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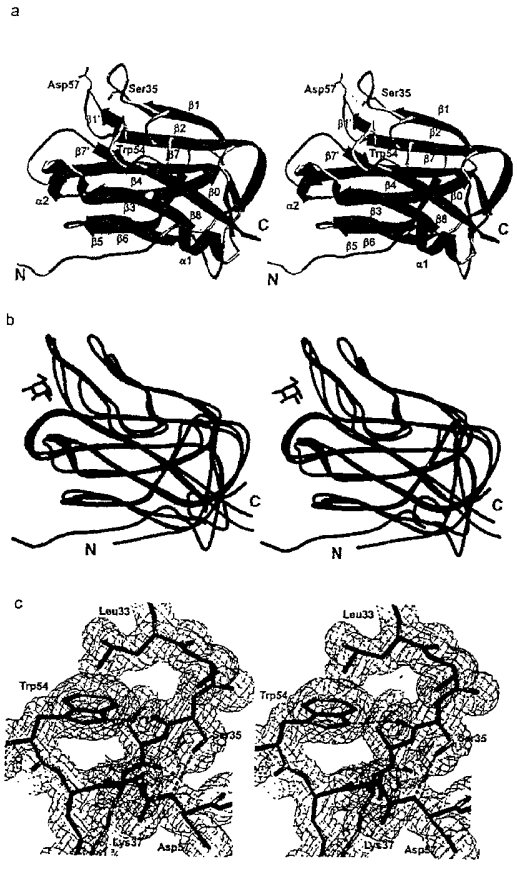

(57) Abstract: The invention relates to the crystal structure of APC10/DOC1, a subunit of human anaphase-promoting complex (APC), the use of a crystalline APC10/COC1 subunit in order to obtain crystal structure data enabling rational drug design and screening for inhibitors of APC, pharmaceutical compositions containing such inhibitors as well as the use of inhibitors to prevent the induction of anaphase.

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Crystal Structure of the APC10/DOC1 subunit of the Human Anaphase-Promoting Complex

Description

The invention relates to the crystal structure of APC10/DOC1, a subunit of human anaphase-promoting complex (APC), the use of a crystalline APC10/COC1 subunit in order to obtain crystal structure data enabeling rational drug design and screening for inhibitors of APC, pharmaceutical compositions containing such inhibitors as well as the use of inhibitors to prevent the induction of anaphase.

The anaphase-promoting complex, also called cyclosome, is a cell cycle regulated ubiquitin protein ligase (E3) that controls important transitions in mitosis and G1 (reviewed by [1-3]). In mitosis, the APC initiates sister chromatide separation by ubiquitinating the anaphase inhibitor securin and it triggers exit from mitosis by ubiquitinating cyclin B, the activating subunit of cyclin-dependent kinase 1. These ubiquitination reactions depend on the E1 enzyme (ubiquitin activating enzyme) that activates the small polypeptide ubiquitin and transfers it via transacetylation to several ubiquitin-conjugating (E2) enzymes. Each E2 may collaborate with several different E3 proteins in creating a protein-ubiquitin conjugate. Together, E2 and the APC assemble multi-ubiquitin chains on substrate proteins and thereby target them for degradation by the 26S proteasome.

The activity of the APC is tightly controlled during the cell cycle [2,3]. In mitosis, the APC is activated by phosphorylation and subsequent binding of the activator protein CDC20, whereas the APC is kept active during G1 and in differentiated cell by binding of CDH1. In addition, mitotic activation of the APC is negatively controlled by the MAD2 protein that inhibits APC-CDC20 until spindle assembly has been completed.

The APC is composed of at least 11 subunits, none of whose structures are known, and most of which are conserved from yeast to man [1,3]. The structures as well as functions are not known for any of these proteins. Only for the RING finger subunit APC11, it has recently been demonstrated that this protein is sufficient to mediate E1- and E2-dependent ubiquitination reactions in vitro [4,5]. APC11 may therefore directly participate in substrate ubiquitination mediated by the holo-APC. Another subunit that may have an important role in APC function is the 21 kDa protein APC10/DOC1. APC10/DOC1 is homologous to domains found in several other putative ubiquitin protein ligases (DOC domains). This protein was first identified in a genetic screen for yeast mutants defective in cyclin proteolysis [6] and was subsequently shown to be a subunit of the APC in budding yeast, fission yeast and vertebrates [6-10].

Interestingly, the sequence of APC10/DOC1 is highly homologous to a sequence element found in several hypothetical high molecular weight proteins whose domains structure implies that they may also be ubiquitin-protein ligases [9-11]. The APC10/DOC1 homology region is named the DOC domain [10]. Different DOC domain proteins contain combinations of either RING finger or cullin or HECT domains. RING finger domains have been found in many ubiquitin-protein ligases and bind at least in some cases directly to E2 enzymes [12,13]. Cullin domains have been identified in subunits of both the APC and the SCF, a ubiquitin-protein ligase distantly related to the APC, and have been shown to bind to RING finger subunits [14]. HECT domains are found in another type of ubiquitin-protein ligase that covalently binds ubiquitin before transferring it to substrates [15]. The observation that DOC domains are found in combination with these three domains implies that they may have a general function in ubiquitination reactions [10]. All of the subunits of APC and especially APC10/DOC1 are therefore a very interesting target for research with the aim to influence ubiquitination reactions and also the anaphase promoting function of APC.

It was therefore an object of the present invention to crystallize APC10 and describe its crystal structure which then can be the basis for rational drug design, drug (e.g. inhibitor) screening and further investigations.

The subject was solved by providing a crystalline preparation of APC10 with the crystal structure as shown in Fig. 1.

The crystal structure is also shown in the enclosed PDB file.

The crystal structure of human APC10 was ressolved at 1.6 Å and provides evidence that the C-terminal peptide of APC10 interacts with the APC subunit CDC27. Unexpectedly, the structure of APC10, which is a paradigm for DOC domains, is very similar to the structures of ligand-binding jellyroll domains of several bacterial and eukaryotic proteins.

The structure of human APC10

Progressive degradation of the full length human APC10/DOC1 protein during protein purification led us to the preparation and crystallization of the stable fragment, lacking 14 C-terminal residues (APC10ΔC14). The crystal structe of APC10ΔC14 was solved by MAD phasing, using crystals containing the selenomethionine labeled protein and one nickel ion per molecule, originating from the crystallization conditions. Data collection and refinement statistics are shown in Table 1. An excellent electron density was obtained and used for model building. All residues were resolved in the density except the side chains of the residues Asn127-Lys129 and the C-terminal residues Glu163-Pro171. The overall structure of the single domain is dominated by ß-sheets (Fig. 1a). The central core of APC10 structure consists of a ß-sandwich where a five stranded antiparallel ß-sheet (strands ß1, ß2, ß7, ß4, ß5) is packed on top of a three stranded antiparallel ß-sheet (strands ß3, ß6, ß8) thereby exhibiting a "jellyroll" fold. Connections across that side of the sandwich where the N-

terminus is located are formed by the loop ß3-ß4, including the short α-helix α_2, and the loop ß7-ß8, containing the short ß-strand ß7'. We refer to this region as the N-terminal loop region. A remarkably large loop in this region is the ß1-ß2 loop that contains the small ß-sheet ß1' and connects two strands of the same sheet. The opposite side of the sandwich is closed by the loops ß2-ß3 and ß6-ß7, which we call the C-terminal loop region (Fig. 1a). Additional structural elements are two short α-helices, α1 as the first N-terminal secondary structure element (Fig. 3b) and the helical extension of the ß3 strand α2, as well as the short ß-sheet formed by the strands ß1' and ß7'. A stretch of residues in extended conformation was found for the residues Val22-Ile25, further referred to as ß0. The N-terminus of the APC10 contains four proline residues and is therefore very rigid. Analysis of the surface charge distribution shows a conspicuous cluster of positive charges in the C-terminal loop region consisting of Arg18, Arg23, Arg69, Arg70, Lys71, Lys75, Lys129, Lys130 and Arg13 (Fig. 2c). In the N-terminal loop region (Fig. 2a) the negatively charged Glu87 is surrounded by a ring of tyrosine residues Tyr53, Tyr80, Tyr83 and Tyr89 and further hydrophobic residues like Pro38, Phe40 and Leu50.

Structural similarity of APC10 to other proteins

Search for structurally similar proteins in the RCSB protein-database yielded crystal structures of proteins from very different species. The highest similarity was detected for the galactose binding domains of galactose oxidase from the eubacterium *Dactylium dendroides* [16] with an RMSD of 2.3 Å and of sialidase from *Micromonospora viridifaciens* [17] with an RMSD of 2.5 Å. Fig. 1b shows an overlay of these structures with the structure of APC10. The close structural similarity in the ß-sandwich and also in the loops of the structures is only disturbed by the extended ß1-ß2 loop that forms one side of the galactose binding pocket in sialidase and galactose oxidase, although the residues stabilizing this large loop are conserved. Otherwise, both structurally related proteins exhibit no significant sequence

similarity to APC10 (Fig. 3). Further structurallly similar proteins are the C2 domain of the human coagulation factor Va [18] (RMSD 2.8 Å) and the N-terminal domain of the *Xenopus* DNA repair protein XRCC1 [19] (RMSD 3.0 Å), the only known cytoplasmic jellyroll protein. All of these proteins have a galactose-binding-domain-like fold and belong to the discoidin domain family [20]. The common function of these domains is to bind specific ligands. In the case of galactose oxidase and sialidase, these domains bind to cell surface attached carbohydrate substrates, whereas coagulation factor Va binds to phospholipids in the outer side of the mammalian cell membrane [18,20]. The N-terminal domain of XRCC1 binds to a complex of broken single-stranded DNA and DNA polymerase ß. All of these structurally related proteins use similar regions for ligand binding which corresponds to the N-terminal loop region in APC10. The N-terminal loop region of APC10 may therefore also represent a ligand-binding region.

The N-terminal loop region of APC10

Comparison of human APC10 (Fig. 3a) with its orthologues in *S. cerevisiae, S. pombe* and *D. melanogaster* [21] show that the N-terminal loop region contains several evolutionary strictly conserved residues (Fig. 3c). They represent one continuous epitope, which implies an involvement of this region in APC10 function. Some residues in the ß1-ß1' loop, Ser35, Asn47, Thr52, Trp54, Pro61 and His62, are not only conserved among APC10 orthologues but also in galactose oxidase and sialidase (Fig. 4). Pro61 in human APC10 and its related proline residues in galactose oxidase and sialidase adopt cis-conformation. Residue Ser35 forms two hydrogen bridges, one with its carbonyl oxygen to the Nε of Trp54 and on the other hand with its side chain oxygen to Asp57 N (Fig. 1c). Both interactions are important for stabilization of the structure in the loop ß1-ß1'. Mutation of Ser127 in budding yeast Doc1p/Apc10p, which corresponds to Ser35 in human APC10, has been found to render the protein temperature sensitive, causing yeast cells to arrest in mitosis with an inactive APC [6]. This

mutation could inactivate Doc1p/Apc10p either by interfering with the binding of a hypothetical ligand, or by deforming the protein backbone since the exposition of the hydrophobic phenyl sidechain to the solvent is energetically unfavorable. In addition, the Phe127 mutant would be expected to lack the hydrogen bond of the Ser127 side chain and probably also the second hydrogen bond to Trp146 (Trp54 in human APC10). At higher temperatures the remaining interactions of the loop ß1-ß1' to the core may not be sufficient to stabilize the structure, leading to distortion of the whole N-terminal loop region.

The C-terminus of APC10 binds to CDC27/APC3

Arg127-Arg185 are not present in APC10ΔC14 used for crystalization, and residues Glu163-Pro171 are disordered in the crystal. Because the C-terminus of APC10 might become stabilized and ordered by interaction with a binding partner, we searched for APC subunits that bind to APC10. Co-infection of insect cells with recombinant baculoviruses encoding different APC subunits (Fig. 4a) as well as in vitro binding experiments using His-APC10 and different GST-tagged subunits expressed in E.coli (data not shown) identified CDC27/APC3 as a candidate binding partner of APC10. Conversely, CDC27 bound to recombinant GST-APC10 purified from E.coli but not or little to other APC subunits (Fig. 4b,c), suggesting that this interaction is specific. Following co-expression in insect cells, CDC27 specifically co-immunoprecipitated the full length form of APC10, whereas a smaller fragment remained in the supernatant (Fig. 4a). Since this fragment retained the N-terminal tag, it must have been degraded from the C-terminus. Interestingly, CDC27 contains 10 tetratrico peptide repeats (TPRs), a motif that is known to be capable of binding elongated peptide stretches [22,23]. We therefore tested, if the C-terminus of APC10 is necessary and sufficient for binding to CDC27. A GST-tagged APC10 lacking the C-terminal 23 amino acids (GST-APC10ΔC23) could no longer precipitate CDC27 (Fig. 4b). Similar results were obtained when

APC10ΔC14 used for crystallization was covalently coupled to CNBr-activated sepharose (Fig. 4b). On the other hand, an immobilized synthetic peptide consisting of the C-terminal 23 amino acid residues of APC10 was sufficient to retain CD27, whereas a control peptide was not (Fig. 4b). CDC16/APC6, another APC subunit with multiple TPR motifs that interacted with APC10 to a lesser extent in insect cells (data not shown) or in vitro (Fig. 4b), bound to the C-terminal APC10 peptide only weakly (Fig. 4b,c). These results suggest that CDC27 links the DOC domain of APC10 to the holo-APC, positioning it in the appropriate way to carry out its function.

The crystal structure of human APC10 represents the first atomic structure of a subunit of the APC. It is further a paradigm for the fold of the DOC domain, which has been recognized in several proteins related to ubiquitination reactions [9,10]. Unexpectedly, within the present invention it has been shown that the DOC domain of APC10 has a jellyroll fold which is highly similar to ligand binding domains found in several eubacterial and eukaryotic proteins such as galactose oxidase [16], sialidase [17], blood coagulation factor Va [18] and CRCC1 [19]. The structural conservation between the ligand binding regions of these proteins and the N-terminal loop region of APC10 suggests that the function of APC10 may be to bind a specific ligand within the holo-APC. This ligand may play an important role in ubiquitination reactions because mutation of an evolutionary conserved Ser residue in the N-terminal loop region of budding yeast Doc1p/Apc10p renders the protein temperature sensitive and thereby appears to inactivate the holo-APC [6]. This notion is further supported by the observation that DOC domain proteins are particularly conserved in those sequence elements that form the N-terminal loop region in APC10. The hydrophobic patch that we have noticed in the N-terminal loop region of APC10 could have an important role in binding this hypothetical ligand.

Previously identified jellyroll domains have been shown to bind ligands such as sugars, nucleotides, phospholipids or DNA. In at least some cases, for examples in sialidase, the role of the jellyroll domain appears to be to position these ligands towards other catalytically active domains [17]. Protein or peptide ligands of this domain have not yet been identified, but a peptide ligand has been proposed for the jellyroll domain of the receptor tyrosine kinase EphB2 [24].

The investigations leading to the present invention suggest that the C-terminus of APC10 interacts directly with the APC subunit CDC27. Because even the stable portion of the C-terminal extension of APC10 was disordered in the crystal, this part of the protein is assumed to have an extended, flexible conformation. Interestingly, CDC27 contains TPR motifs, which in the TPR proteins Hop and PEX5 have been found to bind to extended N-terminal or C-terminal peptide stretches of their partners, respectively [22,23].

The crystalline preparation of APC10 allowed to gain the herein described crystal structure data. Such crystal structure data can be used for the design or/and the identification of modulators, preferably inhibitors of the APC complex by interacting with APC10, e.g. by inhibiting the interaction between APC10 and CDC27. Such inhibition may affect the assembly of the APC complex and thus also the activity of APC. An alternative mode of action, by which an APC10 inhibitor may exert its effect on APC inhibition, is based on a compound's interaction with the N-terminal loop of the APC10 protein. As mentioned above, a mutation in this region in the homologous yeast protein has been shown to result in temperature sensitive mutants, causing yeast cells to arrest in mitosis [6]. Since the temperature sensitivity of APC10 will render the entire APC complex temperature sensitive, this result is indicative of a significant role of the N-terminal region of APC10 in APC function. Thus, compounds interacting with this region and thereby possibly interfering with ligand binding, are

promising candidates for blocking APC function and thus useful for tumor therapy.

Therefore another subject of the present invention is the use of crystal structure data obtained from a crystalline preparation of APC and described herein in detail for the design and/or identification and/or preparation of modulators, preferably inhibitors of APC.

In a preferred embodiment of the present invention a computer-aided modeling program is used for the design of modulator molecules. In another preferred embodiment a data base is screened for possible inhibitors using the crystal structure data obtained according to the present invention.

Modulators can influence the activity of APC10 by interacting therewith via binding, either covalently or non-covalently to APC. Other interactions might also lead to a modulating effect like e.g. association of a modulator molecule and the APC10 subunit via van der Waals forces or hydrogen bonding. Modulator molecules and especially inhibitor molecules acting through any one of the above described mechanisms are encompassed by the invention. Also encompassed are other mechanisms for modulating the activity of the APC10 unit and finally the APC complex, as long as such modulator molecules are designed, screened for or prepared using the crystal structure data of the present invention.

Of further interest is the interaction of APC10 with other TPR containing APC subunits and also design and/or identification and/or preparation of inhibitors that interfere with such binding are of interest within the framework of the present invention.

A further subject of the present invention are inhibitors that specifically inhibit APC by interacting with or binding to APC10. Preferably such

inhibitors interact with or bind to sites that either are responsible for CDC27 binding or binding of other TPR-containing APC subunits.

The aim of most chemotherapeutic approaches against cancer is to kill rapidly proliferating cells while leaving non-proliferating, differentiated cells unaffected. Since the state of the components regulating the cell cycle is different between proliferating and quiescent cells, these components, one of them being the APC, have been suggested as targets for anti-cancer drugs.

The APC has been suggested as a target for chemotherapeutic intervention for the following reasons:

a) The activity of the APC is essential for sister chromatid separation, for the function of the mitotic spindle and for exit from mitosis during cell poliferation. Interfering with this function is expected to prevent tumor cells from completing mitosis.

b) Most tumor cells have highly abnormal karyotypes. They undergo anaphase in the presence of chromosomal damage that would prevent activation of the APC in normal cells. Tumor cells are therefore expected to be especially sensitive to drugs that interfere with APC function.

APC10 inhibitors, by functioning as APC inhibitors, are expected to arrest cells in metaphase of mitosis; this arrest is expected to subsequently induce apoptotic cell death. Due to this ability, APC 10 inhibitors are drug candidates for the therapy of cancer.

To test the ability of an APC10 inhibitor to inhibit tumor cell proliferation, primary human tumor cells are incubated with the compound and the inhibition of tumor cell proliferation is tested by conventional methods, e.g.

bromo-desoxy-uridine or ^3H incorporation. Compounds that exhibit an anti-proliferative effect in these assays may be further tested in tumor animal models and used for the therapy of tumors.

Toxicity and therapeutic efficacy of the APC10 modulators can be determined by standard pharmaceutical procedures, which include conducting cell culture and animal experiments to determine the IC_{50}, LD_{50}, ED_{50}. The data obtained are used for determining the human dose range, which will also depend on the dosage form (tablets, capsules, aerosol sprays, ampules, etc.) and the administration route (oral, buccal, nasal, paterental or rectal). A pharmaceutical composition containing the compound as the active ingredient can be formulated in conventional manner using one or more physologically active carriers and excipients. Methods for making such formulations can be found in manuals, e.g. "Remington Pharmaceutical Sciences".

A still further subject of the present invention is a pharmaceutical composition containing such APC inhibitor and further the use of such inhibitor or pharmaceutical composition containing an inhibitor for prevention or treatment in situations where it is required or beneficial to inhibit anaphase promotion by APC.

The invention is further illustrated by the following examples and figures.

Fig. 1

The structure of human APC10.

a) Stereo diagram of the Cα trace in standard orientation with labeled secondary structure elements. The sheets forming both sides of the ß-sandwich are colored green and orange, α-helices are colored violet, the small ß-sheet gray and the separate $ß_0$ strand blue. The

side chains of residues Ser35, Trp54 and Asp57 are drawn in ball-and-sticks.

b) Stereo plot of the Cα traces of the superpositioned crystal structures of human APC10 (red), D1 domain of galactose oxidase (green) (pdb entry 1GOH), and the galactose binding domain of sialidase with the galactose molecule bound to the protein (blue)pdb entry 1EUU). Both figures were generated with MOLSCRIPT [38] and Raster3D [39].

c) Final model and the final $2F_0$-f_c map around Ser35 contoured at 1 δ in stereo view. The hydrogen bonds between Ser35, Trp54 and Asp57 are drawn in magenta. The figure was generated with BOBSCRIPT [40] and Raster3D [39].

Fig. 2

The electrostatic surface potential, generated with GRASP [41], from negative (red) to positive (blue), is mapped on a solid surface representation of APC10.

a) N-terminal loop region with the potential ligand binding site.

b) Standard orientation.

c) C-terminally loop region with a high concentration of positive charges.

Fig. 3

Structurally and sequentially related proteins to human APC10.

a) Structurally based sequence alignment, generated with ALSCRIPT [42], of human APC10 with the structurally related galactose oxidase D1 domain, the sialidase galactose binding domain and the APC10 homologues from different species (D. melanogaster, S. cerevisiae, S. pombe). Numbers of the human APC10 sequence are given above the alignment and the sequence is boxed. The last residue resolved in the electron densitiy is labeled with ▼, and ▽ indicates the C-terminus of the truncated APC10. Red colored residues are identical and orange residues show a lower degree of conservation between

all sequences. Yellow residues show sequence similarity between the first three sequences. The secondary structure elements are identical below the alignment.

b) Topology diagram of the APC10 structure, ß strands are shown as arrows and α helices as barrels. The jellyroll motif is surrounded by a gray box.

c) Homology of APC10 in different species, the residues identical in human APC10, Dm. APC10, Sc. Doc1p and Sp. APC10 are colored yellow in the blue Cα trace of human APC10. The figure was generated using BOBSCRIPT [40] and Raster3D [39].

Fig. 4

Interaction of APC10 with TPR-containing APC subunits.

a) Immunoprecipitation of HisHA-CDC27 with anti-CDC27 antibodies co-precipitated full-length HisHA-APC10 from an insect cell lysate after co-expression of both proteins.

b) In vitro binding of insect cell expressed HisHA-CDC27 or HisHA-CDC16 to matrix-coupled full-length APC10, APC10ΔC14 (identical to the crystallized protein), APC10ΔC23 (identical to the protein resolved in the structure) or the synthetical C-terminal peptide of APC10. The histone H4 N-terminal peptide was used to exclude unspecific peptide or matrix binding by the HisHA-CDC27 protein.

c) Binding of HisHA-CDC27 and HisHA-CDC16 to the matrix-coupled C-terminal APC10 peptide under competitive conditions.

Detection on all Western blots was performed with either monoclonal anti-HA (12CA5) or anti-6His (H-15) antibodies.

Table1 Data collection and refinement statistics

Data collection statistics	Peak (Se)	Edge (Se)	Remote	Peak (Ni)	Native
	doc1	doc2	doc3	doc4	docnativ
Wavelength (Å)	0.9791	0.9797	0.9500	1.4800	1.6000
Resolution (Å)	2.05	2.05	2.05	2.25	1.60
Completeness (%)	99.56	99.56	99.82	74.57	100.00
R_{merge}*	6.2	4.4	4.7	5.3	3.7
I/σ(I)	35.14	36.09	35.86	18.52	35.20
Phasing statistics					
Phasing power (iso)	0.80	1.30	-	1.04	-
Phasing power (ano)	0.67	1.13	-	0.97	-
R_{cullis}(iso)	0.81	0.63	-	0.68	-
Refinement statistics		Number of atoms			
R_{cryst} (R_{free}#) %)	20.93 (24.35)	Protein			1289
R.m.s. deviations		Water			157
Bonds (Å)	0.012	Ions			1
Angles (°)	1.711	Main chain dihedral angles			
Bonded B-factors (Å^2)	3.284	Most favored (%)			86.1
Overall B-factor (Å^2)	30.482	Allowed (%)			12.1
		Generously allowed (%)			1.4

R_{free} was calculated using 5% of the data as reference dataset

Example 1

Protein expression and purification.

The human APC10 cDNA (accession code AF132794) was cloned into pET11d (Novagen, Germany), resulting in an open reading frame encoding 185 residues with the sequence NH_2-MATP...RSIR-COOH. The threonine residue at position 2 of human APC10 was changed to alanine to optimize the codon usage for E.coli expression. Overexpression of APC10 in the E.coli strain B834(DE3) (Novagen, Germany) pUBS250 [26] yielded inclusion bodies from which APC10 was refolded. The refolded protein was degraded into a stable 19.5 kDa fragment. Mass spectrometric analysis and N-terminal sequencing indicated removal of the 14 C-terminal amino acids. Subcloning and expression of the truncated protein variant with the new C-terminus ...KFPR-COOH (APC10ΔC14) resulted in soluble protein which was purified by cation exchange chromatography and gel filtration. CD-spectroscopy and 1H-NMR indicated that this protein was folded. The N-terminal methionine residue was completely processed by E.coli, as confirmed by N-terminal protein sequencing. The selenomethionine labeled protein of the truncAPC10 was expressed according to Budisa et al. 1995 [27] and purified as described.

Example 2

Crystallization and data collection.

APC10ΔC14 and its selenomethionine labeled analogue were crystallized at 18°C using the vapor diffusion method in a sitting drop (reservoir buffer: 1.9 M ammonium sulfate, 0.1 M HEPES pH 7.2, 0.1 M magnesium chloride, 5 mM nickel acetate and 5% aniline). Crystals belonged to space group p622 with the cell constants a = b = 97.6 Å, c = 67.8 Å, α = ß = 90° and γ = 120°. For data collection the crystals were transferred to the reservoir buffer complemented with 20% glycerol and flash cooled. Diffraction data for the MAD (multiwavelength anomalous diffraction) experiment were collected from a single crystal of the selenomethionide labeled protein at 100K at the MPG beamline BW6 at DORIS (DESY,

Hamburg, Germany) using a MAR-CCD detector. For MAD-phasing [28] x-ray data to a resolution of 2.05 Å were collected at four different wavelengths: λ_1 = 0.9791 Å (selenium maximal f'), λ_2 = 0.9797 Å (selenium minimal f''), λ_3 = 0.9500 Å (remote dataset) and λ_4 = 1.4800 Å (nickel maximal f'). A 1.6 Å resolution dataset was measured at λ = 1.6000 Å using a crystal of the unlabeled protein. All datasets were processed and scaled with the programs DENZO and SCALEPACK [29]. The two selenium sites and one nickel site were detected with RSPS [30]. The program MLPHARE of the CCP4 suite [31] was used for heavy atom refinement and phasing. Experimental phases were estimated to a resolution of 2.5 Å giving a figure of merit of 0.287. After iterative solvent flattening with the program DM [32] a final figure of merit of 0.531 at 2.05 Å was obtained. The protein model was built into the resulting electron density with the program O [33]. Refinement of the structure was carried out with CNS [34] using the high-resolution dataset of native APC10ΔC14. During alternating cycles of refinement performed with simulated annealing, positional and B-factor refinement in CNS and model building with O the initial R factor decreased from 34.4% (R_{free} 36.8) to 26.4% (R_{free} 30.1) and after the introduction of 157 solvent molecules and one nickel ion to 20.9% (R_{free} 24.4%). Since the side chains of residues 127-129 are not resolved in the density their occupancy was set to 0 during refinement. In the Ramachandran-plot, obtained with PROCHECK [35], 86.5% of the main chain dihedrals are found in most favored regions, 12.1% in additional allowed regions, 1.4% in generously allowed regions and none in disallowed regions. The program DALI version 2.0 [36] (RMSD cutoff 3 Å) was used to search for proteins structurally related to human APC10.

Example 3

Binding assays.

Recombinant baculoviruses for human APC subunits containing N-terminal GST- or 10xHis-HA-tags were generated using the Bac-to-Bac system (Life Technologies). Lysates of infected Hi5 cells were used for in vitro binding

assays. Bacterial expression of full length APC10 with an N-terminal GST-tag (GST-APC10) has been described [4], and GST-APC10 lacking the 23 C-terminal residues (GST-APC10ΔC23) was produced analogously. Immunoprecipitation of HisHA-CDC27 from an insect cell lysate containing HisHA-CDC27 and HisHA-APC10 was performed with rabbit-anti-CDC27 antibodies [25], coupled to Affi-Prep Protein A Support (Bio-Rad). For binding assays, GST-tagged APC subunits were bound to glutathione sepharose 4B (Pharmacia), washed with TBS/T0.5 (20 mM Tris-HCl, pH 8.0, 500 mM NaCl, 0.05% Tween-20) and incubated with cell lysates containing HisHA-tagged APC subunits. After stringent washing with TBS/T0.5 samples were analyzed by SDS-PAGE and immunoblotting. Detection was performed with monoclonal anti-HA 12CA5 (own production) or anti-6His polyclonal antibodies H-15 (Santa Cruz). Alternatively, purified APC10ΔC14 was coupled to CNBr-activated Sepharose 4 Fast Flow (Pharmacia) and incubated with lysates containing APC subunits.

Peptide binding assays were carried out according to Lachner et al 2001 [37], with small modifications. In brief, a peptide encompassing the C-terminus of human APC10 (CPVEESSIGKFPR[C-StBu]TTIDFMMYRSIR) was synthesized and immobilized via the N-terminal cysteine residue onto activated POROS matrix (Applied Biosciences). Following cleavage of the protection group with 10% mercaptoethanol, 100 µg of the resulting matrix were incubated with insect cell lysates containing HisHA-tagged APC subunits. After stringent washing in TBS/T0.5, samples were analyzed by SDS-PAGE and immunoblotting as described above. The histone H4 N-terminal peptide matrix used as a negative control has been described [37].

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Claims

1. Crystalline preparation of APC10 as shown in Fig. 1.

2. Use of the crystalline preparation according to claim 1 to obtain crystal structure data for the design and/or identification of modulators, preferably inhibitors of APC.

3. Use according to claim 2, wherein the inhibitor of the interaction of APC10 and CDC27 is designed or identified.

4. Use according to claim 2 or 3 wherein a computer-aided modeling program is used for the design of inhibitor molecules.

5. APC inhibitor characterized in that it is able to specifically bind to and/or interact with APC10.

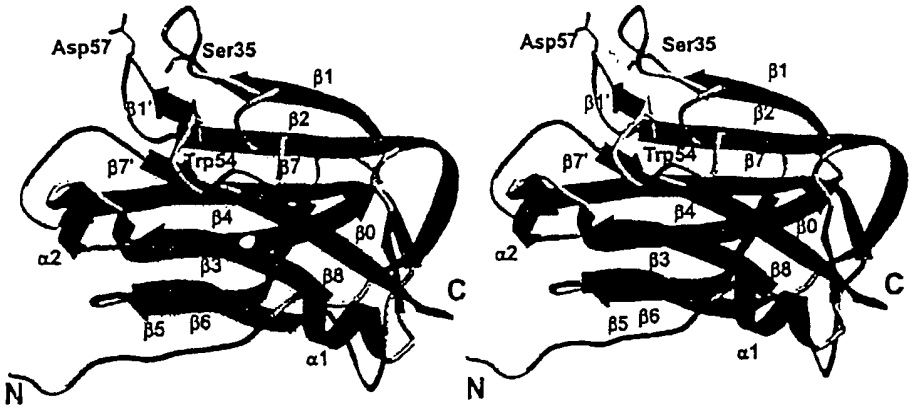
6. Inhibitor according to claim 5, characterized in that it binds to or interacts with the site of APC10 that interacts with CDC27.

7. Pharmaceutical composition containing an inhibitor according to claims 5 or 6.

8. Use of a pharmaceutical composition according to claim 7 and/or an inhibitor according to claims 5 or 6 for application in situations where inhibition of the anaphase promoting effect of APC is advisable.

