	ARG L 108	23.699 -45.785 63.820 1.00 37.31	N
	ATOM	6768	C	ARG L 108	27.887 -45.420 59.674 1.00 37.69	C
	ATOM	6769	O	ARG L 108	28.043 -45.861 58.518 1.00 37.33	O
	ATOM	6770	N	THR L 109	27.778 -46.227 60.746 1.00 38.82	N
30	ATOM	6771	CA	THR L 109	27.798 -47.685 60.631 1.00 38.82	C
	ATOM	6772	CB	THR L 109	28.009 -48.331 61.977 1.00 49.09	C
	ATOM	6773	OG1	THR L 109	27.504 -47.489 63.011 1.00 49.96	O
	ATOM	6774	CG2	THR L 109	29.449 -48.671 62.203 1.00 48.97	C
	ATOM	6775	C	THR L 109	26.528 -48.256 60.024 1.00 38.44	C
35	ATOM	6776	O	THR L 109	25.474 -47.646 60.077 1.00 39.08	O
	ATOM	6777	N	VAL L 110	26.615 -49.431 59.453 1.00 39.17	N
	ATOM	6778	CA	VAL L 110	25.442 -50.080 58.888 1.00 38.47	C
	ATOM	6779	CB	VAL L 110	25.862 -51.369 58.164 1.00 41.37	C
	ATOM	6780	CG1	VAL L 110	24.652 -52.180 57.757 1.00 41.33	C
40	ATOM	6781	CG2	VAL L 110	26.708 -51.038 56.945 1.00 41.59	C
	ATOM	6782	C	VAL L 110	24.459 -50.370 60.034 1.00 38.03	C
	ATOM	6783	O	VAL L 110	24.883 -50.746 61.144 1.00 37.99	O
	ATOM	6784	N	ALA L 111	23.160 -50.148 59.778 1.00 35.39	N
	ATOM	6785	CA	ALA L 111	22.076 -50.387 60.726 1.00 34.25	C
45	ATOM	6786	CB	ALA L 111	21.516 -49.075 61.209 1.00 33.35	C
	ATOM	6787	C	ALA L 111	21.051 -51.126 59.921 1.00 33.98	C
	ATOM	6788	O	ALA L 111	20.658 -50.641 58.868 1.00 34.44	O
	ATOM	6789	N	ALA L 112	20.642 -52.313 60.353 1.00 35.73	N
	ATOM	6790	CA	ALA L 112	19.625 -53.079 59.606 1.00 35.64	C
50	ATOM	6791	CB	ALA L 112	19.627 -54.541 60.058 1.00 36.44	C
	ATOM	6792	C	ALA L 112	18.229 -52.464 59.856 1.00 35.08	C
	ATOM	6793	O	ALA L 112	18.014 -51.934 60.951 1.00 34.46	O
	ATOM	6794	N	PRO L 113	17.260 -52.521 58.908 1.00 34.48	N
	ATOM	6795	CA	PRO L 113	15.931 -51.961 59.218 1.00 34.41	C

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	ATOM	6796	CB	PRO L 113	15.288	-51.767	57.845	1.00	35.47	C
	ATOM	6797	CG	PRO L 113	15.924	-52.786	56.972	1.00	35.20	C
	ATOM	6798	CD	PRO L 113	17.297	-53.109	57.549	1.00	35.70	C
	ATOM	6799	C	PRO L 113	15.084	-52.895	60.071	1.00	34.55	C
5	ATOM	6800	O	PRO L 113	15.164	-54.116	59.933	1.00	34.48	O
	ATOM	6801	N	SER L 114	14.277	-52.304	60.958	1.00	35.49	N
	ATOM	6802	CA	SER L 114	13.292	-52.980	61.788	1.00	36.34	C
	ATOM	6803	CB	SER L 114	12.979	-52.138	63.014	1.00	41.46	C
	ATOM	6804	OG	SER L 114	13.810	-52.540	64.082	1.00	44.00	O
10	ATOM	6805	C	SER L 114	12.066	-52.982	60.858	1.00	37.12	C
	ATOM	6806	O	SER L 114	11.532	-51.916	60.540	1.00	37.77	O
	ATOM	6807	N	VAL L 115	11.664	-54.146	60.375	1.00	36.88	N
	ATOM	6808	CA	VAL L 115	10.540	-54.260	59.449	1.00	37.15	C
	ATOM	6809	CB	VAL L 115	10.900	-55.237	58.295	1.00	40.01	C
15	ATOM	6810	CG1	VAL L 115	9.833	-55.237	57.205	1.00	40.23	C
	ATOM	6811	CG2	VAL L 115	12.269	-54.901	57.704	1.00	38.73	C
	ATOM	6812	C	VAL L 115	9.185	-54.592	60.158	1.00	37.46	C
	ATOM	6813	O	VAL L 115	9.110	-55.513	60.970	1.00	37.73	O
	ATOM	6814	N	PHE L 116	8.131	-53.827	59.841	1.00	38.30	N
20	ATOM	6815	CA	PHE L 116	6.769	-53.967	60.363	1.00	38.14	C
	ATOM	6816	CB	PHE L 116	6.461	-52.851	61.361	1.00	39.80	C
	ATOM	6817	CG	PHE L 116	7.456	-52.627	62.477	1.00	41.80	C
	ATOM	6818	CD1	PHE L 116	7.381	-53.360	63.657	1.00	44.42	C
	ATOM	6819	CE1	PHE L 116	8.280	-53.127	64.713	1.00	44.48	C
25	ATOM	6820	CZ	PHE L 116	9.250	-52.163	64.588	1.00	43.05	C
	ATOM	6821	CE2	PHE L 116	9.334	-51.423	63.424	1.00	44.33	C
	ATOM	6822	CD2	PHE L 116	8.433	-51.650	62.374	1.00	43.20	C
	ATOM	6823	C	PHE L 116	5.763	-53.886	59.197	1.00	37.88	C
	ATOM	6824	O	PHE L 116	5.972	-53.116	58.263	1.00	38.32	O
30	ATOM	6825	N	ILE L 117	4.691	-54.687	59.240	1.00	37.23	N
	ATOM	6826	CA	ILE L 117	3.625	-54.699	58.227	1.00	36.75	C
	ATOM	6827	CB	ILE L 117	3.545	-56.015	57.402	1.00	38.15	C
	ATOM	6828	CG1	ILE L 117	2.663	-55.839	56.146	1.00	37.56	C
	ATOM	6829	CD1	ILE L 117	2.758	-56.947	55.060	1.00	37.55	C
35	ATOM	6830	CG2	ILE L 117	3.090	-57.213	58.266	1.00	37.70	C
	ATOM	6831	C	ILE L 117	2.284	-54.313	58.902	1.00	37.19	C
	ATOM	6832	O	ILE L 117	2.024	-54.660	60.072	1.00	37.33	O
	ATOM	6833	N	PHE L 118	1.443	-53.584	58.150	1.00	37.03	N
	ATOM	6834	CA	PHE L 118	0.148	-53.122	58.602	1.00	36.84	C
40	ATOM	6835	CB	PHE L 118	0.165	-51.609	58.830	1.00	37.15	C
	ATOM	6836	CG	PHE L 118	1.129	-51.131	59.891	1.00	37.23	C
	ATOM	6837	CD1	PHE L 118	2.381	-50.626	59.542	1.00	36.66	C
	ATOM	6838	CE1	PHE L 118	3.259	-50.150	60.525	1.00	35.24	C
	ATOM	6839	CZ	PHE L 118	2.891	-50.191	61.855	1.00	35.05	C
45	ATOM	6840	CE2	PHE L 118	1.658	-50.682	62.220	1.00	34.64	C
	ATOM	6841	CD2	PHE L 118	0.774	-51.146	61.239	1.00	35.80	C
	ATOM	6842	C	PHE L 118	-0.931	-53.475	57.602	1.00	37.30	C
	ATOM	6843	O	PHE L 118	-0.892	-52.986	56.459	1.00	37.13	O
	ATOM	6844	N	PRO L 119	-1.936	-54.293	58.024	1.00	39.26	N
50	ATOM	6845	CA	PRO L 119	-3.060	-54.609	57.121	1.00	39.24	C
	ATOM	6846	CB	PRO L 119	-3.809	-55.730	57.855	1.00	40.33	C
	ATOM	6847	CG	PRO L 119	-2.978	-56.111	59.010	1.00	40.18	C
	ATOM	6848	CD	PRO L 119	-2.137	-54.925	59.343	1.00	40.60	C
	ATOM	6849	C	PRO L 119	-3.967	-53.384	56.976	1.00	39.28	C

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	ATOM	6850	O	PRO L 119	-3.879	-52.465	57.826	1.00	39.08	O
	ATOM	6851	N	PRO L 120	-4.840	-53.333	55.923	1.00	39.98	N
	ATOM	6852	CA	PRO L 120	-5.753	-52.182	55.792	1.00	40.21	C
	ATOM	6853	CB	PRO L 120	-6.550	-52.485	54.516	1.00	41.60	C
5	ATOM	6854	CG	PRO L 120	-5.826	-53.554	53.831	1.00	41.86	C
	ATOM	6855	CD	PRO L 120	-5.073	-54.319	54.850	1.00	41.59	C
	ATOM	6856	C	PRO L 120	-6.713	-52.166	56.967	1.00	40.34	C
	ATOM	6857	O	PRO L 120	-7.106	-53.240	57.460	1.00	40.53	O
	ATOM	6858	N	SER L 121	-7.081	-50.966	57.425	1.00	38.91	N
10	ATOM	6859	CA	SER L 121	-8.048	-50.844	58.503	1.00	39.71	C
	ATOM	6860	CB	SER L 121	-8.062	-49.417	59.040	1.00	40.84	C
	ATOM	6861	OG	SER L 121	-8.478	-48.494	58.050	1.00	40.41	O
	ATOM	6862	C	SER L 121	-9.452	-51.219	57.945	1.00	40.60	C
	ATOM	6863	O	SER L 121	-9.710	-51.072	56.736	1.00	39.46	O
15	ATOM	6864	N	ASP L 122	-10.350	-51.699	58.835	1.00	45.82	N
	ATOM	6865	CA	ASP L 122	-11.740	-52.058	58.483	1.00	47.79	C
	ATOM	6866	CB	ASP L 122	-12.507	-52.584	59.716	1.00	51.29	C
	ATOM	6867	CG	ASP L 122	-11.881	-53.836	60.321	1.00	53.82	C
	ATOM	6868	OD1	ASP L 122	-11.859	-54.885	59.627	1.00	55.46	O
20	ATOM	6869	OD2	ASP L 122	-11.401	-53.764	61.490	1.00	56.53	O
	ATOM	6870	C	ASP L 122	-12.420	-50.820	57.883	1.00	47.96	C
	ATOM	6871	O	ASP L 122	-13.120	-50.925	56.878	1.00	47.95	O
	ATOM	6872	N	GLU L 123	-12.118	-49.653	58.466	1.00	46.98	N
	ATOM	6873	CA	GLU L 123	-12.569	-48.335	58.069	1.00	47.62	C
25	ATOM	6874	CB	GLU L 123	-11.877	-47.280	58.960	1.00	50.15	C
	ATOM	6875	CG	GLU L 123	-12.481	-45.889	58.886	1.00	53.24	C
	ATOM	6876	CD	GLU L 123	-11.795	-44.818	59.724	1.00	57.96	C
	ATOM	6877	OE1	GLU L 123	-11.816	-43.628	59.313	1.00	59.40	O
	ATOM	6878	OE2	GLU L 123	-11.240	-45.166	60.796	1.00	58.72	O
30	ATOM	6879	C	GLU L 123	-12.311	-48.089	56.567	1.00	47.33	C
	ATOM	6880	O	GLU L 123	-13.230	-47.667	55.873	1.00	47.50	O
	ATOM	6881	N	GLN L 124	-11.084	-48.368	56.058	1.00	47.16	N
	ATOM	6882	CA	GLN L 124	-10.776	-48.165	54.636	1.00	46.66	C
	ATOM	6883	CB	GLN L 124	-9.274	-48.113	54.371	1.00	47.32	C
35	ATOM	6884	CG	GLN L 124	-8.941	-47.636	52.949	1.00	46.65	C
	ATOM	6885	CD	GLN L 124	-7.482	-47.723	52.586	1.00	46.49	C
	ATOM	6886	OE1	GLN L 124	-6.672	-48.320	53.297	1.00	47.00	O
	ATOM	6887	NE2	GLN L 124	-7.110	-47.130	51.464	1.00	46.08	N
	ATOM	6888	C	GLN L 124	-11.425	-49.225	53.770	1.00	47.05	C
40	ATOM	6889	O	GLN L 124	-11.980	-48.894	52.718	1.00	47.34	O
	ATOM	6890	N	LEU L 125	-11.351	-50.501	54.197	1.00	47.08	N
	ATOM	6891	CA	LEU L 125	-11.946	-51.619	53.470	1.00	47.17	C
	ATOM	6892	CB	LEU L 125	-11.776	-52.936	54.242	1.00	46.47	C
	ATOM	6893	CG	LEU L 125	-10.374	-53.530	54.267	1.00	46.17	C
45	ATOM	6894	CD1	LEU L 125	-10.280	-54.670	55.257	1.00	44.62	C
	ATOM	6895	CD2	LEU L 125	-9.933	-53.964	52.885	1.00	44.90	C
	ATOM	6896	C	LEU L 125	-13.425	-51.340	53.148	1.00	47.71	C
	ATOM	6897	O	LEU L 125	-13.825	-51.465	51.988	1.00	47.49	O
	ATOM	6898	N	LYS L 126	-14.208	-50.905	54.167	1.00	50.19	N
50	ATOM	6899	CA	LYS L 126	-15.631	-50.572	54.043	1.00	50.46	C
	ATOM	6900	CB	LYS L 126	-16.194	-50.090	55.385	1.00	51.30	C
	ATOM	6901	CG	LYS L 126	-16.458	-51.251	56.342	1.00	51.91	C
	ATOM	6902	CD	LYS L 126	-16.398	-50.805	57.792	1.00	54.16	C
	ATOM	6903	CE	LYS L 126	-16.597	-51.958	58.744	1.00	56.39	C

	ATOM	6904	NZ	LYS	L 126	-16.721	-51.488	60.154	1.00	57.86	N
	ATOM	6905	C	LYS	L 126	-15.870	-49.553	52.911	1.00	50.73	C
	ATOM	6906	O	LYS	L 126	-16.811	-49.720	52.109	1.00	51.27	O
	ATOM	6907	N	SER	L 127	-14.962	-48.546	52.815	1.00	50.24	N
5	ATOM	6908	CA	SER	L 127	-14.966	-47.485	51.807	1.00	49.86	C
	ATOM	6909	CB	SER	L 127	-14.007	-46.348	52.185	1.00	53.95	C
	ATOM	6910	OG	SER	L 127	-12.688	-46.499	51.680	1.00	54.23	O
	ATOM	6911	C	SER	L 127	-14.666	-48.029	50.416	1.00	49.37	C
	ATOM	6912	O	SER	L 127	-14.879	-47.310	49.433	1.00	49.89	O
10	ATOM	6913	N	GLY	L 128	-14.178	-49.265	50.344	1.00	46.00	N
	ATOM	6914	CA	GLY	L 128	-13.877	-49.923	49.076	1.00	45.37	C
	ATOM	6915	C	GLY	L 128	-12.446	-49.892	48.566	1.00	44.99	C
	ATOM	6916	O	GLY	L 128	-12.232	-50.036	47.354	1.00	45.31	O
	ATOM	6917	N	THR	L 129	-11.449	-49.713	49.473	1.00	42.40	N
15	ATOM	6918	CA	THR	L 129	-10.024	-49.685	49.109	1.00	41.14	C
	ATOM	6919	CB	THR	L 129	-9.523	-48.233	48.824	1.00	41.22	C
	ATOM	6920	OG1	THR	L 129	-10.246	-47.716	47.714	1.00	41.32	O
	ATOM	6921	CG2	THR	L 129	-8.044	-48.163	48.451	1.00	40.52	C
	ATOM	6922	C	THR	L 129	-9.214	-50.404	50.156	1.00	40.51	C
20	ATOM	6923	O	THR	L 129	-9.652	-50.514	51.299	1.00	40.40	O
	ATOM	6924	N	ALA	L 130	-8.031	-50.898	49.771	1.00	39.56	N
	ATOM	6925	CA	ALA	L 130	-7.133	-51.577	50.693	1.00	38.85	C
	ATOM	6926	CB	ALA	L 130	-7.165	-53.067	50.453	1.00	39.56	C
	ATOM	6927	C	ALA	L 130	-5.719	-51.056	50.552	1.00	38.00	C
25	ATOM	6928	O	ALA	L 130	-5.099	-51.204	49.497	1.00	37.65	O
	ATOM	6929	N	SER	L 131	-5.214	-50.437	51.606	1.00	37.47	N
	ATOM	6930	CA	SER	L 131	-3.850	-49.946	51.617	1.00	37.52	C
	ATOM	6931	CB	SER	L 131	-3.791	-48.438	51.827	1.00	39.91	C
	ATOM	6932	OG	SER	L 131	-4.221	-47.763	50.658	1.00	40.07	O
30	ATOM	6933	C	SER	L 131	-3.072	-50.716	52.681	1.00	37.32	C
	ATOM	6934	O	SER	L 131	-3.359	-50.616	53.886	1.00	37.48	O
	ATOM	6935	N	VAL	L 132	-2.105	-51.519	52.216	1.00	36.64	N
	ATOM	6936	CA	VAL	L 132	-1.239	-52.332	53.073	1.00	36.36	C
	ATOM	6937	CB	VAL	L 132	-0.963	-53.730	52.462	1.00	39.67	C
35	ATOM	6938	CG1	VAL	L 132	-0.328	-54.654	53.489	1.00	39.77	C
	ATOM	6939	CG2	VAL	L 132	-2.228	-54.349	51.886	1.00	39.19	C
	ATOM	6940	C	VAL	L 132	0.044	-51.530	53.228	1.00	36.02	C
	ATOM	6941	O	VAL	L 132	0.605	-51.114	52.217	1.00	35.83	O
	ATOM	6942	N	VAL	L 133	0.513	-51.318	54.460	1.00	35.39	N
40	ATOM	6943	CA	VAL	L 133	1.726	-50.521	54.689	1.00	35.74	C
	ATOM	6944	CB	VAL	L 133	1.425	-49.233	55.533	1.00	37.52	C
	ATOM	6945	CG1	VAL	L 133	2.697	-48.552	56.032	1.00	36.60	C
	ATOM	6946	CG2	VAL	L 133	0.558	-48.250	54.759	1.00	37.13	C
	ATOM	6947	C	VAL	L 133	2.884	-51.296	55.284	1.00	36.32	C
45	ATOM	6948	O	VAL	L 133	2.747	-51.880	56.365	1.00	35.98	O
	ATOM	6949	N	CYS	L 134	4.047	-51.235	54.620	1.00	40.83	N
	ATOM	6950	CA	CYS	L 134	5.267	-51.842	55.144	1.00	41.97	C
	ATOM	6951	CB	CYS	L 134	5.968	-52.702	54.104	1.00	45.15	C
	ATOM	6952	SG	CYS	L 134	7.256	-53.775	54.793	1.00	51.65	S
50	ATOM	6953	C	CYS	L 134	6.187	-50.745	55.648	1.00	40.92	C
	ATOM	6954	O	CYS	L 134	6.452	-49.787	54.920	1.00	41.22	O
	ATOM	6955	N	LEU	L 135	6.683	-50.880	56.881	1.00	38.47	N
	ATOM	6956	CA	LEU	L 135	7.592	-49.904	57.484	1.00	37.48	C
	ATOM	6957	CB	LEU	L 135	7.015	-49.424	58.836	1.00	37.59	C

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	ATOM	6958	CG	LEU	L 135	7.937	-48.555	59.720	1.00	37.84	C
	ATOM	6959	CD1	LEU	L 135	8.004	-47.111	59.234	1.00	36.39	C
	ATOM	6960	CD2	LEU	L 135	7.492	-48.579	61.153	1.00	38.08	C
	ATOM	6961	C	LEU	L 135	9.011	-50.489	57.673	1.00	36.92	C
5	ATOM	6962	O	LEU	L 135	9.129	-51.597	58.171	1.00	36.59	O
	ATOM	6963	N	LEU	L 136	10.072	-49.749	57.251	1.00	34.10	N
	ATOM	6964	CA	LEU	L 136	11.496	-50.091	57.446	1.00	33.50	C
	ATOM	6965	CB	LEU	L 136	12.369	-50.023	56.192	1.00	33.77	C
	ATOM	6966	CG	LEU	L 136	12.014	-50.817	54.968	1.00	33.04	C
10	ATOM	6967	CD1	LEU	L 136	13.250	-51.127	54.189	1.00	30.68	C
	ATOM	6968	CD2	LEU	L 136	11.286	-52.034	55.317	1.00	33.58	C
	ATOM	6969	C	LEU	L 136	11.940	-49.018	58.398	1.00	33.57	C
	ATOM	6970	O	LEU	L 136	11.936	-47.839	58.044	1.00	33.44	O
	ATOM	6971	N	ASN	L 137	12.247	-49.410	59.620	1.00	34.40	N
15	ATOM	6972	CA	ASN	L 137	12.580	-48.456	60.648	1.00	35.07	C
	ATOM	6973	CB	ASN	L 137	11.664	-48.674	61.858	1.00	38.73	C
	ATOM	6974	CG	ASN	L 137	11.366	-47.435	62.673	1.00	40.02	C
	ATOM	6975	OD1	ASN	L 137	11.037	-46.359	62.156	1.00	42.88	O
	ATOM	6976	ND2	ASN	L 137	11.456	-47.562	63.986	1.00	40.44	N
20	ATOM	6977	C	ASN	L 137	14.048	-48.410	61.038	1.00	35.44	C
	ATOM	6978	O	ASN	L 137	14.667	-49.436	61.313	1.00	35.11	O
	ATOM	6979	N	ASN	L 138	14.592	-47.194	61.055	1.00	37.10	N
	ATOM	6980	CA	ASN	L 138	15.961	-46.868	61.423	1.00	37.73	C
	ATOM	6981	CB	ASN	L 138	16.054	-46.681	62.916	1.00	44.07	C
25	ATOM	6982	CG	ASN	L 138	15.082	-45.654	63.373	1.00	45.06	C
	ATOM	6983	OD1	ASN	L 138	15.075	-44.515	62.878	1.00	49.21	O
	ATOM	6984	ND2	ASN	L 138	14.240	-46.035	64.311	1.00	45.95	N
	ATOM	6985	C	ASN	L 138	17.047	-47.778	60.851	1.00	37.78	C
	ATOM	6986	O	ASN	L 138	17.548	-48.681	61.530	1.00	37.49	O
30	ATOM	6987	N	PHE	L 139	17.394	-47.529	59.585	1.00	37.16	N
	ATOM	6988	CA	PHE	L 139	18.402	-48.286	58.855	1.00	37.49	C
	ATOM	6989	CB	PHE	L 139	17.757	-49.194	57.806	1.00	38.62	C
	ATOM	6990	CG	PHE	L 139	16.937	-48.512	56.735	1.00	37.09	C
	ATOM	6991	CD1	PHE	L 139	17.505	-48.172	55.514	1.00	35.66	C
35	ATOM	6992	CE1	PHE	L 139	16.743	-47.564	54.511	1.00	34.67	C
	ATOM	6993	CZ	PHE	L 139	15.410	-47.321	54.723	1.00	34.71	C
	ATOM	6994	CE2	PHE	L 139	14.830	-47.652	55.929	1.00	33.94	C
	ATOM	6995	CD2	PHE	L 139	15.585	-48.262	56.924	1.00	34.97	C
	ATOM	6996	C	PHE	L 139	19.412	-47.382	58.187	1.00	38.04	C
40	ATOM	6997	O	PHE	L 139	19.175	-46.183	58.023	1.00	37.76	O
	ATOM	6998	N	TYR	L 140	20.546	-47.982	57.797	1.00	39.00	N
	ATOM	6999	CA	TYR	L 140	21.647	-47.321	57.117	1.00	39.49	C
	ATOM	7000	CB	TYR	L 140	22.502	-46.498	58.079	1.00	39.65	C
	ATOM	7001	CG	TYR	L 140	23.475	-45.619	57.330	1.00	40.97	C
45	ATOM	7002	CD1	TYR	L 140	24.753	-46.078	57.004	1.00	41.62	C
	ATOM	7003	CE1	TYR	L 140	25.633	-45.298	56.266	1.00	40.86	C
	ATOM	7004	CZ	TYR	L 140	25.249	-44.032	55.859	1.00	41.98	C
	ATOM	7005	OH	TYR	L 140	26.133	-43.250	55.159	1.00	42.38	O
	ATOM	7006	CE2	TYR	L 140	23.983	-43.554	56.167	1.00	41.15	C
50	ATOM	7007	CD2	TYR	L 140	23.104	-44.349	56.893	1.00	41.02	C
	ATOM	7008	C	TYR	L 140	22.485	-48.361	56.349	1.00	39.84	C
	ATOM	7009	O	TYR	L 140	22.766	-49.432	56.908	1.00	40.31	O
	ATOM	7010	N	PRO	L 141	22.896	-48.098	55.071	1.00	39.96	N
	ATOM	7011	CA	PRO	L 141	22.651	-46.903	54.228	1.00	40.14	C

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	ATOM	7012	CB	PRO L 141	23.661	-47.105	53.088	1.00	40.85	C
	ATOM	7013	CG	PRO L 141	23.692	-48.586	52.915	1.00	40.51	C
	ATOM	7014	CD	PRO L 141	23.686	-49.105	54.326	1.00	40.88	C
	ATOM	7015	C	PRO L 141	21.196	-46.770	53.729	1.00	40.63	C
5	ATOM	7016	O	PRO L 141	20.377	-47.653	53.988	1.00	39.97	O
	ATOM	7017	N	ARG L 142	20.889	-45.684	52.989	1.00	43.36	N
	ATOM	7018	CA	ARG L 142	19.567	-45.394	52.431	1.00	44.42	C
	ATOM	7019	CB	ARG L 142	19.594	-44.034	51.738	1.00	46.19	C
	ATOM	7020	CG	ARG L 142	18.222	-43.423	51.498	1.00	47.97	C
10	ATOM	7021	CD	ARG L 142	18.314	-42.096	50.770	1.00	50.58	C
	ATOM	7022	NE	ARG L 142	17.392	-42.085	49.640	1.00	52.83	N
	ATOM	7023	CZ	ARG L 142	16.272	-41.372	49.577	1.00	53.43	C
	ATOM	7024	NH1	ARG L 142	15.931	-40.561	50.578	1.00	54.61	N
	ATOM	7025	NH2	ARG L 142	15.494	-41.444	48.504	1.00	53.82	N
15	ATOM	7026	C	ARG L 142	19.040	-46.449	51.454	1.00	44.89	C
	ATOM	7027	O	ARG L 142	17.823	-46.613	51.347	1.00	45.05	O
	ATOM	7028	N	GLU L 143	19.933	-47.136	50.724	1.00	48.81	N
	ATOM	7029	CA	GLU L 143	19.522	-48.131	49.727	1.00	49.90	C
	ATOM	7030	CB	GLU L 143	20.508	-48.342	48.556	1.00	52.15	C
20	ATOM	7031	CG	GLU L 143	21.978	-48.083	48.850	1.00	54.87	C
	ATOM	7032	CD	GLU L 143	22.412	-46.629	48.947	1.00	57.12	C
	ATOM	7033	OE1	GLU L 143	23.153	-46.305	49.905	1.00	58.30	O
	ATOM	7034	OE2	GLU L 143	22.009	-45.815	48.080	1.00	57.38	O
	ATOM	7035	C	GLU L 143	19.017	-49.410	50.296	1.00	50.07	C
25	ATOM	7036	O	GLU L 143	19.756	-50.143	50.961	1.00	50.40	O
	ATOM	7037	N	ALA L 144	17.726	-49.668	50.041	1.00	49.61	N
	ATOM	7038	CA	ALA L 144	17.010	-50.849	50.501	1.00	49.58	C
	ATOM	7039	CB	ALA L 144	16.388	-50.569	51.859	1.00	49.93	C
	ATOM	7040	C	ALA L 144	15.919	-51.239	49.497	1.00	49.71	C
30	ATOM	7041	O	ALA L 144	15.204	-50.354	49.010	1.00	50.34	O
	ATOM	7042	N	LYS L 145	15.790	-52.548	49.180	1.00	46.06	N
	ATOM	7043	CA	LYS L 145	14.754	-53.015	48.262	1.00	45.90	C
	ATOM	7044	CB	LYS L 145	15.273	-54.121	47.328	1.00	48.16	C
	ATOM	7045	C	LYS L 145	13.572	-53.532	49.058	1.00	45.74	C
35	ATOM	7046	O	LYS L 145	13.745	-54.334	49.977	1.00	45.89	O
	ATOM	7047	N	VAL L 146	12.377	-53.074	48.709	1.00	41.79	N
	ATOM	7048	CA	VAL L 146	11.116	-53.503	49.315	1.00	41.66	C
	ATOM	7049	CB	VAL L 146	10.368	-52.371	50.068	1.00	44.36	C
	ATOM	7050	CG1	VAL L 146	8.976	-52.813	50.497	1.00	43.93	C
40	ATOM	7051	CG2	VAL L 146	11.165	-51.883	51.266	1.00	44.31	C
	ATOM	7052	C	VAL L 146	10.315	-54.058	48.145	1.00	42.05	C
	ATOM	7053	O	VAL L 146	10.013	-53.349	47.175	1.00	41.63	O
	ATOM	7054	N	GLN L 147	10.004	-55.333	48.230	1.00	46.03	N
	ATOM	7055	CA	GLN L 147	9.277	-56.058	47.200	1.00	46.89	C
45	ATOM	7056	CB	GLN L 147	10.192	-57.200	46.720	1.00	51.07	C
	ATOM	7057	CG	GLN L 147	9.622	-58.121	45.665	1.00	55.34	C
	ATOM	7058	CD	GLN L 147	9.658	-57.472	44.309	1.00	61.48	C
	ATOM	7059	OE1	GLN L 147	10.735	-57.009	43.825	1.00	64.83	O
	ATOM	7060	NE2	GLN L 147	8.470	-57.417	43.675	1.00	60.31	N
50	ATOM	7061	C	GLN L 147	7.932	-56.597	47.749	1.00	46.29	C
	ATOM	7062	O	GLN L 147	7.937	-57.386	48.693	1.00	46.34	O
	ATOM	7063	N	TRP L 148	6.792	-56.172	47.167	1.00	43.55	N
	ATOM	7064	CA	TRP L 148	5.475	-56.663	47.587	1.00	42.97	C
	ATOM	7065	CB	TRP L 148	4.392	-55.631	47.306	1.00	39.62	C

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	ATOM	7066	CG	TRP	L 148	4.388	-54.505	48.291	1.00	37.78	C
	ATOM	7067	CD1	TRP	L 148	4.895	-53.254	48.111	1.00	35.32	C
	ATOM	7068	NE1	TRP	L 148	4.711	-52.498	49.248	1.00	34.17	N
	ATOM	7069	CE2	TRP	L 148	4.072	-53.257	50.191	1.00	34.35	C
5	ATOM	7070	CD2	TRP	L 148	3.866	-54.538	49.630	1.00	36.50	C
	ATOM	7071	CE3	TRP	L 148	3.201	-55.519	50.398	1.00	36.07	C
	ATOM	7072	CZ3	TRP	L 148	2.799	-55.196	51.687	1.00	36.64	C
	ATOM	7073	CH2	TRP	L 148	3.038	-53.922	52.224	1.00	36.43	C
	ATOM	7074	CZ2	TRP	L 148	3.648	-52.929	51.482	1.00	35.47	C
10	ATOM	7075	C	TRP	L 148	5.171	-58.008	46.891	1.00	43.88	C
	ATOM	7076	O	TRP	L 148	5.366	-58.135	45.673	1.00	43.59	O
	ATOM	7077	N	LYS	L 149	4.743	-59.017	47.676	1.00	47.44	N
	ATOM	7078	CA	LYS	L 149	4.428	-60.362	47.200	1.00	48.36	C
	ATOM	7079	CB	LYS	L 149	5.440	-61.406	47.752	1.00	51.44	C
15	ATOM	7080	CG	LYS	L 149	6.898	-61.223	47.373	1.00	51.22	C
	ATOM	7081	CD	LYS	L 149	7.410	-62.382	46.547	1.00	52.68	C
	ATOM	7082	CE	LYS	L 149	8.927	-62.448	46.469	1.00	54.20	C
	ATOM	7083	NZ	LYS	L 149	9.567	-62.846	47.760	1.00	51.54	N
	ATOM	7084	C	LYS	L 149	3.032	-60.754	47.673	1.00	49.06	C
20	ATOM	7085	O	LYS	L 149	2.894	-61.283	48.786	1.00	49.98	O
	ATOM	7086	N	VAL	L 150	2.005	-60.534	46.841	1.00	48.19	N
	ATOM	7087	CA	VAL	L 150	0.629	-60.918	47.158	1.00	48.43	C
	ATOM	7088	CB	VAL	L 150	-0.372	-59.984	46.466	1.00	52.36	C
	ATOM	7089	CG1	VAL	L 150	-1.793	-60.399	46.774	1.00	52.88	C
25	ATOM	7090	CG2	VAL	L 150	-0.144	-58.547	46.876	1.00	52.64	C
	ATOM	7091	C	VAL	L 150	0.435	-62.377	46.691	1.00	48.66	C
	ATOM	7092	O	VAL	L 150	0.460	-62.636	45.476	1.00	48.52	O
	ATOM	7093	N	ASP	L 151	0.249	-63.328	47.658	1.00	49.95	N
	ATOM	7094	CA	ASP	L 151	0.067	-64.782	47.416	1.00	49.68	C
30	ATOM	7095	CB	ASP	L 151	-1.148	-65.061	46.508	1.00	51.18	C
	ATOM	7096	CG	ASP	L 151	-2.482	-65.166	47.192	1.00	51.16	C
	ATOM	7097	OD1	ASP	L 151	-2.505	-65.234	48.449	1.00	49.40	O
	ATOM	7098	OD2	ASP	L 151	-3.516	-65.190	46.469	1.00	52.00	O
	ATOM	7099	C	ASP	L 151	1.311	-65.351	46.759	1.00	49.51	C
35	ATOM	7100	O	ASP	L 151	1.213	-66.137	45.812	1.00	49.29	O
	ATOM	7101	N	ASN	L 152	2.484	-64.911	47.239	1.00	49.78	N
	ATOM	7102	CA	ASN	L 152	3.817	-65.273	46.753	1.00	49.72	C
	ATOM	7103	CB	ASN	L 152	4.105	-66.744	46.914	1.00	52.10	C
	ATOM	7104	CG	ASN	L 152	5.550	-67.016	47.161	1.00	52.62	C
40	ATOM	7105	OD1	ASN	L 152	6.245	-66.217	47.809	1.00	54.87	O
	ATOM	7106	ND2	ASN	L 152	6.032	-68.147	46.655	1.00	52.48	N
	ATOM	7107	C	ASN	L 152	4.132	-64.786	45.339	1.00	49.54	C
	ATOM	7108	O	ASN	L 152	5.227	-65.046	44.836	1.00	49.11	O
	ATOM	7109	N	ALA	L 153	3.186	-64.069	44.710	1.00	49.37	N
45	ATOM	7110	CA	ALA	L 153	3.347	-63.511	43.377	1.00	49.86	C
	ATOM	7111	CB	ALA	L 153	2.012	-63.509	42.645	1.00	50.32	C
	ATOM	7112	C	ALA	L 153	3.864	-62.080	43.552	1.00	50.31	C
	ATOM	7113	O	ALA	L 153	3.209	-61.269	44.223	1.00	50.34	O
	ATOM	7114	N	LEU	L 154	5.043	-61.769	42.979	1.00	51.93	N
50	ATOM	7115	CA	LEU	L 154	5.540	-60.426	43.164	1.00	52.49	C
	ATOM	7116	CB	LEU	L 154	7.063	-60.272	43.252	1.00	53.02	C
	ATOM	7117	CG	LEU	L 154	7.923	-60.563	42.050	1.00	53.76	C
	ATOM	7118	CD1	LEU	L 154	8.036	-59.339	41.150	1.00	54.05	C
	ATOM	7119	CD2	LEU	L 154	9.327	-60.997	42.499	1.00	53.50	C