9. Use according to claim 8, wherein the inhibitor is used for prevention of for treatment in pathological situations which are related to the cell cycle.

a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β7'
Trp54
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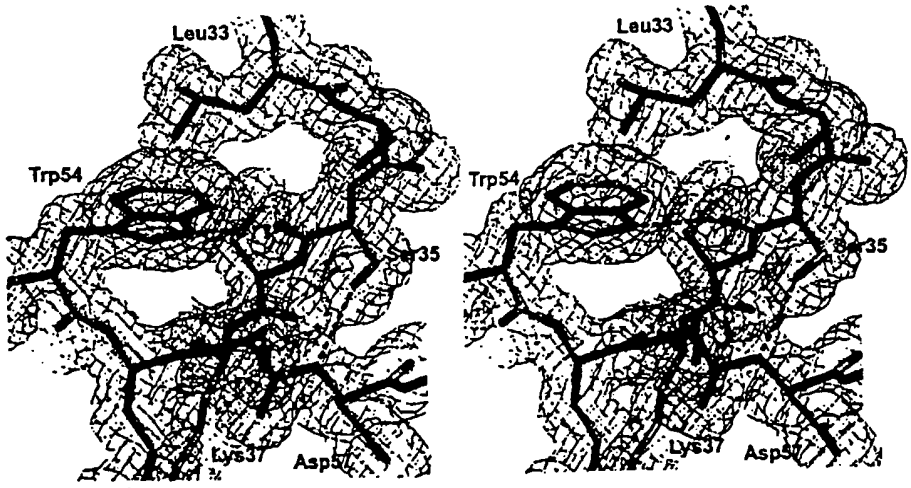
c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Trp54
Lys37

Figure 1

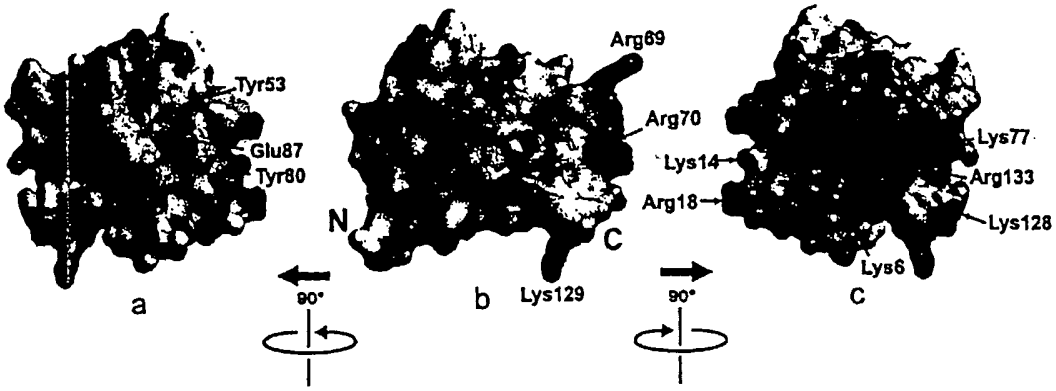
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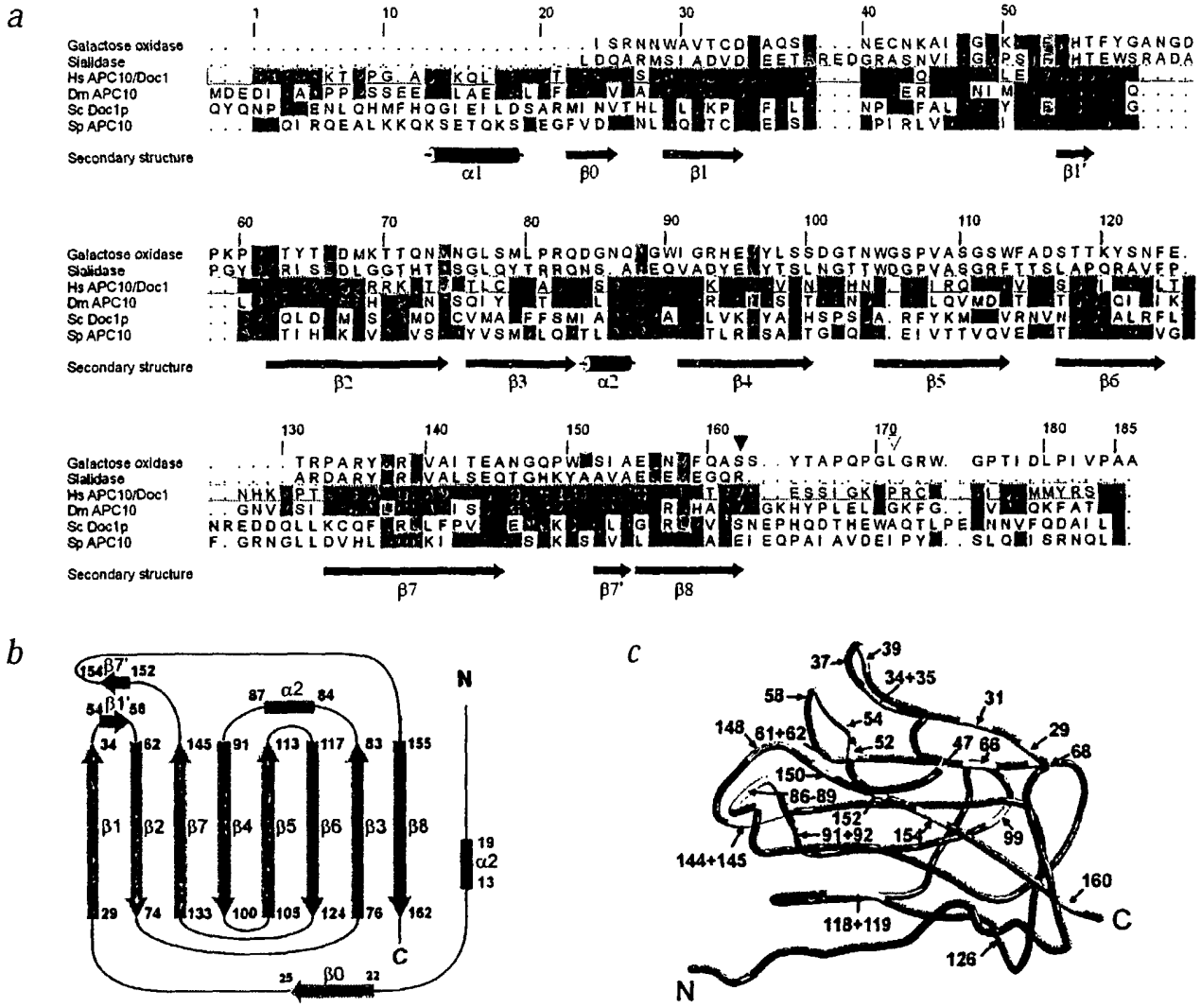
Figure 2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β5
β6
β7
β7'
β8
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c
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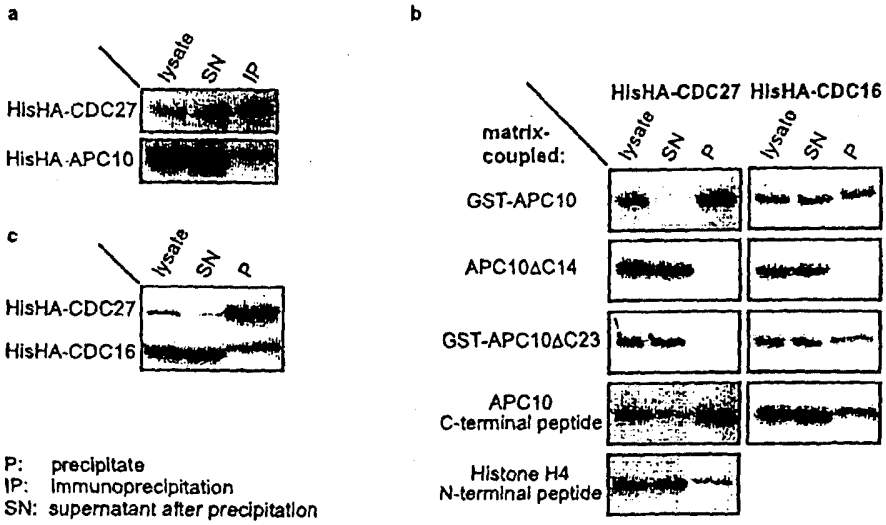
C

Figure 3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HisHA-APC10
c
lysate
SN
P
HisHA-CDC27
HisHA-CDC16
P: precipitate
IP: immunoprecipitation
SN: supernatant after precipitation
b
HisHA-CDC27 HisHA-CDC16
matrix-coupled:
lysate
SN
P
lysate
SN
P
GST-APC10
APC10ΔC14
GST-APC10ΔC23
APC10 C-terminal peptide
Histone H4 N-terminal peptide