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	ATOM	7120	C	LEU L 154	4.809	-59.348	42.382	1.00	52.53	C
	ATOM	7121	O	LEU L 154	4.446	-59.552	41.233	1.00	52.51	O
	ATOM	7122	N	GLN L 155	4.550	-58.218	43.070	1.00	53.93	N
	ATOM	7123	CA	GLN L 155	3.815	-57.041	42.624	1.00	54.23	C
5	ATOM	7124	CB	GLN L 155	3.050	-56.438	43.812	1.00	55.17	C
	ATOM	7125	CG	GLN L 155	1.952	-57.320	44.393	1.00	56.25	C
	ATOM	7126	CD	GLN L 155	1.075	-57.922	43.324	1.00	58.09	C
	ATOM	7127	OE1	GLN L 155	1.147	-59.130	43.048	1.00	59.71	O
	ATOM	7128	NE2	GLN L 155	0.254	-57.102	42.680	1.00	55.85	N
10	ATOM	7129	C	GLN L 155	4.671	-55.962	41.990	1.00	54.33	C
	ATOM	7130	O	GLN L 155	5.838	-55.800	42.353	1.00	54.50	O
	ATOM	7131	N	SER L 156	4.065	-55.206	41.052	1.00	55.36	N
	ATOM	7132	CA	SER L 156	4.684	-54.092	40.326	1.00	55.17	C
	ATOM	7133	CB	SER L 156	5.381	-54.581	39.054	1.00	60.88	C
15	ATOM	7134	OG	SER L 156	6.325	-55.619	39.281	1.00	62.94	O
	ATOM	7135	C	SER L 156	3.619	-53.064	39.959	1.00	54.69	C
	ATOM	7136	O	SER L 156	2.488	-53.424	39.617	1.00	54.86	O
	ATOM	7137	N	GLY L 157	3.995	-51.797	40.046	1.00	53.72	N
	ATOM	7138	CA	GLY L 157	3.149	-50.660	39.698	1.00	52.81	C
20	ATOM	7139	C	GLY L 157	1.914	-50.421	40.537	1.00	52.16	C
	ATOM	7140	O	GLY L 157	1.014	-49.681	40.107	1.00	52.37	O
	ATOM	7141	N	ASN L 158	1.854	-51.037	41.730	1.00	49.94	N
	ATOM	7142	CA	ASN L 158	0.719	-50.864	42.631	1.00	49.47	C
	ATOM	7143	CB	ASN L 158	-0.223	-52.071	42.609	1.00	52.50	C
25	ATOM	7144	CG	ASN L 158	0.405	-53.378	43.005	1.00	53.86	C
	ATOM	7145	OD1	ASN L 158	1.634	-53.525	43.113	1.00	56.51	O
	ATOM	7146	ND2	ASN L 158	-0.430	-54.362	43.240	1.00	53.79	N
	ATOM	7147	C	ASN L 158	1.157	-50.457	44.040	1.00	48.81	C
	ATOM	7148	O	ASN L 158	0.368	-50.527	44.986	1.00	48.81	O
30	ATOM	7149	N	SER L 159	2.414	-50.002	44.164	1.00	46.79	N
	ATOM	7150	CA	SER L 159	2.979	-49.538	45.420	1.00	46.00	C
	ATOM	7151	CB	SER L 159	3.870	-50.600	46.047	1.00	49.18	C
	ATOM	7152	OG	SER L 159	5.123	-50.666	45.389	1.00	48.39	O
	ATOM	7153	C	SER L 159	3.752	-48.230	45.220	1.00	45.77	C
35	ATOM	7154	O	SER L 159	4.198	-47.940	44.109	1.00	45.28	O
	ATOM	7155	N	GLN L 160	3.896	-47.447	46.310	1.00	46.43	N
	ATOM	7156	CA	GLN L 160	4.598	-46.167	46.357	1.00	46.47	C
	ATOM	7157	CB	GLN L 160	3.618	-45.010	46.347	1.00	47.83	C
	ATOM	7158	CG	GLN L 160	3.019	-44.778	44.983	1.00	50.05	C
40	ATOM	7159	CD	GLN L 160	2.166	-43.551	45.001	1.00	52.86	C
	ATOM	7160	OE1	GLN L 160	1.060	-43.541	45.572	1.00	55.24	O
	ATOM	7161	NE2	GLN L 160	2.668	-42.489	44.382	1.00	54.04	N
	ATOM	7162	C	GLN L 160	5.479	-46.103	47.579	1.00	46.19	C
	ATOM	7163	O	GLN L 160	5.086	-46.539	48.661	1.00	46.63	O
45	ATOM	7164	N	GLU L 161	6.675	-45.555	47.419	1.00	45.60	N
	ATOM	7165	CA	GLU L 161	7.644	-45.471	48.510	1.00	44.89	C
	ATOM	7166	CB	GLU L 161	8.944	-46.093	48.029	1.00	47.37	C
	ATOM	7167	CG	GLU L 161	9.450	-47.198	48.908	1.00	49.78	C
	ATOM	7168	CD	GLU L 161	10.501	-48.027	48.201	1.00	53.41	C
50	ATOM	7169	OE1	GLU L 161	11.512	-47.443	47.738	1.00	55.46	O
	ATOM	7170	OE2	GLU L 161	10.315	-49.265	48.109	1.00	54.49	O
	ATOM	7171	C	GLU L 161	7.932	-44.068	49.005	1.00	43.65	C
	ATOM	7172	O	GLU L 161	7.788	-43.098	48.261	1.00	43.56	O
	ATOM	7173	N	SER L 162	8.389	-43.972	50.263	1.00	39.94	N

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	ATOM	7174	CA	SER L 162	8.759	-42.705	50.874	1.00	38.30	C
	ATOM	7175	CB	SER L 162	7.546	-42.008	51.464	1.00	40.95	C
	ATOM	7176	OG	SER L 162	7.882	-40.667	51.749	1.00	39.65	O
	ATOM	7177	C	SER L 162	9.825	-42.919	51.929	1.00	37.71	C
5	ATOM	7178	O	SER L 162	9.658	-43.745	52.817	1.00	37.95	O
	ATOM	7179	N	VAL L 163	10.929	-42.181	51.819	1.00	35.29	N
	ATOM	7180	CA	VAL L 163	12.049	-42.251	52.752	1.00	34.41	C
	ATOM	7181	CB	VAL L 163	13.384	-42.595	52.043	1.00	36.18	C
	ATOM	7182	CG1	VAL L 163	14.475	-42.909	53.053	1.00	36.30	C
10	ATOM	7183	CG2	VAL L 163	13.216	-43.763	51.089	1.00	35.67	C
	ATOM	7184	C	VAL L 163	12.149	-40.922	53.479	1.00	34.51	C
	ATOM	7185	O	VAL L 163	12.016	-39.864	52.857	1.00	34.67	O
	ATOM	7186	N	THR L 164	12.392	-40.956	54.789	1.00	35.81	N
	ATOM	7187	CA	THR L 164	12.564	-39.721	55.552	1.00	35.99	C
15	ATOM	7188	CB	THR L 164	12.360	-39.959	57.066	1.00	35.31	C
	ATOM	7189	OG1	THR L 164	13.312	-40.912	57.537	1.00	35.77	O
	ATOM	7190	CG2	THR L 164	10.970	-40.365	57.418	1.00	34.69	C
	ATOM	7191	C	THR L 164	14.007	-39.212	55.323	1.00	36.55	C
	ATOM	7192	O	THR L 164	14.866	-39.921	54.768	1.00	35.73	O
20	ATOM	7193	N	GLU L 165	14.269	-37.980	55.779	1.00	40.72	N
	ATOM	7194	CA	GLU L 165	15.602	-37.397	55.712	1.00	41.81	C
	ATOM	7195	CB	GLU L 165	15.502	-35.889	56.003	1.00	44.52	C
	ATOM	7196	CG	GLU L 165	16.240	-35.010	55.011	1.00	48.56	C
	ATOM	7197	CD	GLU L 165	15.761	-35.114	53.574	1.00	54.00	C
25	ATOM	7198	OE1	GLU L 165	14.578	-34.783	53.325	1.00	57.32	O
	ATOM	7199	OE2	GLU L 165	16.563	-35.518	52.697	1.00	56.54	O
	ATOM	7200	C	GLU L 165	16.409	-38.122	56.819	1.00	41.40	C
	ATOM	7201	O	GLU L 165	15.799	-38.779	57.674	1.00	41.64	O
	ATOM	7202	N	GLN L 166	17.743	-38.044	56.800	1.00	39.37	N
30	ATOM	7203	CA	GLN L 166	18.563	-38.676	57.841	1.00	39.79	C
	ATOM	7204	CB	GLN L 166	20.031	-38.323	57.646	1.00	40.51	C
	ATOM	7205	CG	GLN L 166	20.807	-39.440	57.064	1.00	41.14	C
	ATOM	7206	CD	GLN L 166	22.207	-39.025	56.796	1.00	42.34	C
	ATOM	7207	OE1	GLN L 166	22.478	-37.958	56.225	1.00	43.15	O
35	ATOM	7208	NE2	GLN L 166	23.139	-39.865	57.201	1.00	44.04	N
	ATOM	7209	C	GLN L 166	18.120	-38.184	59.229	1.00	40.05	C
	ATOM	7210	O	GLN L 166	17.969	-36.975	59.399	1.00	40.02	O
	ATOM	7211	N	ASP L 167	17.909	-39.097	60.204	1.00	42.94	N
	ATOM	7212	CA	ASP L 167	17.484	-38.708	61.557	1.00	44.05	C
40	ATOM	7213	CB	ASP L 167	17.225	-39.939	62.448	1.00	46.40	C
	ATOM	7214	CG	ASP L 167	16.823	-39.585	63.871	1.00	47.84	C
	ATOM	7215	OD1	ASP L 167	17.714	-39.548	64.753	1.00	49.84	O
	ATOM	7216	OD2	ASP L 167	15.625	-39.342	64.105	1.00	48.79	O
	ATOM	7217	C	ASP L 167	18.479	-37.732	62.219	1.00	44.57	C
45	ATOM	7218	O	ASP L 167	19.678	-38.007	62.248	1.00	45.38	O
	ATOM	7219	N	SER L 168	17.978	-36.607	62.742	1.00	46.13	N
	ATOM	7220	CA	SER L 168	18.784	-35.564	63.393	1.00	46.62	C
	ATOM	7221	CB	SER L 168	17.886	-34.462	63.952	1.00	52.26	C
	ATOM	7222	OG	SER L 168	17.168	-34.894	65.100	1.00	53.31	O
50	ATOM	7223	C	SER L 168	19.694	-36.106	64.496	1.00	46.63	C
	ATOM	7224	O	SER L 168	20.849	-35.685	64.603	1.00	46.80	O
	ATOM	7225	N	LYS L 169	19.175	-37.055	65.302	1.00	46.82	N
	ATOM	7226	CA	LYS L 169	19.933	-37.661	66.400	1.00	46.19	C
	ATOM	7227	CB	LYS L 169	19.007	-38.160	67.537	1.00	49.04	C

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	ATOM	7228	CG	LYS	L 169	17.799	-37.259	67.860	1.00	51.53	C
	ATOM	7229	CD	LYS	L 169	18.003	-36.283	69.036	1.00	54.31	C
	ATOM	7230	CE	LYS	L 169	18.562	-34.914	68.670	1.00	56.55	C
	ATOM	7231	NZ	LYS	L 169	18.958	-34.115	69.871	1.00	58.48	N
5	ATOM	7232	C	LYS	L 169	20.908	-38.769	65.917	1.00	44.87	C
	ATOM	7233	O	LYS	L 169	22.114	-38.593	66.084	1.00	44.84	O
	ATOM	7234	N	ASP	L 170	20.412	-39.872	65.289	1.00	41.20	N
	ATOM	7235	CA	ASP	L 170	21.261	-41.014	64.863	1.00	39.73	C
	ATOM	7236	CB	ASP	L 170	20.767	-42.323	65.503	1.00	41.21	C
10	ATOM	7237	CG	ASP	L 170	19.406	-42.773	65.011	1.00	42.36	C
	ATOM	7238	OD1	ASP	L 170	18.720	-43.505	65.752	1.00	44.52	O
	ATOM	7239	OD2	ASP	L 170	19.032	-42.410	63.886	1.00	42.33	O
	ATOM	7240	C	ASP	L 170	21.645	-41.223	63.378	1.00	38.70	C
	ATOM	7241	O	ASP	L 170	22.276	-42.239	63.053	1.00	37.91	O
15	ATOM	7242	N	SER	L 171	21.263	-40.288	62.482	1.00	36.51	N
	ATOM	7243	CA	SER	L 171	21.595	-40.336	61.055	1.00	35.49	C
	ATOM	7244	CB	SER	L 171	23.095	-40.121	60.845	1.00	39.64	C
	ATOM	7245	OG	SER	L 171	23.541	-38.984	61.571	1.00	39.25	O
	ATOM	7246	C	SER	L 171	21.067	-41.568	60.276	1.00	35.26	C
20	ATOM	7247	O	SER	L 171	21.577	-41.885	59.196	1.00	34.81	O
	ATOM	7248	N	THR	L 172	20.037	-42.245	60.814	1.00	33.58	N
	ATOM	7249	CA	THR	L 172	19.424	-43.394	60.160	1.00	33.43	C
	ATOM	7250	CB	THR	L 172	18.969	-44.480	61.172	1.00	38.08	C
	ATOM	7251	OG1	THR	L 172	17.960	-43.960	62.032	1.00	39.35	O
25	ATOM	7252	CG2	THR	L 172	20.131	-45.062	61.992	1.00	37.86	C
	ATOM	7253	C	THR	L 172	18.304	-42.882	59.247	1.00	32.92	C
	ATOM	7254	O	THR	L 172	18.025	-41.683	59.217	1.00	32.65	O
	ATOM	7255	N	TYR	L 173	17.695	-43.796	58.486	1.00	33.11	N
	ATOM	7256	CA	TYR	L 173	16.612	-43.537	57.560	1.00	32.54	C
30	ATOM	7257	CB	TYR	L 173	17.046	-43.949	56.149	1.00	33.73	C
	ATOM	7258	CG	TYR	L 173	18.063	-43.035	55.509	1.00	35.40	C
	ATOM	7259	CD1	TYR	L 173	19.427	-43.341	55.538	1.00	34.18	C
	ATOM	7260	CE1	TYR	L 173	20.365	-42.500	54.944	1.00	33.34	C
	ATOM	7261	CZ	TYR	L 173	19.940	-41.345	54.301	1.00	33.44	C
35	ATOM	7262	OH	TYR	L 173	20.831	-40.486	53.712	1.00	34.91	O
	ATOM	7263	CE2	TYR	L 173	18.596	-41.015	54.271	1.00	32.73	C
	ATOM	7264	CD2	TYR	L 173	17.664	-41.873	54.844	1.00	35.54	C
	ATOM	7265	C	TYR	L 173	15.442	-44.429	57.914	1.00	32.61	C
	ATOM	7266	O	TYR	L 173	15.620	-45.514	58.471	1.00	32.69	O
40	ATOM	7267	N	SER	L 174	14.246	-44.004	57.548	1.00	32.14	N
	ATOM	7268	CA	SER	L 174	13.082	-44.827	57.688	1.00	32.18	C
	ATOM	7269	CB	SER	L 174	12.165	-44.310	58.772	1.00	37.85	C
	ATOM	7270	OG	SER	L 174	12.583	-44.928	59.976	1.00	39.22	O
	ATOM	7271	C	SER	L 174	12.447	-44.848	56.318	1.00	32.24	C
45	ATOM	7272	O	SER	L 174	12.692	-43.948	55.534	1.00	32.08	O
	ATOM	7273	N	LEU	L 175	11.692	-45.889	55.995	1.00	34.78	N
	ATOM	7274	CA	LEU	L 175	11.033	-46.033	54.698	1.00	35.19	C
	ATOM	7275	CB	LEU	L 175	11.860	-46.952	53.782	1.00	34.70	C
	ATOM	7276	CG	LEU	L 175	11.401	-47.130	52.360	1.00	34.41	C
50	ATOM	7277	CD1	LEU	L 175	12.551	-47.394	51.476	1.00	32.24	C
	ATOM	7278	CD2	LEU	L 175	10.424	-48.275	52.253	1.00	34.08	C
	ATOM	7279	C	LEU	L 175	9.664	-46.618	54.931	1.00	35.66	C
	ATOM	7280	O	LEU	L 175	9.510	-47.538	55.732	1.00	35.61	O
	ATOM	7281	N	SER	L 176	8.677	-46.089	54.224	1.00	38.59	N

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	ATOM	7282	CA	SER L 176	7.294	-46.521	54.292	1.00	39.66	C
	ATOM	7283	CB	SER L 176	6.432	-45.414	54.883	1.00	46.07	C
	ATOM	7284	OG	SER L 176	5.060	-45.642	54.615	1.00	47.62	O
	ATOM	7285	C	SER L 176	6.825	-46.839	52.893	1.00	40.26	C
5	ATOM	7286	O	SER L 176	6.821	-45.939	52.056	1.00	41.38	O
	ATOM	7287	N	SER L 177	6.451	-48.108	52.622	1.00	39.17	N
	ATOM	7288	CA	SER L 177	5.938	-48.540	51.320	1.00	39.45	C
	ATOM	7289	CB	SER L 177	6.682	-49.765	50.807	1.00	42.96	C
	ATOM	7290	OG	SER L 177	6.272	-50.091	49.490	1.00	42.77	O
10	ATOM	7291	C	SER L 177	4.455	-48.840	51.476	1.00	39.71	C
	ATOM	7292	O	SER L 177	4.052	-49.458	52.460	1.00	40.73	O
	ATOM	7293	N	THR L 178	3.637	-48.382	50.533	1.00	37.53	N
	ATOM	7294	CA	THR L 178	2.198	-48.575	50.599	1.00	37.41	C
	ATOM	7295	CB	THR L 178	1.516	-47.229	50.861	1.00	39.57	C
15	ATOM	7296	OG1	THR L 178	2.096	-46.643	52.024	1.00	39.53	O
	ATOM	7297	CG2	THR L 178	0.007	-47.335	51.001	1.00	38.39	C
	ATOM	7298	C	THR L 178	1.672	-49.253	49.357	1.00	37.95	C
	ATOM	7299	O	THR L 178	1.655	-48.640	48.291	1.00	37.71	O
	ATOM	7300	N	LEU L 179	1.226	-50.514	49.500	1.00	37.71	N
20	ATOM	7301	CA	LEU L 179	0.622	-51.259	48.403	1.00	38.36	C
	ATOM	7302	CB	LEU L 179	0.860	-52.768	48.572	1.00	37.34	C
	ATOM	7303	CG	LEU L 179	0.277	-53.661	47.474	1.00	37.16	C
	ATOM	7304	CD1	LEU L 179	1.230	-53.795	46.333	1.00	36.11	C
	ATOM	7305	CD2	LEU L 179	-0.023	-55.018	47.997	1.00	36.31	C
25	ATOM	7306	C	LEU L 179	-0.876	-50.930	48.451	1.00	39.03	C
	ATOM	7307	O	LEU L 179	-1.525	-51.212	49.460	1.00	39.15	O
	ATOM	7308	N	THR L 180	-1.410	-50.282	47.409	1.00	41.56	N
	ATOM	7309	CA	THR L 180	-2.842	-49.934	47.376	1.00	42.99	C
	ATOM	7310	CB	THR L 180	-3.119	-48.406	47.286	1.00	51.23	C
30	ATOM	7311	OG1	THR L 180	-2.474	-47.691	48.352	1.00	52.38	O
	ATOM	7312	CG2	THR L 180	-4.603	-48.084	47.319	1.00	51.14	C
	ATOM	7313	C	THR L 180	-3.554	-50.752	46.313	1.00	43.34	C
	ATOM	7314	O	THR L 180	-3.137	-50.774	45.153	1.00	43.41	O
	ATOM	7315	N	LEU L 181	-4.627	-51.425	46.735	1.00	45.20	N
35	ATOM	7316	CA	LEU L 181	-5.485	-52.289	45.929	1.00	45.57	C
	ATOM	7317	CB	LEU L 181	-5.232	-53.736	46.390	1.00	45.80	C
	ATOM	7318	CG	LEU L 181	-4.665	-54.746	45.388	1.00	46.69	C
	ATOM	7319	CD1	LEU L 181	-3.679	-54.110	44.406	1.00	47.01	C
	ATOM	7320	CD2	LEU L 181	-4.010	-55.909	46.116	1.00	46.46	C
40	ATOM	7321	C	LEU L 181	-6.961	-51.927	46.161	1.00	45.80	C
	ATOM	7322	O	LEU L 181	-7.293	-51.348	47.200	1.00	45.51	O
	ATOM	7323	N	SER L 182	-7.845	-52.279	45.211	1.00	47.46	N
	ATOM	7324	CA	SER L 182	-9.287	-52.037	45.363	1.00	48.58	C
	ATOM	7325	CB	SER L 182	-9.996	-52.140	44.017	1.00	52.50	C
45	ATOM	7326	OG	SER L 182	-9.809	-53.400	43.393	1.00	53.30	O
	ATOM	7327	C	SER L 182	-9.792	-53.114	46.314	1.00	49.16	C
	ATOM	7328	O	SER L 182	-9.127	-54.153	46.410	1.00	49.36	O
	ATOM	7329	N	LYS L 183	-10.929	-52.901	47.031	1.00	52.00	N
	ATOM	7330	CA	LYS L 183	-11.432	-53.931	47.973	1.00	52.83	C
50	ATOM	7331	CB	LYS L 183	-12.718	-53.498	48.679	1.00	56.56	C
	ATOM	7332	CG	LYS L 183	-12.988	-54.302	49.937	1.00	57.82	C
	ATOM	7333	CD	LYS L 183	-14.437	-54.258	50.382	1.00	60.42	C
	ATOM	7334	CE	LYS L 183	-14.524	-54.836	51.779	1.00	62.97	C
	ATOM	7335	NZ	LYS L 183	-15.929	-55.009	52.254	1.00	63.88	N

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	ATOM	7336	C	LYS	L	183	-11.622	-55.290	47.280	1.00	53.30	C
	ATOM	7337	O	LYS	L	183	-11.314	-56.330	47.868	1.00	53.25	O
	ATOM	7338	N	ALA	L	184	-12.087	-55.258	46.007	1.00	54.62	N
	ATOM	7339	CA	ALA	L	184	-12.304	-56.420	45.151	1.00	55.06	C
5	ATOM	7340	CB	ALA	L	184	-12.953	-55.990	43.843	1.00	55.64	C
	ATOM	7341	C	ALA	L	184	-10.998	-57.194	44.878	1.00	55.56	C
	ATOM	7342	O	ALA	L	184	-10.959	-58.400	45.134	1.00	56.10	O
	ATOM	7343	N	ASP	L	185	-9.939	-56.522	44.378	1.00	54.69	N
	ATOM	7344	CA	ASP	L	185	-8.664	-57.200	44.097	1.00	54.98	C
10	ATOM	7345	CB	ASP	L	185	-7.672	-56.289	43.355	1.00	58.05	C
	ATOM	7346	CG	ASP	L	185	-8.053	-55.882	41.941	1.00	59.60	C
	ATOM	7347	OD1	ASP	L	185	-8.914	-56.566	41.327	1.00	62.21	O
	ATOM	7348	OD2	ASP	L	185	-7.481	-54.890	41.440	1.00	60.45	O
	ATOM	7349	C	ASP	L	185	-8.026	-57.710	45.380	1.00	54.51	C
15	ATOM	7350	O	ASP	L	185	-7.456	-58.797	45.382	1.00	54.63	O
	ATOM	7351	N	TYR	L	186	-8.133	-56.933	46.473	1.00	50.39	N
	ATOM	7352	CA	TYR	L	186	-7.592	-57.302	47.774	1.00	49.59	C
	ATOM	7353	CB	TYR	L	186	-7.787	-56.149	48.762	1.00	47.67	C
	ATOM	7354	CG	TYR	L	186	-7.298	-56.457	50.157	1.00	44.21	C
20	ATOM	7355	CD1	TYR	L	186	-5.941	-56.539	50.436	1.00	41.38	C
	ATOM	7356	CE1	TYR	L	186	-5.482	-56.805	51.718	1.00	39.98	C
	ATOM	7357	CZ	TYR	L	186	-6.387	-56.977	52.744	1.00	38.78	C
	ATOM	7358	OH	TYR	L	186	-5.918	-57.256	53.998	1.00	37.70	O
	ATOM	7359	CE2	TYR	L	186	-7.744	-56.867	52.498	1.00	39.01	C
25	ATOM	7360	CD2	TYR	L	186	-8.191	-56.627	51.205	1.00	40.94	C
	ATOM	7361	C	TYR	L	186	-8.255	-58.598	48.295	1.00	50.34	C
	ATOM	7362	O	TYR	L	186	-7.604	-59.435	48.939	1.00	50.12	O
	ATOM	7363	N	GLU	L	187	-9.550	-58.754	47.996	1.00	52.52	N
	ATOM	7364	CA	GLU	L	187	-10.293	-59.928	48.413	1.00	53.39	C
30	ATOM	7365	CB	GLU	L	187	-11.770	-59.620	48.560	1.00	55.11	C
	ATOM	7366	CG	GLU	L	187	-11.985	-58.846	49.845	1.00	57.12	C
	ATOM	7367	CD	GLU	L	187	-13.407	-58.523	50.257	1.00	59.54	C
	ATOM	7368	OE1	GLU	L	187	-14.323	-58.626	49.405	1.00	61.06	O
	ATOM	7369	OE2	GLU	L	187	-13.599	-58.159	51.442	1.00	60.47	O
35	ATOM	7370	C	GLU	L	187	-9.977	-61.199	47.614	1.00	53.69	C
	ATOM	7371	O	GLU	L	187	-10.115	-62.293	48.161	1.00	54.00	O
	ATOM	7372	N	LYS	L	188	-9.492	-61.058	46.355	1.00	52.79	N
	ATOM	7373	CA	LYS	L	188	-9.099	-62.165	45.473	1.00	52.74	C
	ATOM	7374	CB	LYS	L	188	-8.759	-61.623	44.077	1.00	54.61	C
40	ATOM	7375	CG	LYS	L	188	-9.941	-61.270	43.216	1.00	56.05	C
	ATOM	7376	CD	LYS	L	188	-9.448	-60.689	41.926	1.00	57.88	C
	ATOM	7377	CE	LYS	L	188	-10.446	-59.717	41.359	1.00	60.21	C
	ATOM	7378	NZ	LYS	L	188	-9.838	-58.884	40.281	1.00	61.92	N
	ATOM	7379	C	LYS	L	188	-7.844	-62.918	45.986	1.00	52.56	C
45	ATOM	7380	O	LYS	L	188	-7.518	-63.974	45.435	1.00	52.78	O
	ATOM	7381	N	HIS	L	189	-7.114	-62.365	46.995	1.00	52.66	N
	ATOM	7382	CA	HIS	L	189	-5.877	-62.951	47.529	1.00	52.17	C
	ATOM	7383	CB	HIS	L	189	-4.682	-62.137	47.057	1.00	53.36	C
	ATOM	7384	CG	HIS	L	189	-4.719	-61.886	45.583	1.00	54.45	C
50	ATOM	7385	ND1	HIS	L	189	-5.116	-60.663	45.071	1.00	55.85	N
	ATOM	7386	CE1	HIS	L	189	-5.071	-60.788	43.752	1.00	55.68	C
	ATOM	7387	NE2	HIS	L	189	-4.689	-62.011	43.390	1.00	56.62	N
	ATOM	7388	CD2	HIS	L	189	-4.472	-62.730	44.553	1.00	55.89	C
	ATOM	7389	C	HIS	L	189	-5.882	-63.143	49.033	1.00	51.61	C

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	ATOM	7390	O	HIS L 189	-6.697	-62.528	49.712	1.00	51.93	O
	ATOM	7391	N	LYS L 190	-4.999	-64.005	49.565	1.00	50.15	N
	ATOM	7392	CA	LYS L 190	-4.988	-64.285	51.002	1.00	49.64	C
	ATOM	7393	CB	LYS L 190	-5.320	-65.764	51.291	1.00	51.27	C
5	ATOM	7394	C	LYS L 190	-3.771	-63.814	51.782	1.00	49.17	C
	ATOM	7395	O	LYS L 190	-3.939	-63.238	52.859	1.00	49.68	O
	ATOM	7396	N	VAL L 191	-2.561	-64.059	51.269	1.00	47.10	N
	ATOM	7397	CA	VAL L 191	-1.336	-63.666	51.971	1.00	46.31	C
	ATOM	7398	CB	VAL L 191	-0.336	-64.851	52.183	1.00	50.03	C
10	ATOM	7399	CG1	VAL L 191	-0.876	-65.834	53.216	1.00	50.40	C
	ATOM	7400	CG2	VAL L 191	1.045	-64.363	52.613	1.00	50.11	C
	ATOM	7401	C	VAL L 191	-0.694	-62.451	51.325	1.00	45.42	C
	ATOM	7402	O	VAL L 191	-0.439	-62.431	50.112	1.00	45.03	O
	ATOM	7403	N	TYR L 192	-0.430	-61.446	52.158	1.00	42.22	N
15	ATOM	7404	CA	TYR L 192	0.197	-60.208	51.756	1.00	41.31	C
	ATOM	7405	CB	TYR L 192	-0.710	-59.014	52.090	1.00	40.99	C
	ATOM	7406	CG	TYR L 192	-1.865	-58.926	51.126	1.00	40.14	C
	ATOM	7407	CD1	TYR L 192	-1.799	-58.109	50.002	1.00	38.71	C
	ATOM	7408	CE1	TYR L 192	-2.848	-58.056	49.088	1.00	38.96	C
20	ATOM	7409	CZ	TYR L 192	-3.965	-58.851	49.275	1.00	38.64	C
	ATOM	7410	OH	TYR L 192	-4.991	-58.800	48.375	1.00	38.07	O
	ATOM	7411	CE2	TYR L 192	-4.054	-59.674	50.382	1.00	38.96	C
	ATOM	7412	CD2	TYR L 192	-3.007	-59.709	51.300	1.00	40.07	C
	ATOM	7413	C	TYR L 192	1.539	-60.131	52.429	1.00	41.50	C
25	ATOM	7414	O	TYR L 192	1.608	-60.100	53.652	1.00	41.66	O
	ATOM	7415	N	ALA L 193	2.603	-60.147	51.638	1.00	43.23	N
	ATOM	7416	CA	ALA L 193	3.964	-60.099	52.149	1.00	43.86	C
	ATOM	7417	CB	ALA L 193	4.688	-61.409	51.868	1.00	44.58	C
	ATOM	7418	C	ALA L 193	4.759	-58.933	51.588	1.00	44.02	C
30	ATOM	7419	O	ALA L 193	4.578	-58.524	50.440	1.00	43.79	O
	ATOM	7420	N	CYS L 194	5.646	-58.427	52.419	1.00	44.91	N
	ATOM	7421	CA	CYS L 194	6.560	-57.342	52.150	1.00	46.03	C
	ATOM	7422	CB	CYS L 194	6.333	-56.239	53.183	1.00	47.50	C
	ATOM	7423	SG	CYS L 194	7.620	-54.977	53.199	1.00	52.16	S
35	ATOM	7424	C	CYS L 194	7.976	-57.966	52.268	1.00	45.66	C
	ATOM	7425	O	CYS L 194	8.310	-58.554	53.305	1.00	45.40	O
	ATOM	7426	N	GLU L 195	8.787	-57.880	51.214	1.00	47.36	N
	ATOM	7427	CA	GLU L 195	10.134	-58.465	51.255	1.00	47.77	C
	ATOM	7428	CB	GLU L 195	10.322	-59.532	50.181	1.00	50.49	C
40	ATOM	7429	CG	GLU L 195	11.569	-60.361	50.410	1.00	52.93	C
	ATOM	7430	CD	GLU L 195	11.995	-61.148	49.191	1.00	57.07	C
	ATOM	7431	OE1	GLU L 195	12.012	-62.398	49.284	1.00	59.44	O
	ATOM	7432	OE2	GLU L 195	12.298	-60.524	48.143	1.00	58.79	O
	ATOM	7433	C	GLU L 195	11.264	-57.425	51.241	1.00	47.17	C
45	ATOM	7434	O	GLU L 195	11.521	-56.768	50.224	1.00	47.06	O
	ATOM	7435	N	VAL L 196	11.947	-57.315	52.373	1.00	43.90	N
	ATOM	7436	CA	VAL L 196	13.012	-56.343	52.560	1.00	43.87	C
	ATOM	7437	CB	VAL L 196	12.821	-55.608	53.913	1.00	46.72	C
	ATOM	7438	CG1	VAL L 196	13.961	-54.633	54.206	1.00	45.46	C
50	ATOM	7439	CG2	VAL L 196	11.466	-54.919	53.957	1.00	45.59	C
	ATOM	7440	C	VAL L 196	14.444	-56.861	52.356	1.00	44.18	C
	ATOM	7441	O	VAL L 196	14.895	-57.760	53.066	1.00	43.85	O
	ATOM	7442	N	THR L 197	15.155	-56.238	51.405	1.00	44.92	N
	ATOM	7443	CA	THR L 197	16.549	-56.512	51.067	1.00	45.60	C