Figure 4

```
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ATOM	118	CA	ARG	18	20.092	17.447	37.073	1.00	40.62
ATOM	119	CB	ARG	18	19.052	16.358	36.822	1.00	41.39
ATOM	120	CG	ARG	18	17.710	16.916	36.391	1.00	47.29
ATOM	121	CD	ARG	18	16.653	15.850	36.278	1.00	49.50
ATOM	122	NE	ARG	18	15.443	16.394	35.671	1.00	56.36
ATOM	123	CZ	ARG	18	14.337	15.692	35.440	1.00	60.22
ATOM	124	NH1	ARG	18	14.281	14.406	35.769	1.00	64.44
ATOM	125	NH2	ARG	18	13.290	16.274	34.869	1.00	60.48

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ATOM    126  C   ARG   18      21.331  16.861  37.748  1.00 43.93
ATOM    127  O   ARG   18      21.274  16.423  38.908  1.00 45.55
ATOM    128  N   THR   19      22.457  16.852  37.049  1.00 43.22
ATOM    129  CA  THR   19      23.661  16.306  37.664  1.00 43.61
ATOM    130  CB  THR   19      24.724  15.868  36.621  1.00 41.71
ATOM    131  OG1 THR   19      25.182  17.021  35.907  1.00 41.05
ATOM    132  CG2 THR   19      24.151  14.831  35.653  1.00 36.81
ATOM    133  C   THR   19      24.286  17.377  38.541  1.00 44.25
ATOM    134  O   THR   19      25.201  17.090  39.318  1.00 47.41
ATOM    135  N   GLY   20      23.794  18.609  38.408  1.00 42.50
ATOM    136  CA  GLY   20      24.324  19.729  39.174  1.00 42.26
ATOM    137  C   GLY   20      25.760  20.101  38.841  1.00 41.87
ATOM    138  O   GLY   20      26.410  20.798  39.608  1.00 44.71
ATOM    139  N   THR   21      26.265  19.659  37.692  1.00 40.73
ATOM    140  CA  THR   21      27.649  19.944  37.297  1.00 40.11
ATOM    141  CB  THR   21      28.298  18.686  36.687  1.00 38.87
ATOM    142  OG1 THR   21      27.435  18.164  35.665  1.00 37.19
ATOM    143  CG2 THR   21      28.515  17.613  37.760  1.00 42.35
ATOM    144  C   THR   21      27.838  21.098  36.296  1.00 39.82
ATOM    145  O   THR   21      28.962  21.563  36.059  1.00 40.38
ATOM    146  N   VAL   22      26.733  21.553  35.710  1.00 39.98
ATOM    147  CA  VAL   22      26.766  22.637  34.730  1.00 35.84
ATOM    148  CB  VAL   22      26.432  22.119  33.295  1.00 34.13
ATOM    149  CG1 VAL   22      27.519  21.184  32.818  1.00 36.30
ATOM    150  CG2 VAL   22      25.073  21.400  33.302  1.00 36.28
ATOM    151  C   VAL   22      25.718  23.679  35.070  1.00 31.58
ATOM    152  O   VAL   22      24.810  23.423  35.855  1.00 35.55
ATOM    153  N   ARG   23      25.857  24.857  34.472  1.00 33.86
ATOM    154  CA  ARG   23      24.866  25.918  34.641  1.00 30.61
ATOM    155  CB  ARG   23      25.389  27.051  35.538  1.00 33.46
ATOM    156  CG  ARG   23      24.353  28.135  35.792  1.00 36.59
ATOM    157  CD  ARG   23      24.811  29.179  36.807  1.00 50.06
ATOM    158  NE  ARG   23      23.799  30.234  36.937  1.00 57.40
ATOM    159  CZ  ARG   23      23.821  31.214  37.842  1.00 60.48
ATOM    160  NH1 ARG   23      24.813  31.292  38.724  1.00 59.66
ATOM    161  NH2 ARG   23      22.845  32.119  37.868  1.00 59.49
ATOM    162  C   ARG   23      24.532  26.452  33.244  1.00 26.60
ATOM    163  O   ARG   23      25.433  26.718  32.439  1.00 28.07
ATOM    164  N   GLU   24      23.242  26.578  32.942  1.00 24.51
ATOM    165  CA  GLU   24      22.851  27.106  31.627  1.00 26.35
ATOM    166  CB  GLU   24      21.404  26.749  31.319  1.00 26.92
ATOM    167  CG  GLU   24      21.088  26.681  29.803  1.00 24.27
ATOM    168  CD  GLU   24      20.937  28.046  29.128  1.00 22.34
ATOM    169  OE1 GLU   24      21.196  28.135  27.906  1.00 21.26
ATOM    170  OE2 GLU   24      20.541  29.029  29.804  1.00 25.67
ATOM    171  C   GLU   24      23.019  28.610  31.783  1.00 25.84
ATOM    172  O   GLU   24      22.482  29.191  32.724  1.00 31.12
ATOM    173  N   ILE   25      23.750  29.244  30.874  1.00 26.66
ATOM    174  CA  ILE   25      24.019  30.686  31.008  1.00 25.37
ATOM    175  CB  ILE   25      25.524  30.935  31.135  1.00 30.79
ATOM    176  CG2 ILE   25      26.042  30.295  32.420  1.00 37.62
ATOM    177  CG1 ILE   25      26.239  30.395  29.896  1.00 35.99
ATOM    178  CD1 ILE   25      27.715  30.722  29.837  1.00 39.97
ATOM    179  C   ILE   25      23.512  31.572  29.878  1.00 25.72
ATOM    180  O   ILE   25      23.948  32.711  29.741  1.00 24.67
ATOM    181  N   GLY   26      22.604  31.061  29.063  1.00 24.96
ATOM    182  CA  GLY   26      22.108  31.892  27.979  1.00 23.57
ATOM    183  C   GLY   26      21.446  33.195  28.417  1.00 26.63
ATOM    184  O   GLY   26      21.475  34.179  27.663  1.00 25.12
ATOM    185  N   SER   27      20.864  33.201  29.619  1.00 24.87
ATOM    186  CA  SER   27      20.183  34.392  30.138  1.00 26.28
ATOM    187  CB  SER   27      19.453  34.092  31.461  1.00 29.24
ATOM    188  OG  SER   27      20.373  33.757  32.494  1.00 35.42
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ATOM    189  C   SER    27      21.144  35.534  30.358  1.00 27.43
ATOM    190  O   SER    27      20.711  36.681  30.521  1.00 29.23
ATOM    191  N   GLN    28      22.438  35.234  30.359  1.00 26.67
ATOM    192  CA  GLN    28      23.446  36.268  30.558  1.00 27.39
ATOM    193  CB  GLN    28      24.686  35.676  31.215  1.00 27.64
ATOM    194  CG  GLN    28      24.417  34.998  32.540  1.00 31.73
ATOM    195  CD  GLN    28      25.572  34.118  32.996  1.00 37.99
ATOM    196  OE1 GLN    28      26.722  34.295  32.574  1.00 45.11
ATOM    197  NE2 GLN    28      25.271  33.171  33.879  1.00 44.66
ATOM    198  C   GLN    28      23.869  36.937  29.263  1.00 29.02
ATOM    199  O   GLN    28      24.658  37.873  29.285  1.00 30.27
ATOM    200  N   ALA    29      23.361  36.458  28.135  1.00 24.05
ATOM    201  CA  ALA    29      23.746  37.022  26.853  1.00 21.88
ATOM    202  CB  ALA    29      24.150  35.876  25.900  1.00 19.97
ATOM    203  C   ALA    29      22.648  37.824  26.186  1.00 23.64
ATOM    204  O   ALA    29      21.488  37.718  26.566  1.00 22.45
ATOM    205  N   VAL    30      23.044  38.657  25.222  1.00 21.66
ATOM    206  CA  VAL    30      22.092  39.375  24.386  1.00 23.70
ATOM    207  CB  VAL    30      22.560  40.797  23.999  1.00 28.48
ATOM    208  CG1 VAL    30      22.366  41.737  25.171  1.00 29.29
ATOM    209  CG2 VAL    30      23.996  40.774  23.562  1.00 36.49
ATOM    210  C   VAL    30      22.075  38.499  23.129  1.00 20.24
ATOM    211  O   VAL    30      23.131  38.171  22.569  1.00 23.03
ATOM    212  N   TRP    31      20.881  38.103  22.705  1.00 22.62
ATOM    213  CA  TRP    31      20.723  37.245  21.542  1.00 20.14
ATOM    214  CB  TRP    31      19.694  36.155  21.853  1.00 19.82
ATOM    215  CG  TRP    31      20.130  35.158  22.903  1.00 21.89
ATOM    216  CD2 TRP    31      20.360  33.751  22.714  1.00 20.77
ATOM    217  CE2 TRP    31      20.762  33.226  23.957  1.00 20.21
ATOM    218  CE3 TRP    31      20.256  32.894  21.611  1.00 23.63
ATOM    219  CD1 TRP    31      20.396  35.420  24.215  1.00 22.68
ATOM    220  NE1 TRP    31      20.778  34.259  24.859  1.00 22.84
ATOM    221  CZ2 TRP    31      21.064  31.871  24.142  1.00 23.20
ATOM    222  CZ3 TRP    31      20.557  31.531  21.798  1.00 23.17
ATOM    223  CH2 TRP    31      20.954  31.049  23.050  1.00 23.64
ATOM    224  C   TRP    31      20.186  38.022  20.341  1.00 23.41
ATOM    225  O   TRP    31      19.267  38.825  20.520  1.00 24.39
ATOM    226  N   SER    32      20.739  37.796  19.144  1.00 19.61
ATOM    227  CA  SER    32      20.195  38.447  17.943  1.00 21.21
ATOM    228  CB  SER    32      20.973  39.737  17.580  1.00 23.94
ATOM    229  OG  SER    32      22.339  39.492  17.343  1.00 33.80
ATOM    230  C   SER    32      20.219  37.427  16.801  1.00 21.34
ATOM    231  O   SER    32      21.024  36.501  16.804  1.00 23.80
ATOM    232  N   LEU    33      19.345  37.611  15.821  1.00 19.65
ATOM    233  CA  LEU    33      19.225  36.684  14.704  1.00 22.28
ATOM    234  CB  LEU    33      17.843  36.027  14.722  1.00 19.29
ATOM    235  CG  LEU    33      17.510  35.200  15.977  1.00 19.42
ATOM    236  CD1 LEU    33      16.050  34.738  15.907  1.00 21.19
ATOM    237  CD2 LEU    33      18.451  33.999  16.079  1.00 21.25
ATOM    238  C   LEU    33      19.361  37.462  13.424  1.00 25.48
ATOM    239  O   LEU    33      18.940  38.628  13.358  1.00 26.29
ATOM    240  N   SER    34      19.901  36.824  12.401  1.00 19.34
ATOM    241  CA  SER    34      20.061  37.475  11.090  1.00 22.28
ATOM    242  CB  SER    34      20.849  36.565  10.139  1.00 23.55
ATOM    243  OG  SER    34      20.250  35.277  10.072  1.00 22.16
ATOM    244  C   SER    34      18.685  37.833  10.478  1.00 22.84
ATOM    245  O   SER    34      18.567  38.850   9.782  1.00 22.34
ATOM    246  N   SER    35      17.673  37.009  10.727  1.00 19.00
ATOM    247  CA  SER    35      16.315  37.233  10.243  1.00 20.98
ATOM    248  CB  SER    35      16.187  36.939   8.741  1.00 21.92
ATOM    249  OG  SER    35      16.316  35.527   8.479  1.00 21.10
ATOM    250  C   SER    35      15.395  36.322  10.988  1.00 25.84
ATOM    251  O   SER    35      15.859  35.351  11.610  1.00 22.52
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ATOM    252  N   CYS    36      14.093  36.617  10.929  1.00 21.49
ATOM    253  CA  CYS    36      13.106  35.791  11.599  1.00 23.33
ATOM    254  CB  CYS    36      13.182  35.973  13.114  1.00 24.17
ATOM    255  SG  CYS    36      13.128  37.720  13.690  1.00 36.04
ATOM    256  C   CYS    36      11.730  36.192  11.089  1.00 28.91
ATOM    257  O   CYS    36      11.587  37.133  10.308  1.00 29.08
ATOM    258  N   LYS    37      10.736  35.463  11.566  1.00 35.74
ATOM    259  CA  LYS    37       9.339  35.676  11.216  1.00 36.07
ATOM    260  CB  LYS    37       8.861  34.397  10.516  1.00 33.82
ATOM    261  CG  LYS    37       7.413  34.251  10.187  1.00 39.07
ATOM    262  CD  LYS    37       7.174  32.844   9.612  1.00 40.93
ATOM    263  CE  LYS    37       5.689  32.558   9.415  1.00 43.72
ATOM    264  NZ  LYS    37       5.449  31.229   8.782  1.00 46.49
ATOM    265  C   LYS    37       8.669  35.945  12.573  1.00 40.49
ATOM    266  O   LYS    37       9.006  35.343  13.593  1.00 33.10
ATOM    267  N   PRO    38       7.760  36.922  12.632  1.00 38.89
ATOM    268  CD  PRO    38       7.417  37.889  11.577  1.00 44.78
ATOM    269  CA  PRO    38       7.080  37.230  13.887  1.00 39.04
ATOM    270  CB  PRO    38       6.001  38.217  13.446  1.00 43.48
ATOM    271  CG  PRO    38       6.706  38.959  12.345  1.00 39.74
ATOM    272  C   PRO    38       6.491  36.003  14.579  1.00 36.12
ATOM    273  O   PRO    38       5.691  35.282  13.990  1.00 35.81
ATOM    274  N   GLY    39       6.871  35.791  15.837  1.00 33.45
ATOM    275  CA  GLY    39       6.401  34.657  16.607  1.00 31.61
ATOM    276  C   GLY    39       7.267  33.424  16.373  1.00 26.20
ATOM    277  O   GLY    39       6.933  32.327  16.841  1.00 29.08
ATOM    278  N   PHE    40       8.366  33.598  15.628  1.00 26.05
ATOM    279  CA  PHE    40       9.265  32.471  15.319  1.00 22.93
ATOM    280  CB  PHE    40       8.960  31.930  13.913  1.00 21.82
ATOM    281  CG  PHE    40       7.555  31.412  13.751  1.00 23.06
ATOM    282  CD1 PHE    40       6.522  32.254  13.362  1.00 27.05
ATOM    283  CD2 PHE    40       7.270  30.075  13.993  1.00 22.82
ATOM    284  CE1 PHE    40       5.227  31.747  13.229  1.00 24.75
ATOM    285  CE2 PHE    40       5.988  29.569  13.860  1.00 27.16
ATOM    286  CZ  PHE    40       4.957  30.428  13.474  1.00 26.84
ATOM    287  C   PHE    40      10.688  33.019  15.382  1.00 24.56
ATOM    288  O   PHE    40      11.343  33.143  14.364  1.00 23.03
ATOM    289  N   GLY    41      11.126  33.373  16.590  1.00 21.87
ATOM    290  CA  GLY    41      12.434  33.970  16.813  1.00 22.16
ATOM    291  C   GLY    41      13.100  33.548  18.113  1.00 22.36
ATOM    292  O   GLY    41      12.944  32.400  18.558  1.00 23.08
ATOM    293  N   VAL    42      13.821  34.488  18.727  1.00 22.93
ATOM    294  CA  VAL    42      14.574  34.167  19.942  1.00 27.37
ATOM    295  CB  VAL    42      15.291  35.395  20.492  1.00 26.17
ATOM    296  CG1 VAL    42      16.080  35.027  21.737  1.00 28.18
ATOM    297  CG2 VAL    42      16.229  35.942  19.446  1.00 27.99
ATOM    298  C   VAL    42      13.805  33.523  21.060  1.00 26.07
ATOM    299  O   VAL    42      14.281  32.556  21.671  1.00 23.02
ATOM    300  N   ASP    43      12.619  34.050  21.360  1.00 22.03
ATOM    301  CA  ASP    43      11.844  33.483  22.440  1.00 24.97
ATOM    302  CB  ASP    43      10.481  34.190  22.577  1.00 28.19
ATOM    303  CG  ASP    43      10.598  35.604  23.083  1.00 36.34
ATOM    304  OD1 ASP    43      11.585  35.927  23.787  1.00 38.39
ATOM    305  OD2 ASP    43       9.674  36.392  22.785  1.00 39.40
ATOM    306  C   ASP    43      11.574  32.000  22.223  1.00 24.42
ATOM    307  O   ASP    43      11.510  31.233  23.192  1.00 24.63
ATOM    308  N   GLN    44      11.404  31.601  20.958  1.00 23.01
ATOM    309  CA  GLN    44      11.088  30.231  20.614  1.00 21.19
ATOM    310  CB  GLN    44      10.365  30.155  19.252  1.00 22.57
ATOM    311  CG  GLN    44       8.897  30.687  19.318  1.00 20.51
ATOM    312  CD  GLN    44       8.829  32.192  19.548  1.00 24.86
ATOM    313  OE1 GLN    44       9.519  32.988  18.896  1.00 24.06
ATOM    314  NE2 GLN    44       7.971  32.598  20.494  1.00 31.57
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ATOM	315	C	GLN	44	12.315	29.336	20.653	1.00	19.67
ATOM	316	O	GLN	44	12.176	28.134	20.499	1.00	23.85
ATOM	317	N	LEU	45	13.487	29.937	20.889	1.00	19.51
ATOM	318	CA	LEU	45	14.716	29.128	21.038	1.00	18.98
ATOM	319	CB	LEU	45	15.914	29.809	20.379	1.00	20.32
ATOM	320	CG	LEU	45	15.897	30.050	18.877	1.00	18.60
ATOM	321	CD1	LEU	45	17.039	30.968	18.533	1.00	24.64
ATOM	322	CD2	LEU	45	15.979	28.695	18.137	1.00	27.27
ATOM	323	C	LEU	45	15.051	28.990	22.514	1.00	22.91
ATOM	324	O	LEU	45	15.923	28.211	22.881	1.00	20.29
ATOM	325	N	ARG	46	14.320	29.721	23.358	1.00	21.44
ATOM	326	CA	ARG	46	14.576	29.785	24.797	1.00	21.43
ATOM	327	CB	ARG	46	15.030	31.210	25.104	1.00	23.76
ATOM	328	CG	ARG	46	16.250	31.680	24.342	1.00	21.89
ATOM	329	CD	ARG	46	17.512	30.885	24.741	1.00	22.31
ATOM	330	NE	ARG	46	17.843	31.151	26.150	1.00	21.28
ATOM	331	CZ	ARG	46	18.757	30.475	26.847	1.00	24.74
ATOM	332	NH1	ARG	46	19.440	29.496	26.270	1.00	20.78
ATOM	333	NH2	ARG	46	18.968	30.751	28.137	1.00	23.03
ATOM	334	C	ARG	46	13.416	29.420	25.734	1.00	21.28
ATOM	335	O	ARG	46	13.547	29.496	26.973	1.00	24.79
ATOM	336	N	ASP	47	12.293	29.017	25.147	1.00	23.13
ATOM	337	CA	ASP	47	11.071	28.693	25.885	1.00	24.90
ATOM	338	CB	ASP	47	9.877	29.049	24.991	1.00	24.68
ATOM	339	CG	ASP	47	9.821	28.216	23.696	1.00	26.56
ATOM	340	OD1	ASP	47	10.722	27.368	23.418	1.00	23.86
ATOM	341	OD2	ASP	47	8.849	28.413	22.935	1.00	24.50
ATOM	342	C	ASP	47	10.897	27.263	26.423	1.00	24.71
ATOM	343	O	ASP	47	9.839	26.910	26.953	1.00	26.93
ATOM	344	N	ASP	48	11.920	26.428	26.300	1.00	21.81
ATOM	345	CA	ASP	48	11.851	25.044	26.724	1.00	20.94
ATOM	346	CB	ASP	48	11.790	24.920	28.244	1.00	28.57
ATOM	347	CG	ASP	48	13.141	25.084	28.875	1.00	27.67
ATOM	348	OD1	ASP	48	14.087	24.419	28.408	1.00	33.99
ATOM	349	OD2	ASP	48	13.271	25.857	29.842	1.00	38.36
ATOM	350	C	ASP	48	10.713	24.293	26.106	1.00	21.49
ATOM	351	O	ASP	48	10.185	23.339	26.686	1.00	26.39
ATOM	352	N	ASN	49	10.339	24.716	24.906	1.00	22.55
ATOM	353	CA	ASN	49	9.263	24.073	24.188	1.00	24.84
ATOM	354	CB	ASN	49	8.159	25.084	23.939	1.00	25.15
ATOM	355	CG	ASN	49	6.912	24.443	23.405	1.00	28.11
ATOM	356	OD1	ASN	49	6.946	23.311	22.891	1.00	27.77
ATOM	357	ND2	ASN	49	5.774	25.164	23.522	1.00	29.79
ATOM	358	C	ASN	49	9.801	23.586	22.852	1.00	23.59
ATOM	359	O	ASN	49	10.183	24.396	22.023	1.00	22.94
ATOM	360	N	LEU	50	9.830	22.272	22.654	1.00	23.33
ATOM	361	CA	LEU	50	10.350	21.709	21.408	1.00	22.10
ATOM	362	CB	LEU	50	10.831	20.268	21.644	1.00	23.45
ATOM	363	CG	LEU	50	11.930	20.166	22.711	1.00	25.25
ATOM	364	CD1	LEU	50	12.409	18.725	22.873	1.00	31.13
ATOM	365	CD2	LEU	50	13.090	21.057	22.303	1.00	26.50
ATOM	366	C	LEU	50	9.345	21.754	20.231	1.00	21.43
ATOM	367	O	LEU	50	9.681	21.384	19.100	1.00	22.33
ATOM	368	N	GLU	51	8.126	22.204	20.502	1.00	26.09
ATOM	369	CA	GLU	51	7.096	22.323	19.476	1.00	27.71
ATOM	370	CB	GLU	51	5.692	22.130	20.078	1.00	29.24
ATOM	371	CG	GLU	51	5.388	20.731	20.558	1.00	37.50
ATOM	372	CD	GLU	51	3.895	20.545	20.817	1.00	44.25
ATOM	373	OE1	GLU	51	3.287	21.373	21.531	1.00	47.40
ATOM	374	OE2	GLU	51	3.319	19.564	20.303	1.00	52.06
ATOM	375	C	GLU	51	7.151	23.676	18.783	1.00	23.82
ATOM	376	O	GLU	51	6.607	23.846	17.695	1.00	29.20
ATOM	377	N	THR	52	7.811	24.649	19.400	1.00	22.22

ATOM	378	CA	THR	52	7.951	25.976	18.796	1.00	23.14
ATOM	379	CB	THR	52	7.795	27.107	19.800	1.00	23.37
ATOM	380	OG1	THR	52	8.730	26.930	20.879	1.00	22.10
ATOM	381	CG2	THR	52	6.388	27.121	20.361	1.00	26.41
ATOM	382	C	THR	52	9.351	26.116	18.199	1.00	21.76
ATOM	383	O	THR	52	10.267	25.411	18.603	1.00	21.81
ATOM	384	N	TYR	53	9.497	27.049	17.268	1.00	22.56
ATOM	385	CA	TYR	53	10.782	27.220	16.591	1.00	19.69
ATOM	386	CB	TYR	53	10.829	26.258	15.383	1.00	19.13
ATOM	387	CG	TYR	53	9.606	26.281	14.483	1.00	21.38
ATOM	388	CD1	TYR	53	9.499	27.203	13.452	1.00	19.80
ATOM	389	CE1	TYR	53	8.380	27.243	12.613	1.00	23.01
ATOM	390	CD2	TYR	53	8.540	25.371	14.655	1.00	20.83
ATOM	391	CE2	TYR	53	7.404	25.409	13.811	1.00	23.37
ATOM	392	CZ	TYR	53	7.331	26.339	12.806	1.00	22.64
ATOM	393	OH	TYR	53	6.251	26.457	11.964	1.00	28.50
ATOM	394	C	TYR	53	11.023	28.612	16.057	1.00	20.25
ATOM	395	O	TYR	53	10.088	29.400	15.808	1.00	23.32
ATOM	396	N	TRP	54	12.306	28.890	15.882	1.00	22.63
ATOM	397	CA	TRP	54	12.769	30.090	15.189	1.00	19.67
ATOM	398	CB	TRP	54	14.263	30.370	15.479	1.00	20.81
ATOM	399	CG	TRP	54	14.988	31.185	14.399	1.00	19.44
ATOM	400	CD2	TRP	54	16.321	30.977	13.910	1.00	19.33
ATOM	401	CE2	TRP	54	16.623	32.044	13.015	1.00	20.25
ATOM	402	CE3	TRP	54	17.303	29.997	14.141	1.00	20.17
ATOM	403	CD1	TRP	54	14.541	32.349	13.787	1.00	20.39
ATOM	404	NE1	TRP	54	15.521	32.858	12.960	1.00	19.41
ATOM	405	CZ2	TRP	54	17.853	32.161	12.359	1.00	21.72
ATOM	406	CZ3	TRP	54	18.541	30.114	13.485	1.00	22.59
ATOM	407	CH2	TRP	54	18.804	31.190	12.604	1.00	21.15
ATOM	408	C	TRP	54	12.662	29.657	13.721	1.00	22.13
ATOM	409	O	TRP	54	13.002	28.507	13.374	1.00	19.46
ATOM	410	N	GLN	55	12.116	30.528	12.866	1.00	20.73
ATOM	411	CA	GLN	55	12.126	30.271	11.425	1.00	21.75
ATOM	412	CB	GLN	55	10.701	30.090	10.834	1.00	18.77
ATOM	413	CG	GLN	55	10.753	29.892	9.324	1.00	20.61
ATOM	414	CD	GLN	55	9.436	29.397	8.712	1.00	21.15
ATOM	415	OE1	GLN	55	8.839	28.422	9.181	1.00	22.96
ATOM	416	NE2	GLN	55	8.995	30.062	7.661	1.00	23.07
ATOM	417	C	GLN	55	12.772	31.506	10.834	1.00	20.73
ATOM	418	O	GLN	55	12.302	32.639	11.079	1.00	19.84
ATOM	419	N	SER	56	13.862	31.331	10.090	1.00	19.16
ATOM	420	CA	SER	56	14.506	32.480	9.444	1.00	16.75
ATOM	421	CB	SER	56	15.891	32.070	8.892	1.00	18.77
ATOM	422	OG	SER	56	15.758	31.051	7.916	1.00	19.43
ATOM	423	C	SER	56	13.639	32.982	8.278	1.00	21.77
ATOM	424	O	SER	56	12.631	32.350	7.897	1.00	18.55
ATOM	425	N	ASP	57	14.005	34.157	7.765	1.00	18.80
ATOM	426	CA	ASP	57	13.334	34.721	6.587	1.00	19.70
ATOM	427	CB	ASP	57	12.101	35.531	6.961	1.00	21.93
ATOM	428	CG	ASP	57	11.364	36.037	5.711	1.00	29.37
ATOM	429	OD1	ASP	57	11.721	35.633	4.574	1.00	25.51
ATOM	430	OD2	ASP	57	10.422	36.844	5.868	1.00	35.00
ATOM	431	C	ASP	57	14.367	35.597	5.936	1.00	21.57
ATOM	432	O	ASP	57	14.360	36.828	6.078	1.00	22.77
ATOM	433	N	GLY	58	15.283	34.963	5.219	1.00	18.97
ATOM	434	CA	GLY	58	16.354	35.720	4.602	1.00	21.29
ATOM	435	C	GLY	58	17.352	34.831	3.887	1.00	22.14
ATOM	436	O	GLY	58	17.135	33.636	3.773	1.00	21.80
ATOM	437	N	SER	59	18.435	35.436	3.429	1.00	21.76
ATOM	438	CA	SER	59	19.495	34.743	2.713	1.00	24.07
ATOM	439	CB	SER	59	20.297	35.745	1.887	1.00	29.56
ATOM	440	OG	SER	59	19.443	36.460	1.008	1.00	42.07

ATOM	441	C	SER	59	20.479	34.027	3.645	1.00	23.26
ATOM	442	O	SER	59	20.831	34.560	4.687	1.00	24.93
ATOM	443	N	GLU	60	20.916	32.841	3.245	1.00	19.77
ATOM	444	CA	GLU	60	21.916	32.105	4.016	1.00	23.03
ATOM	445	CB	GLU	60	22.138	30.724	3.436	1.00	29.13
ATOM	446	CG	GLU	60	20.885	29.903	3.430	1.00	28.50
ATOM	447	CD	GLU	60	21.034	28.598	2.646	1.00	28.77
ATOM	448	OE1	GLU	60	22.091	28.385	2.048	1.00	24.59
ATOM	449	OE2	GLU	60	20.062	27.807	2.636	1.00	34.85
ATOM	450	C	GLU	60	23.209	32.890	3.900	1.00	23.26
ATOM	451	O	GLU	60	23.421	33.603	2.924	1.00	23.41
ATOM	452	N	CPR	61	24.099	32.772	4.890	1.00	20.75
ATOM	453	CD	CPR	61	25.447	33.374	4.813	1.00	22.05
ATOM	454	CA	CPR	61	23.947	31.947	6.088	1.00	20.28
ATOM	455	CB	CPR	61	25.385	31.794	6.586	1.00	21.11
ATOM	456	CG	CPR	61	26.015	33.119	6.202	1.00	25.59
ATOM	457	C	CPR	61	23.054	32.581	7.116	1.00	21.44
ATOM	458	O	CPR	61	23.035	33.802	7.261	1.00	21.26
ATOM	459	N	HIS	62	22.302	31.762	7.853	1.00	17.74
ATOM	460	CA	HIS	62	21.448	32.296	8.890	1.00	16.11
ATOM	461	CB	HIS	62	20.229	31.410	9.085	1.00	16.69
ATOM	462	CG	HIS	62	19.448	31.216	7.831	1.00	16.94
ATOM	463	CD2	HIS	62	19.212	30.102	7.098	1.00	17.52
ATOM	464	ND1	HIS	62	18.855	32.264	7.144	1.00	17.09
ATOM	465	CE1	HIS	62	18.296	31.795	6.041	1.00	18.78
ATOM	466	NE2	HIS	62	18.493	30.485	5.988	1.00	19.24
ATOM	467	C	HIS	62	22.294	32.303	10.155	1.00	20.75
ATOM	468	O	HIS	62	22.968	31.320	10.463	1.00	19.95
ATOM	469	N	LEU	63	22.208	33.395	10.897	1.00	19.89
ATOM	470	CA	LEU	63	23.041	33.568	12.083	1.00	19.96
ATOM	471	CB	LEU	63	23.932	34.827	11.898	1.00	19.13
ATOM	472	CG	LEU	63	24.678	34.885	10.551	1.00	17.80
ATOM	473	CD1	LEU	63	25.281	36.315	10.372	1.00	24.86
ATOM	474	CD2	LEU	63	25.779	33.849	10.475	1.00	20.11
ATOM	475	C	LEU	63	22.316	33.746	13.394	1.00	19.45
ATOM	476	O	LEU	63	21.294	34.437	13.468	1.00	19.70
ATOM	477	N	VAL	64	22.870	33.123	14.438	1.00	17.40
ATOM	478	CA	VAL	64	22.385	33.299	15.787	1.00	16.46
ATOM	479	CB	VAL	64	22.022	31.958	16.505	1.00	16.78
ATOM	480	CG1	VAL	64	21.493	32.279	17.902	1.00	17.44
ATOM	481	CG2	VAL	64	20.964	31.165	15.695	1.00	19.80
ATOM	482	C	VAL	64	23.620	33.879	16.498	1.00	18.44
ATOM	483	O	VAL	64	24.676	33.243	16.569	1.00	20.65
ATOM	484	N	ASN	65	23.474	35.100	16.998	1.00	18.02
ATOM	485	CA	ASN	65	24.541	35.784	17.714	1.00	19.75
ATOM	486	CB	ASN	65	24.684	37.208	17.192	1.00	22.10
ATOM	487	CG	ASN	65	24.955	37.239	15.703	1.00	22.93
ATOM	488	OD1	ASN	65	25.842	36.532	15.203	1.00	23.56
ATOM	489	ND2	ASN	65	24.187	38.049	14.984	1.00	28.50
ATOM	490	C	ASN	65	24.233	35.797	19.204	1.00	19.38
ATOM	491	O	ASN	65	23.156	36.225	19.641	1.00	21.71
ATOM	492	N	ILE	66	25.202	35.333	19.986	1.00	19.70
ATOM	493	CA	ILE	66	25.072	35.240	21.443	1.00	19.73
ATOM	494	CB	ILE	66	25.177	33.733	21.870	1.00	18.70
ATOM	495	CG2	ILE	66	25.031	33.612	23.385	1.00	21.89
ATOM	496	CG1	ILE	66	24.064	32.918	21.203	1.00	22.37
ATOM	497	CD1	ILE	66	24.353	31.414	21.216	1.00	22.18
ATOM	498	C	ILE	66	26.233	36.082	21.997	1.00	23.54
ATOM	499	O	ILE	66	27.400	35.693	21.927	1.00	24.52
ATOM	500	N	GLN	67	25.906	37.264	22.521	1.00	20.68
ATOM	501	CA	GLN	67	26.941	38.165	22.992	1.00	21.16
ATOM	502	CB	GLN	67	26.845	39.492	22.225	1.00	23.96
ATOM	503	CG	GLN	67	27.082	39.313	20.748	1.00	30.70

ATOM	504	CD	GLN	67	26.866	40.596	19.985	1.00	35.85
ATOM	505	OE1	GLN	67	25.747	40.904	19.566	1.00	31.84
ATOM	506	NE2	GLN	67	27.939	41.368	19.821	1.00	33.37
ATOM	507	C	GLN	67	26.907	38.430	24.477	1.00	21.48
ATOM	508	O	GLN	67	25.875	38.770	25.041	1.00	20.99
ATOM	509	N	PHE	68	28.054	38.272	25.107	1.00	23.70
ATOM	510	CA	PHE	68	28.137	38.537	26.535	1.00	25.54
ATOM	511	CB	PHE	68	28.989	37.477	27.223	1.00	23.59
ATOM	512	CG	PHE	68	28.432	36.080	27.097	1.00	25.55
ATOM	513	CD1	PHE	68	28.925	35.213	26.129	1.00	26.01
ATOM	514	CD2	PHE	68	27.398	35.648	27.915	1.00	25.32
ATOM	515	CE1	PHE	68	28.388	33.938	25.975	1.00	25.57
ATOM	516	CE2	PHE	68	26.849	34.358	27.773	1.00	28.36
ATOM	517	CZ	PHE	68	27.350	33.508	26.792	1.00	27.49
ATOM	518	C	PHE	68	28.764	39.911	26.735	1.00	29.15
ATOM	519	O	PHE	68	29.535	40.397	25.898	1.00	30.45
ATOM	520	N	ARG	69	28.435	40.526	27.866	1.00	29.87
ATOM	521	CA	ARG	69	28.957	41.850	28.214	1.00	32.76
ATOM	522	CB	ARG	69	28.111	42.478	29.325	1.00	32.88
ATOM	523	CG	ARG	69	28.673	43.810	29.797	1.00	44.80
ATOM	524	CD	ARG	69	28.228	44.210	31.209	1.00	48.49
ATOM	525	NE	ARG	69	28.980	45.384	31.672	1.00	55.55
ATOM	526	CZ	ARG	69	28.761	46.022	32.825	1.00	61.00
ATOM	527	NH1	ARG	69	27.807	45.603	33.654	1.00	62.39
ATOM	528	NH2	ARG	69	29.485	47.091	33.150	1.00	57.16
ATOM	529	C	ARG	69	30.382	41.707	28.724	1.00	33.27
ATOM	530	O	ARG	69	31.222	42.591	28.516	1.00	34.79
ATOM	531	N	ARG	70	30.628	40.567	29.357	1.00	31.13
ATOM	532	CA	ARG	70	31.906	40.194	29.965	1.00	36.52
ATOM	533	CB	ARG	70	31.690	39.912	31.451	1.00	39.19
ATOM	534	CG	ARG	70	30.714	38.721	31.648	1.00	45.98
ATOM	535	CD	ARG	70	30.700	38.119	33.055	1.00	48.95
ATOM	536	NE	ARG	70	31.418	36.836	33.133	1.00	55.95
ATOM	537	CZ	ARG	70	30.836	35.641	33.228	1.00	48.95
ATOM	538	NH1	ARG	70	29.514	35.529	33.270	1.00	56.89
ATOM	539	NH2	ARG	70	31.579	34.545	33.264	1.00	58.97
ATOM	540	C	ARG	70	32.480	38.917	29.378	1.00	34.55
ATOM	541	O	ARG	70	31.747	38.084	28.859	1.00	35.20
ATOM	542	N	LYS	71	33.788	38.733	29.523	1.00	35.14
ATOM	543	CA	LYS	71	34.453	37.524	29.040	1.00	33.18
ATOM	544	CB	LYS	71	35.940	37.604	29.363	1.00	34.84
ATOM	545	CG	LYS	71	36.832	36.897	28.387	1.00	43.63
ATOM	546	CD	LYS	71	38.257	37.425	28.521	1.00	46.74
ATOM	547	CE	LYS	71	39.106	37.045	27.323	1.00	53.57
ATOM	548	NZ	LYS	71	39.186	35.573	27.166	1.00	55.44
ATOM	549	C	LYS	71	33.786	36.376	29.803	1.00	33.72
ATOM	550	O	LYS	71	33.731	36.388	31.040	1.00	34.12
ATOM	551	N	THR	72	33.279	35.384	29.076	1.00	28.12
ATOM	552	CA	THR	72	32.543	34.307	29.705	1.00	25.32
ATOM	553	CB	THR	72	31.049	34.454	29.296	1.00	27.19
ATOM	554	OG1	THR	72	30.571	35.721	29.771	1.00	30.28
ATOM	555	CG2	THR	72	30.192	33.345	29.868	1.00	26.68
ATOM	556	C	THR	72	33.054	32.932	29.323	1.00	28.86
ATOM	557	O	THR	72	33.324	32.683	28.163	1.00	30.59
ATOM	558	N	THR	73	33.192	32.050	30.314	1.00	30.59
ATOM	559	CA	THR	73	33.649	30.682	30.061	1.00	30.48
ATOM	560	CB	THR	73	34.159	30.036	31.363	1.00	36.41
ATOM	561	OG1	THR	73	35.146	30.896	31.934	1.00	39.05
ATOM	562	CG2	THR	73	34.785	28.680	31.101	1.00	39.16
ATOM	563	C	THR	73	32.472	29.860	29.526	1.00	30.13
ATOM	564	O	THR	73	31.418	29.796	30.155	1.00	29.93
ATOM	565	N	VAL	74	32.653	29.252	28.360	1.00	29.80
ATOM	566	CA	VAL	74	31.601	28.449	27.764	1.00	29.78

ATOM	567	CB	VAL	74	31.058	29.095	26.476	1.00	30.18
ATOM	568	CG1	VAL	74	30.317	30.390	26.837	1.00	32.36
ATOM	569	CG2	VAL	74	32.205	29.380	25.503	1.00	34.52
ATOM	570	C	VAL	74	32.163	27.070	27.451	1.00	29.65
ATOM	571	O	VAL	74	33.261	26.943	26.899	1.00	34.97
ATOM	572	N	LYS	75	31.412	26.054	27.817	1.00	25.14
ATOM	573	CA	LYS	75	31.877	24.695	27.596	1.00	28.22
ATOM	574	CB	LYS	75	31.811	23.926	28.912	1.00	30.58
ATOM	575	CG	LYS	75	32.417	22.533	28.852	1.00	39.31