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	ATOM	7444	CB THR L 197	16.690 -56.880 49.592 1.00 57.14	C
	ATOM	7445	OG1 THR L 197	15.491 -57.514 49.133 1.00 58.73	O
	ATOM	7446	CG2 THR L 197	17.874 -57.769 49.347 1.00 57.49	C
	ATOM	7447	C THR L 197	17.346 -55.249 51.444 1.00 45.45	C
5	ATOM	7448	O THR L 197	16.990 -54.144 51.039 1.00 45.31	O
	ATOM	7449	N HIS L 198	18.385 -55.416 52.249 1.00 45.36	N
	ATOM	7450	CA HIS L 198	19.224 -54.337 52.731 1.00 45.85	C
	ATOM	7451	CB HIS L 198	18.535 -53.640 53.906 1.00 45.49	C
	ATOM	7452	CG HIS L 198	19.288 -52.455 54.409 1.00 44.85	C
10	ATOM	7453	ND1 HIS L 198	20.175 -52.563 55.465 1.00 44.15	N
	ATOM	7454	CE1 HIS L 198	20.664 -51.350 55.646 1.00 44.28	C
	ATOM	7455	NE2 HIS L 198	20.154 -50.481 54.770 1.00 44.58	N
	ATOM	7456	CD2 HIS L 198	19.277 -51.175 53.973 1.00 43.96	C
	ATOM	7457	C HIS L 198	20.574 -54.905 53.179 1.00 46.66	C
15	ATOM	7458	O HIS L 198	20.603 -56.005 53.747 1.00 46.96	O
	ATOM	7459	N GLN L 199	21.683 -54.148 52.963 1.00 48.90	N
	ATOM	7460	CA GLN L 199	23.034 -54.575 53.348 1.00 49.59	C
	ATOM	7461	CB GLN L 199	24.146 -53.675 52.766 1.00 51.39	C
	ATOM	7462	CG GLN L 199	24.739 -52.659 53.719 1.00 52.97	C
20	ATOM	7463	CD GLN L 199	26.065 -52.157 53.205 1.00 55.76	C
	ATOM	7464	OE1 GLN L 199	26.136 -51.238 52.374 1.00 56.11	O
	ATOM	7465	NE2 GLN L 199	27.145 -52.754 53.696 1.00 56.20	N
	ATOM	7466	C GLN L 199	23.243 -54.978 54.825 1.00 49.46	C
	ATOM	7467	O GLN L 199	24.167 -55.737 55.115 1.00 50.00	O
25	ATOM	7468	N GLY L 200	22.372 -54.505 55.722 1.00 48.18	N
	ATOM	7469	CA GLY L 200	22.405 -54.837 57.144 1.00 47.87	C
	ATOM	7470	C GLY L 200	21.761 -56.180 57.438 1.00 47.94	C
	ATOM	7471	O GLY L 200	21.803 -56.655 58.578 1.00 47.59	O
	ATOM	7472	N LEU L 201	21.164 -56.804 56.395 1.00 49.80	N
30	ATOM	7473	CA LEU L 201	20.475 -58.089 56.479 1.00 50.27	C
	ATOM	7474	CB LEU L 201	19.016 -58.012 55.941 1.00 49.33	C
	ATOM	7475	CG LEU L 201	18.076 -57.007 56.586 1.00 48.43	C
	ATOM	7476	CD1 LEU L 201	16.780 -56.915 55.823 1.00 47.68	C
	ATOM	7477	CD2 LEU L 201	17.837 -57.325 58.038 1.00 46.03	C
35	ATOM	7478	C LEU L 201	21.221 -59.208 55.760 1.00 50.87	C
	ATOM	7479	O LEU L 201	21.498 -59.102 54.544 1.00 50.80	O
	ATOM	7480	N SER L 202	21.503 -60.298 56.523 1.00 52.67	N
	ATOM	7481	CA SER L 202	22.173 -61.527 56.095 1.00 53.07	C
	ATOM	7482	CB SER L 202	22.039 -62.590 57.188 1.00 57.31	C
40	ATOM	7483	OG SER L 202	22.160 -62.081 58.510 1.00 57.58	O
	ATOM	7484	C SER L 202	21.502 -62.029 54.795 1.00 53.54	C
	ATOM	7485	O SER L 202	22.161 -62.240 53.765 1.00 53.80	O
	ATOM	7486	N SER L 203	20.169 -62.173 54.864 1.00 54.97	N
	ATOM	7487	CA SER L 203	19.295 -62.602 53.781 1.00 54.75	C
45	ATOM	7488	CB SER L 203	18.945 -64.084 53.946 1.00 58.28	C
	ATOM	7489	OG SER L 203	18.095 -64.318 55.057 1.00 59.14	O
	ATOM	7490	C SER L 203	18.032 -61.703 53.872 1.00 54.11	C
	ATOM	7491	O SER L 203	17.869 -61.050 54.909 1.00 54.10	O
	ATOM	7492	N PRO L 204	17.134 -61.641 52.847 1.00 53.47	N
50	ATOM	7493	CA PRO L 204	15.956 -60.774 52.962 1.00 53.26	C
	ATOM	7494	CB PRO L 204	15.327 -60.826 51.563 1.00 55.17	C
	ATOM	7495	CG PRO L 204	16.385 -61.361 50.675 1.00 55.70	C
	ATOM	7496	CD PRO L 204	17.139 -62.321 51.540 1.00 55.57	C
	ATOM	7497	C PRO L 204	14.944 -61.207 54.005 1.00 53.00	C

	ATOM	7498	O	PRO L 204	14.600	-62.388	54.076	1.00	53.35	O
	ATOM	7499	N	VAL L 205	14.459	-60.232	54.796	1.00	50.26	N
	ATOM	7500	CA	VAL L 205	13.438	-60.405	55.823	1.00	49.74	C
	ATOM	7501	CB	VAL L 205	13.625	-59.411	56.996	1.00	53.53	C
5	ATOM	7502	CG1	VAL L 205	12.404	-59.383	57.921	1.00	53.29	C
	ATOM	7503	CG2	VAL L 205	14.890	-59.731	57.783	1.00	53.37	C
	ATOM	7504	C	VAL L 205	12.078	-60.228	55.156	1.00	49.20	C
	ATOM	7505	O	VAL L 205	11.901	-59.349	54.312	1.00	49.57	O
	ATOM	7506	N	THR L 206	11.138	-61.082	55.518	1.00	48.06	N
10	ATOM	7507	CA	THR L 206	9.777	-61.035	55.011	1.00	47.58	C
	ATOM	7508	CB	THR L 206	9.396	-62.316	54.243	1.00	45.00	C
	ATOM	7509	OG1	THR L 206	10.220	-62.429	53.085	1.00	44.77	O
	ATOM	7510	CG2	THR L 206	7.944	-62.322	53.803	1.00	43.84	C
	ATOM	7511	C	THR L 206	8.868	-60.851	56.187	1.00	47.62	C
15	ATOM	7512	O	THR L 206	9.037	-61.517	57.207	1.00	47.99	O
	ATOM	7513	N	LYS L 207	7.914	-59.943	56.046	1.00	46.48	N
	ATOM	7514	CA	LYS L 207	6.872	-59.692	57.029	1.00	46.22	C
	ATOM	7515	CB	LYS L 207	6.996	-58.308	57.680	1.00	47.09	C
	ATOM	7516	CG	LYS L 207	7.331	-58.336	59.171	1.00	47.56	C
20	ATOM	7517	CD	LYS L 207	8.652	-59.070	59.509	1.00	49.19	C
	ATOM	7518	CE	LYS L 207	9.243	-58.771	60.886	1.00	50.37	C
	ATOM	7519	NZ	LYS L 207	8.292	-59.025	62.015	1.00	50.64	N
	ATOM	7520	C	LYS L 207	5.576	-59.892	56.234	1.00	46.32	C
	ATOM	7521	O	LYS L 207	5.436	-59.366	55.120	1.00	45.93	O
25	ATOM	7522	N	SER L 208	4.686	-60.742	56.749	1.00	45.15	N
	ATOM	7523	CA	SER L 208	3.426	-61.039	56.083	1.00	45.75	C
	ATOM	7524	CB	SER L 208	3.557	-62.252	55.158	1.00	48.15	C
	ATOM	7525	OG	SER L 208	4.036	-63.422	55.793	1.00	47.86	O
	ATOM	7526	C	SER L 208	2.268	-61.198	57.044	1.00	46.00	C
30	ATOM	7527	O	SER L 208	2.449	-61.167	58.265	1.00	46.15	O
	ATOM	7528	N	PHE L 209	1.072	-61.343	56.480	1.00	45.90	N
	ATOM	7529	CA	PHE L 209	-0.173	-61.559	57.196	1.00	47.09	C
	ATOM	7530	CB	PHE L 209	-0.763	-60.232	57.748	1.00	49.18	C
	ATOM	7531	CG	PHE L 209	-1.315	-59.250	56.732	1.00	50.00	C
35	ATOM	7532	CD1	PHE L 209	-2.643	-59.315	56.326	1.00	50.38	C
	ATOM	7533	CE1	PHE L 209	-3.145	-58.415	55.378	1.00	51.24	C
	ATOM	7534	CZ	PHE L 209	-2.330	-57.439	54.856	1.00	51.17	C
	ATOM	7535	CE2	PHE L 209	-1.015	-57.359	55.255	1.00	49.98	C
	ATOM	7536	CD2	PHE L 209	-0.510	-58.254	56.193	1.00	50.23	C
40	ATOM	7537	C	PHE L 209	-1.132	-62.249	56.242	1.00	47.82	C
	ATOM	7538	O	PHE L 209	-1.000	-62.094	55.019	1.00	47.53	O
	ATOM	7539	N	ASN L 210	-2.077	-63.033	56.788	1.00	51.36	N
	ATOM	7540	CA	ASN L 210	-3.117	-63.699	55.994	1.00	53.05	C
	ATOM	7541	CB	ASN L 210	-3.218	-65.212	56.315	1.00	63.71	C
45	ATOM	7542	CG	ASN L 210	-4.091	-66.041	55.358	1.00	66.75	C
	ATOM	7543	OD1	ASN L 210	-5.267	-65.731	55.085	1.00	69.22	O
	ATOM	7544	ND2	ASN L 210	-3.544	-67.141	54.836	1.00	69.09	N
	ATOM	7545	C	ASN L 210	-4.407	-62.930	56.331	1.00	53.09	C
	ATOM	7546	O	ASN L 210	-4.645	-62.660	57.513	1.00	53.35	O
50	ATOM	7547	N	ARG L 211	-5.199	-62.531	55.319	1.00	53.59	N
	ATOM	7548	CA	ARG L 211	-6.453	-61.778	55.532	1.00	54.86	C
	ATOM	7549	CB	ARG L 211	-7.217	-61.595	54.220	1.00	55.71	C
	ATOM	7550	CG	ARG L 211	-6.627	-60.601	53.246	1.00	55.67	C
	ATOM	7551	CD	ARG L 211	-7.670	-60.152	52.239	1.00	56.78	C

	ATOM	7552	NE	ARG L 211	-8.230	-61.241	51.439	1.00	57.26	N
	ATOM	7553	CZ	ARG L 211	-9.468	-61.710	51.568	1.00	56.90	C
	ATOM	7554	NH1	ARG L 211	-10.298	-61.182	52.464	1.00	56.33	N
	ATOM	7555	NH2	ARG L 211	-9.888	-62.711	50.803	1.00	55.66	N
5	ATOM	7556	C	ARG L 211	-7.403	-62.407	56.608	1.00	55.58	C
	ATOM	7557	O	ARG L 211	-7.909	-63.525	56.427	1.00	55.82	O
	ATOM	7558	N	GLY L 212	-7.600	-61.676	57.713	1.00	55.36	N
	ATOM	7559	CA	GLY L 212	-8.428	-62.084	58.847	1.00	55.86	C
	ATOM	7560	C	GLY L 212	-7.663	-62.866	59.897	1.00	56.11	C
10	ATOM	7561	O	GLY L 212	-7.083	-63.909	59.589	1.00	56.57	O
	TER	7562		GLY L 212						
	HETATM	7563	O	HOH W 1	30.256	-2.590	13.960	1.00	22.29	O
	HETATM	7564	O	HOH W 2	-1.548	-44.622	48.640	1.00	34.80	O
	HETATM	7565	O	HOH W 3	23.390	-44.015	52.060	1.00	33.92	O
15	HETATM	7566	O	HOH W 4	18.345	4.557	30.838	1.00	33.88	O
	HETATM	7567	O	HOH W 5	23.568	8.135	3.808	1.00	27.23	O
	HETATM	7568	O	HOH W 6	7.744	-39.725	74.544	1.00	22.81	O
	HETATM	7569	O	HOH W 7	19.231	-23.735	53.752	1.00	22.35	O
	HETATM	7570	O	HOH W 8	3.076	-32.403	54.334	1.00	32.08	O
20	HETATM	7571	O	HOH W 9	9.667	-8.580	40.707	1.00	23.38	O
	HETATM	7572	O	HOH W 10	20.561	2.983	21.272	1.00	37.08	O
	HETATM	7573	O	HOH W 11	5.396	-38.656	44.410	1.00	35.67	O
	HETATM	7574	O	HOH W 12	29.742	47.124	5.223	1.00	43.24	O
	HETATM	7575	O	HOH W 13	7.807	-49.659	47.259	1.00	35.13	O
25	HETATM	7576	O	HOH W 14	12.036	-0.215	31.365	1.00	45.96	O
	HETATM	7577	O	HOH W 15	37.518	-14.596	51.786	1.00	36.50	O
	HETATM	7578	O	HOH W 16	11.555	-46.208	70.800	1.00	26.68	O
	HETATM	7579	O	HOH W 17	25.093	-16.012	53.335	1.00	43.28	O
	HETATM	7580	O	HOH W 18	3.777	-35.165	68.567	1.00	35.45	O
30	HETATM	7581	O	HOH W 19	4.094	-44.753	51.907	1.00	32.71	O
	HETATM	7582	O	HOH W 20	22.797	6.356	34.189	1.00	26.19	O
	HETATM	7583	O	HOH W 21	7.365	-2.380	37.931	1.00	27.82	O
	HETATM	7584	O	HOH W 22	8.162	-6.729	31.702	1.00	29.20	O
	HETATM	7585	O	HOH W 23	43.000	46.552	-8.194	1.00	36.67	O
35	HETATM	7586	O	HOH W 24	2.294	-40.854	75.953	1.00	31.03	O
	HETATM	7587	O	HOH W 25	-3.231	-23.299	50.487	1.00	35.05	O
	HETATM	7588	O	HOH W 26	10.884	6.635	28.308	1.00	30.60	O
	HETATM	7589	O	HOH W 27	14.433	-10.985	28.785	1.00	27.44	O
	HETATM	7590	O	HOH W 28	20.272	-15.036	10.275	1.00	39.57	O
40	HETATM	7591	O	HOH W 29	2.127	-4.413	40.351	1.00	36.54	O
	HETATM	7592	O	HOH W 30	12.966	-26.911	40.232	1.00	35.55	O
	HETATM	7593	O	HOH W 31	25.338	-41.121	64.283	1.00	41.17	O
	HETATM	7594	O	HOH W 32	12.476	-49.724	65.374	1.00	32.77	O
	HETATM	7595	O	HOH W 33	18.823	-0.966	30.767	1.00	23.28	O
45	HETATM	7596	O	HOH W 34	43.933	30.345	19.118	1.00	42.60	O
	HETATM	7597	O	HOH W 35	-4.662	-19.606	46.653	1.00	45.80	O
	HETATM	7598	O	HOH W 36	33.392	2.423	26.947	1.00	40.29	O
	HETATM	7599	O	HOH W 37	11.767	9.104	26.469	1.00	34.95	O
	HETATM	7600	O	HOH W 38	20.501	-32.284	53.651	1.00	28.23	O
50	HETATM	7601	O	HOH W 39	18.552	-6.116	29.416	1.00	35.22	O
	HETATM	7602	O	HOH W 40	5.589	-34.689	45.537	1.00	37.79	O
	HETATM	7603	O	HOH W 41	20.296	-14.504	45.285	1.00	46.16	O
	HETATM	7604	O	HOH W 42	33.208	6.659	28.134	1.00	46.65	O
	HETATM	7605	O	HOH W 43	21.351	-23.052	55.148	1.00	35.20	O