ATOM	576	CD	LYS	75	32.136	21.757	30.125	1.00	39.95
ATOM	577	CE	LYS	75	32.778	20.370	30.048	1.00	46.29
ATOM	578	NZ	LYS	75	32.375	19.510	31.205	1.00	54.84
ATOM	579	C	LYS	75	31.147	23.909	26.529	1.00	28.24
ATOM	580	O	LYS	75	31.775	23.236	25.712	1.00	25.94
ATOM	581	N	THR	76	29.821	24.001	26.529	1.00	24.94
ATOM	582	CA	THR	76	29.022	23.237	25.599	1.00	25.16
ATOM	583	CB	THR	76	28.464	22.000	26.308	1.00	24.48
ATOM	584	OG1	THR	76	29.553	21.331	26.979	1.00	26.92
ATOM	585	CG2	THR	76	27.827	21.008	25.316	1.00	26.91
ATOM	586	C	THR	76	27.846	24.031	25.067	1.00	22.86
ATOM	587	O	THR	76	27.159	24.732	25.819	1.00	23.73
ATOM	588	N	LEU	77	27.624	23.872	23.778	1.00	21.69
ATOM	589	CA	LEU	77	26.495	24.483	23.063	1.00	21.56
ATOM	590	CB	LEU	77	27.016	25.182	21.810	1.00	22.96
ATOM	591	CG	LEU	77	26.000	25.636	20.763	1.00	26.55
ATOM	592	CD1	LEU	77	25.080	26.710	21.374	1.00	27.25
ATOM	593	CD2	LEU	77	26.777	26.172	19.535	1.00	26.27
ATOM	594	C	LEU	77	25.577	23.327	22.642	1.00	21.81
ATOM	595	O	LEU	77	26.046	22.353	22.052	1.00	21.61
ATOM	596	N	CYS	78	24.283	23.430	22.942	1.00	19.56
ATOM	597	CA	CYS	78	23.317	22.394	22.588	1.00	20.19
ATOM	598	CB	CYS	78	22.610	21.859	23.823	1.00	19.42
ATOM	599	SG	CYS	78	23.815	21.089	25.005	1.00	23.74
ATOM	600	C	CYS	78	22.277	22.979	21.646	1.00	19.20
ATOM	601	O	CYS	78	21.671	24.008	21.973	1.00	20.69
ATOM	602	N	ILE	79	22.032	22.316	20.501	1.00	19.71
ATOM	603	CA	ILE	79	21.044	22.804	19.519	1.00	20.73
ATOM	604	CB	ILE	79	21.753	23.139	18.199	1.00	22.08
ATOM	605	CG2	ILE	79	20.756	23.483	17.124	1.00	22.65
ATOM	606	CG1	ILE	79	22.730	24.282	18.420	1.00	22.69
ATOM	607	CD1	ILE	79	23.703	24.492	17.249	1.00	25.89
ATOM	608	C	ILE	79	20.059	21.680	19.240	1.00	21.38
ATOM	609	O	ILE	79	20.497	20.548	19.020	1.00	24.47
ATOM	610	N	TYR	80	18.759	21.970	19.222	1.00	18.35
ATOM	611	CA	TYR	80	17.770	20.920	18.916	1.00	20.08
ATOM	612	CB	TYR	80	16.566	21.006	19.866	1.00	18.97
ATOM	613	CG	TYR	80	15.653	19.808	19.768	1.00	20.11
ATOM	614	CD1	TYR	80	15.791	18.750	20.634	1.00	21.98
ATOM	615	CE1	TYR	80	14.952	17.653	20.568	1.00	21.36
ATOM	616	CD2	TYR	80	14.645	19.739	18.795	1.00	22.51
ATOM	617	CE2	TYR	80	13.791	18.623	18.715	1.00	23.33
ATOM	618	CZ	TYR	80	13.956	17.597	19.610	1.00	22.36
ATOM	619	OH	TYR	80	13.140	16.497	19.615	1.00	29.50
ATOM	620	C	TYR	80	17.305	21.059	17.488	1.00	23.61
ATOM	621	O	TYR	80	16.782	22.108	17.103	1.00	26.31
ATOM	622	N	ALA	81	17.445	19.993	16.708	1.00	20.53
ATOM	623	CA	ALA	81	17.038	20.025	15.300	1.00	20.61
ATOM	624	CB	ALA	81	18.265	20.213	14.379	1.00	23.14
ATOM	625	C	ALA	81	16.416	18.669	15.044	1.00	23.80
ATOM	626	O	ALA	81	16.965	17.666	15.492	1.00	28.65
ATOM	627	N	ASP	82	15.292	18.642	14.341	1.00	21.79
ATOM	628	CA	ASP	82	14.629	17.373	14.069	1.00	21.78
ATOM	629	CB	ASP	82	13.465	17.160	15.014	1.00	28.41

ATOM	630	CG	ASP	82	12.892	15.774	14.861	1.00	32.55
ATOM	631	OD1	ASP	82	13.563	14.776	15.256	1.00	37.47
ATOM	632	OD2	ASP	82	11.795	15.682	14.314	1.00	29.28
ATOM	633	C	ASP	82	14.122	17.296	12.642	1.00	20.18
ATOM	634	O	ASP	82	13.136	17.941	12.259	1.00	22.25
ATOM	635	N	TYR	83	14.801	16.462	11.861	1.00	19.69
ATOM	636	CA	TYR	83	14.518	16.285	10.461	1.00	19.83
ATOM	637	CB	TYR	83	15.539	15.320	9.892	1.00	19.13
ATOM	638	CG	TYR	83	15.379	15.052	8.429	1.00	21.04
ATOM	639	CD1	TYR	83	15.690	16.019	7.472	1.00	18.89
ATOM	640	CE1	TYR	83	15.606	15.755	6.124	1.00	22.14
ATOM	641	CD2	TYR	83	14.964	13.806	7.998	1.00	22.75
ATOM	642	CE2	TYR	83	14.875	13.525	6.639	1.00	25.09
ATOM	643	CZ	TYR	83	15.191	14.494	5.715	1.00	25.46
ATOM	644	OH	TYR	83	15.027	14.213	4.382	1.00	26.40
ATOM	645	C	TYR	83	13.107	15.807	10.141	1.00	20.31
ATOM	646	O	TYR	83	12.488	16.260	9.176	1.00	20.41
ATOM	647	N	LYS	84	12.597	14.867	10.927	1.00	20.33
ATOM	648	CA	LYS	84	11.262	14.360	10.639	1.00	21.97
ATOM	649	CB	LYS	84	10.925	13.193	11.577	1.00	23.99
ATOM	650	CG	LYS	84	11.869	12.003	11.376	1.00	38.03
ATOM	651	CD	LYS	84	11.527	10.835	12.283	1.00	45.54
ATOM	652	CE	LYS	84	12.454	9.657	12.033	1.00	50.81
ATOM	653	NZ	LYS	84	12.127	8.529	12.959	1.00	56.82
ATOM	654	C	LYS	84	10.222	15.461	10.751	1.00	23.98
ATOM	655	O	LYS	84	9.244	15.470	9.999	1.00	26.00
ATOM	656	N	SER	85	10.462	16.414	11.643	1.00	21.56
ATOM	657	CA	SER	85	9.515	17.507	11.803	1.00	20.80
ATOM	658	CB	SER	85	9.574	18.078	13.225	1.00	25.25
ATOM	659	OG	SER	85	9.349	17.112	14.247	1.00	28.81
ATOM	660	C	SER	85	9.823	18.681	10.877	1.00	21.78
ATOM	661	O	SER	85	8.911	19.352	10.389	1.00	23.62
ATOM	662	N	ASP	86	11.105	18.921	10.620	1.00	20.73
ATOM	663	CA	ASP	86	11.420	20.136	9.861	1.00	18.42
ATOM	664	CB	ASP	86	12.500	20.938	10.609	1.00	18.28
ATOM	665	CG	ASP	86	12.012	21.442	11.952	1.00	18.21
ATOM	666	OD1	ASP	86	10.895	21.973	11.981	1.00	20.66
ATOM	667	OD2	ASP	86	12.732	21.319	12.950	1.00	20.03
ATOM	668	C	ASP	86	11.774	20.025	8.395	1.00	19.68
ATOM	669	O	ASP	86	11.807	21.041	7.702	1.00	18.89
ATOM	670	N	GLU	87	12.010	18.800	7.927	1.00	18.00
ATOM	671	CA	GLU	87	12.311	18.556	6.522	1.00	17.81
ATOM	672	CB	GLU	87	11.017	18.581	5.697	1.00	17.77
ATOM	673	CG	GLU	87	10.041	17.523	6.206	1.00	23.26
ATOM	674	CD	GLU	87	8.772	17.432	5.409	1.00	26.65
ATOM	675	OE1	GLU	87	8.614	18.102	4.365	1.00	29.59
ATOM	676	OE2	GLU	87	7.923	16.665	5.860	1.00	27.84
ATOM	677	C	GLU	87	13.347	19.537	5.976	1.00	18.56
ATOM	678	O	GLU	87	14.454	19.592	6.510	1.00	18.95
ATOM	679	N	SER	88	13.030	20.281	4.918	1.00	17.65
ATOM	680	CA	SER	88	14.031	21.178	4.313	1.00	18.38
ATOM	681	CB	SER	88	13.554	21.647	2.938	1.00	18.77
ATOM	682	OG	SER	88	12.514	22.632	3.051	1.00	20.36
ATOM	683	C	SER	88	14.441	22.365	5.176	1.00	19.32
ATOM	684	O	SER	88	15.373	23.092	4.811	1.00	17.95
ATOM	685	N	TYR	89	13.754	22.571	6.303	1.00	16.70
ATOM	686	CA	TYR	89	14.137	23.647	7.230	1.00	16.19
ATOM	687	CB	TYR	89	12.938	24.146	8.048	1.00	16.36
ATOM	688	CG	TYR	89	11.880	24.868	7.237	1.00	17.25
ATOM	689	CD1	TYR	89	10.879	24.149	6.597	1.00	18.73
ATOM	690	CE1	TYR	89	9.878	24.809	5.855	1.00	19.57
ATOM	691	CD2	TYR	89	11.879	26.276	7.137	1.00	20.02
ATOM	692	CE2	TYR	89	10.875	26.935	6.414	1.00	20.25

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ATOM    693  CZ  TYR    89       9.886  26.178   5.780  1.00 18.36
ATOM    694  OH  TYR    89       8.861  26.816   5.085  1.00 22.17
ATOM    695  C   TYR    89      15.190  23.141   8.221  1.00 16.17
ATOM    696  O   TYR    89      15.660  23.886   9.059  1.00 17.74
ATOM    697  N   THR    90      15.564  21.853   8.116  1.00 17.00
ATOM    698  CA  THR    90      16.556  21.260   9.040  1.00 16.71
ATOM    699  CB  THR    90      16.461  19.725   9.022  1.00 16.83
ATOM    700  OG1 THR    90      15.090  19.313   9.167  1.00 18.10
ATOM    701  CG2 THR    90      17.278  19.133  10.147  1.00 18.35
ATOM    702  C   THR    90      17.972  21.628   8.594  1.00 15.81
ATOM    703  O   THR    90      18.359  21.358   7.461  1.00 17.28
ATOM    704  N   PRO    91      18.757  22.275   9.472  1.00 15.77
ATOM    705  CD  PRO    91      18.415  22.729  10.826  1.00 16.34
ATOM    706  CA  PRO    91      20.131  22.631   9.077  1.00 15.98
ATOM    707  CB  RRO    91      20.762  23.216  10.334  1.00 17.37
ATOM    708  CG  PRO    91      19.581  23.691  11.153  1.00 22.17
ATOM    709  C   PRO    91      20.899  21.364   8.700  1.00 18.65
ATOM    710  O   PRO    91      20.690  20.305   9.309  1.00 18.91
ATOM    711  N   SER    92      21.816  21.507   7.753  1.00 17.17
ATOM    712  CA  SER    92      22.691  20.380   7.306  1.00 19.72
ATOM    713  CB  SER    92      22.451  20.059   5.836  1.00 18.85
ATOM    714  OG  SER    92      22.743  21.188   5.015  1.00 23.40
ATOM    715  C   SER    92      24.169  20.725   7.487  1.00 21.66
ATOM    716  O   SER    92      25.032  19.822   7.507  1.00 22.65
ATOM    717  N   LYS    93      24.492  22.013   7.505  1.00 19.93
ATOM    718  CA  LYS    93      25.892  22.425   7.675  1.00 21.99
ATOM    719  CB  LYS    93      26.497  22.808   6.318  1.00 23.37
ATOM    720  CG  LYS    93      27.990  22.980   6.321  1.00 34.45
ATOM    721  CD  LYS    93      28.476  23.143   4.884  1.00 39.67
ATOM    722  CE  LYS    93      29.959  23.443   4.799  1.00 46.30
ATOM    723  NZ  LYS    93      30.418  23.507   3.371  1.00 48.77
ATOM    724  C   LYS    93      25.890  23.610   8.631  1.00 20.77
ATOM    725  O   LYS    93      25.228  24.605   8.360  1.00 21.35
ATOM    726  N   ILE    94      26.622  23.517   9.744  1.00 18.14
ATOM    727  CA  ILE    94      26.651  24.611  10.735  1.00 17.89
ATOM    728  CB  ILE    94      25.904  24.215  12.049  1.00 19.49
ATOM    729  CG2 ILE    94      26.204  25.243  13.182  1.00 25.69
ATOM    730  CG1 ILE    94      24.400  24.142  11.782  1.00 23.78
ATOM    731  CD1 ILE    94      23.612  23.626  12.954  1.00 23.78
ATOM    732  C   ILE    94      28.092  24.939  11.103  1.00 23.12
ATOM    733  O   ILE    94      28.909  24.047  11.261  1.00 25.19
ATOM    734  N   SER    95      28.389  26.228  11.229  1.00 19.89
ATOM    735  CA  SER    95      29.715  26.684  11.643  1.00 20.89
ATOM    736  CB  SER    95      30.287  27.686  10.640  1.00 20.17
ATOM    737  OG  SER    95      31.490  28.254  11.158  1.00 22.18
ATOM    738  C   SER    95      29.546  27.359  13.010  1.00 22.64
ATOM    739  O   SER    95      28.634  28.181  13.190  1.00 22.74
ATOM    740  N   VAL    96      30.376  26.999  13.991  1.00 18.63
ATOM    741  CA  VAL    96      30.314  27.638  15.287  1.00 18.27
ATOM    742  CB  VAL    96      30.209  26.630  16.448  1.00 21.70
ATOM    743  CG1 VAL    96      30.133  27.395  17.794  1.00 21.93
ATOM    744  CG2 VAL    96      28.947  25.778  16.282  1.00 24.65
ATOM    745  C   VAL    96      31.599  28.454  15.414  1.00 22.45
ATOM    746  O   VAL    96      32.679  27.938  15.202  1.00 23.47
ATOM    747  N   ARG    97      31.446  29.742  15.703  1.00 21.95
ATOM    748  CA  ARG    97      32.555  30.698  15.798  1.00 24.66
ATOM    749  CB  ARG    97      32.432  31.719  14.678  1.00 24.01
ATOM    750  CG  ARG    97      32.309  31.084  13.287  1.00 21.95
ATOM    751  CD  ARG    97      31.148  31.682  12.504  1.00 23.43
ATOM    752  NE  ARG    97      31.047  31.059  11.189  1.00 22.66
ATOM    753  CZ  ARG    97      30.429  31.602  10.142  1.00 22.55
ATOM    754  NH1 ARG    97      29.841  32.776  10.248  1.00 21.49
ATOM    755  NH2 ARG    97      30.426  30.969   8.973  1.00 24.82
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ATOM    756  C   ARG    97      32.512  31.424  17.132  1.00 23.30
ATOM    757  O   ARG    97      31.436  31.573  17.731  1.00 22.51
ATOM    758  N   VAL    98      33.689  31.844  17.618  1.00 23.02
ATOM    759  CA  VAL    98      33.767  32.562  18.889  1.00 23.31
ATOM    760  CB  VAL    98      34.214  31.644  20.095  1.00 24.07
ATOM    761  CG1 VAL    98      33.212  30.502  20.301  1.00 24.14
ATOM    762  CG2 VAL    98      35.625  31.106  19.867  1.00 25.88
ATOM    763  C   VAL    98      34.776  33.689  18.719  1.00 24.94
ATOM    764  O   VAL    98      35.630  33.640  17.818  1.00 25.96
ATOM    765  N   GLY    99      34.671  34.713  19.553  1.00 26.99
ATOM    766  CA  GLY    99      35.611  35.799  19.426  1.00 27.44
ATOM    767  C   GLY    99      35.223  37.013  20.232  1.00 28.20
ATOM    768  O   GLY    99      34.225  36.991  20.958  1.00 27.00
ATOM    769  N   ASN   100      35.990  38.091  20.095  1.00 30.86
ATOM    770  CA  ASN   100      35.709  39.290  20.870  1.00 34.33
ATOM    771  CB  ASN   100      36.936  40.211  20.916  1.00 39.03
ATOM    772  CG  ASN   100      38.144  39.535  21.503  1.00 49.83
ATOM    773  OD1 ASN   100      38.032  38.757  22.457  1.00 52.61
ATOM    774  ND2 ASN   100      39.320  39.831  20.945  1.00 53.88
ATOM    775  C   ASN   100      34.546  40.075  20.309  1.00 35.80
ATOM    776  O   ASN   100      33.772  40.683  21.068  1.00 37.06
ATOM    777  N   ASN   101      34.444  40.070  18.981  1.00 32.97
ATOM    778  CA  ASN   101      33.402  40.796  18.264  1.00 37.12
ATOM    779  CB  ASN   101      33.831  42.251  18.097  1.00 38.60
ATOM    780  CG  ASN   101      35.215  42.376  17.479  1.00 43.63
ATOM    781  OD1 ASN   101      35.476  41.848  16.397  1.00 43.60
ATOM    782  ND2 ASN   101      36.107  43.074  18.166  1.00 44.25
ATOM    783  C   ASN   101      33.139  40.168  16.892  1.00 35.21
ATOM    784  O   ASN   101      33.814  39.228  16.490  1.00 31.58
ATOM    785  N   PHE   102      32.179  40.721  16.160  1.00 29.94
ATOM    786  CA  PHE   102      31.796  40.187  14.869  1.00 31.37
ATOM    787  CB  PHE   102      30.691  41.036  14.262  1.00 34.27
ATOM    788  CG  PHE   102      29.357  40.781  14.845  1.00 36.26
ATOM    789  CD1 PHE   102      28.493  39.881  14.237  1.00 37.98
ATOM    790  CD2 PHE   102      28.942  41.450  15.989  1.00 36.00
ATOM    791  CE1 PHE   102      27.221  39.648  14.750  1.00 36.96
ATOM    792  CE2 PHE   102      27.665  41.222  16.514  1.00 33.45
ATOM    793  CZ  PHE   102      26.801  40.314  15.883  1.00 35.73
ATOM    794  C   PHE   102      32.893  40.112  13.858  1.00 32.40
ATOM    795  O   PHE   102      32.822  39.320  12.917  1.00 36.42
ATOM    796  N   HIS   103      33.906  40.939  14.056  1.00 34.97
ATOM    797  CA  HIS   103      34.989  41.014  13.099  1.00 37.89
ATOM    798  CB  HIS   103      35.297  42.489  12.862  1.00 41.02
ATOM    799  CG  HIS   103      34.063  43.297  12.588  1.00 39.59
ATOM    800  CD2 HIS   103      33.440  44.252  13.324  1.00 44.82
ATOM    801  ND1 HIS   103      33.241  43.051  11.506  1.00 44.19
ATOM    802  CE1 HIS   103      32.164  43.811  11.592  1.00 38.79
ATOM    803  NE2 HIS   103      32.259  44.547  12.686  1.00 42.40
ATOM    804  C   HIS   103      36.227  40.224  13.470  1.00 37.87
ATOM    805  O   HIS   103      37.173  40.142  12.678  1.00 41.39
ATOM    806  N   ASN   104      36.215  39.615  14.652  1.00 36.85
ATOM    807  CA  ASN   104      37.361  38.821  15.094  1.00 39.75
ATOM    808  CB  ASN   104      37.967  39.411  16.378  1.00 45.04
ATOM    809  CG  ASN   104      38.588  40.795  16.168  1.00 53.14
ATOM    810  OD1 ASN   104      39.184  41.369  17.086  1.00 54.17
ATOM    811  ND2 ASN   104      38.446  41.335  14.961  1.00 56.77
ATOM    812  C   ASN   104      36.915  37.400  15.381  1.00 34.85
ATOM    813  O   ASN   104      37.529  36.709  16.190  1.00 38.58
ATOM    814  N   LEU   105      35.837  36.958  14.746  1.00 33.60
ATOM    815  CA  LEU   105      35.352  35.612  15.008  1.00 30.17
ATOM    816  CB  LEU   105      33.917  35.440  14.531  1.00 27.88
ATOM    817  CG  LEU   105      32.849  36.329  15.142  1.00 27.16
ATOM    818  CD1 LEU   105      31.522  36.089  14.415  1.00 30.23
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ATOM    819  CD2 LEU   105      32.695  36.003  16.598  1.00 28.13
ATOM    820  C   LEU   105      36.194  34.566  14.337  1.00 30.55
ATOM    821  O   LEU   105      36.663  34.740  13.203  1.00 33.78
ATOM    822  N   GLN   106      36.400  33.468  15.039  1.00 30.94
ATOM    823  CA  GLN   106      37.145  32.392  14.444  1.00 32.19
ATOM    824  CB  GLN   106      38.492  32.258  15.137  1.00 39.99
ATOM    825  CG  GLN   106      39.294  33.545  15.015  1.00 50.12
ATOM    826  CD  GLN   106      40.775  33.339  15.223  1.00 56.65
ATOM    827  OE1 GLN   106      41.425  32.616  14.460  1.00 63.34
ATOM    828  NE2 GLN   106      41.323  33.975  16.258  1.00 59.62
ATOM    829  C   GLN   106      36.327  31.120  14.550  1.00 28.02
ATOM    830  O   GLN   106      35.754  30.805  15.593  1.00 26.21
ATOM    831  N   GLU   107      36.242  30.396  13.451  1.00 28.87
ATOM    832  CA  GLU   107      35.495  29.147  13.463  1.00 25.48
ATOM    833  CB  GLU   107      35.398  28.594  12.050  1.00 23.93
ATOM    834  CG  GLU   107      34.731  27.258  11.971  1.00 25.77
ATOM    835  CD  GLU   107      34.490  26.866  10.536  1.00 36.43
ATOM    836  OE1 GLU   107      33.409  27.179   9.979  1.00 30.27
ATOM    837  OE2 GLU   107      35.405  26.261   9.945  1.00 38.14
ATOM    838  C   GLU   107      36.210  28.134  14.342  1.00 29.71
ATOM    839  O   GLU   107      37.425  27.925  14.193  1.00 31.21
ATOM    840  N   ILE   108      35.476  27.511  15.254  1.00 25.28
ATOM    841  CA  ILE   108      36.062  26.496  16.101  1.00 27.24
ATOM    842  CB  ILE   108      35.979  26.859  17.599  1.00 30.35
ATOM    843  CG2 ILE   108      36.870  28.059  17.867  1.00 31.16
ATOM    844  CG1 ILE   108      34.533  27.089  18.024  1.00 29.12
ATOM    845  CD1 ILE   108      34.411  27.240  19.528  1.00 35.71
ATOM    846  C   ILE   108      35.488  25.124  15.850  1.00 28.95
ATOM    847  O   ILE   108      36.097  24.115  16.206  1.00 30.31
ATOM    848  N   ARG   109      34.315  25.055  15.216  1.00 25.43
ATOM    849  CA  ARG   109      33.754  23.755  14.886  1.00 25.11
ATOM    850  CB  ARG   109      32.836  23.234  16.002  1.00 26.35
ATOM    851  CG  ARG   109      33.503  22.993  17.379  1.00 32.31
ATOM    852  CD  ARG   109      34.234  21.667  17.485  1.00 39.33
ATOM    853  NE  ARG   109      35.011  21.604  18.734  1.00 44.53
ATOM    854  CZ  ARG   109      35.639  20.518  19.185  1.00 49.05
ATOM    855  NH1 ARG   109      35.588  19.382  18.496  1.00 53.54
ATOM    856  NH2 ARG   109      36.324  20.570  20.329  1.00 47.41
ATOM    857  C   ARG   109      32.940  23.887  13.609  1.00 27.29
ATOM    858  O   ARG   109      32.287  24.898  13.375  1.00 25.63
ATOM    859  N   GLN   110      33.010  22.880  12.758  1.00 27.95
ATOM    860  CA  GLN   110      32.189  22.876  11.552  1.00 33.55
ATOM    861  CB  GLN   110      33.033  23.013  10.287  1.00 38.17
ATOM    862  CG  GLN   110      34.347  22.312  10.345  1.00 47.31
ATOM    863  CD  GLN   110      35.178  22.598   9.118  1.00 52.56
ATOM    864  OE1 GLN   110      35.514  23.753   8.831  1.00 58.03
ATOM    865  NE2 GLN   110      35.513  21.551   8.379  1.00 56.33
ATOM    866  C   GLN   110      31.487  21.542  11.635  1.00 31.62
ATOM    867  O   GLN   110      32.129  20.483  11.697  1.00 36.28
ATOM    868  N   LEU   111      30.161  21.596  11.657  1.00 27.71
ATOM    869  CA  LEU   111      29.332  20.406  11.831  1.00 29.02
ATOM    870  CB  LEU   111      28.321  20.628  12.960  1.00 34.58
ATOM    871  CG  LEU   111      28.674  21.240  14.306  1.00 37.68
ATOM    872  CD1 LEU   111      27.388  21.495  15.073  1.00 45.62
ATOM    873  CD2 LEU   111      29.585  20.315  15.091  1.00 44.99
ATOM    874  C   LEU   111      28.516  20.087  10.614  1.00 28.19
ATOM    875  O   LEU   111      27.862  20.955  10.066  1.00 29.69
ATOM    876  N   GLU   112      28.530  18.833  10.204  1.00 28.77
ATOM    877  CA  GLU   112      27.704  18.405   9.085  1.00 29.07
ATOM    878  CB  GLU   112      28.492  17.529   8.125  1.00 37.64
ATOM    879  CG  GLU   112      27.775  17.222   6.816  1.00 44.63
ATOM    880  CD  GLU   112      27.789  18.407   5.846  1.00 56.79
ATOM    881  OE1 GLU   112      28.904  18.907   5.536  1.00 60.18
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ATOM    882  OE2 GLU   112      26.690  18.835   5.389  1.00 55.76
ATOM    883  C   GLU   112      26.641  17.586   9.807  1.00 30.11
ATOM    884  O   GLU   112      26.946  16.726  10.647  1.00 32.83
ATOM    885  N   LEU   113      25.382  17.889   9.539  1.00 24.46
ATOM    886  CA  LEU   113      24.301  17.185  10.189  1.00 23.94
ATOM    887  CB  LEU   113      23.332  18.174  10.860  1.00 25.33
ATOM    888  CG  LEU   113      24.028  19.046  11.903  1.00 24.78
ATOM    889  CD1 LEU   113      23.123  20.203  12.262  1.00 33.37
ATOM    890  CD2 LEU   113      24.353  18.232  13.126  1.00 24.97
ATOM    891  C   LEU   113      23.545  16.415   9.136  1.00 21.46
ATOM    892  O   LEU   113      23.153  16.969   8.103  1.00 24.56
ATOM    893  N   VAL   114      23.354  15.119   9.388  1.00 20.09
ATOM    894  CA  VAL   114      22.600  14.280   8.466  1.00 20.30
ATOM    895  CB  VAL   114      23.407  13.039   8.028  1.00 22.23
ATOM    896  CG1 VAL   114      22.528  12.125   7.154  1.00 22.41
ATOM    897  CG2 VAL   114      24.634  13.503   7.281  1.00 25.67
ATOM    898  C   VAL   114      21.341  13.815   9.177  1.00 18.50
ATOM    899  O   VAL   114      21.399  13.038  10.146  1.00 20.98
ATOM    900  N   GLU   115      20.196  14.331   8.719  1.00 18.39
ATOM    901  CA  GLU   115      18.910  13.987   9.295  1.00 19.05
ATOM    902  CB  GLU   115      18.394  12.677   8.679  1.00 19.74
ATOM    903  CG  GLU   115      18.254  12.797   7.183  1.00 21.54
ATOM    904  CD  GLU   115      17.717  11.557   6.510  1.00 25.56
ATOM    905  OE1 GLU   115      17.236  10.645   7.202  1.00 27.11
ATOM    906  OE2 GLU   115      17.770  11.521   5.265  1.00 26.71
ATOM    907  C   GLU   115      18.933  13.893  10.819  1.00 21.62
ATOM    908  O   GLU   115      18.534  12.871  11.410  1.00 23.36
ATOM    909  N   PRO   116      19.358  14.964  11.497  1.00 19.08
ATOM    910  CD  PRO   116      19.749  16.288  10.966  1.00 19.50
ATOM    911  CA  PRO   116      19.396  14.946  12.961  1.00 18.43
ATOM    912  CB  PRO   116      19.998  16.297  13.312  1.00 18.80
ATOM    913  CG  PRO   116      19.480  17.189  12.186  1.00 18.43
ATOM    914  C   PRO   116      17.995  14.723  13.571  1.00 19.17
ATOM    915  O   PRO   116      16.962  14.992  12.942  1.00 25.07
ATOM    916  N   SER   117      17.970  14.213  14.792  1.00 18.99
ATOM    917  CA  SER   117      16.718  13.855  15.433  1.00 22.23
ATOM    918  CB  SER   117      16.498  12.339  15.275  1.00 23.98
ATOM    919  OG  SER   117      17.622  11.594  15.749  1.00 28.12
ATOM    920  C   SER   117      16.704  14.213  16.896  1.00 24.00
ATOM    921  O   SER   117      16.197  13.464  17.724  1.00 28.12
ATOM    922  N   GLY   118      17.262  15.356  17.244  1.00 22.64
ATOM    923  CA  GLY   118      17.262  15.687  18.647  1.00 24.74
ATOM    924  C   GLY   118      18.350  16.673  18.981  1.00 19.53
ATOM    925  O   GLY   118      18.673  17.556  18.188  1.00 22.62
ATOM    926  N   TRP   119      18.917  16.541  20.177  1.00 21.72
ATOM    927  CA  TRP   119      19.943  17.459  20.598  1.00 19.33
ATOM    928  CB  TRP   119      20.042  17.459  22.116  1.00 21.01
ATOM    929  CG  TRP   119      18.838  18.055  22.786  1.00 22.10
ATOM    930  CD2 TRP   119      18.635  19.447  23.047  1.00 20.54
ATOM    931  CE2 TRP   119      17.425  19.562  23.762  1.00 22.90
ATOM    932  CE3 TRP   119      19.364  20.598  22.756  1.00 23.69
ATOM    933  CD1 TRP   119      17.773  17.399  23.317  1.00 23.64
ATOM    934  NE1 TRP   119      16.913  18.300  23.909  1.00 24.07
ATOM    935  CZ2 TRP   119      16.926  20.794  24.203  1.00 21.93
ATOM    936  CZ3 TRP   119      18.870  21.830  23.195  1.00 22.32
ATOM    937  CH2 TRP   119      17.659  21.910  23.919  1.00 20.15
ATOM    938  C   TRP   119      21.311  17.193  20.042  1.00 24.30
ATOM    939  O   TRP   119      21.795  16.061  20.074  1.00 28.23
ATOM    940  N   ILE   120      21.930  18.250  19.554  1.00 22.17
ATOM    941  CA  ILE   120      23.279  18.246  19.015  1.00 23.60
ATOM    942  CB  ILE   120      23.301  19.060  17.701  1.00 25.57
ATOM    943  CG2 ILE   120      24.690  19.169  17.163  1.00 30.66
ATOM    944  CG1 ILE   120      22.331  18.435  16.690  1.00 29.60
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ATOM    945  CD1 ILE   120      22.006  19.334  15.468  1.00 35.19
ATOM    946  C   ILE   120      24.178  18.928  20.056  1.00 26.22
ATOM    947  O   ILE   120      23.940  20.082  20.410  1.00 22.13
ATOM    948  N   HIS   121      25.173  18.216  20.595  1.00 24.18
ATOM    949  CA  HIS   121      26.079  18.805  21.574  1.00 24.30
ATOM    950  CB  HIS   121      26.409  17.804  22.712  1.00 27.22
ATOM    951  CG  HIS   121      25.301  17.575  23.692  1.00 24.79
ATOM    952  CD2 HIS   121      25.291  17.663  25.042  1.00 22.62
ATOM    953  ND1 HIS   121      24.038  17.150  23.331  1.00 27.79
ATOM    954  CE1 HIS   121      23.299  16.990  24.418  1.00 20.73
ATOM    955  NE2 HIS   121      24.037  17.296  25.469  1.00 30.02
ATOM    956  C   HIS   121      27.377  19.204  20.852  1.00 31.51
ATOM    957  O   HIS   121      28.002  18.379  20.140  1.00 33.50
ATOM    958  N   VAL   122      27.789  20.456  21.031  1.00 23.27
ATOM    959  CA  VAL   122      28.987  20.966  20.396  1.00 27.15
ATOM    960  CB  VAL   122      28.651  22.135  19.437  1.00 27.34
ATOM    961  CG1 VAL   122      29.908  22.606  18.719  1.00 27.41
ATOM    962  CG2 VAL   122      27.580  21.701  18.433  1.00 30.43
ATOM    963  C   VAL   122      29.927  21.500  21.462  1.00 29.14
ATOM    964  O   VAL   122      29.616  22.462  22.155  1.00 27.84
ATOM    965  N   PRO   123      31.087  20.848  21.647  1.00 32.15
ATOM    966  CD  PRO   123      31.467  19.499  21.186  1.00 36.83
ATOM    967  CA  PRO   123      32.030  21.336  22.656  1.00 31.49
ATOM    968  CB  PRO   123      33.097  20.236  22.688  1.00 32.90
ATOM    969  CG  PRO   123      32.313  18.998  22.356  1.00 36.44
ATOM    970  C   PRO   123      32.604  22.657  22.177  1.00 31.54
ATOM    971  O   PRO   123      32.831  22.849  20.974  1.00 32.94
ATOM    972  N   LEU   124      32.858  23.561  23.115  1.00 25.75
ATOM    973  CA  LEU   124      33.389  24.879  22.777  1.00 33.02
ATOM    974  CB  LEU   124      32.449  25.961  23.286  1.00 29.59
ATOM    975  CG  LEU   124      31.020  25.924  22.726  1.00 30.07
ATOM    976  CD1 LEU   124      30.209  27.047  23.361  1.00 32.57
ATOM    977  CD2 LEU   124      31.042  26.072  21.204  1.00 36.57
ATOM    978  C   LEU   124      34.782  25.127  23.353  1.00 39.49
ATOM    979  O   LEU   124      35.066  26.220  23.864  1.00 42.10
ATOM    980  N   THR   125      35.650  24.133  23.211  1.00 44.16
ATOM    981  CA  THR   125      37.030  24.186  23.711  1.00 47.52
ATOM    982  CB  THR   125      37.566  22.764  23.923  1.00 47.79
ATOM    983  OG1 THR   125      37.609  22.087  22.662  1.00 51.56
ATOM    984  CG2 THR   125      36.659  21.994  24.861  1.00 44.62
ATOM    985  C   THR   125      38.016  24.927  22.802  1.00 47.92
ATOM    986  O   THR   125      37.769  25.099  21.609  1.00 44.58
ATOM    987  N   ASP   126      39.141  25.360  23.373  1.00 49.12
ATOM    988  CA  ASP   126      40.157  26.084  22.604  1.00 53.20
ATOM    989  CB  ASP   126      40.731  27.238  23.435  1.00 51.20
ATOM    990  CG  ASP   126      41.396  26.764  24.719  1.00 54.71
ATOM    991  OD1 ASP   126      41.806  25.585  24.784  1.00 48.62
ATOM    992  OD2 ASP   126      41.522  27.578  25.664  1.00 51.04
ATOM    993  C   ASP   126      41.313  25.204  22.114  1.00 56.42
ATOM    994  O   ASP   126      41.234  23.976  22.141  1.00 56.50
ATOM    995  N   HIS   127      42.381  25.860  21.665  1.00 60.27