	HETATM 7606	O	HOH W 44	10.819	-37.803	60.656	1.00	42.07	O
	HETATM 7607	O	HOH W 45	-10.744	-29.030	37.045	1.00	37.55	O
	HETATM 7608	O	HOH W 46	20.215	-37.899	52.304	1.00	33.51	O
	HETATM 7609	O	HOH W 47	37.098	19.026	5.734	1.00	33.42	O
5	HETATM 7610	O	HOH W 48	14.772	-1.754	20.980	1.00	45.45	O
	HETATM 7611	O	HOH W 49	32.937	6.682	4.157	1.00	37.34	O
	HETATM 7612	O	HOH W 50	4.058	-42.377	53.156	1.00	37.35	O
	HETATM 7613	O	HOH W 51	7.035	14.702	30.514	1.00	35.33	O
	HETATM 7614	O	HOH W 52	-11.730	-35.601	64.417	1.00	38.86	O
10	HETATM 7615	O	HOH W 53	22.797	-26.150	34.134	1.00	44.92	O
	HETATM 7616	O	HOH W 54	31.739	-45.128	59.899	1.00	35.87	O
	HETATM 7617	O	HOH W 55	-0.088	-31.348	42.823	1.00	39.79	O
	HETATM 7618	O	HOH W 56	43.215	14.831	27.475	1.00	32.86	O
	HETATM 7619	O	HOH W 57	4.260	-32.619	60.007	1.00	39.35	O
15	HETATM 7620	O	HOH W 58	-6.566	-41.864	45.006	1.00	36.25	O
	HETATM 7621	O	HOH W 59	5.033	-29.416	51.787	1.00	42.34	O
	HETATM 7622	O	HOH W 60	11.967	2.765	18.113	1.00	40.16	O
	HETATM 7623	O	HOH W 61	47.650	13.573	12.974	1.00	40.25	O
	HETATM 7624	O	HOH W 62	-6.360	-48.811	55.997	1.00	31.93	O
20	HETATM 7625	O	HOH W 63	23.976	-12.478	28.883	1.00	39.70	O
	HETATM 7626	O	HOH W 64	40.457	-20.612	48.065	1.00	35.27	O
	HETATM 7627	O	HOH W 65	13.913	-12.995	-4.490	1.00	43.50	O
	HETATM 7628	O	HOH W 66	23.848	31.687	31.958	1.00	40.99	O
	HETATM 7629	O	HOH W 67	0.622	-15.875	28.782	1.00	42.76	O
25	HETATM 7630	O	HOH W 68	34.471	-0.220	7.627	1.00	40.78	O
	HETATM 7631	O	HOH W 69	37.242	4.445	14.608	1.00	38.96	O
	HETATM 7632	O	HOH W 70	-8.580	-25.478	44.024	1.00	45.88	O
	HETATM 7633	O	HOH W 71	7.635	-44.423	45.050	1.00	33.58	O
	HETATM 7634	O	HOH W 72	-1.121	-29.149	33.295	1.00	36.12	O
30	HETATM 7635	O	HOH W 73	15.632	-46.755	49.021	1.00	44.32	O
	HETATM 7636	O	HOH W 74	21.789	13.121	37.733	1.00	25.92	O
	HETATM 7637	O	HOH W 75	17.192	35.837	13.487	1.00	49.82	O
	HETATM 7638	O	HOH W 76	30.713	21.422	7.169	1.00	34.50	O
	HETATM 7639	O	HOH W 77	21.959	-3.838	17.769	1.00	32.28	O
35	HETATM 7640	O	HOH W 78	-12.358	-36.212	53.054	1.00	36.38	O
	HETATM 7641	O	HOH W 79	-9.873	-34.014	43.306	1.00	39.25	O
	HETATM 7642	O	HOH W 80	10.771	-39.929	49.541	1.00	40.22	O
	HETATM 7643	O	HOH W 81	37.817	31.730	29.992	1.00	42.15	O
	HETATM 7644	O	HOH W 82	30.902	-41.127	49.423	1.00	37.56	O
40	HETATM 7645	O	HOH W 83	21.672	-13.038	27.238	1.00	34.42	O
	HETATM 7646	O	HOH W 84	4.762	-18.107	51.752	1.00	26.47	O
	HETATM 7647	O	HOH W 85	37.142	25.997	31.149	1.00	34.71	O
	HETATM 7648	O	HOH W 86	5.055	-33.854	53.426	1.00	36.89	O
	HETATM 7649	O	HOH W 87	12.068	-50.382	46.836	1.00	29.28	O
45	HETATM 7650	O	HOH W 88	38.917	3.732	17.660	1.00	31.00	O
	HETATM 7651	O	HOH W 89	39.730	29.432	13.684	1.00	45.89	O
	HETATM 7652	O	HOH W 90	18.715	-36.829	54.158	1.00	28.12	O
	HETATM 7653	O	HOH W 91	0.024	-46.775	46.812	1.00	37.05	O
	HETATM 7654	O	HOH W 92	23.482	-6.275	33.373	1.00	43.29	O
50	HETATM 7655	O	HOH W 93	-7.285	-47.286	75.759	1.00	42.94	O
	HETATM 7656	O	HOH W 94	31.365	41.048	-11.351	1.00	50.05	O
	HETATM 7657	O	HOH W 95	16.269	24.483	41.610	1.00	43.74	O
	HETATM 7658	O	HOH W 96	15.252	30.084	35.751	1.00	43.52	O
	HETATM 7659	O	HOH W 97	6.472	-29.578	39.594	1.00	36.76	O

	HETATM 7660	O	HOH W 98	15.623	-4.354	31.437	1.00	50.36	O
	HETATM 7661	O	HOH W 99	7.035	17.987	38.166	1.00	51.00	O
	HETATM 7662	O	HOH W 100	13.616	-28.703	50.090	1.00	41.03	O
	HETATM 7663	O	HOH W 101	14.515	-1.457	16.699	1.00	43.59	O
5	HETATM 7664	O	HOH W 102	-6.561	-52.773	42.731	1.00	44.65	O
	HETATM 7665	O	HOH W 103	32.690	48.791	-1.878	1.00	34.27	O
	HETATM 7666	O	HOH W 104	4.011	-31.830	44.782	1.00	37.61	O
	HETATM 7667	O	HOH W 105	-12.335	-29.457	60.291	1.00	53.35	O
	HETATM 7668	O	HOH W 106	21.435	-34.084	43.227	1.00	37.26	O
10	HETATM 7669	O	HOH W 107	22.314	-3.951	53.646	1.00	37.70	O
	HETATM 7670	O	HOH W 108	22.798	7.633	0.485	1.00	56.34	O
	HETATM 7671	O	HOH W 109	13.564	21.196	6.132	1.00	46.06	O
	HETATM 7672	O	HOH W 110	10.531	-4.946	31.931	1.00	36.54	O
	HETATM 7673	O	HOH W 111	21.541	16.192	2.243	1.00	49.47	O
15	HETATM 7674	O	HOH W 112	-1.534	-31.101	64.014	1.00	46.57	O
	HETATM 7675	O	HOH W 113	28.391	8.867	3.156	1.00	43.82	O
	HETATM 7676	O	HOH W 114	15.389	10.909	2.455	1.00	44.45	O
	HETATM 7677	O	HOH W 115	37.441	1.861	25.715	1.00	48.25	O
	HETATM 7678	O	HOH W 116	24.046	-4.162	35.574	1.00	44.30	O
20	HETATM 7679	O	HOH W 117	41.769	17.624	34.528	1.00	27.08	O
	HETATM 7680	O	HOH W 118	14.082	-12.979	54.814	1.00	41.37	O
	HETATM 7681	O	HOH W 119	22.312	-51.392	51.285	1.00	45.71	O
	HETATM 7682	O	HOH W 120	-2.983	-15.157	43.267	1.00	49.19	O
	HETATM 7683	O	HOH W 121	11.230	-13.797	55.828	1.00	38.18	O
25	HETATM 7684	O	HOH W 122	12.263	-29.866	47.789	1.00	41.35	O
	HETATM 7685	O	HOH W 123	26.240	-40.991	49.227	1.00	53.78	O
	HETATM 7686	O	HOH W 124	-1.997	-33.064	41.954	1.00	32.90	O
	HETATM 7687	O	HOH W 125	-0.207	-25.110	47.446	1.00	24.85	O
	HETATM 7688	O	HOH W 126	46.383	14.126	26.645	1.00	53.31	O
30	HETATM 7689	O	HOH W 127	13.776	-0.461	23.547	1.00	41.43	O
	HETATM 7690	O	HOH W 128	27.368	-21.497	56.693	1.00	37.00	O
	HETATM 7691	O	HOH W 129	7.648	-22.167	52.348	1.00	43.95	O
	HETATM 7692	O	HOH W 130	17.599	-1.063	17.220	1.00	40.03	O
	HETATM 7693	O	HOH W 131	33.388	-11.079	13.477	1.00	46.49	O
35	HETATM 7694	O	HOH W 132	19.941	-5.402	22.293	1.00	43.89	O
	HETATM 7695	O	HOH W 133	-11.535	-39.745	58.181	1.00	43.22	O
	HETATM 7696	O	HOH W 134	10.819	6.943	14.678	1.00	39.32	O
	HETATM 7697	O	HOH W 135	14.950	-40.785	59.773	1.00	36.02	O
	HETATM 7698	O	HOH W 136	25.627	-13.472	54.035	1.00	41.53	O
40	HETATM 7699	O	HOH W 137	12.529	-40.892	65.745	1.00	38.70	O
	HETATM 7700	O	HOH W 138	19.779	-60.757	59.192	1.00	46.29	O
	HETATM 7701	O	HOH W 139	13.277	9.864	28.790	1.00	37.19	O
	HETATM 7702	O	HOH W 140	52.521	14.398	11.020	1.00	59.28	O
	HETATM 7703	O	HOH W 141	13.540	8.311	35.029	1.00	47.14	O
45	HETATM 7704	O	HOH W 142	30.534	11.969	19.897	1.00	34.96	O
	HETATM 7705	O	HOH W 143	27.709	1.208	13.374	1.00	36.12	O
	HETATM 7706	O	HOH W 144	20.336	-10.453	39.120	1.00	30.48	O
	HETATM 7707	O	HOH W 145	23.081	-19.452	30.523	1.00	48.62	O
	END								

50

The present invention is not to be limited in scope by the specific embodiments described herein. Indeed, the scope of the present invention includes embodiments specifically set forth herein and other embodiments not specifically set forth herein; the embodiments specifically set forth herein are not necessarily intended to be exhaustive.

5 Various modifications of the invention in addition to those described herein will become apparent to those skilled in the art from the foregoing description. Such modifications are intended to fall within the scope of the claims.

Patents, patent applications, publications, product descriptions, and protocols are cited throughout this application, the disclosures of which are incorporated herein by reference in
10 their entireties for all purposes.

We claim:

1. An isolated antibody or antigen-binding fragment thereof:

(a) that comprises a polypeptide comprising a light variable immunoglobulin region which

5 comprises the amino acid sequence:

QVQLVQSGAEVKKPGASVKVSCKVSGYTFTDYIMNWVRQAPGQGLEWIGDINPNNGGAIYNQKFKGRATLTVDKSTSTAY
MELRSLRSDDTAVYYCTSGIITEIAEDFWGQGTLVTVSS (SEQ ID NO: 2); and a polypeptide comprising

a heavy variable immunoglobulin region which comprises the amino acid sequence:

DIQMTQSPSSLSASVGDRTTITCKASQNVGTNVV

10 WYQQKPGKAPKALIHSAASYRYSRGVPSRFSGSGSGTDFTLTISLQPEDFATYYCQYKTPYTFGQGTKVEIKR (SEQ
ID NO: 7);

(b) that specifically binds to PCSK9 at an epitope comprising the amino acid sequence

EDGTRFHRQASKC (amino acids 211-223 of SEQ ID NO:8);

(c) that specifically binds PCSK9 at a furin processing site; and/or

15 (d) that specifically binds to PCSK9 such that, upon such binding, the PCSK9 residues and/or
atoms thereof indicated in the table

Atom	Residue	res #
CB	SER	188
OG	SER	188
N	GLU	211
CB	GLU	211
CG	GLU	211
CD	GLU	211
OE1	GLU	211
OE2	GLU	211
O	GLU	211
CA	GLY	213
O	GLY	213
N	THR	214
CA	THR	214
CB	THR	214
OG1	THR	214
CG2	THR	214
N	ARG	215
CA	ARG	215
CB	ARG	215
CG	ARG	215
CD	ARG	215
NE	ARG	215
CZ	ARG	215
NH1	ARG	215
NH2	ARG	215
C	ARG	215
O	ARG	215
N	PHE	216

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CA	PHE	216
CB	PHE	216
CG	PHE	216
CD1	PHE	216
CE1	PHE	216
CZ	PHE	216
CE2	PHE	216
CD2	PHE	216
O	PHE	216
N	HIS	217
CA	HIS	217
CB	HIS	217
CG	HIS	217
ND1	HIS	217
CE1	HIS	217
NE2	HIS	217
CD2	HIS	217
C	HIS	217
O	HIS	217
N	ARG	218
CA	ARG	218
CB	ARG	218
CG	ARG	218
CD	ARG	218
NH2	ARG	218
C	ARG	218
O	ARG	218
N	GLN	219
CA	GLN	219
CB	GLN	219
CG	GLN	219
CD	GLN	219
OE1	GLN	219
NE2	GLN	219
O	GLN	219
N	ALA	220
CA	ALA	220
CB	ALA	220
O	ALA	220
N	SER	221
CB	SER	221
OG	SER	221
O	SER	221
CA	LYS	222
CD	LYS	222
CE	LYS	222
NZ	LYS	222
O	LYS	222
CB	CYS	223
SG	CYS	223
CZ	ARG	251
NH1	ARG	251

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NH2	ARG	251
CB	CYS	255
SG	CYS	255

are contacted and buried by the antibody or fragment; and, optionally, wherein, upon such binding, the antibody or fragment heavy chain immunoglobulin residues and/or atoms thereof indicated in the table

Atom	Residue	Residue #
O	THR	30
CA	ASP	31
CB	ASP	31
CG	ASP	31
OD1	ASP	31
OD2	ASP	31
C	ASP	31
O	ASP	31
CA	TYR	32
OH	TYR	32
CE2	TYR	32
CD2	TYR	32
C	TYR	32
N	TYR	33
CB	TYR	33
CG	TYR	33
CD1	TYR	33
CE1	TYR	33
CZ	TYR	33
OH	TYR	33
CE2	TYR	33
CD2	TYR	33
O	TYR	33
CB	ASN	35
CG	ASN	35
OD1	ASN	35
ND2	ASN	35
CG2	VAL	37
CD1	TRP	47
CB	ASP	50
CG	ASP	50
OD1	ASP	50
OD2	ASP	50
CA	ILE	51
C	ILE	51
N	ASN	52
CB	ASN	52
CG	ASN	52
OD1	ASN	52
ND2	ASN	52
CD	PRO	53
CB	ASN	54
CG	ASN	54

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OD1	ASN	54
ND2	ASN	54
C	ASN	54
O	ASN	54
CB	ASN	55
CG	ASN	55
OD1	ASN	55
ND2	ASN	55
CA	GLY	57
C	GLY	57
O	GLY	57
O	ALA	58
CG1	ILE	59
CD1	ILE	59
NZ	LYS	74
OG1	THR	97
CG2	THR	97
CA	SER	98
C	SER	98
O	SER	98
N	GLY	99
CA	GLY	99
C	GLY	99
O	GLY	99
N	ILE	100
CA	ILE	100
CG1	ILE	100
CD1	ILE	100
N	ILE	101
CB	ILE	101
CG1	ILE	101
CD1	ILE	101
O	ILE	101
CB	ASP	107
NE1	TRP	109
CH2	TRP	109
CZ2	TRP	109

are contacted and buried by said PCSK9; and, optionally, wherein, upon such binding, the antibody or fragment light chain immunoglobulin residues and/or atoms thereof indicated in the table

Atom	Residue	Residue #
ND2	ASN	32
CB	VAL	34
CG1	VAL	34
CZ	TYR	36
OH	TYR	36
CE2	TYR	36
CB	ALA	46
OH	TYR	55
OE1	GLN	89

NE2	GLN	89
CB	TYR	91
CG	TYR	91
CD1	TYR	91
CE1	TYR	91
CE2	TYR	91
CD2	TYR	91
O	TYR	91
C	LYS	92
O	LYS	92
CA	THR	93
C	THR	93
N	TYR	94
CD1	TYR	94
CE1	TYR	94
CZ	TYR	94
OH	TYR	94
CE1	TYR	96
CZ	TYR	96
OH	TYR	96
CE2	TYR	96
CD2	TYR	96
CZ	PHE	98
CE2	PHE	98

are contacted and buried by said PCSK9.

2. The isolated antibody or antigen-binding fragment thereof of claim 1 comprising a polypeptide comprising a light variable immunoglobulin region which comprises the amino acid sequence:

QVQLVQSGAEVKKPGASVKVSCKVSGYTFTDYIMNWVRQAPGQGLEWIGDINPNNGGAIYNQKFKGRATLTVDKSTSTAY
MELRSLRSDDTAVYYCTSGIITEIAEDFWGQGLTVTVSS (SEQ ID NO: 2); and a polypeptide comprising

a heavy variable immunoglobulin region which comprises the amino acid sequence:

DIQMTQSPSSLSASVGDRVTITCKASQNVGTNVV

10 WYQQKPGKAPKALIHSAASYRYSGVPSRFSGSGSGTDFTLTISLQPEDFATYYCQQYKTYPYTFGQGTKVEIKR (SEQ ID NO: 7).

3. The isolated antibody or antigen-binding fragment thereof according to any one of claims 1-2 wherein the light chain is fused to a kappa immunoglobulin constant domain and wherein the heavy chain is fused to a gamma-2 immunoglobulin constant domain.

4. A composition comprising the antibody or antigen-binding fragment thereof according to any one of claims 1-3 in association with a further chemotherapeutic agent.

5. The composition of claim 4 wherein the further chemotherapeutic agent is a cardiovascular agent, an adrenergic blocker, an antihypertensive agent, an angiotensin system inhibitor, an angiotensin-converting enzyme inhibitor, a coronary vasodilator, a diuretic, an adrenergic stimulant or an HMG-CoA reductase inhibitor.