ATOM    996  CA  HIS   127      43.584  25.193  21.165  1.00 65.24
ATOM    997  CB  HIS   127      44.600  26.225  20.670  1.00 70.20
ATOM    998  CG  HIS   127      44.202  26.924  19.408  1.00 75.53
ATOM    999  CD2 HIS   127      44.048  28.241  19.129  1.00 76.35
ATOM   1000  ND1 HIS   127      43.968  26.253  18.226  1.00 78.05
ATOM   1001  CE1 HIS   127      43.691  27.126  17.273  1.00 76.81
ATOM   1002  NE2 HIS   127      43.735  28.340  17.794  1.00 78.04
ATOM   1003  C   HIS   127      44.272  24.369  22.241  1.00 64.72
ATOM   1004  O   HIS   127      45.250  23.672  21.968  1.00 65.40
ATOM   1005  N   LYS   128      43.771  24.457  23.466  1.00 64.76
ATOM   1006  CA  LYS   128      44.380  23.745  24.579  1.00 64.32
ATOM   1007  CB  LYS   128      44.995  24.773  25.529  1.00 66.34
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ATOM	1008	CG	LYS	128	45.923	25.723	24.778	1.00	70.35
ATOM	1009	CD	LYS	128	46.099	27.059	25.462	1.00	73.34
ATOM	1010	CE	LYS	128	46.896	28.002	24.569	1.00	72.99
ATOM	1011	NZ	LYS	128	47.098	29.301	25.239	1.00	74.13
ATOM	1012	C	LYS	128	43.407	22.834	25.309	1.00	62.40
ATOM	1013	O	LYS	128	43.601	22.512	26.483	1.00	61.82
ATOM	1014	N	LYS	129	42.362	22.420	24.600	1.00	60.55
ATOM	1015	CA	LYS	129	41.349	21.530	25.152	1.00	58.37
ATOM	1016	CB	LYS	129	41.989	20.207	25.572	1.00	62.40
ATOM	1017	CG	LYS	129	42.553	19.363	24.437	1.00	64.00
ATOM	1018	CD	LYS	129	43.196	18.101	25.013	1.00	69.93
ATOM	1019	CE	LYS	129	43.811	17.221	23.935	1.00	72.69
ATOM	1020	NZ	LYS	129	44.548	16.058	24.525	1.00	74.27
ATOM	1021	C	LYS	129	40.567	22.093	26.335	1.00	56.62
ATOM	1022	O	LYS	129	39.780	21.370	26.938	1.00	57.48
ATOM	1023	N	ALA	130	40.775	23.365	26.676	1.00	52.86
ATOM	1024	CA	ALA	130	40.059	23.980	27.796	1.00	49.26
ATOM	1025	CB	ALA	130	40.987	24.953	28.538	1.00	49.89
ATOM	1026	C	ALA	130	38.803	24.714	27.307	1.00	47.09
ATOM	1027	O	ALA	130	38.706	25.079	26.137	1.00	47.35
ATOM	1028	N	PRO	131	37.826	24.938	28.200	1.00	45.97
ATOM	1029	CD	PRO	131	37.781	24.541	29.618	1.00	45.26
ATOM	1030	CA	PRO	131	36.589	25.639	27.813	1.00	45.16
ATOM	1031	CB	PRO	131	35.813	25.734	29.126	1.00	45.99
ATOM	1032	CG	PRO	131	36.284	24.519	29.891	1.00	49.10
ATOM	1033	C	PRO	131	36.955	27.014	27.299	1.00	42.35
ATOM	1034	O	PRO	131	37.769	27.693	27.916	1.00	38.18
ATOM	1035	N	THR	132	36.387	27.456	26.187	1.00	40.07
ATOM	1036	CA	THR	132	36.779	28.786	25.760	1.00	42.40
ATOM	1037	CB	THR	132	36.421	29.067	24.269	1.00	46.62
ATOM	1038	OG1	THR	132	35.003	29.036	24.082	1.00	50.87
ATOM	1039	CG2	THR	132	37.064	28.026	23.369	1.00	47.34
ATOM	1040	C	THR	132	36.155	29.853	26.663	1.00	40.79
ATOM	1041	O	THR	132	35.110	29.639	27.297	1.00	41.33
ATOM	1042	N	ARG	133	36.855	30.971	26.772	1.00	37.58
ATOM	1043	CA	ARG	133	36.391	32.129	27.528	1.00	39.04
ATOM	1044	CB	ARG	133	37.439	32.613	28.542	1.00	43.00
ATOM	1045	CG	ARG	133	37.406	31.880	29.887	1.00	49.95
ATOM	1046	CD	ARG	133	38.431	32.457	30.868	1.00	51.63
ATOM	1047	NE	ARG	133	38.236	33.885	31.121	1.00	55.57
ATOM	1048	CZ	ARG	133	39.164	34.688	31.639	1.00	55.70
ATOM	1049	NH1	ARG	133	40.356	34.203	31.962	1.00	56.33
ATOM	1050	NH2	ARG	133	38.908	35.976	31.825	1.00	56.18
ATOM	1051	C	ARG	133	36.285	33.106	26.373	1.00	33.55
ATOM	1052	O	ARG	133	37.273	33.375	25.696	1.00	35.15
ATOM	1053	N	THR	134	35.087	33.619	26.132	1.00	30.68
ATOM	1054	CA	THR	134	34.900	34.500	24.993	1.00	27.25
ATOM	1055	CB	THR	134	34.471	33.655	23.770	1.00	27.97
ATOM	1056	OG1	THR	134	34.419	34.483	22.612	1.00	30.93
ATOM	1057	CG2	THR	134	33.108	33.067	24.003	1.00	29.95
ATOM	1058	C	THR	134	33.823	35.540	25.257	1.00	23.00
ATOM	1059	O	THR	134	33.104	35.450	26.240	1.00	27.03
ATOM	1060	N	PHE	135	33.697	36.512	24.359	1.00	25.74
ATOM	1061	CA	PHE	135	32.672	37.529	24.506	1.00	27.61
ATOM	1062	CB	PHE	135	33.174	38.901	24.062	1.00	28.07
ATOM	1063	CG	PHE	135	34.092	39.551	25.029	1.00	33.00
ATOM	1064	CD1	PHE	135	35.447	39.276	24.997	1.00	32.63
ATOM	1065	CD2	PHE	135	33.593	40.468	25.953	1.00	35.61
ATOM	1066	CE1	PHE	135	36.319	39.912	25.879	1.00	36.22
ATOM	1067	CE2	PHE	135	34.457	41.112	26.838	1.00	35.89
ATOM	1068	CZ	PHE	135	35.817	40.826	26.793	1.00	30.53
ATOM	1069	C	PHE	135	31.488	37.207	23.621	1.00	26.55
ATOM	1070	O	PHE	135	30.400	37.718	23.845	1.00	27.98

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ATOM   1071  N   MET   136      31.695  36.328  22.648  1.00 25.34
ATOM   1072  CA  MET   136      30.624  36.084  21.693  1.00 25.31
ATOM   1073  CB  MET   136      30.688  37.202  20.633  1.00 26.51
ATOM   1074  CG  MET   136      30.101  36.883  19.295  1.00 32.00
ATOM   1075  SD  MET   136      30.088  38.361  18.218  1.00 31.11
ATOM   1076  CE  MET   136      28.762  37.903  17.108  1.00 33.08
ATOM   1077  C   MET   136      30.692  34.745  21.008  1.00 24.87
ATOM   1078  O   MET   136      31.772  34.250  20.687  1.00 26.42
ATOM   1079  N   ILE   137      29.521  34.164  20.785  1.00 22.74
ATOM   1080  CA  ILE   137      29.435  32.920  20.054  1.00 22.53
ATOM   1081  CB  ILE   137      28.735  31.840  20.863  1.00 22.28
ATOM   1082  CG2 ILE   137      28.540  30.563  19.998  1.00 24.55
ATOM   1083  CG1 ILE   137      29.571  31.491  22.098  1.00 23.97
ATOM   1084  CD1 ILE   137      28.788  30.610  23.028  1.00 28.80
ATOM   1085  C   ILE   137      28.550  33.206  18.862  1.00 20.59
ATOM   1086  O   ILE   137      27.517  33.864  19.005  1.00 20.44
ATOM   1087  N   GLN   138      28.941  32.750  17.675  1.00 17.42
ATOM   1088  CA  GLN   138      28.067  32.905  16.524  1.00 20.41
ATOM   1089  CB  GLN   138      28.684  33.770  15.428  1.00 20.45
ATOM   1090  CG  GLN   138      27.769  33.956  14.221  1.00 19.26
ATOM   1091  CD  GLN   138      28.340  34.943  13.221  1.00 20.07
ATOM   1092  OE1 GLN   138      29.223  34.604  12.454  1.00 24.12
ATOM   1093  NE2 GLN   138      27.853  36.178  13.252  1.00 20.48
ATOM   1094  C   GLN   138      27.779  31.521  15.943  1.00 20.37
ATOM   1095  O   GLN   138      28.683  30.752  15.641  1.00 21.02
ATOM   1096  N   ILE   139      26.502  31.205  15.782  1.00 19.47
ATOM   1097  CA  ILE   139      26.125  29.950  15.168  1.00 18.72
ATOM   1098  CB  ILE   139      24.969  29.269  15.913  1.00 17.13
ATOM   1099  CG2 ILE   139      24.670  27.916  15.244  1.00 18.12
ATOM   1100  CG1 ILE   139      25.334  29.046  17.381  1.00 19.75
ATOM   1101  CD1 ILE   139      24.123  28.651  18.269  1.00 21.26
ATOM   1102  C   ILE   139      25.667  30.287  13.756  1.00 18.45
ATOM   1103  O   ILE   139      24.748  31.077  13.578  1.00 21.95
ATOM   1104  N   ALA   140      26.298  29.688  12.753  1.00 15.95
ATOM   1105  CA  ALA   140      25.901  30.003  11.373  1.00 17.87
ATOM   1106  CB  ALA   140      27.140  30.541  10.572  1.00 20.69
ATOM   1107  C   ALA   140      25.363  28.769  10.666  1.00 19.40
ATOM   1108  O   ALA   140      26.073  27.748  10.573  1.00 20.59
ATOM   1109  N   VAL   141      24.114  28.847  10.191  1.00 17.53
ATOM   1110  CA  VAL   141      23.570  27.748   9.382  1.00 17.58
ATOM   1111  CB  VAL   141      22.037  27.649   9.477  1.00 16.56
ATOM   1112  CG1 VAL   141      21.538  26.565   8.490  1.00 19.18
ATOM   1113  CG2 VAL   141      21.644  27.316  10.941  1.00 19.74
ATOM   1114  C   VAL   141      24.005  28.035   7.934  1.00 19.38
ATOM   1115  O   VAL   141      23.532  28.992   7.303  1.00 19.29
ATOM   1116  N   LEU   142      24.935  27.227   7.422  1.00 18.44
ATOM   1117  CA  LEU   142      25.456  27.429   6.070  1.00 17.94
ATOM   1118  CB  LEU   142      26.870  26.861   5.981  1.00 22.12
ATOM   1119  CG  LEU   142      27.842  27.367   7.048  1.00 24.13
ATOM   1120  CD1 LEU   142      29.238  26.796   6.732  1.00 24.57
ATOM   1121  CD2 LEU   142      27.905  28.880   7.076  1.00 24.08
ATOM   1122  C   LEU   142      24.610  26.811   4.950  1.00 20.13
ATOM   1123  O   LEU   142      24.713  27.206   3.787  1.00 21.82
ATOM   1124  N   ALA   143      23.844  25.786   5.306  1.00 18.49
ATOM   1125  CA  ALA   143      22.961  25.110   4.346  1.00 19.03
ATOM   1126  CB  ALA   143      23.776  24.174   3.458  1.00 20.79
ATOM   1127  C   ALA   143      21.941  24.307   5.113  1.00 18.00
ATOM   1128  O   ALA   143      22.148  24.019   6.295  1.00 17.64
ATOM   1129  N   ASN   144      20.809  24.023   4.444  1.00 17.79
ATOM   1130  CA  ASN   144      19.746  23.205   4.999  1.00 15.49
ATOM   1131  CB  ASN   144      18.402  23.956   4.998  1.00 16.19
ATOM   1132  CG  ASN   144      18.413  25.115   5.961  1.00 17.75
ATOM   1133  OD1 ASN   144      18.597  24.936   7.170  1.00 20.10
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ATOM	1134	ND2	ASN	144	18.200	26.323	5.425	1.00	18.13
ATOM	1135	C	ASN	144	19.605	21.961	4.125	1.00	17.84
ATOM	1136	O	ASN	144	20.142	21.894	3.005	1.00	20.15
ATOM	1137	N	HIS	145	18.882	20.970	4.646	1.00	18.32
ATOM	1138	CA	HIS	145	18.649	19.744	3.872	1.00	19.21
ATOM	1139	CB	HIS	145	17.905	18.702	4.717	1.00	19.07
ATOM	1140	CG	HIS	145	18.740	18.027	5.763	1.00	19.49
ATOM	1141	CD2	HIS	145	19.112	16.728	5.877	1.00	19.75
ATOM	1142	ND1	HIS	145	19.238	18.672	6.879	1.00	17.85
ATOM	1143	CE1	HIS	145	19.870	17.792	7.640	1.00	18.92
ATOM	1144	NE2	HIS	145	19.806	16.606	7.049	1.00	18.43
ATOM	1145	C	HIS	145	17.764	20.036	2.664	1.00	22.16
ATOM	1146	O	HIS	145	16.961	20.972	2.680	1.00	19.09
ATOM	1147	N	GLN	146	17.935	19.225	1.623	1.00	19.46
ATOM	1148	CA	GLN	146	17.080	19.280	0.449	1.00	19.73
ATOM	1149	CB	GLN	146	15.830	18.453	0.730	1.00	22.96
ATOM	1150	CG	GLN	146	16.123	16.963	0.674	1.00	34.15
ATOM	1151	CD	GLN	146	15.664	16.238	1.902	1.00	41.92
ATOM	1152	OE1	GLN	146	16.327	16.259	2.930	1.00	36.89
ATOM	1153	NE2	GLN	146	14.500	15.596	1.809	1.00	51.47
ATOM	1154	C	GLN	146	16.645	20.667	-0.075	1.00	18.23
ATOM	1155	O	GLN	146	15.442	20.982	-0.198	1.00	18.92
ATOM	1156	N	ASN	147	17.649	21.471	-0.368	1.00	16.27
ATOM	1157	CA	ASN	147	17.448	22.785	-0.993	1.00	16.74
ATOM	1158	CB	ASN	147	16.748	22.573	-2.353	1.00	17.75
ATOM	1159	CG	ASN	147	16.638	23.847	-3.200	1.00	20.33
ATOM	1160	OD1	ASN	147	15.584	24.098	-3.847	1.00	20.95
ATOM	1161	ND2	ASN	147	17.697	24.620	-3.251	1.00	16.44
ATOM	1162	C	ASN	147	16.655	23.734	-0.141	1.00	18.63
ATOM	1163	O	ASN	147	16.007	24.626	-0.681	1.00	18.90
ATOM	1164	N	GLY	148	16.697	23.585	1.182	1.00	16.66
ATOM	1165	CA	GLY	148	15.895	24.482	2.003	1.00	16.99
ATOM	1166	C	GLY	148	16.478	25.881	2.112	1.00	16.61
ATOM	1167	O	GLY	148	17.672	26.031	2.396	1.00	17.43
ATOM	1168	N	ARG	149	15.650	26.892	1.850	1.00	16.09
ATOM	1169	CA	ARG	149	16.105	28.273	1.961	1.00	18.63
ATOM	1170	CB	ARG	149	15.145	29.217	1.236	1.00	18.95
ATOM	1171	CG	ARG	149	15.642	30.670	1.377	1.00	22.78
ATOM	1172	CD	ARG	149	14.538	31.685	1.237	1.00	27.79
ATOM	1173	NE	ARG	149	15.040	33.062	1.174	1.00	23.73
ATOM	1174	CZ	ARG	149	14.484	34.071	1.841	1.00	24.58
ATOM	1175	NH1	ARG	149	13.445	33.863	2.640	1.00	22.03
ATOM	1176	NH2	ARG	149	14.911	35.322	1.620	1.00	21.88
ATOM	1177	C	ARG	149	16.186	28.674	3.433	1.00	19.11
ATOM	1178	O	ARG	149	17.288	28.977	3.935	1.00	19.77
ATOM	1179	N	ASP	150	15.043	28.660	4.119	1.00	16.89
ATOM	1180	CA	ASP	150	14.999	29.051	5.538	1.00	16.15
ATOM	1181	CB	ASP	150	13.714	29.843	5.805	1.00	16.46
ATOM	1182	CG	ASP	150	13.800	31.240	5.204	1.00	18.80
ATOM	1183	OD1	ASP	150	14.779	31.957	5.543	1.00	18.90
ATOM	1184	OD2	ASP	150	12.924	31.592	4.376	1.00	21.26
ATOM	1185	C	ASP	150	15.154	27.889	6.473	1.00	19.15
ATOM	1186	O	ASP	150	14.942	26.740	6.070	1.00	19.32
ATOM	1187	N	THR	151	15.571	28.194	7.703	1.00	16.72
ATOM	1188	CA	THR	151	15.856	27.172	8.705	1.00	17.97
ATOM	1189	CB	THR	151	17.338	27.276	9.207	1.00	21.21
ATOM	1190	OG1	THR	151	17.522	28.405	10.064	1.00	33.00
ATOM	1191	CG2	THR	151	18.229	27.406	8.104	1.00	22.28
ATOM	1192	C	THR	151	14.978	27.213	9.889	1.00	19.10
ATOM	1193	O	THR	151	14.323	28.204	10.158	1.00	19.11
ATOM	1194	N	HIS	152	14.963	26.097	10.603	1.00	18.88
ATOM	1195	CA	HIS	152	14.235	25.959	11.847	1.00	17.23
ATOM	1196	CB	HIS	152	13.135	24.900	11.777	1.00	19.52

ATOM	1197	CG	HIS	152	11.888	25.343	11.097	1.00	20.54
ATOM	1198	CD2	HIS	152	11.541	26.518	10.514	1.00	20.75
ATOM	1199	ND1	HIS	152	10.787	24.513	10.992	1.00	16.98
ATOM	1200	CE1	HIS	152	9.811	25.172	10.378	1.00	18.29
ATOM	1201	NE2	HIS	152	10.240	26.384	10.082	1.00	19.49
ATOM	1202	C	HIS	152	15.152	25.430	12.940	1.00	18.12
ATOM	1203	O	HIS	152	15.924	24.491	12.700	1.00	19.96
ATOM	1204	N	MET	153	15.057	26.022	14.124	1.00	19.91
ATOM	1205	CA	MET	153	15.756	25.452	15.290	1.00	18.22
ATOM	1206	CB	MET	153	17.014	26.243	15.653	1.00	20.41
ATOM	1207	CG	MET	153	18.194	25.866	14.773	1.00	22.42
ATOM	1208	SD	MET	153	19.656	26.742	15.386	1.00	24.41
ATOM	1209	CE	MET	153	20.799	26.366	14.077	1.00	23.62
ATOM	1210	C	MET	153	14.713	25.555	16.377	1.00	20.34
ATOM	1211	O	MET	153	14.070	26.581	16.491	1.00	22.25
ATOM	1212	N	ARG	154	14.583	24.526	17.208	1.00	17.59
ATOM	1213	CA	ARG	154	13.539	24.535	18.230	1.00	17.77
ATOM	1214	CB	ARG	154	12.891	23.146	18.240	1.00	19.71
ATOM	1215	CG	ARG	154	12.092	22.920	16.937	1.00	20.80
ATOM	1216	CD	ARG	154	11.802	21.454	16.602	1.00	19.13
ATOM	1217	NE	ARG	154	11.068	21.391	15.336	1.00	20.99
ATOM	1218	CZ	ARG	154	9.750	21.562	15.241	1.00	20.83
ATOM	1219	NH1	ARG	154	9.017	21.775	16.334	1.00	24.10
ATOM	1220	NH2	ARG	154	9.170	21.569	14.061	1.00	20.92
ATOM	1221	C	ARG	154	14.003	24.925	19.621	1.00	19.20
ATOM	1222	O	ARG	154	13.164	25.199	20.480	1.00	19.92
ATOM	1223	N	GLN	155	15.311	24.898	19.857	1.00	17.31
ATOM	1224	CA	GLN	155	15.844	25.279	21.153	1.00	16.13
ATOM	1225	CB	GLN	155	15.463	24.242	22.233	1.00	18.96
ATOM	1226	CG	GLN	155	15.501	24.801	23.662	1.00	20.63
ATOM	1227	CD	GLN	155	14.360	25.777	23.977	1.00	19.93
ATOM	1228	OE1	GLN	155	13.374	25.913	23.203	1.00	23.55
ATOM	1229	NE2	GLN	155	14.479	26.450	25.108	1.00	18.14
ATOM	1230	C	GLN	155	17.351	25.353	21.096	1.00	19.10
ATOM	1231	O	GLN	155	17.983	24.579	20.367	1.00	17.55
ATOM	1232	N	ILE	156	17.918	26.291	21.853	1.00	16.94
ATOM	1233	CA	ILE	156	19.381	26.403	21.976	1.00	16.33
ATOM	1234	CB	ILE	156	19.958	27.586	21.155	1.00	17.76
ATOM	1235	CG2	ILE	156	21.480	27.692	21.348	1.00	19.86
ATOM	1236	CG1	ILE	156	19.667	27.357	19.678	1.00	17.47
ATOM	1237	CD1	ILE	156	20.131	28.507	18.743	1.00	18.68
ATOM	1238	C	ILE	156	19.727	26.648	23.434	1.00	19.81
ATOM	1239	O	ILE	156	19.118	27.491	24.079	1.00	20.34
ATOM	1240	N	LYS	157	20.694	25.883	23.964	1.00	19.36
ATOM	1241	CA	LYS	157	21.159	26.062	25.346	1.00	19.03
ATOM	1242	CB	LYS	157	20.716	24.894	26.216	1.00	21.91
ATOM	1243	CG	LYS	157	19.226	24.949	26.419	1.00	23.38
ATOM	1244	CD	LYS	157	18.734	23.902	27.358	1.00	30.55
ATOM	1245	CE	LYS	157	17.225	24.023	27.560	1.00	29.64
ATOM	1246	NZ	LYS	157	16.789	25.233	28.330	1.00	32.34
ATOM	1247	C	LYS	157	22.669	26.162	25.348	1.00	21.84
ATOM	1248	O	LYS	157	23.328	25.607	24.480	1.00	21.65
ATOM	1249	N	ILE	158	23.218	26.897	26.322	1.00	19.35
ATOM	1250	CA	ILE	158	24.654	27.086	26.415	1.00	22.37
ATOM	1251	CB	ILE	158	25.008	28.502	25.920	1.00	23.99
ATOM	1252	CG2	ILE	158	24.148	29.517	26.649	1.00	32.81
ATOM	1253	CG1	ILE	158	26.507	28.742	26.016	1.00	31.52
ATOM	1254	CD1	ILE	158	26.887	30.082	25.417	1.00	39.40
ATOM	1255	C	ILE	158	25.016	26.861	27.881	1.00	24.95
ATOM	1256	O	ILE	158	24.356	27.370	28.794	1.00	23.16
ATOM	1257	N	TYR	159	26.061	26.061	28.099	1.00	25.04
ATOM	1258	CA	TYR	159	26.441	25.701	29.453	1.00	26.99
ATOM	1259	CB	TYR	159	26.288	24.198	29.631	1.00	27.66

ATOM	1260	CG	TYR	159	24.868	23.742	29.572	1.00	23.96
ATOM	1261	CD1	TYR	159	24.294	23.321	28.367	1.00	24.84
ATOM	1262	CE1	TYR	159	22.964	22.944	28.302	1.00	25.96
ATOM	1263	CD2	TYR	159	24.065	23.773	30.704	1.00	24.76
ATOM	1264	CE2	TYR	159	22.723	23.414	30.649	1.00	25.27
ATOM	1265	CZ	TYR	159	22.183	22.998	29.437	1.00	24.21
ATOM	1266	OH	TYR	159	20.868	22.638	29.390	1.00	28.95
ATOM	1267	C	TYR	159	27.842	26.098	29.816	1.00	30.75
ATOM	1268	O	TYR	159	28.753	25.996	28.999	1.00	27.96
ATOM	1269	N	THR	160	27.982	26.561	31.059	1.00	36.37
ATOM	1270	CA	THR	160	29.265	26.987	31.622	1.00	38.91
ATOM	1271	CB	THR	160	29.160	28.428	32.237	1.00	39.69
ATOM	1272	OG1	THR	160	30.468	28.965	32.497	1.00	40.91
ATOM	1273	CG2	THR	160	28.358	28.399	33.528	1.00	36.12
ATOM	1274	C	THR	160	29.567	25.958	32.714	1.00	38.01
ATOM	1275	O	THR	160	28.654	25.357	33.312	1.00	31.53
ATOM	1276	N	PRO	161	30.858	25.723	32.986	1.00	40.05
ATOM	1277	CD	PRO	161	32.055	26.255	32.317	1.00	38.31
ATOM	1278	CA	PRO	161	31.203	24.741	34.023	1.00	45.17
ATOM	1279	CB	PRO	161	32.717	24.566	33.852	1.00	42.14
ATOM	1280	CG	PRO	161	33.003	25.084	32.435	1.00	43.04
ATOM	1281	C	PRO	161	30.828	25.259	35.421	1.00	43.15
ATOM	1282	O	PRO	161	30.994	26.437	35.710	1.00	45.43
ATOM	1283	N	VAL	162	30.305	24.386	36.274	1.00	46.24
ATOM	1284	CA	VAL	162	29.929	24.797	37.620	1.00	49.71
ATOM	1285	CB	VAL	162	28.557	24.258	37.998	1.00	47.70
ATOM	1286	CG1	VAL	162	28.258	24.561	39.441	1.00	46.91
ATOM	1287	CG2	VAL	162	27.517	24.883	37.117	1.00	52.47
ATOM	1288	C	VAL	162	30.940	24.313	38.646	1.00	51.36
ATOM	1289	O	VAL	162	31.813	25.074	39.051	1.00	54.84
ATOM	1290	O	HOH	163	10.950	26.130	20.832	1.00	14.96
ATOM	1291	O	HOH	164	8.053	18.290	23.286	1.00	41.97
ATOM	1292	O	HOH	165	16.071	28.840	28.430	1.00	38.21
ATOM	1293	O	HOH	166	17.519	33.163	-0.449	1.00	19.80
ATOM	1294	O	HOH	167	25.525	16.435	4.565	1.00	40.12
ATOM	1295	O	HOH	168	19.315	11.332	13.683	1.00	23.21
ATOM	1296	O	HOH	169	28.419	30.851	4.099	1.00	32.72
ATOM	1297	O	HOH	170	25.775	30.519	0.847	1.00	31.48
ATOM	1298	O	HOH	171	15.541	18.291	-2.995	1.00	36.21
ATOM	1299	O	HOH	172	17.592	40.365	16.478	1.00	27.18
ATOM	1300	O	HOH	173	8.537	20.371	24.540	1.00	33.06
ATOM	1301	O	HOH	174	30.257	45.640	24.198	1.00	35.01
ATOM	1302	O	HOH	175	32.498	29.109	8.019	1.00	33.02
ATOM	1303	O	HOH	176	14.111	13.246	12.945	1.00	29.28
ATOM	1304	O	HOH	177	15.448	21.522	12.782	1.00	25.94
ATOM	1305	O	HOH	178	22.864	16.441	5.369	1.00	26.62
ATOM	1306	O	HOH	179	15.882	39.075	5.551	1.00	35.99
ATOM	1307	O	HOH	180	13.559	37.489	2.924	1.00	31.75
ATOM	1308	O	HOH	181	18.491	38.364	4.177	1.00	37.08
ATOM	1309	O	HOH	182	29.717	32.010	6.255	1.00	33.42
ATOM	1310	O	HOH	183	15.547	10.220	9.340	1.00	31.36
ATOM	1311	O	HOH	184	22.365	5.290	12.595	1.00	27.24
ATOM	1312	O	HOH	185	19.981	17.215	1.598	1.00	32.39
ATOM	1313	O	HOH	186	23.866	36.212	6.431	1.00	33.56
ATOM	1314	O	HOH	187	15.758	9.475	13.288	1.00	29.96
ATOM	1315	O	HOH	188	17.153	36.332	-0.185	1.00	30.09
ATOM	1316	O	HOH	189	13.778	39.371	9.756	1.00	31.50
ATOM	1317	O	HOH	190	8.834	14.340	7.391	1.00	30.91
ATOM	1318	O	HOH	191	26.634	13.302	11.748	1.00	33.33
ATOM	1319	O	HOH	192	18.249	14.227	21.683	1.00	31.94
ATOM	1320	O	HOH	193	20.346	31.146	31.527	1.00	37.99
ATOM	1321	O	HOH	194	28.353	36.129	31.243	1.00	38.50
ATOM	1322	O	HOH	195	33.128	35.522	34.799	1.00	40.22

ATOM	1323	O	HOH	196	35.373	21.067	13.618	1.00	40.06
ATOM	1324	O	HOH	197	37.530	31.282	11.053	1.00	42.58
ATOM	1325	O	HOH	198	11.389	32.248	25.798	1.00	30.85
ATOM	1326	O	HOH	199	23.324	38.869	12.151	1.00	33.66
ATOM	1327	O	HOH	200	6.431	19.557	11.792	1.00	29.75
ATOM	1328	O	HOH	201	20.586	21.250	0.132	1.00	36.82
ATOM	1329	O	HOH	202	23.148	20.214	2.582	1.00	38.45
ATOM	1330	O	HOH	203	8.092	25.320	28.157	1.00	40.84
ATOM	1331	O	HOH	204	22.910	14.940	17.625	1.00	34.09
ATOM	1332	O	HOH	205	16.409	40.120	8.132	1.00	40.19
ATOM	1333	O	HOH	206	13.436	37.217	17.695	1.00	34.61
ATOM	1334	O	HOH	207	31.291	19.824	25.416	1.00	40.31
ATOM	1335	O	HOH	208	6.392	29.169	10.024	1.00	34.61
ATOM	1336	O	HOH	209	14.563	22.509	26.281	1.00	32.86
ATOM	1337	O	HOH	210	11.781	15.170	4.221	1.00	35.11
ATOM	1338	O	HOH	211	29.284	26.602	2.812	1.00	41.22
ATOM	1339	O	HOH	212	26.707	26.147	2.077	1.00	36.81
ATOM	1340	O	HOH	213	27.703	38.920	30.452	1.00	40.29
ATOM	1341	O	HOH	214	2.466	35.149	15.007	1.00	47.36
ATOM	1342	O	HOH	215	11.559	36.569	20.077	1.00	36.08
ATOM	1343	O	HOH	216	36.916	36.499	22.993	1.00	39.28
ATOM	1344	O	HOH	217	12.500	39.487	7.120	1.00	46.58
ATOM	1345	O	HOH	218	14.821	6.606	7.069	1.00	59.39
ATOM	1346	O	HOH	219	16.764	9.277	16.796	1.00	37.95
ATOM	1347	O	HOH	220	25.606	15.495	20.016	1.00	36.65
ATOM	1348	O	HOH	221	28.857	38.434	11.361	1.00	47.83
ATOM	1349	O	HOH	222	16.666	11.937	37.670	1.00	51.44
ATOM	1350	O	HOH	223	17.741	5.353	10.662	1.00	36.67
ATOM	1351	O	HOH	224	6.741	27.493	27.322	1.00	54.00
ATOM	1352	O	HOH	225	17.687	25.392	30.802	1.00	35.22
ATOM	1353	O	HOH	226	9.373	8.238	10.483	1.00	50.03
ATOM	1354	O	HOH	227	9.903	35.256	2.411	1.00	39.33
ATOM	1355	O	HOH	228	25.444	27.414	39.923	1.00	53.46
ATOM	1356	O	HOH	229	15.498	11.286	3.945	1.00	51.52
ATOM	1357	O	HOH	230	4.840	29.867	18.011	1.00	45.91
ATOM	1358	O	HOH	231	16.133	12.462	20.099	1.00	37.56
ATOM	1359	O	HOH	232	18.801	34.905	7.917	1.00	19.32
ATOM	1360	O	HOH	233	16.094	11.714	11.655	1.00	27.55
ATOM	1361	O	HOH	234	10.324	21.032	3.458	1.00	22.30
ATOM	1362	O	HOH	235	11.380	29.933	2.945	1.00	24.05
ATOM	1363	O	HOH	236	20.673	31.014	39.345	1.00	43.84
ATOM	1364	O	HOH	237	6.302	30.885	5.376	1.00	32.83
ATOM	1365	O	HOH	238	20.233	25.328	1.898	1.00	20.09
ATOM	1366	O	HOH	239	25.855	29.772	3.518	1.00	27.64
ATOM	1367	O	HOH	240	20.094	36.652	6.244	1.00	26.53
ATOM	1368	O	HOH	241	28.986	34.272	7.891	1.00	32.84
ATOM	1369	O	HOH	242	23.555	39.437	19.855	1.00	27.59
ATOM	1370	O	HOH	243	20.579	13.827	15.927	1.00	27.35
ATOM	1371	O	HOH	244	16.778	27.349	26.127	1.00	27.48
ATOM	1372	O	HOH	245	7.087	28.823	17.027	1.00	26.66
ATOM	1373	O	HOH	246	15.935	1.151	4.105	1.00	40.93
ATOM	1374	O	HOH	247	23.787	-1.193	-0.358	1.00	27.85
ATOM	1375	O	HOH	248	16.819	1.825	0.816	1.00	55.35
ATOM	1376	O	HOH	249	18.284	-2.877	7.035	1.00	32.04
ATOM	1377	O	HOH	250	30.033	6.855	4.495	1.00	29.59
ATOM	1378	O	HOH	251	33.125	7.135	6.322	1.00	24.37
ATOM	1379	O	HOH	252	31.672	6.246	0.437	1.00	26.81
ATOM	1380	O	HOH	253	21.535	-3.160	3.489	1.00	31.09
ATOM	1381	O	HOH	254	25.415	6.148	3.247	1.00	34.18
ATOM	1382	O	HOH	255	23.319	20.880	36.721	1.00	37.79
ATOM	1383	O	HOH	256	29.308	32.927	33.663	1.00	45.01
ATOM	1384	O	HOH	257	23.156	39.331	9.532	1.00	40.76
ATOM	1385	O	HOH	258	26.948	11.733	9.135	1.00	50.50

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ATOM   1386  O   HOH   259      21.436  14.214   4.046  1.00 34.89
ATOM   1387  O   HOH   260      18.146  41.066  19.589  1.00 39.65
ATOM   1388  O   HOH   261       3.363  37.186  16.826  1.00 44.46
ATOM   1389  O   HOH   262      31.088  35.988  10.783  1.00 37.23
ATOM   1390  O   HOH   263      21.708  -1.613   1.247  1.00 36.09
ATOM   1391  O   HOH   264      22.014  17.782   3.109  1.00 41.73
ATOM   1392  O   HOH   265      10.470  33.374   0.315  1.00 42.61
ATOM   1393  O   HOH   266      21.307  25.449  34.784  1.00 35.41
ATOM   1394  O   HOH   267      15.879  -4.519   7.678  1.00 46.61
ATOM   1395  O   HOH   268      22.816  10.020   4.055  1.00 41.03
ATOM   1396  O   HOH   269      15.423   4.179   4.197  1.00 42.21
ATOM   1397  O   HOH   270      18.799  13.650   3.643  1.00 36.30
ATOM   1398  O   HOH   271      22.355  38.053   7.200  1.00 40.44
ATOM   1399  O   HOH   272      32.431  32.386  33.140  1.00 46.59
ATOM   1400  O   HOH   273      30.228  28.980   3.558  1.00 49.90
ATOM   1401  O   HOH   274      16.212  20.746  27.909  1.00 43.25
ATOM   1402  O   HOH   275      16.299  38.750  16.679  1.00 37.49
ATOM   1403  O   HOH   276      38.809  38.321  32.383  1.00 58.21
ATOM   1404  O   HOH   277      30.653  41.731  23.824  1.00 52.09
ATOM   1405  O   HOH   278      14.525   5.443  14.268  1.00 51.79
ATOM   1406  O   HOH   279      20.562  18.083  -1.443  1.00 49.29
ATOM   1407  O   HOH   280      34.477  31.552   9.012  1.00 47.57
ATOM   1408  O   HOH   281       4.489  35.506  11.429  1.00 38.54
ATOM   1409  O   HOH   282      31.031  41.300  21.059  1.00 50.75
ATOM   1410  O   HOH   283      28.690  14.063   8.809  1.00 44.04
ATOM   1411  O   HOH   284      28.910  19.154  28.442  1.00 42.18
ATOM   1412  O   HOH   285      26.937  36.428   6.520  1.00 49.73
ATOM   1413  O   HOH   286      13.734   9.399  15.682  1.00 51.18
ATOM   1414  O   HOH   287       9.840  40.095  13.952  1.00 53.00
ATOM   1415  O   HOH   288      24.419  42.288  17.436  1.00 37.01
ATOM   1416  O   HOH   289      17.974  28.171  31.386  1.00 53.50
ATOM   1417  O   HOH   290      27.916  38.365   8.092  1.00 51.03
ATOM   1418  O   HOH   291      22.121   7.400  14.898  1.00 53.40
ATOM   1419  O   HOH   292      30.521  16.980  11.159  1.00 43.49
ATOM   1420  O   HOH   293      20.529  22.869  37.913  1.00 49.82
ATOM   1421  O   HOH   294       7.077  30.438  22.819  1.00 41.66
ATOM   1422  O   HOH   295       5.769  27.816  24.967  1.00 47.39
ATOM   1423  O   HOH   296      23.540  36.819   3.848  1.00 42.54
ATOM   1424  O   HOH   297      21.054  41.887  11.938  1.00 48.07
ATOM   1425  O   HOH   298      30.461  14.584  11.286  1.00 44.52
ATOM   1426  O   HOH   299      12.470  15.255  21.871  1.00 46.08
ATOM   1427  O   HOH   300      13.158  33.959  27.044  1.00 52.05
ATOM   1428  O   HOH   301       9.769  37.956   8.323  1.00 42.05
ATOM   1429  O   HOH   302      14.750  19.421  35.302  1.00 55.82
ATOM   1430  O   HOH   303      16.724  11.774  25.567  1.00 52.72
ATOM   1431  O   HOH   304      25.273  13.733  24.457  1.00 40.55
ATOM   1432  O   HOH   305      27.604  17.279  26.549  1.00 39.69
ATOM   1433  O   HOH   306      18.135   3.144   3.601  1.00 28.74
ATOM   1434  O   HOH   307      20.639   5.783   2.636  1.00 58.26
ATOM   1435  O   HOH   308      19.480  12.056  27.839  1.00 57.84
ATOM   1436  O   HOH   309       8.573  38.608  16.364  1.00 51.91
ATOM   1437  O   HOH   310      17.975   6.752   3.395  1.00 59.90
ATOM   1438  O   HOH   311      12.283   6.746   1.481  1.00 49.73
ATOM   1439  O   HOH   312      16.172   6.585   5.192  1.00 51.08
ATOM   1440  O   HOH   313      13.216   4.053   6.331  1.00 58.71
ATOM   1441  O   HOH   314      34.190  32.990  11.275  1.00 49.63
ATOM   1442  O   HOH   315      39.437  28.740  12.083  1.00 53.52
ATOM   1443  O   HOH   316      28.088  36.019   4.213  1.00 41.65
ATOM   1444  O   HOH   317      29.064  14.597  19.060  1.00 44.66
ATOM   1445  O   HOH   318      26.275  13.913  22.393  1.00 42.05
ATOM   1446  O   HOH   319      18.488  20.474  37.293  1.00 52.13
ATOM   1447  NI  NI    320      17.047   2.879   5.045  1.00 35.58
END
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CRYST1   97.664   97.664   67.769  90.00  90.00 120.00 P 6 2 2
ATOM      1  CB  ALA     2      17.565   2.700   8.630  1.00 31.85
ATOM      2  C   ALA     2      17.841   4.676   7.067  1.00 32.80
ATOM      3  O   ALA     2      18.100   4.517   5.871  1.00 31.00
ATOM      4  N   ALA     2      15.872   3.147   6.838  1.00 39.47
ATOM      5  CA  ALA     2      16.815   3.795   7.791  1.00 35.67
ATOM      6  N   THR     3      18.422   5.623   7.795  1.00 29.97
ATOM      7  CA  THR     3      19.483   6.475   7.243  1.00 28.60
ATOM      8  CB  THR     3      19.121   7.955   7.344  1.00 31.12
ATOM      9  OG1 THR     3      17.893   8.162   6.644  1.00 37.79
ATOM     10  CG2 THR     3      20.234   8.844   6.720  1.00 30.58
ATOM     11  C   THR     3      20.611   6.141   8.183  1.00 26.40
ATOM     12  O   THR     3      20.818   6.777   9.208  1.00 26.84
ATOM     13  N   PRO     4      21.397   5.119   7.828  1.00 24.19
ATOM     14  CD  PRO     4      21.280   4.442   6.522  1.00 29.36
ATOM     15  CA  PRO     4      22.520   4.630   8.620  1.00 26.56
ATOM     16  CB  PRO     4      23.089   3.491   7.752  1.00 24.16
ATOM     17  CG  PRO     4      22.626   3.835   6.359  1.00 28.68
ATOM     18  C   PRO     4      23.563   5.626   9.090  1.00 23.19
ATOM     19  O   PRO     4      24.072   5.500  10.197  1.00 27.24
ATOM     20  N   ASN     5      23.859   6.637   8.274  1.00 23.26
ATOM     21  CA  ASN     5      24.845   7.611   8.716  1.00 21.48
ATOM     22  CB  ASN     5      25.831   7.943   7.586  1.00 22.99
ATOM     23  CG  ASN     5      25.170   8.658   6.412  1.00 23.14
ATOM     24  OD1 ASN     5      23.949   8.571   6.189  1.00 28.15
ATOM     25  ND2 ASN     5      25.983   9.374   5.657  1.00 32.02
ATOM     26  C   ASN     5      24.209   8.906   9.261  1.00 22.56
ATOM     27  O   ASN     5      24.859   9.944   9.294  1.00 23.02
ATOM     28  N   LYS     6      22.965   8.827   9.700  1.00 22.79
ATOM     29  CA  LYS     6      22.341  10.009  10.310  1.00 24.63
ATOM     30  CB  LYS     6      20.860   9.741  10.618  1.00 21.66
ATOM     31  CG  LYS     6      20.609   8.879  11.850  1.00 22.81
ATOM     32  CD  LYS     6      19.187   8.377  11.920  1.00 25.75
ATOM     33  CE  LYS     6      18.908   7.786  13.308  1.00 28.82
ATOM     34  NZ  LYS     6      17.540   7.227  13.432  1.00 34.55
ATOM     35  C   LYS     6      23.108  10.346  11.600  1.00 25.14
ATOM     36  O   LYS     6      23.709   9.491  12.259  1.00 24.14
ATOM     37  N   THR     7      23.111  11.622  11.951  1.00 21.05
ATOM     38  CA  THR     7      23.763  12.110  13.155  1.00 23.27
ATOM     39  CB  THR     7      23.686  13.659  13.143  1.00 20.97
ATOM     40  OG1 THR     7      24.296  14.101  11.933  1.00 20.38
ATOM     41  CG2 THR     7      24.463  14.302  14.316  1.00 23.95
ATOM     42  C   THR     7      23.051  11.541  14.388  1.00 24.44
ATOM     43  O   THR     7      21.838  11.709  14.562  1.00 24.86
ATOM     44  N   PRO     8      23.797  10.840  15.265  1.00 21.23
ATOM     45  CD  PRO     8      25.205  10.380  15.161  1.00 23.60
ATOM     46  CA  PRO     8      23.129  10.289  16.448  1.00 23.13
ATOM     47  CB  PRO     8      24.242   9.520  17.177  1.00 23.18
ATOM     48  CG  PRO     8      25.217   9.142  16.086  1.00 25.32
ATOM     49  C   PRO     8      22.602  11.392  17.365  1.00 22.26
ATOM     50  O   PRO     8      23.280  12.407  17.541  1.00 23.13
ATOM     51  N   PRO     9      21.421  11.185  17.966  1.00 23.04
ATOM     52  CD  PRO     9      20.393  10.220  17.553  1.00 26.54
ATOM     53  CA  PRO     9      20.861  12.191  18.876  1.00 27.82
ATOM     54  CB  PRO     9      19.424  11.694  19.111  1.00 31.87
ATOM     55  CG  PRO     9      19.496  10.201  18.745  1.00 31.70
ATOM     56  C   PRO     9      21.697  12.200  20.163  1.00 30.81
ATOM     57  O   PRO     9      22.174  11.144  20.622  1.00 28.92
ATOM     58  N   GLY    10      21.886  13.384  20.730  1.00 25.03
ATOM     59  CA  GLY    10      22.653  13.519  21.948  1.00 28.59
ATOM     60  C   GLY    10      21.750  13.429  23.160  1.00 26.01
ATOM     61  O   GLY    10      20.553  13.189  23.050  1.00 27.20
ATOM     62  N   ALA    11      22.362  13.637  24.318  1.00 32.36
ATOM     63  CA  ALA    11      21.676  13.577  25.603  1.00 32.93
ATOM     64  CB  ALA    11      22.706  13.530  26.721  1.00 31.57
ATOM     65  C   ALA    11      20.763  14.782  25.806  1.00 36.13
ATOM     66  O   ALA    11      21.013  15.870  25.280  1.00 28.99
ATOM     67  N   ASP    12      19.710  14.574  26.578  1.00 32.80
ATOM     68  CA  ASP    12      18.785  15.636  26.900  1.00 34.19
ATOM     69  CB  ASP    12      17.572  15.042  27.601  1.00 36.44
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ATOM     70  CG  ASP    12      16.559  16.087  27.985  1.00 42.03
ATOM     71  OD1 ASP    12      16.916  17.283  28.065  1.00 42.28
ATOM     72  OD2 ASP    12      15.400  15.701  28.223  1.00 52.77
ATOM     73  C   ASP    12      19.555  16.556  27.860  1.00 31.40
ATOM     74  O   ASP    12      20.075  16.109  28.899  1.00 28.04
ATOM     75  N   PRO    13      19.656  17.859  27.536  1.00 32.11
ATOM     76  CD  PRO    13      19.228  18.504  26.278  1.00 27.59
ATOM     77  CA  PRO    13      20.379  18.808  28.386  1.00 27.42
ATOM     78  CB  PRO    13      20.127  20.148  27.700  1.00 35.49
ATOM     79  CG  PRO    13      20.010  19.773  26.293  1.00 28.03
ATOM     80  C   PRO    13      19.916  18.843  29.827  1.00 31.09
ATOM     81  O   PRO    13      20.699  19.179  30.712  1.00 33.83
ATOM     82  N   LYS    14      18.648  18.514  30.040  1.00 33.34
ATOM     83  CA  LYS    14      18.066  18.496  31.381  1.00 39.67
ATOM     84  CB  LYS    14      16.572  18.171  31.315  1.00 45.09
ATOM     85  CG  LYS    14      15.766  19.185  30.500  1.00 53.31
ATOM     86  CD  LYS    14      14.257  18.905  30.490  1.00 56.80
ATOM     87  CE  LYS    14      13.495  20.105  29.903  1.00 59.76
ATOM     88  NZ  LYS    14      12.010  20.038  30.079  1.00 62.06
ATOM     89  C   LYS    14      18.781  17.456  32.239  1.00 43.74
ATOM     90  O   LYS    14      19.014  17.687  33.435  1.00 40.98
ATOM     91  N   GLN    15      19.128  16.317  31.634  1.00 41.54
ATOM     92  CA  GLN    15      19.823  15.266  32.381  1.00 43.12
ATOM     93  CB  GLN    15      20.130  14.054  31.502  1.00 44.61
ATOM     94  CG  GLN    15      18.900  13.375  30.963  1.00 54.13
ATOM     95  CD  GLN    15      17.862  13.135  32.042  1.00 59.98
ATOM     96  OE1 GLN    15      18.101  12.394  33.007  1.00 61.33
ATOM     97  NE2 GLN    15      16.699  13.774  31.892  1.00 64.55
ATOM     98  C   GLN    15      21.119  15.836  32.892  1.00 38.26
ATOM     99  O   GLN    15      21.522  15.588  34.023  1.00 43.09
ATOM    100  N   LEU    16      21.775  16.609  32.043  1.00 37.99
ATOM    101  CA  LEU    16      23.024  17.243  32.408  1.00 34.95
ATOM    102  CB  LEU    16      23.560  18.026  31.216  1.00 35.20
ATOM    103  CG  LEU    16      24.936  18.652  31.295  1.00 39.84
ATOM    104  CD1 LEU    16      25.959  17.664  31.850  1.00 42.45
ATOM    105  CD2 LEU    16      25.306  19.077  29.901  1.00 42.93
ATOM    106  C   LEU    16      22.772  18.185  33.588  1.00 39.12
ATOM    107  O   LEU    16      23.485  18.170  34.585  1.00 33.63
ATOM    108  N   GLU    17      21.725  18.991  33.479  1.00 37.16
ATOM    109  CA  GLU    17      21.415  19.935  34.539  1.00 36.65
ATOM    110  CB  GLU    17      20.227  20.799  34.128  1.00 37.29
ATOM    111  CG  GLU    17      20.599  21.858  33.132  1.00 36.84
ATOM    112  CD  GLU    17      19.400  22.642  32.641  1.00 43.20
ATOM    113  OE1 GLU    17      18.331  22.584  33.301  1.00 44.89
ATOM    114  OE2 GLU    17      19.533  23.318  31.600  1.00 32.68
ATOM    115  C   GLU    17      21.113  19.258  35.871  1.00 35.99
ATOM    116  O   GLU    17      21.468  19.776  36.927  1.00 36.11
ATOM    117  N   ARG    18      20.422  18.129  35.831  1.00 38.44
ATOM    118  CA  ARG    18      20.092  17.447  37.073  1.00 40.62
ATOM    119  CB  ARG    18      19.052  16.358  36.822  1.00 41.39
ATOM    120  CG  ARG    18      17.710  16.916  36.391  1.00 47.29
ATOM    121  CD  ARG    18      16.653  15.850  36.278  1.00 49.50
ATOM    122  NE  ARG    18      15.443  16.394  35.671  1.00 56.36
ATOM    123  CZ  ARG    18      14.337  15.692  35.440  1.00 60.22
ATOM    124  NH1 ARG    18      14.281  14.406  35.769  1.00 64.44
ATOM    125  NH2 ARG    18      13.290  16.274  34.869  1.00 60.48
ATOM    126  C   ARG    18      21.331  16.861  37.748  1.00 43.93
ATOM    127  O   ARG    18      21.274  16.423  38.908  1.00 45.55
ATOM    128  N   THR    19      22.457  16.852  37.049  1.00 43.22
ATOM    129  CA  THR    19      23.661  16.306  37.664  1.00 43.61
ATOM    130  CB  THR    19      24.724  15.868  36.621  1.00 41.71
ATOM    131  OG1 THR    19      25.182  17.021  35.907  1.00 41.05
ATOM    132  CG2 THR    19      24.151  14.831  35.653  1.00 36.81
ATOM    133  C   THR    19      24.286  17.377  38.541  1.00 44.25
ATOM    134  O   THR    19      25.201  17.090  39.318  1.00 47.41
ATOM    135  N   GLY    20      23.794  18.609  38.408  1.00 42.50
ATOM    136  CA  GLY    20      24.324  19.729  39.174  1.00 42.26
ATOM    137  C   GLY    20      25.760  20.101  38.841  1.00 41.87
ATOM    138  O   GLY    20      26.410  20.798  39.608  1.00 44.71
ATOM    139  N   THR    21      26.265  19.659  37.692  1.00 40.73
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ATOM    140  CA  THR   21      27.649  19.944  37.297  1.00 40.11
ATOM    141  CB  THR   21      28.298  18.686  36.687  1.00 38.87
ATOM    142  OG1 THR   21      27.435  18.164  35.665  1.00 37.19
ATOM    143  CG2 THR   21      28.515  17.613  37.760  1.00 42.35
ATOM    144  C   THR   21      27.838  21.098  36.296  1.00 39.82
ATOM    145  O   THR   21      28.962  21.563  36.059  1.00 40.38
ATOM    146  N   VAL   22      26.733  21.553  35.710  1.00 39.98
ATOM    147  CA  VAL   22      26.766  22.637  34.730  1.00 35.84
ATOM    148  CB  VAL   22      26.432  22.119  33.295  1.00 34.13
ATOM    149  CG1 VAL   22      27.519  21.184  32.818  1.00 36.30
ATOM    150  CG2 VAL   22      25.073  21.400  33.302  1.00 36.28
ATOM    151  C   VAL   22      25.718  23.679  35.070  1.00 31.58
ATOM    152  O   VAL   22      24.810  23.423  35.855  1.00 35.55
ATOM    153  N   ARG   23      25.857  24.857  34.472  1.00 33.86
ATOM    154  CA  ARG   23      24.866  25.918  34.641  1.00 30.61
ATOM    155  CB  ARG   23      25.389  27.051  35.538  1.00 33.46
ATOM    156  CG  ARG   23      24.353  28.135  35.792  1.00 36.59
ATOM    157  CD  ARG   23      24.811  29.179  36.807  1.00 50.06
ATOM    158  NE  ARG   23      23.799  30.234  36.937  1.00 57.40
ATOM    159  CZ  ARG   23      23.821  31.214  37.842  1.00 60.48
ATOM    160  NH1 ARG   23      24.813  31.292  38.724  1.00 59.66
ATOM    161  NH2 ARG   23      22.845  32.119  37.868  1.00 59.49
ATOM    162  C   ARG   23      24.532  26.452  33.244  1.00 26.60
ATOM    163  O   ARG   23      25.433  26.718  32.439  1.00 28.07
ATOM    164  N   GLU   24      23.242  26.578  32.942  1.00 24.51
ATOM    165  CA  GLU   24      22.851  27.106  31.627  1.00 26.35
ATOM    166  CB  GLU   24      21.404  26.749  31.319  1.00 26.92
ATOM    167  CG  GLU   24      21.088  26.681  29.803  1.00 24.27
ATOM    168  CD  GLU   24      20.937  28.046  29.128  1.00 22.34
ATOM    169  OE1 GLU   24      21.196  28.135  27.906  1.00 21.26
ATOM    170  OE2 GLU   24      20.541  29.029  29.804  1.00 25.67
ATOM    171  C   GLU   24      23.019  28.610  31.783  1.00 25.84
ATOM    172  O   GLU   24      22.482  29.191  32.724  1.00 31.12
ATOM    173  N   ILE   25      23.750  29.244  30.874  1.00 26.66
ATOM    174  CA  ILE   25      24.019  30.686  31.008  1.00 25.37
ATOM    175  CB  ILE   25      25.524  30.935  31.135  1.00 30.79
ATOM    176  CG2 ILE   25      26.042  30.295  32.420  1.00 37.62
ATOM    177  CG1 ILE   25      26.239  30.395  29.896  1.00 35.99
ATOM    178  CD1 ILE   25      27.715  30.722  29.837  1.00 39.97
ATOM    179  C   ILE   25      23.512  31.572  29.878  1.00 25.72
ATOM    180  O   ILE   25      23.948  32.711  29.741  1.00 24.67
ATOM    181  N   GLY   26      22.604  31.061  29.063  1.00 24.96
ATOM    182  CA  GLY   26      22.108  31.892  27.979  1.00 23.57
ATOM    183  C   GLY   26      21.446  33.195  28.417  1.00 26.63
ATOM    184  O   GLY   26      21.475  34.179  27.663  1.00 25.12
ATOM    185  N   SER   27      20.864  33.201  29.619  1.00 24.87
ATOM    186  CA  SER   27      20.183  34.392  30.138  1.00 26.28
ATOM    187  CB  SER   27      19.453  34.092  31.461  1.00 29.24
ATOM    188  OG  SER   27      20.373  33.757  32.494  1.00 35.42
ATOM    189  C   SER   27      21.144  35.534  30.358  1.00 27.43
ATOM    190  O   SER   27      20.711  36.681  30.521  1.00 29.23
ATOM    191  N   GLN   28      22.438  35.234  30.359  1.00 26.67
ATOM    192  CA  GLN   28      23.446  36.268  30.558  1.00 27.39
ATOM    193  CB  GLN   28      24.686  35.676  31.215  1.00 27.64
ATOM    194  CG  GLN   28      24.417  34.998  32.540  1.00 31.73
ATOM    195  CD  GLN   28      25.572  34.118  32.996  1.00 37.99
ATOM    196  OE1 GLN   28      26.722  34.295  32.574  1.00 45.11
ATOM    197  NE2 GLN   28      25.271  33.171  33.879  1.00 44.66
ATOM    198  C   GLN   28      23.869  36.937  29.263  1.00 29.02
ATOM    199  O   GLN   28      24.658  37.873  29.285  1.00 30.27
ATOM    200  N   ALA   29      23.361  36.458  28.135  1.00 24.05
ATOM    201  CA  ALA   29      23.746  37.022  26.853  1.00 21.88
ATOM    202  CB  ALA   29      24.150  35.876  25.900  1.00 19.97
ATOM    203  C   ALA   29      22.648  37.824  26.186  1.00 23.64
ATOM    204  O   ALA   29      21.488  37.718  26.566  1.00 22.45
ATOM    205  N   VAL   30      23.044  38.657  25.222  1.00 21.66
ATOM    206  CA  VAL   30      22.092  39.375  24.386  1.00 23.70
ATOM    207  CB  VAL   30      22.560  40.797  23.999  1.00 28.48
ATOM    208  CG1 VAL   30      22.366  41.737  25.171  1.00 29.29
ATOM    209  CG2 VAL   30      23.996  40.774  23.562  1.00 36.49
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ATOM	210	C	VAL	30	22.075	38.499	23.129	1.00	20.24
ATOM	211	O	VAL	30	23.131	38.171	22.569	1.00	23.03
ATOM	212	N	TRP	31	20.881	38.103	22.705	1.00	22.62
ATOM	213	CA	TRP	31	20.723	37.245	21.542	1.00	20.14
ATOM	214	CB	TRP	31	19.694	36.155	21.853	1.00	19.82
ATOM	215	CG	TRP	31	20.130	35.158	22.903	1.00	21.89
ATOM	216	CD2	TRP	31	20.360	33.751	22.714	1.00	20.77
ATOM	217	CE2	TRP	31	20.762	33.226	23.957	1.00	20.21
ATOM	218	CE3	TRP	31	20.256	32.894	21.611	1.00	23.63
ATOM	219	CD1	TRP	31	20.396	35.420	24.215	1.00	22.68
ATOM	220	NE1	TRP	31	20.778	34.259	24.859	1.00	22.84
ATOM	221	CZ2	TRP	31	21.064	31.871	24.142	1.00	23.20
ATOM	222	CZ3	TRP	31	20.557	31.531	21.798	1.00	23.17
ATOM	223	CH2	TRP	31	20.954	31.049	23.050	1.00	23.64
ATOM	224	C	TRP	31	20.186	38.022	20.341	1.00	23.41
ATOM	225	O	TRP	31	19.267	38.825	20.520	1.00	24.39
ATOM	226	N	SER	32	20.739	37.796	19.144	1.00	19.61
ATOM	227	CA	SER	32	20.195	38.447	17.943	1.00	21.21
ATOM	228	CB	SER	32	20.973	39.737	17.580	1.00	23.94
ATOM	229	OG	SER	32	22.339	39.492	17.343	1.00	33.80
ATOM	230	C	SER	32	20.219	37.427	16.801	1.00	21.34
ATOM	231	O	SER	32	21.024	36.501	16.804	1.00	23.80
ATOM	232	N	LEU	33	19.345	37.611	15.821	1.00	19.65
ATOM	233	CA	LEU	33	19.225	36.684	14.704	1.00	22.28
ATOM	234	CB	LEU	33	17.843	36.027	14.722	1.00	19.29
ATOM	235	CG	LEU	33	17.510	35.200	15.977	1.00	19.42
ATOM	236	CD1	LEU	33	16.050	34.738	15.907	1.00	21.19
ATOM	237	CD2	LEU	33	18.451	33.999	16.079	1.00	21.25
ATOM	238	C	LEU	33	19.361	37.462	13.424	1.00	25.48
ATOM	239	O	LEU	33	18.940	38.628	13.358	1.00	26.29
ATOM	240	N	SER	34	19.901	36.824	12.401	1.00	19.34
ATOM	241	CA	SER	34	20.061	37.475	11.090	1.00	22.28
ATOM	242	CB	SER	34	20.849	36.565	10.139	1.00	23.55
ATOM	243	OG	SER	34	20.250	35.277	10.072	1.00	22.16
ATOM	244	C	SER	34	18.685	37.833	10.478	1.00	22.84
ATOM	245	O	SER	34	18.567	38.850	9.782	1.00	22.34
ATOM	246	N	SER	35	17.673	37.009	10.727	1.00	19.00
ATOM	247	CA	SER	35	16.315	37.233	10.243	1.00	20.98
ATOM	248	CB	SER	35	16.187	36.939	8.741	1.00	21.92
ATOM	249	OG	SER	35	16.316	35.527	8.479	1.00	21.10
ATOM	250	C	SER	35	15.395	36.322	10.988	1.00	25.84
ATOM	251	O	SER	35	15.859	35.351	11.610	1.00	22.52
ATOM	252	N	CYS	36	14.093	36.617	10.929	1.00	21.49
ATOM	253	CA	CYS	36	13.106	35.791	11.599	1.00	23.33
ATOM	254	CB	CYS	36	13.182	35.973	13.114	1.00	24.17
ATOM	255	SG	CYS	36	13.128	37.720	13.690	1.00	36.04
ATOM	256	C	CYS	36	11.730	36.192	11.089	1.00	28.91
ATOM	257	O	CYS	36	11.587	37.133	10.308	1.00	29.08
ATOM	258	N	LYS	37	10.736	35.463	11.566	1.00	35.74
ATOM	259	CA	LYS	37	9.339	35.676	11.216	1.00	36.07
ATOM	260	CB	LYS	37	8.861	34.397	10.516	1.00	33.82
ATOM	261	CG	LYS	37	7.413	34.251	10.187	1.00	39.07
ATOM	262	CD	LYS	37	7.174	32.844	9.612	1.00	40.93
ATOM	263	CE	LYS	37	5.689	32.558	9.415	1.00	43.72
ATOM	264	NZ	LYS	37	5.449	31.229	8.782	1.00	46.49
ATOM	265	C	LYS	37	8.669	35.945	12.573	1.00	40.49
ATOM	266	O	LYS	37	9.006	35.343	13.593	1.00	33.10
ATOM	267	N	PRO	38	7.760	36.922	12.632	1.00	38.89
ATOM	268	CD	PRO	38	7.417	37.889	11.577	1.00	44.78
ATOM	269	CA	PRO	38	7.080	37.230	13.887	1.00	39.04
ATOM	270	CB	PRO	38	6.001	38.217	13.446	1.00	43.48
ATOM	271	CG	PRO	38	6.706	38.959	12.345	1.00	39.74
ATOM	272	C	PRO	38	6.491	36.003	14.579	1.00	36.12
ATOM	273	O	PRO	38	5.691	35.282	13.990	1.00	35.81
ATOM	274	N	GLY	39	6.871	35.791	15.837	1.00	33.45
ATOM	275	CA	GLY	39	6.401	34.657	16.607	1.00	31.61
ATOM	276	C	GLY	39	7.267	33.424	16.373	1.00	26.20
ATOM	277	O	GLY	39	6.933	32.327	16.841	1.00	29.08
ATOM	278	N	PHE	40	8.366	33.598	15.628	1.00	26.05
ATOM	279	CA	PHE	40	9.265	32.471	15.319	1.00	22.93

ATOM	280	CB	PHE	40	8.960	31.930	13.913	1.00	21.82
ATOM	281	CG	PHE	40	7.555	31.412	13.751	1.00	23.06
ATOM	282	CD1	PHE	40	6.522	32.254	13.362	1.00	27.05
ATOM	283	CD2	PHE	40	7.270	30.075	13.993	1.00	22.82
ATOM	284	CE1	PHE	40	5.227	31.747	13.229	1.00	24.75
ATOM	285	CE2	PHE	40	5.988	29.569	13.860	1.00	27.16
ATOM	286	CZ	PHE	40	4.957	30.428	13.474	1.00	26.84
ATOM	287	C	PHE	40	10.688	33.019	15.382	1.00	24.56
ATOM	288	O	PHE	40	11.343	33.143	14.364	1.00	23.03
ATOM	289	N	GLY	41	11.126	33.373	16.590	1.00	21.87
ATOM	290	CA	GLY	41	12.434	33.970	16.813	1.00	22.16
ATOM	291	C	GLY	41	13.100	33.548	18.113	1.00	22.36
ATOM	292	O	GLY	41	12.944	32.400	18.558	1.00	23.08
ATOM	293	N	VAL	42	13.821	34.488	18.727	1.00	22.93
ATOM	294	CA	VAL	42	14.574	34.167	19.942	1.00	27.37
ATOM	295	CB	VAL	42	15.291	35.395	20.492	1.00	26.17
ATOM	296	CG1	VAL	42	16.080	35.027	21.737	1.00	28.18
ATOM	297	CG2	VAL	42	16.229	35.942	19.446	1.00	27.99
ATOM	298	C	VAL	42	13.805	33.523	21.060	1.00	26.07
ATOM	299	O	VAL	42	14.281	32.556	21.671	1.00	23.02
ATOM	300	N	ASP	43	12.619	34.050	21.360	1.00	22.03
ATOM	301	CA	ASP	43	11.844	33.483	22.440	1.00	24.97
ATOM	302	CB	ASP	43	10.481	34.190	22.577	1.00	28.19
ATOM	303	CG	ASP	43	10.598	35.604	23.083	1.00	36.34
ATOM	304	OD1	ASP	43	11.585	35.927	23.787	1.00	38.39
ATOM	305	OD2	ASP	43	9.674	36.392	22.785	1.00	39.40
ATOM	306	C	ASP	43	11.574	32.000	22.223	1.00	24.42
ATOM	307	O	ASP	43	11.510	31.233	23.192	1.00	24.63
ATOM	308	N	GLN	44	11.404	31.601	20.958	1.00	23.01
ATOM	309	CA	GLN	44	11.088	30.231	20.614	1.00	21.19
ATOM	310	CB	GLN	44	10.365	30.155	19.252	1.00	22.57
ATOM	311	CG	GLN	44	8.897	30.687	19.318	1.00	20.51
ATOM	312	CD	GLN	44	8.829	32.192	19.548	1.00	24.86
ATOM	313	OE1	GLN	44	9.519	32.988	18.896	1.00	24.06
ATOM	314	NE2	GLN	44	7.971	32.598	20.494	1.00	31.57
ATOM	315	C	GLN	44	12.315	29.336	20.653	1.00	19.67
ATOM	316	O	GLN	44	12.176	28.134	20.499	1.00	23.85
ATOM	317	N	LEU	45	13.487	29.937	20.889	1.00	19.51
ATOM	318	CA	LEU	45	14.716	29.128	21.038	1.00	18.98
ATOM	319	CB	LEU	45	15.914	29.809	20.379	1.00	20.32
ATOM	320	CG	LEU	45	15.897	30.050	18.877	1.00	18.60
ATOM	321	CD1	LEU	45	17.039	30.968	18.533	1.00	24.64
ATOM	322	CD2	LEU	45	15.979	28.695	18.137	1.00	27.27
ATOM	323	C	LEU	45	15.051	28.990	22.514	1.00	22.91
ATOM	324	O	LEU	45	15.923	28.211	22.881	1.00	20.29
ATOM	325	N	ARG	46	14.320	29.721	23.358	1.00	21.44
ATOM	326	CA	ARG	46	14.576	29.785	24.797	1.00	21.43
ATOM	327	CB	ARG	46	15.030	31.210	25.104	1.00	23.76
ATOM	328	CG	ARG	46	16.250	31.680	24.342	1.00	21.89
ATOM	329	CD	ARG	46	17.512	30.885	24.741	1.00	22.31
ATOM	330	NE	ARG	46	17.843	31.151	26.150	1.00	21.28
ATOM	331	CZ	ARG	46	18.757	30.475	26.847	1.00	24.74
ATOM	332	NH1	ARG	46	19.440	29.496	26.270	1.00	20.78
ATOM	333	NH2	ARG	46	18.968	30.751	28.137	1.00	23.03
ATOM	334	C	ARG	46	13.416	29.420	25.734	1.00	21.28
ATOM	335	O	ARG	46	13.547	29.496	26.973	1.00	24.79
ATOM	336	N	ASP	47	12.293	29.017	25.147	1.00	23.13
ATOM	337	CA	ASP	47	11.071	28.693	25.885	1.00	24.90
ATOM	338	CB	ASP	47	9.877	29.049	24.991	1.00	24.68
ATOM	339	CG	ASP	47	9.821	28.216	23.696	1.00	26.56
ATOM	340	OD1	ASP	47	10.722	27.368	23.418	1.00	23.86
ATOM	341	OD2	ASP	47	8.849	28.413	22.935	1.00	24.50
ATOM	342	C	ASP	47	10.897	27.263	26.423	1.00	24.71
ATOM	343	O	ASP	47	9.839	26.910	26.953	1.00	26.93
ATOM	344	N	ASP	48	11.920	26.428	26.300	1.00	21.81
ATOM	345	CA	ASP	48	11.851	25.044	26.724	1.00	20.94
ATOM	346	CB	ASP	48	11.790	24.920	28.244	1.00	28.57
ATOM	347	CG	ASP	48	13.141	25.084	28.875	1.00	27.67
ATOM	348	OD1	ASP	48	14.087	24.419	28.408	1.00	33.99
ATOM	349	OD2	ASP	48	13.271	25.857	29.842	1.00	38.36

ATOM	350	C	ASP	48	10.713	24.293	26.106	1.00	21.49
ATOM	351	O	ASP	48	10.185	23.339	26.686	1.00	26.39
ATOM	352	N	ASN	49	10.339	24.716	24.906	1.00	22.55
ATOM	353	CA	ASN	49	9.263	24.073	24.188	1.00	24.84
ATOM	354	CB	ASN	49	8.159	25.084	23.939	1.00	25.15
ATOM	355	CG	ASN	49	6.912	24.443	23.405	1.00	28.11
ATOM	356	OD1	ASN	49	6.946	23.311	22.891	1.00	27.77
ATOM	357	ND2	ASN	49	5.774	25.164	23.522	1.00	29.79
ATOM	358	C	ASN	49	9.801	23.586	22.852	1.00	23.59
ATOM	359	O	ASN	49	10.183	24.396	22.023	1.00	22.94
ATOM	360	N	LEU	50	9.830	22.272	22.654	1.00	23.33
ATOM	361	CA	LEU	50	10.350	21.709	21.408	1.00	22.10
ATOM	362	CB	LEU	50	10.831	20.268	21.644	1.00	23.45
ATOM	363	CG	LEU	50	11.930	20.166	22.711	1.00	25.25
ATOM	364	CD1	LEU	50	12.409	18.725	22.873	1.00	31.13
ATOM	365	CD2	LEU	50	13.090	21.057	22.303	1.00	26.50
ATOM	366	C	LEU	50	9.345	21.754	20.231	1.00	21.43
ATOM	367	O	LEU	50	9.681	21.384	19.100	1.00	22.33
ATOM	368	N	GLU	51	8.126	22.204	20.502	1.00	26.09
ATOM	369	CA	GLU	51	7.096	22.323	19.476	1.00	27.71
ATOM	370	CB	GLU	51	5.692	22.130	20.078	1.00	29.24
ATOM	371	CG	GLU	51	5.388	20.731	20.558	1.00	37.50
ATOM	372	CD	GLU	51	3.895	20.545	20.817	1.00	44.25
ATOM	373	OE1	GLU	51	3.287	21.373	21.531	1.00	47.40
ATOM	374	OE2	GLU	51	3.319	19.564	20.303	1.00	52.06
ATOM	375	C	GLU	51	7.151	23.676	18.783	1.00	23.82
ATOM	376	O	GLU	51	6.607	23.846	17.695	1.00	29.20
ATOM	377	N	THR	52	7.811	24.649	19.400	1.00	22.22
ATOM	378	CA	THR	52	7.951	25.976	18.796	1.00	23.14
ATOM	379	CB	THR	52	7.795	27.107	19.800	1.00	23.37
ATOM	380	OG1	THR	52	8.730	26.930	20.879	1.00	22.10
ATOM	381	CG2	THR	52	6.388	27.121	20.361	1.00	26.41
ATOM	382	C	THR	52	9.351	26.116	18.199	1.00	21.76
ATOM	383	O	THR	52	10.267	25.411	18.603	1.00	21.81
ATOM	384	N	TYR	53	9.497	27.049	17.268	1.00	22.56
ATOM	385	CA	TYR	53	10.782	27.220	16.591	1.00	19.69
ATOM	386	CB	TYR	53	10.829	26.258	15.383	1.00	19.13
ATOM	387	CG	TYR	53	9.606	26.281	14.483	1.00	21.38
ATOM	388	CD1	TYR	53	9.499	27.203	13.452	1.00	19.80
ATOM	389	CE1	TYR	53	8.380	27.243	12.613	1.00	23.01
ATOM	390	CD2	TYR	53	8.540	25.371	14.655	1.00	20.83
ATOM	391	CE2	TYR	53	7.404	25.409	13.811	1.00	23.37
ATOM	392	CZ	TYR	53	7.331	26.339	12.806	1.00	22.64
ATOM	393	OH	TYR	53	6.251	26.457	11.964	1.00	28.50
ATOM	394	C	TYR	53	11.023	28.612	16.057	1.00	20.25
ATOM	395	O	TYR	53	10.088	29.400	15.808	1.00	23.32
ATOM	396	N	TRP	54	12.306	28.890	15.882	1.00	22.63
ATOM	397	CA	TRP	54	12.769	30.090	15.189	1.00	19.67
ATOM	398	CB	TRP	54	14.263	30.370	15.479	1.00	20.81
ATOM	399	CG	TRP	54	14.988	31.185	14.399	1.00	19.44
ATOM	400	CD2	TRP	54	16.321	30.977	13.910	1.00	19.33
ATOM	401	CE2	TRP	54	16.623	32.044	13.015	1.00	20.25
ATOM	402	CE3	TRP	54	17.303	29.997	14.141	1.00	20.17
ATOM	403	CD1	TRP	54	14.541	32.349	13.787	1.00	20.39
ATOM	404	NE1	TRP	54	15.521	32.858	12.960	1.00	19.41
ATOM	405	CZ2	TRP	54	17.853	32.161	12.359	1.00	21.72
ATOM	406	CZ3	TRP	54	18.541	30.114	13.485	1.00	22.59
ATOM	407	CH2	TRP	54	18.804	31.190	12.604	1.00	21.15
ATOM	408	C	TRP	54	12.662	29.657	13.721	1.00	22.13
ATOM	409	O	TRP	54	13.002	28.507	13.374	1.00	19.46
ATOM	410	N	GLN	55	12.116	30.528	12.866	1.00	20.73
ATOM	411	CA	GLN	55	12.126	30.271	11.425	1.00	21.75
ATOM	412	CB	GLN	55	10.701	30.090	10.834	1.00	18.77
ATOM	413	CG	GLN	55	10.753	29.892	9.324	1.00	20.61
ATOM	414	CD	GLN	55	9.436	29.397	8.712	1.00	21.15
ATOM	415	OE1	GLN	55	8.839	28.422	9.181	1.00	22.96
ATOM	416	NE2	GLN	55	8.995	30.062	7.661	1.00	23.07
ATOM	417	C	GLN	55	12.772	31.506	10.834	1.00	20.73
ATOM	418	O	GLN	55	12.302	32.639	11.079	1.00	19.84
ATOM	419	N	SER	56	13.862	31.331	10.090	1.00	19.16

ATOM	420	CA	SER	56	14.506	32.480	9.444	1.00	16.75
ATOM	421	CB	SER	56	15.891	32.070	8.892	1.00	18.77
ATOM	422	OG	SER	56	15.758	31.051	7.916	1.00	19.43
ATOM	423	C	SER	56	13.639	32.982	8.278	1.00	21.77
ATOM	424	O	SER	56	12.631	32.350	7.897	1.00	18.55
ATOM	425	N	ASP	57	14.005	34.157	7.765	1.00	18.80
ATOM	426	CA	ASP	57	13.334	34.721	6.587	1.00	19.70
ATOM	427	CB	ASP	57	12.101	35.531	6.961	1.00	21.93
ATOM	428	CG	ASP	57	11.364	36.037	5.711	1.00	29.37
ATOM	429	OD1	ASP	57	11.721	35.633	4.574	1.00	25.51
ATOM	430	OD2	ASP	57	10.422	36.844	5.868	1.00	35.00
ATOM	431	C	ASP	57	14.367	35.597	5.936	1.00	21.57
ATOM	432	O	ASP	57	14.360	36.828	6.078	1.00	22.77
ATOM	433	N	GLY	58	15.283	34.963	5.219	1.00	18.97
ATOM	434	CA	GLY	58	16.354	35.720	4.602	1.00	21.29
ATOM	435	C	GLY	58	17.352	34.831	3.887	1.00	22.14
ATOM	436	O	GLY	58	17.135	33.636	3.773	1.00	21.80
ATOM	437	N	SER	59	18.435	35.436	3.429	1.00	21.76
ATOM	438	CA	SER	59	19.495	34.743	2.713	1.00	24.07
ATOM	439	CB	SER	59	20.297	35.745	1.887	1.00	29.56
ATOM	440	OG	SER	59	19.443	36.460	1.008	1.00	42.07
ATOM	441	C	SER	59	20.479	34.027	3.645	1.00	23.26
ATOM	442	O	SER	59	20.831	34.560	4.687	1.00	24.93
ATOM	443	N	GLU	60	20.916	32.841	3.245	1.00	19.77
ATOM	444	CA	GLU	60	21.916	32.105	4.016	1.00	23.03
ATOM	445	CB	GLU	60	22.138	30.724	3.436	1.00	29.13
ATOM	446	CG	GLU	60	20.885	29.903	3.430	1.00	28.50
ATOM	447	CD	GLU	60	21.034	28.598	2.646	1.00	28.77
ATOM	448	OE1	GLU	60	22.091	28.385	2.048	1.00	24.59
ATOM	449	OE2	GLU	60	20.062	27.807	2.636	1.00	34.85
ATOM	450	C	GLU	60	23.209	32.890	3.900	1.00	23.26
ATOM	451	O	GLU	60	23.421	33.603	2.924	1.00	23.41
ATOM	452	N	CPR	61	24.099	32.772	4.890	1.00	20.75
ATOM	453	CD	CPR	61	25.447	33.374	4.813	1.00	22.05
ATOM	454	CA	CPR	61	23.947	31.947	6.088	1.00	20.28
ATOM	455	CB	CPR	61	25.385	31.794	6.586	1.00	21.11
ATOM	456	CG	CPR	61	26.015	33.119	6.202	1.00	25.59
ATOM	457	C	CPR	61	23.054	32.581	7.116	1.00	21.44
ATOM	458	O	CPR	61	23.035	33.802	7.261	1.00	21.26
ATOM	459	N	HIS	62	22.302	31.762	7.853	1.00	17.74
ATOM	460	CA	HIS	62	21.448	32.296	8.890	1.00	16.11
ATOM	461	CB	HIS	62	20.229	31.410	9.085	1.00	16.69
ATOM	462	CG	HIS	62	19.448	31.216	7.831	1.00	16.94
ATOM	463	CD2	HIS	62	19.212	30.102	7.098	1.00	17.52
ATOM	464	ND1	HIS	62	18.855	32.264	7.144	1.00	17.09
ATOM	465	CE1	HIS	62	18.296	31.795	6.041	1.00	18.78