5

6. The composition of claim 4 wherein the further chemotherapeutic agent is ezetimibe, lovastatin, atorvastatin, pravastatin, rosuvastatin, fluvastatin, rivastatin, simvastatin, an azetidinone, bunolol hydrochloride, acebutolol, alprenolol hydrochloride, atenolol, carteolol hydrochloride, celiprolol hydrochloride; cetamolol hydrochloride, labetalol hydrochloride, esmolol hydrochloride, levobetaxolol hydrochloride, levobunolol hydrochloride, nadolol, practolol, propranolol hydrochloride, sotalol hydrochloride, timolol, timolol maleate, bisoprolol; bisoprolol fumarate, nebivolol, cicloprolol hydrochloride, dexpropranolol hydrochloride, diacetolol hydrochloride, dilevalol hydrochloride, exaprolol hydrochloride, flestolol sulfate, metalol hydrochloride, metoprolol 2-Propanol, metoprolol tartrate, pamatolol sulfate, penbutolol sulfate, practolol, tiprenolol hydrochloride, tolamolol fenspiride hydrochloride, proroxan, alfuzosin hydrochloride, labetalol hydrochloride, bretylium tosylate, dihydroergtamine mesylate, carvedilol, labetalol, bretylium tosylate, phentolamine mesylate, solypertine tartrate, zolertine hydrochloride, candesartan cilexetil, telmisartan, candesartan; losartan potassium, benazepril hydrochloride, captopril, fosinopril, moexipril hydrochloride, perindopril erbumine, quinapril, ramipril, enalapril maleate, lisinopril, delapril, spirapril, delapril hydrochloride, libenzapril, pentopril, perindopril 1H-Indole-2-carboxylic acid, quinaprilat, spirapril hydrochloride, spiraprilat, teprotide, zofenopril, amlodipine besylate, clentiazem maleate, isradipine, nimodipine, felodipine, nilvadipine; diltiazem hydrochloride, verapamil hydrochloride, teludipine hydrochloride, belfosdil, fostedil, ranolazine, butoprozone hydrochloride, tosifen, molsidomine, ranolazine hydrochloride, tosifen, diltiazem hydrochloride, isosorbide dinitrate, sosorbide mononitrate, nitroglycerin, verapamil hydrochloride, chromonar, clonitate, droprenilamine, lidoflazine, prenylamine, propatyl nitrate, mioflazine hydrochloride, mixidine, molsidomine, isosorbide mononitrate, erythryl tetranitrate, clonitrate, dipyridamole; nicorandil, pyridinecarboxamide, nifedipine; perhexiline maleate; oxprenolol, pentrinitrol, verapamil, althiazide, benzthiazide, buthiazide, chlorothiazide, spironolactone, triamterene, guanfacine hydrochloride, methyl dopa-hydrochlorothiazide combined with Hydrochlorothiazide, methyl dopa-chlorothiazide, clonidine hydrochloride, chlorthalidone, clonidine hydrochloride, clonidine, althiazide, benzthiazide, captopril, carvedilol, chlorothiazide, clonidine hydrochloride, cyclothiazide, delapril hydrochloride, dilevalol hydrochloride, delapril hydrochloride, doxazosin mesylate, fosinopril sodium, moexipril hydrochloride, monatepil maleate, metoprolol succinate, guanfacine hydrochloride, methyl dopa, quinaprilat, quinapril hydrochloride, primidolol, prazosin

hydrochloride, pelanserin hydrochloride, phenoxybenzamine hydrochloride, candesartan cilexetil, telmisartan, candesartan, amlodipine maleate, terazosin hydrochloride, bevantolol hydrochloride or ramipril.

- 5 7. The composition of claim 6 wherein the further chemotherapeutic agent is ezetimibe optionally in association with simvastatin or atorvastatin.
8. The antibody or antigen-binding fragment thereof of any of claims 1-3, which is a humanized antibody.
- 10 9. The antibody or antigen-binding fragment thereof of any of claims 1-3, which is a recombinant antibody.
10. The antibody or antigen-binding fragment thereof of any of claims 1-3, which is an antibody which is a monoclonal antibody, a labeled antibody, a bivalent antibody, a polyclonal antibody, a bispecific antibody, a chimeric antibody, a recombinant antibody, an anti-idiotypic antibody, a humanized antibody or a bispecific antibody.
- 15 11. The antibody or antigen-binding fragment thereof of any of claims 1-3, which is an antigen-binding fragment which is a camelized single domain antibody, a diabody, an scfv, an scfv dimer, a dsfv, a (dsfv)₂, a dsFv-dsfv', a bispecific ds diabody, an Fv, an Fab, an Fab', an F(ab')₂, or a domain antibody.
- 20 12. The antibody or antigen-binding fragment thereof of any of claims 1-3 which is linked to an immunoglobulin constant domain.
- 25 13. The antibody or antigen-binding fragment thereof of claim 12 wherein the constant domain is a κ light chain, γ 1 heavy chain, γ 2 heavy chain, γ 3 heavy chain or γ 4 heavy chain.
- 30 14. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:
- DIQMTQSPSSLSASVGDRVITTC KASQNVGTNVV WYQQKPGKAPKALIH SASYRYS
GVPSRFGSGSGTDFTLTISSLQPEDFATYYC QQYKTYPYT FGQGTKVEIKR (SEQ ID NO: 7);
and,
35 QVQLVQSGAEVKKPGASVKVSCKVS GYTFTDYMN WVRQAPGQGLEWIG DINPNNGGAIYNQKFKG
RATLTVDKSTSTAYMELRSLRSDDTAVYYCTS GIITEIAEDF WGQGTLLTVSS (SEQ ID NO: 2).

15. The polypeptide of claim 14 which is linked to an immunoglobulin constant domain.

16. An isolated polynucleotide encoding polypeptide comprising an amino acid sequence
5 selected from the group consisting of:

DIQMTQSPSSLSASVGDRVITC KASQNVGTNVV WYQQKPGKAPKALIH SASYRYS

GVPSRFSGSGSGTDFTLTISLQPEDFATYYC QQYKTYPT FGQGTKVEIKR (SEQ ID NO: 7);

and,

QVQLVQSGAEVKKPGASVKVSCKVS GYTFDDYYMN WVRQAPGQGLEWIG DINPNNGGAIYNQKFKG

10 RATLTVDKSTSTAYMELRSLRSDDTAVYYCTS GIITEIAEDF WGQGTLVTVSS (SEQ ID NO: 2).

17. A composition comprising the polynucleotide of claim 16 and a buffer.

18. An isolated vector comprising the polynucleotide of claim 16.

15

19. An isolated host cell comprising the polynucleotide of claim 16.

20. The host cell of claim 19 which is a Chinese hamster ovary cell, a *Pichia* cell or a *P.pastoris* cell.

20

21. A pharmaceutical composition comprising the antibody or fragment of any of claims 1-3 in association with a pharmaceutically acceptable carrier.

22. A method for reducing:

25

total cholesterol level;

low density lipoprotein cholesterol level;

apolipoprotein B level;

total cholesterol/high density lipoprotein ratio; or

low density lipoprotein/high density lipoprotein ratio;

30

in a subject, comprising administering, to said subject, a therapeutically effective amount of an antibody or antigen-binding fragment thereof of any of claims 1-3; optionally in association with a further chemotherapeutic agent.

23. A method for treating or preventing hypercholesterolemia, hyperlipidemia,

35

hypertriglyceridaemia, sitosterolemia, atherosclerosis, arteriosclerosis, coronary heart disease, vascular inflammation or xanthoma, in a subject, comprising administering, to said subject, a

therapeutically effective amount of an antibody or antigen-binding fragment thereof of any of claims 1-3; optionally in association with a further chemotherapeutic agent.

24. The method of claim 22 wherein the further chemotherapeutic agent is a cardiovascular agent, an adrenergic blocker, an antihypertensive agent, an angiotensin system inhibitor, an angiotensin-converting enzyme inhibitor, a coronary vasodilator, a diuretic, an adrenergic stimulant or an HMG-CoA reductase inhibitor.

25. The method of claim 22 wherein the further chemotherapeutic agent is ezetimibe, lovastatin, atorvastatin, pravastatin, rosuvastatin, fluvastatin, rivastatin, simvastatin, an azetidinone, bunolol hydrochloride, acebutolol, alprenolol hydrochloride, atenolol, carteolol hydrochloride, celiprolol hydrochloride; cetamolol hydrochloride, labetalol hydrochloride, esmolol hydrochloride, levobetaxolol hydrochloride, levobunolol hydrochloride, nadolol, practolol, propranolol hydrochloride, sotalol hydrochloride, timolol, timolol maleate, bisoprolol; bisoprolol fumarate, nebivolol, cicloprolol hydrochloride, dexpropranolol hydrochloride, diacetolol hydrochloride, dilevalol hydrochloride, exaprolol hydrochloride, flestolol sulfate, metalol hydrochloride, metoprolol 2-Propanol, metoprolol tartrate, pamatolol sulfate, penbutolol sulfate, practolol, tiprenolol hydrochloride, tolamolol fenspiride hydrochloride, proroخان, alfuzosin hydrochloride, labetalol hydrochloride, bretylium tosylate, dihydroergtamine mesylate, carvedilol, labetalol, bretylium tosylate, phentolamine mesylate, solypertine tartrate, zolertine hydrochloride, candesartan cilexetil, telmisartan, candesartan; losartan potassium, benazepril hydrochloride, captopril, fosinopril, moexipril hydrochloride, perindopril erbumine, quinapril, ramipril, enalapril maleate, lisinopril, delapril, spirapril, delapril hydrochloride, libenzapril, pentopril, perindopril 1H-Indole-2-carboxylic acid, quinaprilat, spirapril hydrochloride, spiraprilat, teprotide, zofenopril, amlodipine besylate, clentiazem maleate, isradipine, nimodipine, felodipine, nilvadipine; diltiazem hydrochloride, verapamil hydrochloride, teludipine hydrochloride, belfosdil, fostedil, ranolazine, butoprozine hydrochloride, tosifen, molsidomine, ranolazine hydrochloride, tosifen, diltiazem hydrochloride, isosorbide dinitrate, sosorbide mononitrate, nitroglycerin, verapamil hydrochloride, chromonar, clonitate, droprenilamine, lidoflazine, prenylamine, propatyl nitrate, mioflazine hydrochloride, mixidine, molsidomine, isosorbide mononitrate, erythrityl tetranitrate, clonitrate, dipyrindamole; nicorandil, pyridinecarboxamide, nifedipine; perhexiline maleate; oxprenolol, pentrinitrol, verapamil, althiazide, benzthiazide, buthiazide, chlorothiazide, spironolactone, triamterene, guanfacine hydrochloride, methyldopa-hydrochlorothiazide combined with Hydrochlorothiazide, methyldopa-chlorothiazide, clonidine hydrochloride, chlorthalidone, clonidine hydrochloride, clonidine, althiazide, benzthiazide, captopril, carvedilol, chlorothiazide, clonidine hydrochloride,

cyclothiazide, delapril hydrochloride, dilevalol hydrochloride, delapril hydrochloride, doxazosin mesylate, fosinopril sodium, moexipril hydrochloride, monatepil maleate, metoprolol succinate, guanfacine hydrochloride, methyldopa, quinaprilat, quinapril hydrochloride, primidolol, prazosin hydrochloride, pelanserine hydrochloride, phenoxybenzamine hydrochloride, candesartan
5 cilexetil, telmisartan, candesartan, amlodipine maleate, terazosin hydrochloride, bevantolol hydrochloride or ramipril.

26. The method of claim 25 wherein the further chemotherapeutic agent is ezetimibe and, optionally, simvastatin or atorvastatin.

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27. The method of any of claims 22-26 wherein the antibody or antigen-binding fragment thereof is a humanized antibody.

28. The method of any of claims 22-26 wherein the antibody or antigen-binding fragment
15 thereof is administered to the subject parenterally.

29. A method for producing an antibody or antigen-binding fragment thereof of any of claims 1-3 comprising introducing one or more polynucleotides into one or more host cells; which polynucleotides encodes and direct expression of said heavy and/or light chain
20 immunoglobulins; and growing said host cells under conditions whereby said heavy and light chain immunoglobulins are expressed.

30. The method of claim 29 wherein said polynucleotide encoding and directing expression of said light chain and said polynucleotide encoding and directing expression of said heavy chain
25 are in separate host cells.

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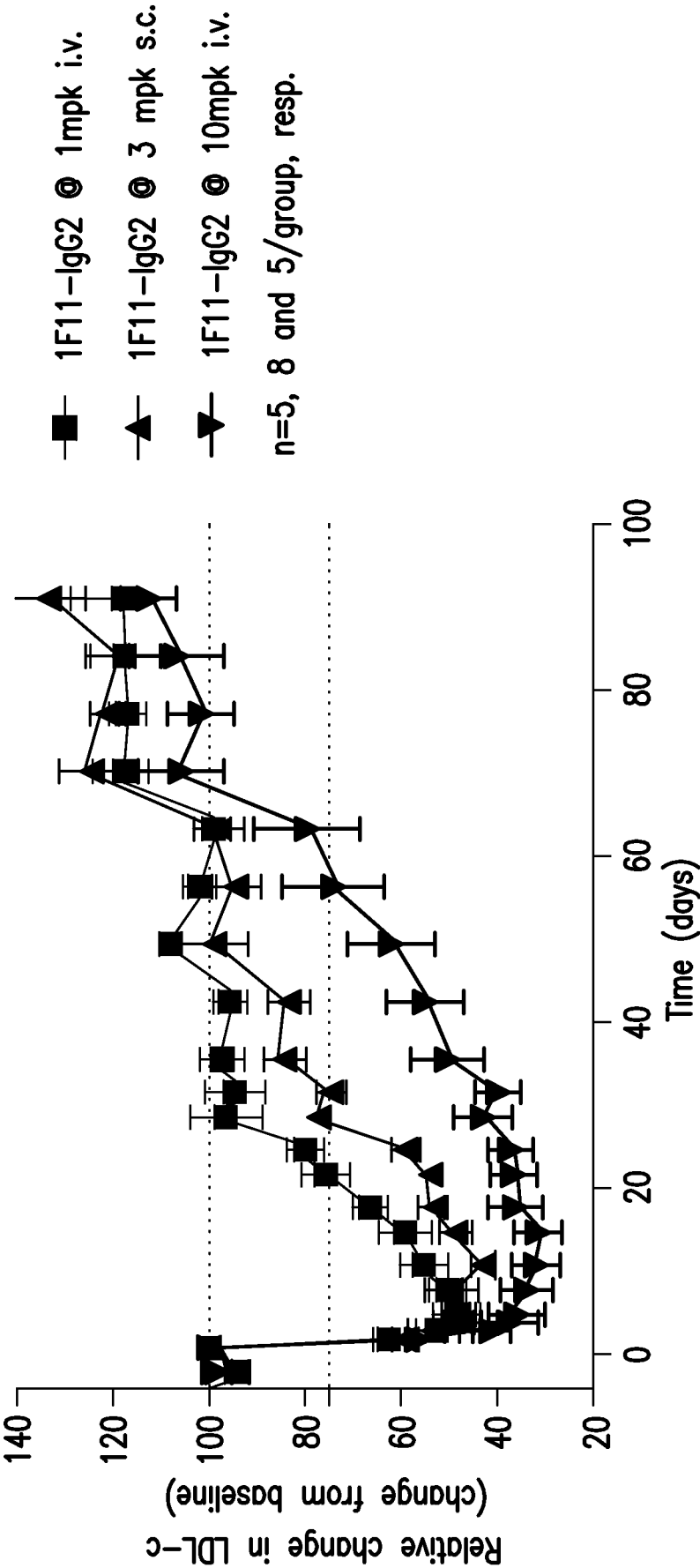