ATOM	466	NE2	HIS	62	18.493	30.485	5.988	1.00	19.24
ATOM	467	C	HIS	62	22.294	32.303	10.155	1.00	20.75
ATOM	468	O	HIS	62	22.968	31.320	10.463	1.00	19.95
ATOM	469	N	LEU	63	22.208	33.395	10.897	1.00	19.89
ATOM	470	CA	LEU	63	23.041	33.568	12.083	1.00	19.96
ATOM	471	CB	LEU	63	23.932	34.827	11.898	1.00	19.13
ATOM	472	CG	LEU	63	24.678	34.885	10.551	1.00	17.80
ATOM	473	CD1	LEU	63	25.281	36.315	10.372	1.00	24.86
ATOM	474	CD2	LEU	63	25.779	33.849	10.475	1.00	20.11
ATOM	475	C	LEU	63	22.316	33.746	13.394	1.00	19.45
ATOM	476	O	LEU	63	21.294	34.437	13.468	1.00	19.70
ATOM	477	N	VAL	64	22.870	33.123	14.438	1.00	17.40
ATOM	478	CA	VAL	64	22.385	33.299	15.787	1.00	16.46
ATOM	479	CB	VAL	64	22.022	31.958	16.505	1.00	16.78
ATOM	480	CG1	VAL	64	21.493	32.279	17.902	1.00	17.44
ATOM	481	CG2	VAL	64	20.964	31.165	15.695	1.00	19.80
ATOM	482	C	VAL	64	23.620	33.879	16.498	1.00	18.44
ATOM	483	O	VAL	64	24.676	33.243	16.569	1.00	20.65
ATOM	484	N	ASN	65	23.474	35.100	16.998	1.00	18.02
ATOM	485	CA	ASN	65	24.541	35.784	17.714	1.00	19.75
ATOM	486	CB	ASN	65	24.684	37.208	17.192	1.00	22.10
ATOM	487	CG	ASN	65	24.955	37.239	15.703	1.00	22.93
ATOM	488	OD1	ASN	65	25.842	36.532	15.203	1.00	23.56
ATOM	489	ND2	ASN	65	24.187	38.049	14.984	1.00	28.50

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ATOM    490  C   ASN   65      24.233  35.797  19.204  1.00 19.38
ATOM    491  O   ASN   65      23.156  36.225  19.641  1.00 21.71
ATOM    492  N   ILE   66      25.202  35.333  19.986  1.00 19.70
ATOM    493  CA  ILE   66      25.072  35.240  21.443  1.00 19.73
ATOM    494  CB  ILE   66      25.177  33.733  21.870  1.00 18.70
ATOM    495  CG2 ILE   66      25.031  33.612  23.385  1.00 21.89
ATOM    496  CG1 ILE   66      24.064  32.918  21.203  1.00 22.37
ATOM    497  CD1 ILE   66      24.353  31.414  21.216  1.00 22.18
ATOM    498  C   ILE   66      26.233  36.082  21.997  1.00 23.54
ATOM    499  O   ILE   66      27.400  35.693  21.927  1.00 24.52
ATOM    500  N   GLN   67      25.906  37.264  22.521  1.00 20.68
ATOM    501  CA  GLN   67      26.941  38.165  22.992  1.00 21.16
ATOM    502  CB  GLN   67      26.845  39.492  22.225  1.00 23.96
ATOM    503  CG  GLN   67      27.082  39.313  20.748  1.00 30.70
ATOM    504  CD  GLN   67      26.866  40.596  19.985  1.00 35.85
ATOM    505  OE1 GLN   67      25.747  40.904  19.566  1.00 31.84
ATOM    506  NE2 GLN   67      27.939  41.368  19.821  1.00 33.37
ATOM    507  C   GLN   67      26.907  38.430  24.477  1.00 21.48
ATOM    508  O   GLN   67      25.875  38.770  25.041  1.00 20.99
ATOM    509  N   PHE   68      28.054  38.272  25.107  1.00 23.70
ATOM    510  CA  PHE   68      28.137  38.537  26.535  1.00 25.54
ATOM    511  CB  PHE   68      28.989  37.477  27.223  1.00 23.59
ATOM    512  CG  PHE   68      28.432  36.080  27.097  1.00 25.55
ATOM    513  CD1 PHE   68      28.925  35.213  26.129  1.00 26.01
ATOM    514  CD2 PHE   68      27.398  35.648  27.915  1.00 25.32
ATOM    515  CE1 PHE   68      28.388  33.938  25.975  1.00 25.57
ATOM    516  CE2 PHE   68      26.849  34.358  27.773  1.00 28.36
ATOM    517  CZ  PHE   68      27.350  33.508  26.792  1.00 27.49
ATOM    518  C   PHE   68      28.764  39.911  26.735  1.00 29.15
ATOM    519  O   PHE   68      29.535  40.397  25.898  1.00 30.45
ATOM    520  N   ARG   69      28.435  40.526  27.866  1.00 29.87
ATOM    521  CA  ARG   69      28.957  41.850  28.214  1.00 32.76
ATOM    522  CB  ARG   69      28.111  42.478  29.325  1.00 32.88
ATOM    523  CG  ARG   69      28.673  43.810  29.797  1.00 44.80
ATOM    524  CD  ARG   69      28.228  44.210  31.209  1.00 48.49
ATOM    525  NE  ARG   69      28.980  45.384  31.672  1.00 55.55
ATOM    526  CZ  ARG   69      28.761  46.022  32.825  1.00 61.00
ATOM    527  NH1 ARG   69      27.807  45.603  33.654  1.00 62.39
ATOM    528  NH2 ARG   69      29.485  47.091  33.150  1.00 57.16
ATOM    529  C   ARG   69      30.382  41.707  28.724  1.00 33.27
ATOM    530  O   ARG   69      31.222  42.591  28.516  1.00 34.79
ATOM    531  N   ARG   70      30.628  40.567  29.357  1.00 31.13
ATOM    532  CA  ARG   70      31.906  40.194  29.965  1.00 36.52
ATOM    533  CB  ARG   70      31.690  39.912  31.451  1.00 39.19
ATOM    534  CG  ARG   70      30.714  38.721  31.648  1.00 45.98
ATOM    535  CD  ARG   70      30.700  38.119  33.055  1.00 48.95
ATOM    536  NE  ARG   70      31.418  36.836  33.133  1.00 55.95
ATOM    537  CZ  ARG   70      30.836  35.641  33.228  1.00 48.95
ATOM    538  NH1 ARG   70      29.514  35.529  33.270  1.00 56.89
ATOM    539  NH2 ARG   70      31.579  34.545  33.264  1.00 58.97
ATOM    540  C   ARG   70      32.480  38.917  29.378  1.00 34.55
ATOM    541  O   ARG   70      31.747  38.084  28.859  1.00 35.20
ATOM    542  N   LYS   71      33.788  38.733  29.523  1.00 35.14
ATOM    543  CA  LYS   71      34.453  37.524  29.040  1.00 33.18
ATOM    544  CB  LYS   71      35.940  37.604  29.363  1.00 34.84
ATOM    545  CG  LYS   71      36.832  36.897  28.387  1.00 43.63
ATOM    546  CD  LYS   71      38.257  37.425  28.521  1.00 46.74
ATOM    547  CE  LYS   71      39.106  37.045  27.323  1.00 53.57
ATOM    548  NZ  LYS   71      39.186  35.573  27.166  1.00 55.44
ATOM    549  C   LYS   71      33.786  36.376  29.803  1.00 33.72
ATOM    550  O   LYS   71      33.731  36.388  31.040  1.00 34.12
ATOM    551  N   THR   72      33.279  35.384  29.076  1.00 28.12
ATOM    552  CA  THR   72      32.543  34.307  29.705  1.00 25.32
ATOM    553  CB  THR   72      31.049  34.454  29.296  1.00 27.19
ATOM    554  OG1 THR   72      30.571  35.721  29.771  1.00 30.28
ATOM    555  CG2 THR   72      30.192  33.345  29.868  1.00 26.68
ATOM    556  C   THR   72      33.054  32.932  29.323  1.00 28.86
ATOM    557  O   THR   72      33.324  32.683  28.163  1.00 30.59
ATOM    558  N   THR   73      33.192  32.050  30.314  1.00 30.59
ATOM    559  CA  THR   73      33.649  30.682  30.061  1.00 30.48
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ATOM    560  CB  THR    73      34.159  30.036  31.363  1.00 36.41
ATOM    561  OG1 THR    73      35.146  30.896  31.934  1.00 39.05
ATOM    562  CG2 THR    73      34.785  28.680  31.101  1.00 39.16
ATOM    563  C   THR    73      32.472  29.860  29.526  1.00 30.13
ATOM    564  O   THR    73      31.418  29.796  30.155  1.00 29.93
ATOM    565  N   VAL    74      32.653  29.252  28.360  1.00 29.80
ATOM    566  CA  VAL    74      31.601  28.449  27.764  1.00 29.78
ATOM    567  CB  VAL    74      31.058  29.095  26.476  1.00 30.18
ATOM    568  CG1 VAL    74      30.317  30.390  26.837  1.00 32.36
ATOM    569  CG2 VAL    74      32.205  29.380  25.503  1.00 34.52
ATOM    570  C   VAL    74      32.163  27.070  27.451  1.00 29.65
ATOM    571  O   VAL    74      33.261  26.943  26.899  1.00 34.97
ATOM    572  N   LYS    75      31.412  26.054  27.817  1.00 25.14
ATOM    573  CA  LYS    75      31.877  24.695  27.596  1.00 28.22
ATOM    574  CB  LYS    75      31.811  23.926  28.912  1.00 30.58
ATOM    575  CG  LYS    75      32.417  22.533  28.852  1.00 39.31
ATOM    576  CD  LYS    75      32.136  21.757  30.125  1.00 39.95
ATOM    577  CE  LYS    75      32.778  20.370  30.048  1.00 46.29
ATOM    578  NZ  LYS    75      32.375  19.510  31.205  1.00 54.84
ATOM    579  C   LYS    75      31.147  23.909  26.529  1.00 28.24
ATOM    580  O   LYS    75      31.775  23.236  25.712  1.00 25.94
ATOM    581  N   THR    76      29.821  24.001  26.529  1.00 24.94
ATOM    582  CA  THR    76      29.022  23.237  25.599  1.00 25.16
ATOM    583  CB  THR    76      28.464  22.000  26.308  1.00 24.48
ATOM    584  OG1 THR    76      29.553  21.331  26.979  1.00 26.92
ATOM    585  CG2 THR    76      27.827  21.008  25.316  1.00 26.91
ATOM    586  C   THR    76      27.846  24.031  25.067  1.00 22.86
ATOM    587  O   THR    76      27.159  24.732  25.819  1.00 23.73
ATOM    588  N   LEU    77      27.624  23.872  23.778  1.00 21.69
ATOM    589  CA  LEU    77      26.495  24.483  23.063  1.00 21.56
ATOM    590  CB  LEU    77      27.016  25.182  21.810  1.00 22.96
ATOM    591  CG  LEU    77      26.000  25.636  20.763  1.00 26.55
ATOM    592  CD1 LEU    77      25.080  26.710  21.374  1.00 27.25
ATOM    593  CD2 LEU    77      26.777  26.172  19.535  1.00 26.27
ATOM    594  C   LEU    77      25.577  23.327  22.642  1.00 21.81
ATOM    595  O   LEU    77      26.046  22.353  22.052  1.00 21.61
ATOM    596  N   CYS    78      24.283  23.430  22.942  1.00 19.56
ATOM    597  CA  CYS    78      23.317  22.394  22.588  1.00 20.19
ATOM    598  CB  CYS    78      22.610  21.859  23.823  1.00 19.42
ATOM    599  SG  CYS    78      23.815  21.089  25.005  1.00 23.74
ATOM    600  C   CYS    78      22.277  22.979  21.646  1.00 19.20
ATOM    601  O   CYS    78      21.671  24.008  21.973  1.00 20.69
ATOM    602  N   ILE    79      22.032  22.316  20.501  1.00 19.71
ATOM    603  CA  ILE    79      21.044  22.804  19.519  1.00 20.73
ATOM    604  CB  ILE    79      21.753  23.139  18.199  1.00 22.08
ATOM    605  CG2 ILE    79      20.756  23.483  17.124  1.00 22.65
ATOM    606  CG1 ILE    79      22.730  24.282  18.420  1.00 22.69
ATOM    607  CD1 ILE    79      23.703  24.492  17.249  1.00 25.89
ATOM    608  C   ILE    79      20.059  21.680  19.240  1.00 21.38
ATOM    609  O   ILE    79      20.497  20.548  19.020  1.00 24.47
ATOM    610  N   TYR    80      18.759  21.970  19.222  1.00 18.35
ATOM    611  CA  TYR    80      17.770  20.920  18.916  1.00 20.08
ATOM    612  CB  TYR    80      16.566  21.006  19.866  1.00 18.97
ATOM    613  CG  TYR    80      15.653  19.808  19.768  1.00 20.11
ATOM    614  CD1 TYR    80      15.791  18.750  20.634  1.00 21.98
ATOM    615  CE1 TYR    80      14.952  17.653  20.568  1.00 21.36
ATOM    616  CD2 TYR    80      14.645  19.739  18.795  1.00 22.51
ATOM    617  CE2 TYR    80      13.791  18.623  18.715  1.00 23.33
ATOM    618  CZ  TYR    80      13.956  17.597  19.610  1.00 22.36
ATOM    619  OH  TYR    80      13.140  16.497  19.615  1.00 29.50
ATOM    620  C   TYR    80      17.305  21.059  17.488  1.00 23.61
ATOM    621  O   TYR    80      16.782  22.108  17.103  1.00 26.31
ATOM    622  N   ALA    81      17.445  19.993  16.708  1.00 20.53
ATOM    623  CA  ALA    81      17.038  20.025  15.300  1.00 20.61
ATOM    624  CB  ALA    81      18.265  20.213  14.379  1.00 23.14
ATOM    625  C   ALA    81      16.416  18.669  15.044  1.00 23.80
ATOM    626  O   ALA    81      16.965  17.666  15.492  1.00 28.65
ATOM    627  N   ASP    82      15.292  18.642  14.341  1.00 21.79
ATOM    628  CA  ASP    82      14.629  17.373  14.069  1.00 21.78
ATOM    629  CB  ASP    82      13.465  17.160  15.014  1.00 28.41
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ATOM    630  CG  ASP    82      12.892  15.774  14.861  1.00 32.55
ATOM    631  OD1 ASP    82      13.563  14.776  15.256  1.00 37.47
ATOM    632  OD2 ASP    82      11.795  15.682  14.314  1.00 29.28
ATOM    633  C   ASP    82      14.122  17.296  12.642  1.00 20.18
ATOM    634  O   ASP    82      13.136  17.941  12.259  1.00 22.25
ATOM    635  N   TYR    83      14.801  16.462  11.861  1.00 19.69
ATOM    636  CA  TYR    83      14.518  16.285  10.461  1.00 19.83
ATOM    637  CB  TYR    83      15.539  15.320   9.892  1.00 19.13
ATOM    638  CG  TYR    83      15.379  15.052   8.429  1.00 21.04
ATOM    639  CD1 TYR    83      15.690  16.019   7.472  1.00 18.89
ATOM    640  CE1 TYR    83      15.606  15.755   6.124  1.00 22.14
ATOM    641  CD2 TYR    83      14.964  13.806   7.998  1.00 22.75
ATOM    642  CE2 TYR    83      14.875  13.525   6.639  1.00 25.09
ATOM    643  CZ  TYR    83      15.191  14.494   5.715  1.00 25.46
ATOM    644  OH  TYR    83      15.027  14.213   4.382  1.00 26.40
ATOM    645  C   TYR    83      13.107  15.807  10.141  1.00 20.31
ATOM    646  O   TYR    83      12.488  16.260   9.176  1.00 20.41
ATOM    647  N   LYS    84      12.597  14.867  10.927  1.00 20.33
ATOM    648  CA  LYS    84      11.262  14.360  10.639  1.00 21.97
ATOM    649  CB  LYS    84      10.925  13.193  11.577  1.00 23.99
ATOM    650  CG  LYS    84      11.869  12.003  11.376  1.00 38.03
ATOM    651  CD  LYS    84      11.527  10.835  12.283  1.00 45.54
ATOM    652  CE  LYS    84      12.454   9.657  12.033  1.00 50.81
ATOM    653  NZ  LYS    84      12.127   8.529  12.959  1.00 56.82
ATOM    654  C   LYS    84      10.222  15.461  10.751  1.00 23.98
ATOM    655  O   LYS    84       9.244  15.470   9.999  1.00 26.00
ATOM    656  N   SER    85      10.462  16.414  11.643  1.00 21.56
ATOM    657  CA  SER    85       9.515  17.507  11.803  1.00 20.80
ATOM    658  CB  SER    85       9.574  18.078  13.225  1.00 25.25
ATOM    659  OG  SER    85       9.349  17.112  14.247  1.00 28.81
ATOM    660  C   SER    85       9.823  18.681  10.877  1.00 21.78
ATOM    661  O   SER    85       8.911  19.352  10.389  1.00 23.62
ATOM    662  N   ASP    86      11.105  18.921  10.620  1.00 20.73
ATOM    663  CA  ASP    86      11.420  20.136   9.861  1.00 18.42
ATOM    664  CB  ASP    86      12.500  20.938  10.609  1.00 18.28
ATOM    665  CG  ASP    86      12.012  21.442  11.952  1.00 18.21
ATOM    666  OD1 ASP    86      10.895  21.973  11.981  1.00 20.66
ATOM    667  OD2 ASP    86      12.732  21.319  12.950  1.00 20.03
ATOM    668  C   ASP    86      11.774  20.025   8.395  1.00 19.68
ATOM    669  O   ASP    86      11.807  21.041   7.702  1.00 18.89
ATOM    670  N   GLU    87      12.010  18.800   7.927  1.00 18.00
ATOM    671  CA  GLU    87      12.311  18.556   6.522  1.00 17.81
ATOM    672  CB  GLU    87      11.017  18.581   5.697  1.00 17.77
ATOM    673  CG  GLU    87      10.041  17.523   6.206  1.00 23.26
ATOM    674  CD  GLU    87       8.772  17.432   5.409  1.00 26.65
ATOM    675  OE1 GLU    87       8.614  18.102   4.365  1.00 29.59
ATOM    676  OE2 GLU    87       7.923  16.665   5.860  1.00 27.84
ATOM    677  C   GLU    87      13.347  19.537   5.976  1.00 18.56
ATOM    678  O   GLU    87      14.454  19.592   6.510  1.00 18.95
ATOM    679  N   SER    88      13.030  20.281   4.918  1.00 17.65
ATOM    680  CA  SER    88      14.031  21.178   4.313  1.00 18.38
ATOM    681  CB  SER    88      13.554  21.647   2.938  1.00 18.77
ATOM    682  OG  SER    88      12.514  22.632   3.051  1.00 20.36
ATOM    683  C   SER    88      14.441  22.365   5.176  1.00 19.32
ATOM    684  O   SER    88      15.373  23.092   4.811  1.00 17.95
ATOM    685  N   TYR    89      13.754  22.571   6.303  1.00 16.70
ATOM    686  CA  TYR    89      14.137  23.647   7.230  1.00 16.19
ATOM    687  CB  TYR    89      12.938  24.146   8.048  1.00 16.36
ATOM    688  CG  TYR    89      11.880  24.868   7.237  1.00 17.25
ATOM    689  CD1 TYR    89      10.879  24.149   6.597  1.00 18.73
ATOM    690  CE1 TYR    89       9.878  24.809   5.855  1.00 19.57
ATOM    691  CD2 TYR    89      11.879  26.276   7.137  1.00 20.02
ATOM    692  CE2 TYR    89      10.875  26.935   6.414  1.00 20.25
ATOM    693  CZ  TYR    89       9.886  26.178   5.780  1.00 18.36
ATOM    694  OH  TYR    89       8.861  26.816   5.085  1.00 22.17
ATOM    695  C   TYR    89      15.190  23.141   8.221  1.00 16.17
ATOM    696  O   TYR    89      15.660  23.886   9.059  1.00 17.74
ATOM    697  N   THR    90      15.564  21.853   8.116  1.00 17.00
ATOM    698  CA  THR    90      16.556  21.260   9.040  1.00 16.71
ATOM    699  CB  THR    90      16.461  19.725   9.022  1.00 16.83
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ATOM	700	OG1	THR	90	15.090	19.313	9.167	1.00	18.10
ATOM	701	CG2	THR	90	17.278	19.133	10.147	1.00	18.35
ATOM	702	C	THR	90	17.972	21.628	8.594	1.00	15.81
ATOM	703	O	THR	90	18.359	21.358	7.461	1.00	17.28
ATOM	704	N	PRO	91	18.757	22.275	9.472	1.00	15.77
ATOM	705	CD	PRO	91	18.415	22.729	10.826	1.00	16.34
ATOM	706	CA	PRO	91	20.131	22.631	9.077	1.00	15.98
ATOM	707	CB	PRO	91	20.762	23.216	10.334	1.00	17.37
ATOM	708	CG	PRO	91	19.581	23.691	11.153	1.00	22.17
ATOM	709	C	PRO	91	20.899	21.364	8.700	1.00	18.65
ATOM	710	O	PRO	91	20.690	20.305	9.309	1.00	18.91
ATOM	711	N	SER	92	21.816	21.507	7.753	1.00	17.17
ATOM	712	CA	SER	92	22.691	20.380	7.306	1.00	19.72
ATOM	713	CB	SER	92	22.451	20.059	5.836	1.00	18.85
ATOM	714	OG	SER	92	22.743	21.188	5.015	1.00	23.40
ATOM	715	C	SER	92	24.169	20.725	7.487	1.00	21.66
ATOM	716	O	SER	92	25.032	19.822	7.507	1.00	22.65
ATOM	717	N	LYS	93	24.492	22.013	7.505	1.00	19.93
ATOM	718	CA	LYS	93	25.892	22.425	7.675	1.00	21.99
ATOM	719	CB	LYS	93	26.497	22.808	6.318	1.00	23.37
ATOM	720	CG	LYS	93	27.990	22.980	6.321	1.00	34.45
ATOM	721	CD	LYS	93	28.476	23.143	4.884	1.00	39.67
ATOM	722	CE	LYS	93	29.959	23.443	4.799	1.00	46.30
ATOM	723	NZ	LYS	93	30.418	23.507	3.371	1.00	48.77
ATOM	724	C	LYS	93	25.890	23.610	8.631	1.00	20.77
ATOM	725	O	LYS	93	25.228	24.605	8.360	1.00	21.35
ATOM	726	N	ILE	94	26.622	23.517	9.744	1.00	18.14
ATOM	727	CA	ILE	94	26.651	24.611	10.735	1.00	17.89
ATOM	728	CB	ILE	94	25.904	24.215	12.049	1.00	19.49
ATOM	729	CG2	ILE	94	26.204	25.243	13.182	1.00	25.69
ATOM	730	CG1	ILE	94	24.400	24.142	11.782	1.00	23.78
ATOM	731	CD1	ILE	94	23.612	23.626	12.954	1.00	23.78
ATOM	732	C	ILE	94	28.092	24.939	11.103	1.00	23.12
ATOM	733	O	ILE	94	28.909	24.047	11.261	1.00	25.19
ATOM	734	N	SER	95	28.389	26.228	11.229	1.00	19.89
ATOM	735	CA	SER	95	29.715	26.684	11.643	1.00	20.89
ATOM	736	CB	SER	95	30.287	27.686	10.640	1.00	20.17
ATOM	737	OG	SER	95	31.490	28.254	11.158	1.00	22.18
ATOM	738	C	SER	95	29.546	27.359	13.010	1.00	22.64
ATOM	739	O	SER	95	28.634	28.181	13.190	1.00	22.74
ATOM	740	N	VAL	96	30.376	26.999	13.991	1.00	18.63
ATOM	741	CA	VAL	96	30.314	27.638	15.287	1.00	18.27
ATOM	742	CB	VAL	96	30.209	26.630	16.448	1.00	21.70
ATOM	743	CG1	VAL	96	30.133	27.395	17.794	1.00	21.93
ATOM	744	CG2	VAL	96	28.947	25.778	16.282	1.00	24.65
ATOM	745	C	VAL	96	31.599	28.454	15.414	1.00	22.45
ATOM	746	O	VAL	96	32.679	27.938	15.202	1.00	23.47
ATOM	747	N	ARG	97	31.446	29.742	15.703	1.00	21.95
ATOM	748	CA	ARG	97	32.555	30.698	15.798	1.00	24.66
ATOM	749	CB	ARG	97	32.432	31.719	14.678	1.00	24.01
ATOM	750	CG	ARG	97	32.309	31.084	13.287	1.00	21.95
ATOM	751	CD	ARG	97	31.148	31.682	12.504	1.00	23.43
ATOM	752	NE	ARG	97	31.047	31.059	11.189	1.00	22.66
ATOM	753	CZ	ARG	97	30.429	31.602	10.142	1.00	22.55
ATOM	754	NH1	ARG	97	29.841	32.776	10.248	1.00	21.49
ATOM	755	NH2	ARG	97	30.426	30.969	8.973	1.00	24.82
ATOM	756	C	ARG	97	32.512	31.424	17.132	1.00	23.30
ATOM	757	O	ARG	97	31.436	31.573	17.731	1.00	22.51
ATOM	758	N	VAL	98	33.689	31.844	17.618	1.00	23.02
ATOM	759	CA	VAL	98	33.767	32.562	18.889	1.00	23.31
ATOM	760	CB	VAL	98	34.214	31.644	20.095	1.00	24.07
ATOM	761	CG1	VAL	98	33.212	30.502	20.301	1.00	24.14
ATOM	762	CG2	VAL	98	35.625	31.106	19.867	1.00	25.88
ATOM	763	C	VAL	98	34.776	33.689	18.719	1.00	24.94
ATOM	764	O	VAL	98	35.630	33.640	17.818	1.00	25.96
ATOM	765	N	GLY	99	34.671	34.713	19.553	1.00	26.99
ATOM	766	CA	GLY	99	35.611	35.799	19.426	1.00	27.44
ATOM	767	C	GLY	99	35.223	37.013	20.232	1.00	28.20
ATOM	768	O	GLY	99	34.225	36.991	20.958	1.00	27.00
ATOM	769	N	ASN	100	35.990	38.091	20.095	1.00	30.86

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ATOM    770  CA  ASN   100      35.709  39.290  20.870  1.00 34.33
ATOM    771  CB  ASN   100      36.936  40.211  20.916  1.00 39.03
ATOM    772  CG  ASN   100      38.144  39.535  21.503  1.00 49.83
ATOM    773  OD1 ASN   100      38.032  38.757  22.457  1.00 52.61
ATOM    774  ND2 ASN   100      39.320  39.831  20.945  1.00 53.88
ATOM    775  C   ASN   100      34.546  40.075  20.309  1.00 35.80
ATOM    776  O   ASN   100      33.772  40.683  21.068  1.00 37.06
ATOM    777  N   ASN   101      34.444  40.070  18.981  1.00 32.97
ATOM    778  CA  ASN   101      33.402  40.796  18.264  1.00 37.12
ATOM    779  CB  ASN   101      33.831  42.251  18.097  1.00 38.60
ATOM    780  CG  ASN   101      35.215  42.376  17.479  1.00 43.63
ATOM    781  OD1 ASN   101      35.476  41.848  16.397  1.00 43.60
ATOM    782  ND2 ASN   101      36.107  43.074  18.166  1.00 44.25
ATOM    783  C   ASN   101      33.139  40.168  16.892  1.00 35.21
ATOM    784  O   ASN   101      33.814  39.228  16.490  1.00 31.58
ATOM    785  N   PHE   102      32.179  40.721  16.160  1.00 29.94
ATOM    786  CA  PHE   102      31.796  40.187  14.869  1.00 31.37
ATOM    787  CB  PHE   102      30.691  41.036  14.262  1.00 34.27
ATOM    788  CG  PHE   102      29.357  40.781  14.845  1.00 36.26
ATOM    789  CD1 PHE   102      28.493  39.881  14.237  1.00 37.98
ATOM    790  CD2 PHE   102      28.942  41.450  15.989  1.00 36.00
ATOM    791  CE1 PHE   102      27.221  39.648  14.750  1.00 36.96
ATOM    792  CE2 PHE   102      27.665  41.222  16.514  1.00 33.45
ATOM    793  CZ  PHE   102      26.801  40.314  15.883  1.00 35.73
ATOM    794  C   PHE   102      32.893  40.112  13.858  1.00 32.40
ATOM    795  O   PHE   102      32.822  39.320  12.917  1.00 36.42
ATOM    796  N   HIS   103      33.906  40.939  14.056  1.00 34.97
ATOM    797  CA  HIS   103      34.989  41.014  13.099  1.00 37.89
ATOM    798  CB  HIS   103      35.297  42.489  12.862  1.00 41.02
ATOM    799  CG  HIS   103      34.063  43.297  12.588  1.00 39.59
ATOM    800  CD2 HIS   103      33.440  44.252  13.324  1.00 44.82
ATOM    801  ND1 HIS   103      33.241  43.051  11.506  1.00 44.19
ATOM    802  CE1 HIS   103      32.164  43.811  11.592  1.00 38.79
ATOM    803  NE2 HIS   103      32.259  44.547  12.686  1.00 42.40
ATOM    804  C   HIS   103      36.227  40.224  13.470  1.00 37.87
ATOM    805  O   HIS   103      37.173  40.142  12.678  1.00 41.39
ATOM    806  N   ASN   104      36.215  39.615  14.652  1.00 36.85
ATOM    807  CA  ASN   104      37.361  38.821  15.094  1.00 39.75
ATOM    808  CB  ASN   104      37.967  39.411  16.378  1.00 45.04
ATOM    809  CG  ASN   104      38.588  40.795  16.168  1.00 53.14
ATOM    810  OD1 ASN   104      39.184  41.369  17.086  1.00 54.17
ATOM    811  ND2 ASN   104      38.446  41.335  14.961  1.00 56.77
ATOM    812  C   ASN   104      36.915  37.400  15.381  1.00 34.85
ATOM    813  O   ASN   104      37.529  36.709  16.190  1.00 38.58
ATOM    814  N   LEU   105      35.837  36.958  14.746  1.00 33.60
ATOM    815  CA  LEU   105      35.352  35.612  15.008  1.00 30.17
ATOM    816  CB  LEU   105      33.917  35.440  14.531  1.00 27.88
ATOM    817  CG  LEU   105      32.849  36.329  15.142  1.00 27.16
ATOM    818  CD1 LEU   105      31.522  36.089  14.415  1.00 30.23
ATOM    819  CD2 LEU   105      32.695  36.003  16.598  1.00 28.13
ATOM    820  C   LEU   105      36.194  34.566  14.337  1.00 30.55
ATOM    821  O   LEU   105      36.663  34.740  13.203  1.00 33.78
ATOM    822  N   GLN   106      36.400  33.468  15.039  1.00 30.94
ATOM    823  CA  GLN   106      37.145  32.392  14.444  1.00 32.19
ATOM    824  CB  GLN   106      38.492  32.258  15.137  1.00 39.99
ATOM    825  CG  GLN   106      39.294  33.545  15.015  1.00 50.12
ATOM    826  CD  GLN   106      40.775  33.339  15.223  1.00 56.65
ATOM    827  OE1 GLN   106      41.425  32.616  14.460  1.00 63.34
ATOM    828  NE2 GLN   106      41.323  33.975  16.258  1.00 59.62
ATOM    829  C   GLN   106      36.327  31.120  14.550  1.00 28.02
ATOM    830  O   GLN   106      35.754  30.805  15.593  1.00 26.21
ATOM    831  N   GLU   107      36.242  30.396  13.451  1.00 28.87
ATOM    832  CA  GLU   107      35.495  29.147  13.463  1.00 25.48
ATOM    833  CB  GLU   107      35.398  28.594  12.050  1.00 23.93
ATOM    834  CG  GLU   107      34.731  27.258  11.971  1.00 25.77
ATOM    835  CD  GLU   107      34.490  26.866  10.536  1.00 36.43
ATOM    836  OE1 GLU   107      33.409  27.179   9.979  1.00 30.27
ATOM    837  OE2 GLU   107      35.405  26.261   9.945  1.00 38.14
ATOM    838  C   GLU   107      36.210  28.134  14.342  1.00 29.71
ATOM    839  O   GLU   107      37.425  27.925  14.193  1.00 31.21
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ATOM    840  N   ILE   108      35.476  27.511  15.254  1.00 25.28
ATOM    841  CA  ILE   108      36.062  26.496  16.101  1.00 27.24
ATOM    842  CB  ILE   108      35.979  26.859  17.599  1.00 30.35
ATOM    843  CG2 ILE   108      36.870  28.059  17.867  1.00 31.16
ATOM    844  CG1 ILE   108      34.533  27.089  18.024  1.00 29.12
ATOM    845  CD1 ILE   108      34.411  27.240  19.528  1.00 35.71
ATOM    846  C   ILE   108      35.488  25.124  15.850  1.00 28.95
ATOM    847  O   ILE   108      36.097  24.115  16.206  1.00 30.31
ATOM    848  N   ARG   109      34.315  25.055  15.216  1.00 25.43
ATOM    849  CA  ARG   109      33.754  23.755  14.886  1.00 25.11
ATOM    850  CB  ARG   109      32.836  23.234  16.002  1.00 26.35
ATOM    851  CG  ARG   109      33.503  22.993  17.379  1.00 32.31
ATOM    852  CD  ARG   109      34.234  21.667  17.485  1.00 39.33
ATOM    853  NE  ARG   109      35.011  21.604  18.734  1.00 44.53
ATOM    854  CZ  ARG   109      35.639  20.518  19.185  1.00 49.05
ATOM    855  NH1 ARG   109      35.588  19.382  18.496  1.00 53.54
ATOM    856  NH2 ARG   109      36.324  20.570  20.329  1.00 47.41
ATOM    857  C   ARG   109      32.940  23.887  13.609  1.00 27.29
ATOM    858  O   ARG   109      32.287  24.898  13.375  1.00 25.63
ATOM    859  N   GLN   110      33.010  22.880  12.758  1.00 27.95
ATOM    860  CA  GLN   110      32.189  22.876  11.552  1.00 33.55
ATOM    861  CB  GLN   110      33.033  23.013  10.287  1.00 38.17
ATOM    862  CG  GLN   110      34.347  22.312  10.345  1.00 47.31
ATOM    863  CD  GLN   110      35.178  22.598   9.118  1.00 52.56
ATOM    864  OE1 GLN   110      35.514  23.753   8.831  1.00 58.03
ATOM    865  NE2 GLN   110      35.513  21.551   8.379  1.00 56.33
ATOM    866  C   GLN   110      31.487  21.542  11.635  1.00 31.62
ATOM    867  O   GLN   110      32.129  20.483  11.697  1.00 36.28
ATOM    868  N   LEU   111      30.161  21.596  11.657  1.00 27.71
ATOM    869  CA  LEU   111      29.332  20.406  11.831  1.00 29.02
ATOM    870  CB  LEU   111      28.321  20.628  12.960  1.00 34.58
ATOM    871  CG  LEU   111      28.674  21.240  14.306  1.00 37.68
ATOM    872  CD1 LEU   111      27.388  21.495  15.073  1.00 45.62
ATOM    873  CD2 LEU   111      29.585  20.315  15.091  1.00 44.99
ATOM    874  C   LEU   111      28.516  20.087  10.614  1.00 28.19
ATOM    875  O   LEU   111      27.862  20.955  10.066  1.00 29.69
ATOM    876  N   GLU   112      28.530  18.833  10.204  1.00 28.77
ATOM    877  CA  GLU   112      27.704  18.405   9.085  1.00 29.07
ATOM    878  CB  GLU   112      28.492  17.529   8.125  1.00 37.64
ATOM    879  CG  GLU   112      27.775  17.222   6.816  1.00 44.63