FIG.1A

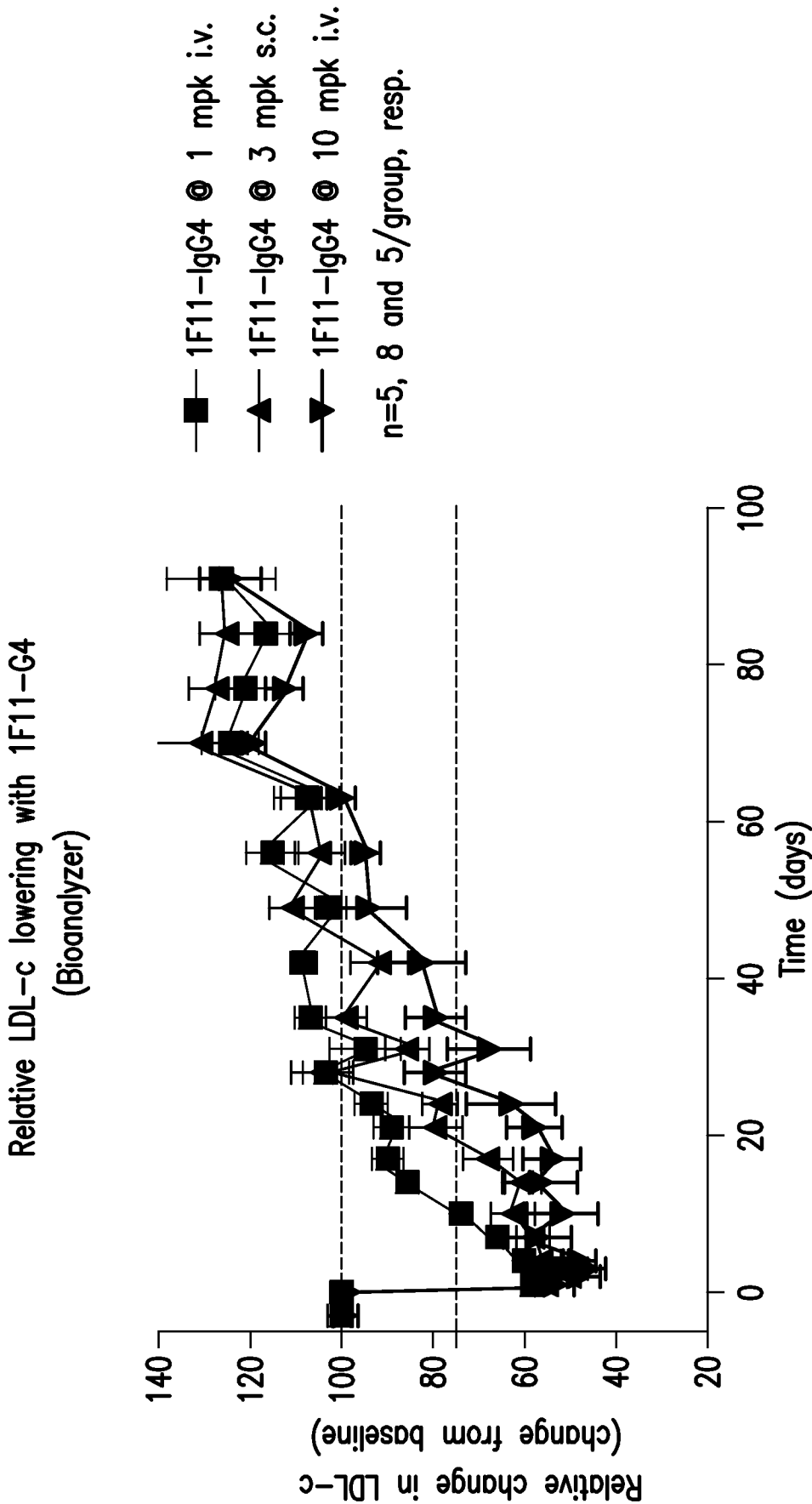


FIG.1B

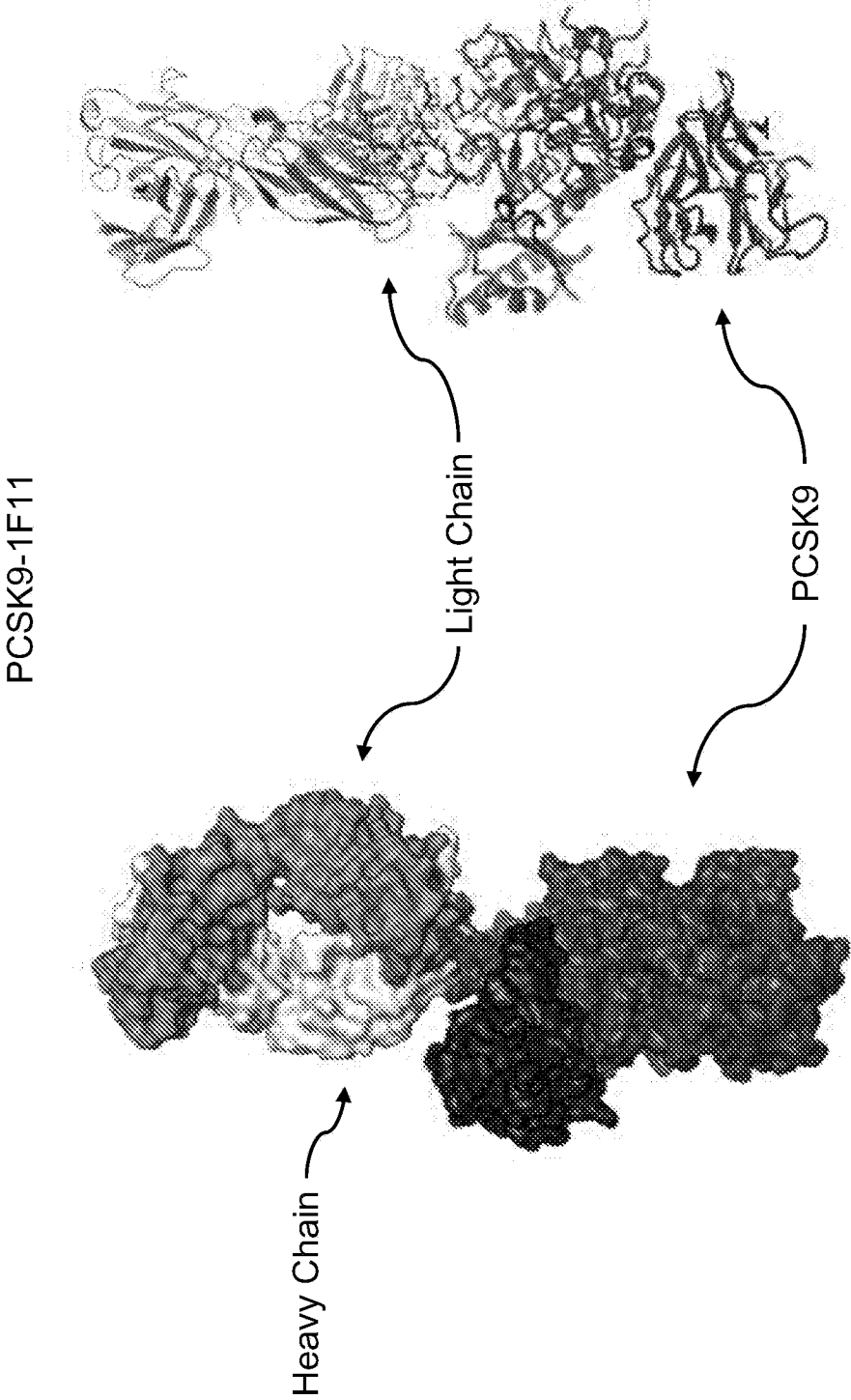


FIG.2

The Binding Interface of PCSK9-1F11
“lasso-post interaction” & “hydrophobic lock-and-key”

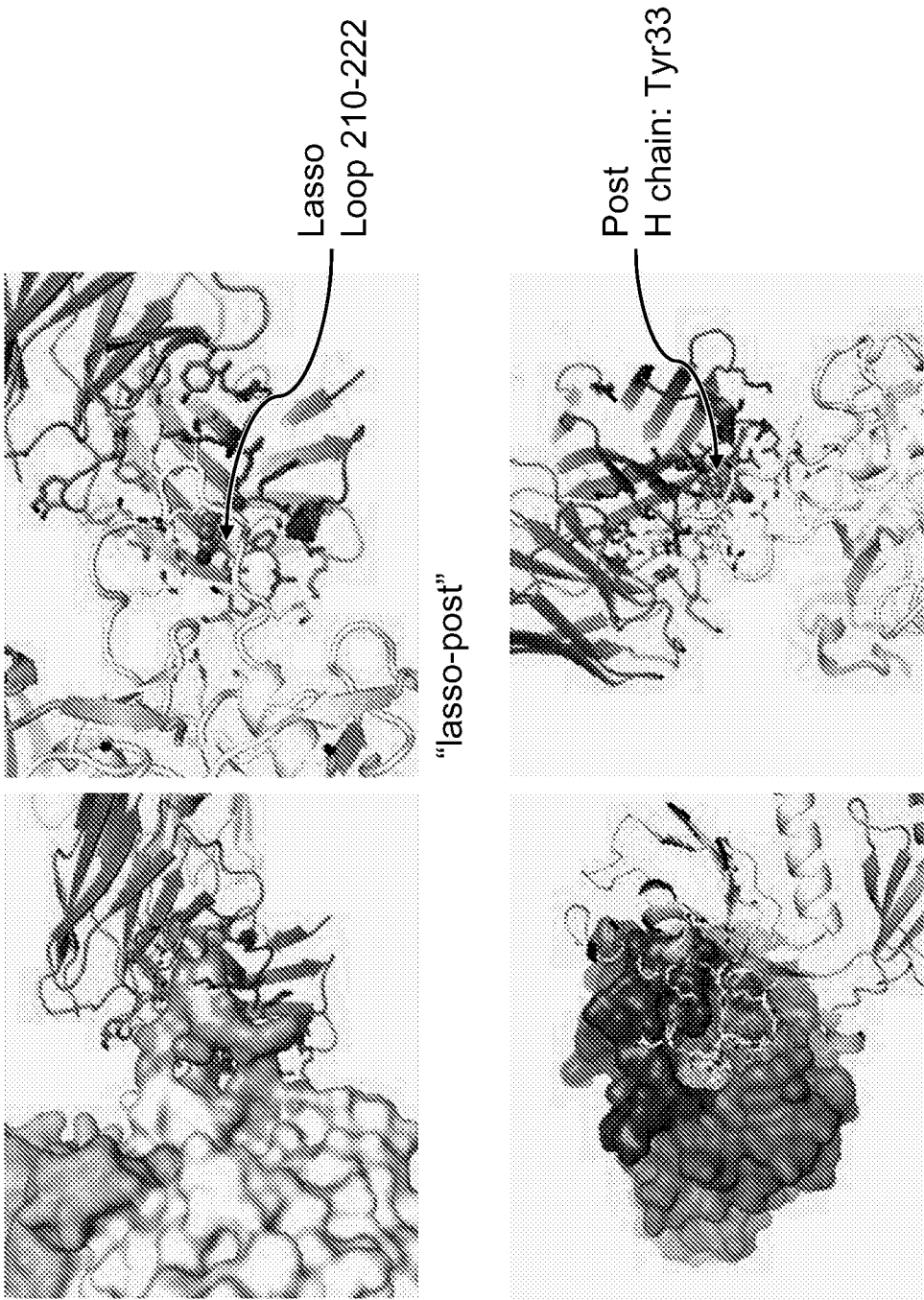
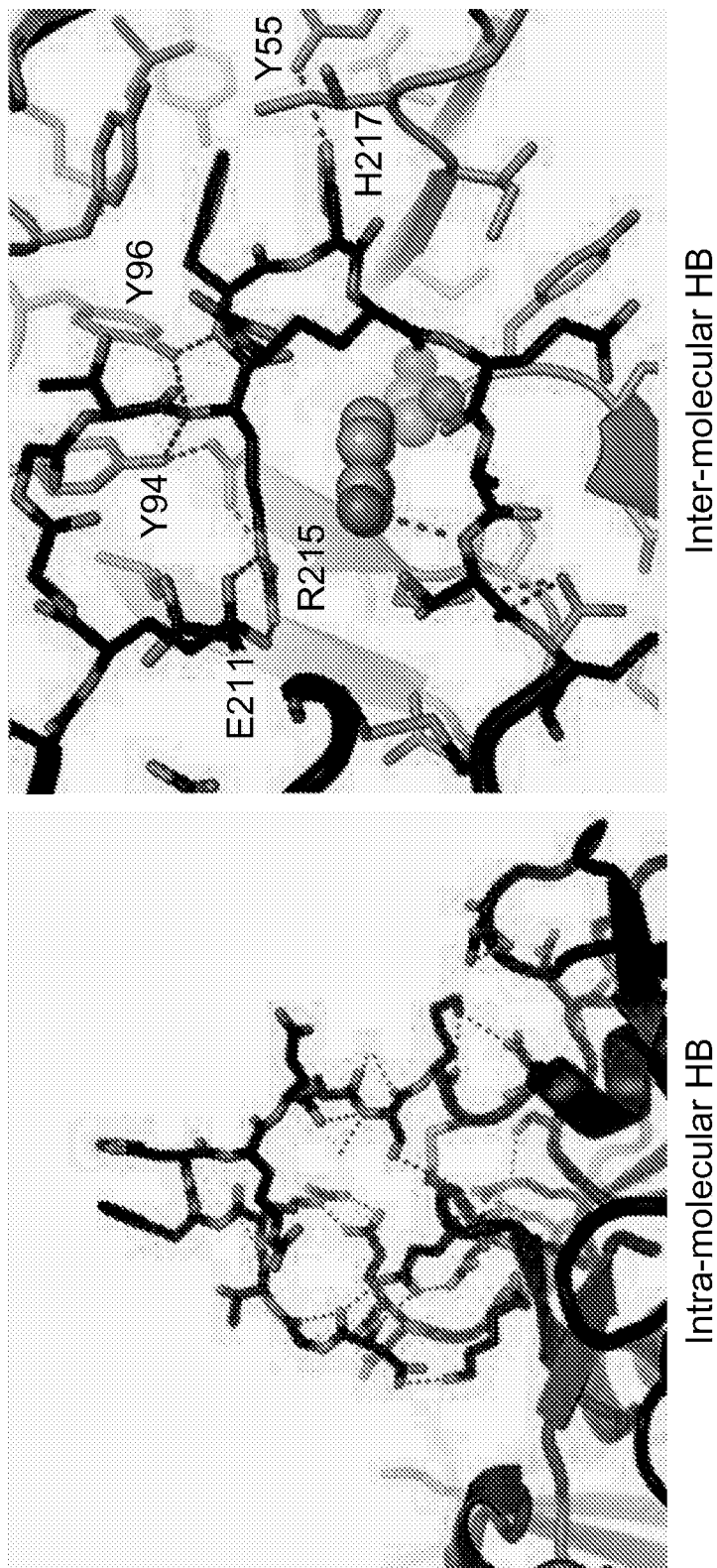


FIG.3

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The Polar Interactions

- The conformation of the loop stabilized by extensive hydrogen-bonding network

**FIG.4**

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The Hydrophobic Interactions
“lock-and-key”

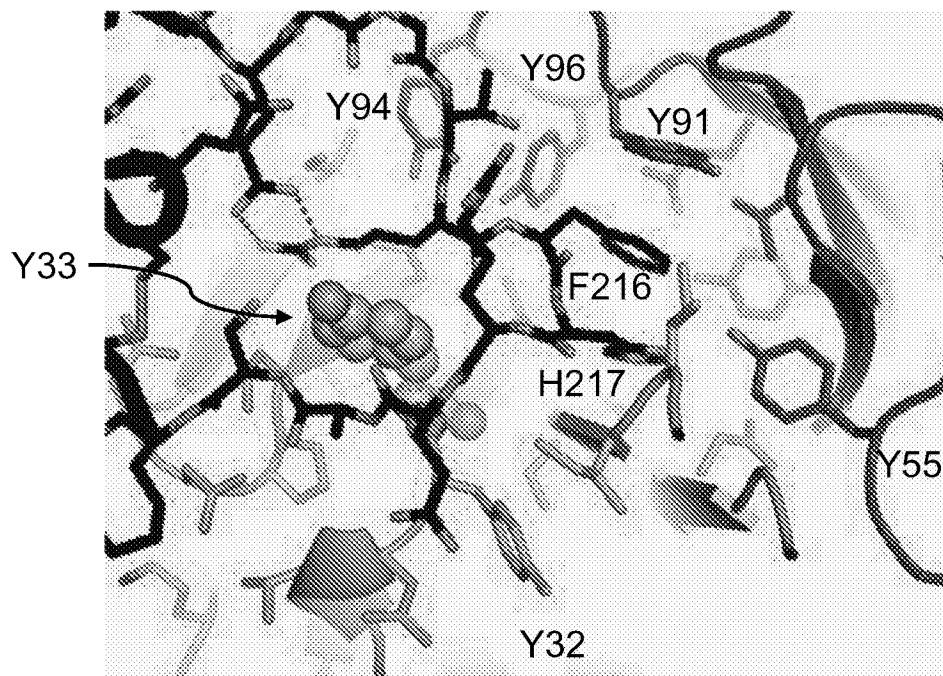


FIG.5

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/56649

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C07K 16/18; A61K 39/395 (2012.01)

USPC - 530/387.9; 424/139.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - C07K 16/18; A61K 39/395 (2012.01)

USPC - 530/387.9; 424/139.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
530/350

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST - DB=PGPB,USPT,USOC,EPAB,JPAB; PLUR=YES; OP=ADJ; Google Scholar; GenCore 6.3

search terms: anti, antibod\$, immunog\$, ab, hPCSK9, PCSK9, proprotein convertase subtilisin/kexin type 9, NARC1, FH3, NARC-1, PC9, HCHOLA3, LDLCQ1, furin, bind, binding, recogn\$, site, region, position, residue, epitope, amino, 188, 211, 213, 214, 215, 216, 217

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- A	Ni et al., A proprotein convertase subtilisin-like/kexin type 9 (PCSK9)-binding antibody that structurally mimics the EGF(A) domain of LDL-receptor reduces free circulating PCSK9 and LDL-cholesterol. The Journal of Lipid Research, jlr.M011445. October 19, 2010. p. 1, 1st para; p. 2, col. 2, 2nd para; p. 5, col. 2, 2nd para.	1, 3 ----- 2
A	WO 2009/100324 A1 (DE WAAL MALEFYT et al.) 13 August 2009 (13.08.2009) p. 5, last para - p. 6, 3rd para; SEQ ID NO: 62.	2, 14-20
A	US 2009/0196880 A1 (GILL et al.) 06 August 2009 (06.08.2009) para [0014]; [0019]; SEQ ID NO: 3.	2, 14-20

☐ Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

06 February 2012 (06.02.2012)

Date of mailing of the international search report

08 MAR 2012

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/56649

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 4-13 and 21-30
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.