ATOM    880  CD  GLU   112      27.789  18.407   5.846  1.00 56.79
ATOM    881  OE1 GLU   112      28.904  18.907   5.536  1.00 60.18
ATOM    882  OE2 GLU   112      26.690  18.835   5.389  1.00 55.76
ATOM    883  C   GLU   112      26.641  17.586   9.807  1.00 30.11
ATOM    884  O   GLU   112      26.946  16.726  10.647  1.00 32.83
ATOM    885  N   LEU   113      25.382  17.889   9.539  1.00 24.46
ATOM    886  CA  LEU   113      24.301  17.185  10.189  1.00 23.94
ATOM    887  CB  LEU   113      23.332  18.174  10.860  1.00 25.33
ATOM    888  CG  LEU   113      24.028  19.046  11.903  1.00 24.78
ATOM    889  CD1 LEU   113      23.123  20.203  12.262  1.00 33.37
ATOM    890  CD2 LEU   113      24.353  18.232  13.126  1.00 24.97
ATOM    891  C   LEU   113      23.545  16.415   9.136  1.00 21.46
ATOM    892  O   LEU   113      23.153  16.969   8.103  1.00 24.56
ATOM    893  N   VAL   114      23.354  15.119   9.388  1.00 20.09
ATOM    894  CA  VAL   114      22.600  14.280   8.466  1.00 20.30
ATOM    895  CB  VAL   114      23.407  13.039   8.028  1.00 22.23
ATOM    896  CG1 VAL   114      22.528  12.125   7.154  1.00 22.41
ATOM    897  CG2 VAL   114      24.634  13.503   7.281  1.00 25.67
ATOM    898  C   VAL   114      21.341  13.815   9.177  1.00 18.50
ATOM    899  O   VAL   114      21.399  13.038  10.146  1.00 20.98
ATOM    900  N   GLU   115      20.196  14.331   8.719  1.00 18.39
ATOM    901  CA  GLU   115      18.910  13.987   9.295  1.00 19.05
ATOM    902  CB  GLU   115      18.394  12.677   8.679  1.00 19.74
ATOM    903  CG  GLU   115      18.254  12.797   7.183  1.00 21.54
ATOM    904  CD  GLU   115      17.717  11.557   6.510  1.00 25.56
ATOM    905  OE1 GLU   115      17.236  10.645   7.202  1.00 27.11
ATOM    906  OE2 GLU   115      17.770  11.521   5.265  1.00 26.71
ATOM    907  C   GLU   115      18.933  13.893  10.819  1.00 21.62
ATOM    908  O   GLU   115      18.534  12.871  11.410  1.00 23.36
ATOM    909  N   PRO   116      19.358  14.964  11.497  1.00 19.08
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ATOM	910	CD	PRO	116	19.749	16.288	10.966	1.00	19.50
ATOM	911	CA	PRO	116	19.396	14.946	12.961	1.00	18.43
ATOM	912	CB	PRO	116	19.998	16.297	13.312	1.00	18.80
ATOM	913	CG	PRO	116	19.480	17.189	12.186	1.00	18.43
ATOM	914	C	PRO	116	17.995	14.723	13.571	1.00	19.17
ATOM	915	O	PRO	116	16.962	14.992	12.942	1.00	25.07
ATOM	916	N	SER	117	17.970	14.213	14.792	1.00	18.99
ATOM	917	CA	SER	117	16.718	13.855	15.433	1.00	22.23
ATOM	918	CB	SER	117	16.498	12.339	15.275	1.00	23.98
ATOM	919	OG	SER	117	17.622	11.594	15.749	1.00	28.12
ATOM	920	C	SER	117	16.704	14.213	16.896	1.00	24.00
ATOM	921	O	SER	117	16.197	13.464	17.724	1.00	28.12
ATOM	922	N	GLY	118	17.262	15.356	17.244	1.00	22.64
ATOM	923	CA	GLY	118	17.262	15.687	18.647	1.00	24.74
ATOM	924	C	GLY	118	18.350	16.673	18.981	1.00	19.53
ATOM	925	O	GLY	118	18.673	17.556	18.188	1.00	22.62
ATOM	926	N	TRP	119	18.917	16.541	20.177	1.00	21.72
ATOM	927	CA	TRP	119	19.943	17.459	20.598	1.00	19.33
ATOM	928	CB	TRP	119	20.042	17.459	22.116	1.00	21.01
ATOM	929	CG	TRP	119	18.838	18.055	22.786	1.00	22.10
ATOM	930	CD2	TRP	119	18.635	19.447	23.047	1.00	20.54
ATOM	931	CE2	TRP	119	17.425	19.562	23.762	1.00	22.90
ATOM	932	CE3	TRP	119	19.364	20.598	22.756	1.00	23.69
ATOM	933	CD1	TRP	119	17.773	17.399	23.317	1.00	23.64
ATOM	934	NE1	TRP	119	16.913	18.300	23.909	1.00	24.07
ATOM	935	CZ2	TRP	119	16.926	20.794	24.203	1.00	21.93
ATOM	936	CZ3	TRP	119	18.870	21.830	23.195	1.00	22.32
ATOM	937	CH2	TRP	119	17.659	21.910	23.919	1.00	20.15
ATOM	938	C	TRP	119	21.311	17.193	20.042	1.00	24.30
ATOM	939	O	TRP	119	21.795	16.061	20.074	1.00	28.23
ATOM	940	N	ILE	120	21.930	18.250	19.554	1.00	22.17
ATOM	941	CA	ILE	120	23.279	18.246	19.015	1.00	23.60
ATOM	942	CB	ILE	120	23.301	19.060	17.701	1.00	25.57
ATOM	943	CG2	ILE	120	24.690	19.169	17.163	1.00	30.66
ATOM	944	CG1	ILE	120	22.331	18.435	16.690	1.00	29.60
ATOM	945	CD1	ILE	120	22.006	19.334	15.468	1.00	35.19
ATOM	946	C	ILE	120	24.178	18.928	20.056	1.00	26.22
ATOM	947	O	ILE	120	23.940	20.082	20.410	1.00	22.13
ATOM	948	N	HIS	121	25.173	18.216	20.595	1.00	24.18
ATOM	949	CA	HIS	121	26.079	18.805	21.574	1.00	24.30
ATOM	950	CB	HIS	121	26.409	17.804	22.712	1.00	27.22
ATOM	951	CG	HIS	121	25.301	17.575	23.692	1.00	24.79
ATOM	952	CD2	HIS	121	25.291	17.663	25.042	1.00	22.62
ATOM	953	ND1	HIS	121	24.038	17.150	23.331	1.00	27.79
ATOM	954	CE1	HIS	121	23.299	16.990	24.418	1.00	20.73
ATOM	955	NE2	HIS	121	24.037	17.296	25.469	1.00	30.02
ATOM	956	C	HIS	121	27.377	19.204	20.852	1.00	31.51
ATOM	957	O	HIS	121	28.002	18.379	20.140	1.00	33.50
ATOM	958	N	VAL	122	27.789	20.456	21.031	1.00	23.27
ATOM	959	CA	VAL	122	28.987	20.966	20.396	1.00	27.15
ATOM	960	CB	VAL	122	28.651	22.135	19.437	1.00	27.34
ATOM	961	CG1	VAL	122	29.908	22.606	18.719	1.00	27.41
ATOM	962	CG2	VAL	122	27.580	21.701	18.433	1.00	30.43
ATOM	963	C	VAL	122	29.927	21.500	21.462	1.00	29.14
ATOM	964	O	VAL	122	29.616	22.462	22.155	1.00	27.84
ATOM	965	N	PRO	123	31.087	20.848	21.647	1.00	32.15
ATOM	966	CD	PRO	123	31.467	19.499	21.186	1.00	36.83
ATOM	967	CA	PRO	123	32.030	21.336	22.656	1.00	31.49
ATOM	968	CB	PRO	123	33.097	20.236	22.688	1.00	32.90
ATOM	969	CG	PRO	123	32.313	18.998	22.356	1.00	36.44
ATOM	970	C	PRO	123	32.604	22.657	22.177	1.00	31.54
ATOM	971	O	PRO	123	32.831	22.849	20.974	1.00	32.94
ATOM	972	N	LEU	124	32.858	23.561	23.115	1.00	25.75
ATOM	973	CA	LEU	124	33.389	24.879	22.777	1.00	33.02
ATOM	974	CB	LEU	124	32.449	25.961	23.286	1.00	29.59
ATOM	975	CG	LEU	124	31.020	25.924	22.726	1.00	30.07
ATOM	976	CD1	LEU	124	30.209	27.047	23.361	1.00	32.57
ATOM	977	CD2	LEU	124	31.042	26.072	21.204	1.00	36.57
ATOM	978	C	LEU	124	34.782	25.127	23.353	1.00	39.49
ATOM	979	O	LEU	124	35.066	26.220	23.864	1.00	42.10

ATOM	980	N	THR	125	35.650	24.133	23.211	1.00	44.16
ATOM	981	CA	THR	125	37.030	24.186	23.711	1.00	47.52
ATOM	982	CB	THR	125	37.566	22.764	23.923	1.00	47.79
ATOM	983	OG1	THR	125	37.609	22.087	22.662	1.00	51.56
ATOM	984	CG2	THR	125	36.659	21.994	24.861	1.00	44.62
ATOM	985	C	THR	125	38.016	24.927	22.802	1.00	47.92
ATOM	986	O	THR	125	37.769	25.099	21.609	1.00	44.58
ATOM	987	N	ASP	126	39.141	25.360	23.373	1.00	49.12
ATOM	988	CA	ASP	126	40.157	26.084	22.604	1.00	53.20
ATOM	989	CB	ASP	126	40.731	27.238	23.435	1.00	51.20
ATOM	990	CG	ASP	126	41.396	26.764	24.719	1.00	54.71
ATOM	991	OD1	ASP	126	41.806	25.585	24.784	1.00	48.62
ATOM	992	OD2	ASP	126	41.522	27.578	25.664	1.00	51.04
ATOM	993	C	ASP	126	41.313	25.204	22.114	1.00	56.42
ATOM	994	O	ASP	126	41.234	23.976	22.141	1.00	56.50
ATOM	995	N	HIS	127	42.381	25.860	21.665	1.00	60.27
ATOM	996	CA	HIS	127	43.584	25.193	21.165	1.00	65.24
ATOM	997	CB	HIS	127	44.600	26.225	20.670	1.00	70.20
ATOM	998	CG	HIS	127	44.202	26.924	19.408	1.00	75.53
ATOM	999	CD2	HIS	127	44.048	28.241	19.129	1.00	76.35
ATOM	1000	ND1	HIS	127	43.968	26.253	18.226	1.00	78.05
ATOM	1001	CE1	HIS	127	43.691	27.126	17.273	1.00	76.81
ATOM	1002	NE2	HIS	127	43.735	28.340	17.794	1.00	78.04
ATOM	1003	C	HIS	127	44.272	24.369	22.241	1.00	64.72
ATOM	1004	O	HIS	127	45.250	23.672	21.968	1.00	65.40
ATOM	1005	N	LYS	128	43.771	24.457	23.466	1.00	64.76
ATOM	1006	CA	LYS	128	44.380	23.745	24.579	1.00	64.32
ATOM	1007	CB	LYS	128	44.995	24.773	25.529	1.00	66.34
ATOM	1008	CG	LYS	128	45.923	25.723	24.778	1.00	70.35
ATOM	1009	CD	LYS	128	46.099	27.059	25.462	1.00	73.34
ATOM	1010	CE	LYS	128	46.896	28.002	24.569	1.00	72.99
ATOM	1011	NZ	LYS	128	47.098	29.301	25.239	1.00	74.13
ATOM	1012	C	LYS	128	43.407	22.834	25.309	1.00	62.40
ATOM	1013	O	LYS	128	43.601	22.512	26.483	1.00	61.82
ATOM	1014	N	LYS	129	42.362	22.420	24.600	1.00	60.55
ATOM	1015	CA	LYS	129	41.349	21.530	25.152	1.00	58.37
ATOM	1016	CB	LYS	129	41.989	20.207	25.572	1.00	62.40
ATOM	1017	CG	LYS	129	42.553	19.363	24.437	1.00	64.00
ATOM	1018	CD	LYS	129	43.196	18.101	25.013	1.00	69.93
ATOM	1019	CE	LYS	129	43.811	17.221	23.935	1.00	72.69
ATOM	1020	NZ	LYS	129	44.548	16.058	24.525	1.00	74.27
ATOM	1021	C	LYS	129	40.567	22.093	26.335	1.00	56.62
ATOM	1022	O	LYS	129	39.780	21.370	26.938	1.00	57.48
ATOM	1023	N	ALA	130	40.775	23.365	26.676	1.00	52.86
ATOM	1024	CA	ALA	130	40.059	23.980	27.796	1.00	49.26
ATOM	1025	CB	ALA	130	40.987	24.953	28.538	1.00	49.89
ATOM	1026	C	ALA	130	38.803	24.714	27.307	1.00	47.09
ATOM	1027	O	ALA	130	38.706	25.079	26.137	1.00	47.35
ATOM	1028	N	PRO	131	37.826	24.938	28.200	1.00	45.97
ATOM	1029	CD	PRO	131	37.781	24.541	29.618	1.00	45.26
ATOM	1030	CA	PRO	131	36.589	25.639	27.813	1.00	45.16
ATOM	1031	CB	PRO	131	35.813	25.734	29.126	1.00	45.99
ATOM	1032	CG	PRO	131	36.284	24.519	29.891	1.00	49.10
ATOM	1033	C	PRO	131	36.955	27.014	27.299	1.00	42.35
ATOM	1034	O	PRO	131	37.769	27.693	27.916	1.00	38.18
ATOM	1035	N	THR	132	36.387	27.456	26.187	1.00	40.07
ATOM	1036	CA	THR	132	36.779	28.786	25.760	1.00	42.40
ATOM	1037	CB	THR	132	36.421	29.067	24.269	1.00	46.62
ATOM	1038	OG1	THR	132	35.003	29.036	24.082	1.00	50.87
ATOM	1039	CG2	THR	132	37.064	28.026	23.369	1.00	47.34
ATOM	1040	C	THR	132	36.155	29.853	26.663	1.00	40.79
ATOM	1041	O	THR	132	35.110	29.639	27.297	1.00	41.33
ATOM	1042	N	ARG	133	36.855	30.971	26.772	1.00	37.58
ATOM	1043	CA	ARG	133	36.391	32.129	27.528	1.00	39.04
ATOM	1044	CB	ARG	133	37.439	32.613	28.542	1.00	43.00
ATOM	1045	CG	ARG	133	37.406	31.880	29.887	1.00	49.95
ATOM	1046	CD	ARG	133	38.431	32.457	30.868	1.00	51.63
ATOM	1047	NE	ARG	133	38.236	33.885	31.121	1.00	55.57
ATOM	1048	CZ	ARG	133	39.164	34.688	31.639	1.00	55.70
ATOM	1049	NH1	ARG	133	40.356	34.203	31.962	1.00	56.33

ATOM	1050	NH2	ARG	133	38.908	35.976	31.825	1.00	56.18
ATOM	1051	C	ARG	133	36.285	33.106	26.373	1.00	33.55
ATOM	1052	O	ARG	133	37.273	33.375	25.696	1.00	35.15
ATOM	1053	N	THR	134	35.087	33.619	26.132	1.00	30.68
ATOM	1054	CA	THR	134	34.900	34.500	24.993	1.00	27.25
ATOM	1055	CB	THR	134	34.471	33.655	23.770	1.00	27.97
ATOM	1056	OG1	THR	134	34.419	34.483	22.612	1.00	30.93
ATOM	1057	CG2	THR	134	33.108	33.067	24.003	1.00	29.95
ATOM	1058	C	THR	134	33.823	35.540	25.257	1.00	23.00
ATOM	1059	O	THR	134	33.104	35.450	26.240	1.00	27.03
ATOM	1060	N	PHE	135	33.697	36.512	24.359	1.00	25.74
ATOM	1061	CA	PHE	135	32.672	37.529	24.506	1.00	27.61
ATOM	1062	CB	PHE	135	33.174	38.901	24.062	1.00	28.07
ATOM	1063	CG	PHE	135	34.092	39.551	25.029	1.00	33.00
ATOM	1064	CD1	PHE	135	35.447	39.276	24.997	1.00	32.63
ATOM	1065	CD2	PHE	135	33.593	40.468	25.953	1.00	35.61
ATOM	1066	CE1	PHE	135	36.319	39.912	25.879	1.00	36.22
ATOM	1067	CE2	PHE	135	34.457	41.112	26.838	1.00	35.89
ATOM	1068	CZ	PHE	135	35.817	40.826	26.793	1.00	30.53
ATOM	1069	C	PHE	135	31.488	37.207	23.621	1.00	26.55
ATOM	1070	O	PHE	135	30.400	37.718	23.845	1.00	27.98
ATOM	1071	N	MET	136	31.695	36.328	22.648	1.00	25.34
ATOM	1072	CA	MET	136	30.624	36.084	21.693	1.00	25.31
ATOM	1073	CB	MET	136	30.688	37.202	20.633	1.00	26.51
ATOM	1074	CG	MET	136	30.101	36.883	19.295	1.00	32.00
ATOM	1075	SD	MET	136	30.088	38.361	18.218	1.00	31.11
ATOM	1076	CE	MET	136	28.762	37.903	17.108	1.00	33.08
ATOM	1077	C	MET	136	30.692	34.745	21.008	1.00	24.87
ATOM	1078	O	MET	136	31.772	34.250	20.687	1.00	26.42
ATOM	1079	N	ILE	137	29.521	34.164	20.785	1.00	22.74
ATOM	1080	CA	ILE	137	29.435	32.920	20.054	1.00	22.53
ATOM	1081	CB	ILE	137	28.735	31.840	20.863	1.00	22.28
ATOM	1082	CG2	ILE	137	28.540	30.563	19.998	1.00	24.55
ATOM	1083	CG1	ILE	137	29.571	31.491	22.098	1.00	23.97
ATOM	1084	CD1	ILE	137	28.788	30.610	23.028	1.00	28.80
ATOM	1085	C	ILE	137	28.550	33.206	18.862	1.00	20.59
ATOM	1086	O	ILE	137	27.517	33.864	19.005	1.00	20.44
ATOM	1087	N	GLN	138	28.941	32.750	17.675	1.00	17.42
ATOM	1088	CA	GLN	138	28.067	32.905	16.524	1.00	20.41
ATOM	1089	CB	GLN	138	28.684	33.770	15.428	1.00	20.45
ATOM	1090	CG	GLN	138	27.769	33.956	14.221	1.00	19.26
ATOM	1091	CD	GLN	138	28.340	34.943	13.221	1.00	20.07
ATOM	1092	OE1	GLN	138	29.223	34.604	12.454	1.00	24.12
ATOM	1093	NE2	GLN	138	27.853	36.178	13.252	1.00	20.48
ATOM	1094	C	GLN	138	27.779	31.521	15.943	1.00	20.37
ATOM	1095	O	GLN	138	28.683	30.752	15.641	1.00	21.02
ATOM	1096	N	ILE	139	26.502	31.205	15.782	1.00	19.47
ATOM	1097	CA	ILE	139	26.125	29.950	15.168	1.00	18.72
ATOM	1098	CB	ILE	139	24.969	29.269	15.913	1.00	17.13
ATOM	1099	CG2	ILE	139	24.670	27.916	15.244	1.00	18.12
ATOM	1100	CG1	ILE	139	25.334	29.046	17.381	1.00	19.75
ATOM	1101	CD1	ILE	139	24.123	28.651	18.269	1.00	21.26
ATOM	1102	C	ILE	139	25.667	30.287	13.756	1.00	18.45
ATOM	1103	O	ILE	139	24.748	31.077	13.578	1.00	21.95
ATOM	1104	N	ALA	140	26.298	29.688	12.753	1.00	15.95
ATOM	1105	CA	ALA	140	25.901	30.003	11.373	1.00	17.87
ATOM	1106	CB	ALA	140	27.140	30.541	10.572	1.00	20.69
ATOM	1107	C	ALA	140	25.363	28.769	10.666	1.00	19.40
ATOM	1108	O	ALA	140	26.073	27.748	10.573	1.00	20.59
ATOM	1109	N	VAL	141	24.114	28.847	10.191	1.00	17.53
ATOM	1110	CA	VAL	141	23.570	27.748	9.382	1.00	17.58
ATOM	1111	CB	VAL	141	22.037	27.649	9.477	1.00	16.56
ATOM	1112	CG1	VAL	141	21.538	26.565	8.490	1.00	19.18
ATOM	1113	CG2	VAL	141	21.644	27.316	10.941	1.00	19.74
ATOM	1114	C	VAL	141	24.005	28.035	7.934	1.00	19.38
ATOM	1115	O	VAL	141	23.532	28.992	7.303	1.00	19.29
ATOM	1116	N	LEU	142	24.935	27.227	7.422	1.00	18.44
ATOM	1117	CA	LEU	142	25.456	27.429	6.070	1.00	17.94
ATOM	1118	CB	LEU	142	26.870	26.861	5.981	1.00	22.12
ATOM	1119	CG	LEU	142	27.842	27.367	7.048	1.00	24.13

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ATOM   1120  CD1 LEU   142      29.238  26.796   6.732  1.00 24.57
ATOM   1121  CD2 LEU   142      27.905  28.880   7.076  1.00 24.08
ATOM   1122  C   LEU   142      24.610  26.811   4.950  1.00 20.13
ATOM   1123  O   LEU   142      24.713  27.206   3.787  1.00 21.82
ATOM   1124  N   ALA   143      23.844  25.786   5.306  1.00 18.49
ATOM   1125  CA  ALA   143      22.961  25.110   4.346  1.00 19.03
ATOM   1126  CB  ALA   143      23.776  24.174   3.458  1.00 20.79
ATOM   1127  C   ALA   143      21.941  24.307   5.113  1.00 18.00
ATOM   1128  O   ALA   143      22.148  24.019   6.295  1.00 17.64
ATOM   1129  N   ASN   144      20.809  24.023   4.444  1.00 17.79
ATOM   1130  CA  ASN   144      19.746  23.205   4.999  1.00 15.49
ATOM   1131  CB  ASN   144      18.402  23.956   4.998  1.00 16.19
ATOM   1132  CG  ASN   144      18.413  25.115   5.961  1.00 17.75
ATOM   1133  OD1 ASN   144      18.597  24.936   7.170  1.00 20.10
ATOM   1134  ND2 ASN   144      18.200  26.323   5.425  1.00 18.13
ATOM   1135  C   ASN   144      19.605  21.961   4.125  1.00 17.84
ATOM   1136  O   ASN   144      20.142  21.894   3.005  1.00 20.15
ATOM   1137  N   HIS   145      18.882  20.970   4.646  1.00 18.32
ATOM   1138  CA  HIS   145      18.649  19.744   3.872  1.00 19.21
ATOM   1139  CB  HIS   145      17.905  18.702   4.717  1.00 19.07
ATOM   1140  CG  HIS   145      18.740  18.027   5.763  1.00 19.49
ATOM   1141  CD2 HIS   145      19.112  16.728   5.877  1.00 19.75
ATOM   1142  ND1 HIS   145      19.238  18.672   6.879  1.00 17.85
ATOM   1143  CE1 HIS   145      19.870  17.792   7.640  1.00 18.92
ATOM   1144  NE2 HIS   145      19.806  16.606   7.049  1.00 18.43
ATOM   1145  C   HIS   145      17.764  20.036   2.664  1.00 22.16
ATOM   1146  O   HIS   145      16.961  20.972   2.680  1.00 19.09
ATOM   1147  N   GLN   146      17.935  19.225   1.623  1.00 19.46
ATOM   1148  CA  GLN   146      17.080  19.280   0.449  1.00 19.73
ATOM   1149  CB  GLN   146      15.830  18.453   0.730  1.00 22.96
ATOM   1150  CG  GLN   146      16.123  16.963   0.674  1.00 34.15
ATOM   1151  CD  GLN   146      15.664  16.238   1.902  1.00 41.92
ATOM   1152  OE1 GLN   146      16.327  16.259   2.930  1.00 36.89
ATOM   1153  NE2 GLN   146      14.500  15.596   1.809  1.00 51.47
ATOM   1154  C   GLN   146      16.645  20.667  -0.075  1.00 18.23
ATOM   1155  O   GLN   146      15.442  20.982  -0.198  1.00 18.92
ATOM   1156  N   ASN   147      17.649  21.471  -0.368  1.00 16.27
ATOM   1157  CA  ASN   147      17.448  22.785  -0.993  1.00 16.74
ATOM   1158  CB  ASN   147      16.748  22.573  -2.353  1.00 17.75
ATOM   1159  CG  ASN   147      16.638  23.847  -3.200  1.00 20.33
ATOM   1160  OD1 ASN   147      15.584  24.098  -3.847  1.00 20.95
ATOM   1161  ND2 ASN   147      17.697  24.620  -3.251  1.00 16.44
ATOM   1162  C   ASN   147      16.655  23.734  -0.141  1.00 18.63
ATOM   1163  O   ASN   147      16.007  24.626  -0.681  1.00 18.90
ATOM   1164  N   GLY   148      16.697  23.585   1.182  1.00 16.66
ATOM   1165  CA  GLY   148      15.895  24.482   2.003  1.00 16.99
ATOM   1166  C   GLY   148      16.478  25.881   2.112  1.00 16.61
ATOM   1167  O   GLY   148      17.672  26.031   2.396  1.00 17.43
ATOM   1168  N   ARG   149      15.650  26.892   1.850  1.00 16.09
ATOM   1169  CA  ARG   149      16.105  28.273   1.961  1.00 18.63
ATOM   1170  CB  ARG   149      15.145  29.217   1.236  1.00 18.95
ATOM   1171  CG  ARG   149      15.642  30.670   1.377  1.00 22.78
ATOM   1172  CD  ARG   149      14.538  31.685   1.237  1.00 27.79
ATOM   1173  NE  ARG   149      15.040  33.062   1.174  1.00 23.73
ATOM   1174  CZ  ARG   149      14.484  34.071   1.841  1.00 24.58
ATOM   1175  NH1 ARG   149      13.445  33.863   2.640  1.00 22.03
ATOM   1176  NH2 ARG   149      14.911  35.322   1.620  1.00 21.88
ATOM   1177  C   ARG   149      16.186  28.674   3.433  1.00 19.11
ATOM   1178  O   ARG   149      17.288  28.977   3.935  1.00 19.77
ATOM   1179  N   ASP   150      15.043  28.660   4.119  1.00 16.89
ATOM   1180  CA  ASP   150      14.999  29.051   5.538  1.00 16.15
ATOM   1181  CB  ASP   150      13.714  29.843   5.805  1.00 16.46
ATOM   1182  CG  ASP   150      13.800  31.240   5.204  1.00 18.80
ATOM   1183  OD1 ASP   150      14.779  31.957   5.543  1.00 18.90
ATOM   1184  OD2 ASP   150      12.924  31.592   4.376  1.00 21.26
ATOM   1185  C   ASP   150      15.154  27.889   6.473  1.00 19.15
ATOM   1186  O   ASP   150      14.942  26.740   6.070  1.00 19.32
ATOM   1187  N   THR   151      15.571  28.194   7.703  1.00 16.72
ATOM   1188  CA  THR   151      15.856  27.172   8.705  1.00 17.97
ATOM   1189  CB  THR   151      17.338  27.276   9.207  1.00 21.21
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ATOM   1190  OG1 THR   151      17.522  28.405  10.064  1.00 33.00
ATOM   1191  CG2 THR   151      18.229  27.406   8.104  1.00 22.28
ATOM   1192  C   THR   151      14.978  27.213   9.889  1.00 19.10
ATOM   1193  O   THR   151      14.323  28.204  10.158  1.00 19.11
ATOM   1194  N   HIS   152      14.963  26.097  10.603  1.00 18.88
ATOM   1195  CA  HIS   152      14.235  25.959  11.847  1.00 17.23
ATOM   1196  CB  HIS   152      13.135  24.900  11.777  1.00 19.52
ATOM   1197  CG  HIS   152      11.888  25.343  11.097  1.00 20.54
ATOM   1198  CD2 HIS   152      11.541  26.518  10.514  1.00 20.75
ATOM   1199  ND1 HIS   152      10.787  24.513  10.992  1.00 16.98
ATOM   1200  CE1 HIS   152       9.811  25.172  10.378  1.00 18.29
ATOM   1201  NE2 HIS   152      10.240  26.384  10.082  1.00 19.49
ATOM   1202  C   HIS   152      15.152  25.430  12.940  1.00 18.12
ATOM   1203  O   HIS   152      15.924  24.491  12.700  1.00 19.96
ATOM   1204  N   MET   153      15.057  26.022  14.124  1.00 19.91
ATOM   1205  CA  MET   153      15.756  25.452  15.290  1.00 18.22
ATOM   1206  CB  MET   153      17.014  26.243  15.653  1.00 20.41
ATOM   1207  CG  MET   153      18.194  25.866  14.773  1.00 22.42
ATOM   1208  SD  MET   153      19.656  26.742  15.386  1.00 24.41
ATOM   1209  CE  MET   153      20.799  26.366  14.077  1.00 23.62
ATOM   1210  C   MET   153      14.713  25.555  16.377  1.00 20.34
ATOM   1211  O   MET   153      14.070  26.581  16.491  1.00 22.25
ATOM   1212  N   ARG   154      14.583  24.526  17.208  1.00 17.59
ATOM   1213  CA  ARG   154      13.539  24.535  18.230  1.00 17.77
ATOM   1214  CB  ARG   154      12.891  23.146  18.240  1.00 19.71
ATOM   1215  CG  ARG   154      12.092  22.920  16.937  1.00 20.80
ATOM   1216  CD  ARG   154      11.802  21.454  16.602  1.00 19.13
ATOM   1217  NE  ARG   154      11.068  21.391  15.336  1.00 20.99
ATOM   1218  CZ  ARG   154       9.750  21.562  15.241  1.00 20.83
ATOM   1219  NH1 ARG   154       9.017  21.775  16.334  1.00 24.10
ATOM   1220  NH2 ARG   154       9.170  21.569  14.061  1.00 20.92
ATOM   1221  C   ARG   154      14.003  24.925  19.621  1.00 19.20
ATOM   1222  O   ARG   154      13.164  25.199  20.480  1.00 19.92
ATOM   1223  N   GLN   155      15.311  24.898  19.857  1.00 17.31
ATOM   1224  CA  GLN   155      15.844  25.279  21.153  1.00 16.13
ATOM   1225  CB  GLN   155      15.463  24.242  22.233  1.00 18.96
ATOM   1226  CG  GLN   155      15.501  24.801  23.662  1.00 20.63
ATOM   1227  CD  GLN   155      14.360  25.777  23.977  1.00 19.93
ATOM   1228  OE1 GLN   155      13.374  25.913  23.203  1.00 23.55
ATOM   1229  NE2 GLN   155      14.479  26.450  25.108  1.00 18.14
ATOM   1230  C   GLN   155      17.351  25.353  21.096  1.00 19.10
ATOM   1231  O   GLN   155      17.983  24.579  20.367  1.00 17.55
ATOM   1232  N   ILE   156      17.918  26.291  21.853  1.00 16.94
ATOM   1233  CA  ILE   156      19.381  26.403  21.976  1.00 16.33
ATOM   1234  CB  ILE   156      19.958  27.586  21.155  1.00 17.76
ATOM   1235  CG2 ILE   156      21.480  27.692  21.348  1.00 19.86
ATOM   1236  CG1 ILE   156      19.667  27.357  19.678  1.00 17.47
ATOM   1237  CD1 ILE   156      20.131  28.507  18.743  1.00 18.68
ATOM   1238  C   ILE   156      19.727  26.648  23.434  1.00 19.81
ATOM   1239  O   ILE   156      19.118  27.491  24.079  1.00 20.34
ATOM   1240  N   LYS   157      20.694  25.883  23.964  1.00 19.36
ATOM   1241  CA  LYS   157      21.159  26.062  25.346  1.00 19.03
ATOM   1242  CB  LYS   157      20.716  24.894  26.216  1.00 21.91
ATOM   1243  CG  LYS   157      19.226  24.949  26.419  1.00 23.38
ATOM   1244  CD  LYS   157      18.734  23.902  27.358  1.00 30.55
ATOM   1245  CE  LYS   157      17.225  24.023  27.560  1.00 29.64
ATOM   1246  NZ  LYS   157      16.789  25.233  28.330  1.00 32.34
ATOM   1247  C   LYS   157      22.669  26.162  25.348  1.00 21.84
ATOM   1248  O   LYS   157      23.328  25.607  24.480  1.00 21.65
ATOM   1249  N   ILE   158      23.218  26.897  26.322  1.00 19.35
ATOM   1250  CA  ILE   158      24.654  27.086  26.415  1.00 22.37
ATOM   1251  CB  ILE   158      25.008  28.502  25.920  1.00 23.99
ATOM   1252  CG2 ILE   158      24.148  29.517  26.649  1.00 32.81
ATOM   1253  CG1 ILE   158      26.507  28.742  26.016  1.00 31.52
ATOM   1254  CD1 ILE   158      26.887  30.082  25.417  1.00 39.40
ATOM   1255  C   ILE   158      25.016  26.861  27.881  1.00 24.95
ATOM   1256  O   ILE   158      24.356  27.370  28.794  1.00 23.16
ATOM   1257  N   TYR   159      26.061  26.061  28.099  1.00 25.04
ATOM   1258  CA  TYR   159      26.441  25.701  29.453  1.00 26.99
ATOM   1259  CB  TYR   159      26.288  24.198  29.631  1.00 27.66
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ATOM	1260	CG	TYR	159	24.868	23.742	29.572	1.00	23.96
ATOM	1261	CD1	TYR	159	24.294	23.321	28.367	1.00	24.84
ATOM	1262	CE1	TYR	159	22.964	22.944	28.302	1.00	25.96
ATOM	1263	CD2	TYR	159	24.065	23.773	30.704	1.00	24.76
ATOM	1264	CE2	TYR	159	22.723	23.414	30.649	1.00	25.27
ATOM	1265	CZ	TYR	159	22.183	22.998	29.437	1.00	24.21
ATOM	1266	OH	TYR	159	20.868	22.638	29.390	1.00	28.95
ATOM	1267	C	TYR	159	27.842	26.098	29.816	1.00	30.75
ATOM	1268	O	TYR	159	28.753	25.996	28.999	1.00	27.96
ATOM	1269	N	THR	160	27.982	26.561	31.059	1.00	36.37
ATOM	1270	CA	THR	160	29.265	26.987	31.622	1.00	38.91
ATOM	1271	CB	THR	160	29.160	28.428	32.237	1.00	39.69
ATOM	1272	OG1	THR	160	30.468	28.965	32.497	1.00	40.91
ATOM	1273	CG2	THR	160	28.358	28.399	33.528	1.00	36.12
ATOM	1274	C	THR	160	29.567	25.958	32.714	1.00	38.01
ATOM	1275	O	THR	160	28.654	25.357	33.312	1.00	31.53
ATOM	1276	N	PRO	161	30.858	25.723	32.986	1.00	40.05
ATOM	1277	CD	PRO	161	32.055	26.255	32.317	1.00	38.31
ATOM	1278	CA	PRO	161	31.203	24.741	34.023	1.00	45.17
ATOM	1279	CB	PRO	161	32.717	24.566	33.852	1.00	42.14
ATOM	1280	CG	PRO	161	33.003	25.084	32.435	1.00	43.04
ATOM	1281	C	PRO	161	30.828	25.259	35.421	1.00	43.15
ATOM	1282	O	PRO	161	30.994	26.437	35.710	1.00	45.43
ATOM	1283	N	VAL	162	30.305	24.386	36.274	1.00	46.24
ATOM	1284	CA	VAL	162	29.929	24.797	37.620	1.00	49.71
ATOM	1285	CB	VAL	162	28.557	24.258	37.998	1.00	47.70
ATOM	1286	CG1	VAL	162	28.258	24.561	39.441	1.00	46.91
ATOM	1287	CG2	VAL	162	27.517	24.883	37.117	1.00	52.47
ATOM	1288	C	VAL	162	30.940	24.313	38.646	1.00	51.36
ATOM	1289	O	VAL	162	31.813	25.074	39.051	1.00	54.84
ATOM	1290	O	HOH	163	10.950	26.130	20.832	1.00	14.96
ATOM	1291	O	HOH	164	8.053	18.290	23.286	1.00	41.97
ATOM	1292	O	HOH	165	16.071	28.840	28.430	1.00	38.21
ATOM	1293	O	HOH	166	17.519	33.163	-0.449	1.00	19.80
ATOM	1294	O	HOH	167	25.525	16.435	4.565	1.00	40.12
ATOM	1295	O	HOH	168	19.315	11.332	13.683	1.00	23.21
ATOM	1296	O	HOH	169	28.419	30.851	4.099	1.00	32.72
ATOM	1297	O	HOH	170	25.775	30.519	0.847	1.00	31.48
ATOM	1298	O	HOH	171	15.541	18.291	-2.995	1.00	36.21
ATOM	1299	O	HOH	172	17.592	40.365	16.478	1.00	27.18
ATOM	1300	O	HOH	173	8.537	20.371	24.540	1.00	33.06
ATOM	1301	O	HOH	174	30.257	45.640	24.198	1.00	35.01
ATOM	1302	O	HOH	175	32.498	29.109	8.019	1.00	33.02
ATOM	1303	O	HOH	176	14.111	13.246	12.945	1.00	29.28
ATOM	1304	O	HOH	177	15.448	21.522	12.782	1.00	25.94
ATOM	1305	O	HOH	178	22.864	16.441	5.369	1.00	26.62
ATOM	1306	O	HOH	179	15.882	39.075	5.551	1.00	35.99
ATOM	1307	O	HOH	180	13.559	37.489	2.924	1.00	31.75
ATOM	1308	O	HOH	181	18.491	38.364	4.177	1.00	37.08
ATOM	1309	O	HOH	182	29.717	32.010	6.255	1.00	33.42
ATOM	1310	O	HOH	183	15.547	10.220	9.340	1.00	31.36
ATOM	1311	O	HOH	184	22.365	5.290	12.595	1.00	27.24
ATOM	1312	O	HOH	185	19.981	17.215	1.598	1.00	32.39
ATOM	1313	O	HOH	186	23.866	36.212	6.431	1.00	33.56
ATOM	1314	O	HOH	187	15.758	9.475	13.288	1.00	29.96
ATOM	1315	O	HOH	188	17.153	36.332	-0.185	1.00	30.09
ATOM	1316	O	HOH	189	13.778	39.371	9.756	1.00	31.50
ATOM	1317	O	HOH	190	8.834	14.340	7.391	1.00	30.91
ATOM	1318	O	HOH	191	26.634	13.302	11.748	1.00	33.33
ATOM	1319	O	HOH	192	18.249	14.227	21.683	1.00	31.94
ATOM	1320	O	HOH	193	20.346	31.146	31.527	1.00	37.99
ATOM	1321	O	HOH	194	28.353	36.129	31.243	1.00	38.50
ATOM	1322	O	HOH	195	33.128	35.522	34.799	1.00	40.22
ATOM	1323	O	HOH	196	35.373	21.067	13.618	1.00	40.06
ATOM	1324	O	HOH	197	37.530	31.282	11.053	1.00	42.58
ATOM	1325	O	HOH	198	11.389	32.248	25.798	1.00	30.85
ATOM	1326	O	HOH	199	23.324	38.869	12.151	1.00	33.66
ATOM	1327	O	HOH	200	6.431	19.557	11.792	1.00	29.75
ATOM	1328	O	HOH	201	20.586	21.250	0.132	1.00	36.82
ATOM	1329	O	HOH	202	23.148	20.214	2.582	1.00	38.45

ATOM	1330	O	HOH	203	8.092	25.320	28.157	1.00	40.84
ATOM	1331	O	HOH	204	22.910	14.940	17.625	1.00	34.09
ATOM	1332	O	HOH	205	16.409	40.120	8.132	1.00	40.19
ATOM	1333	O	HOH	206	13.436	37.217	17.695	1.00	34.61
ATOM	1334	O	HOH	207	31.291	19.824	25.416	1.00	40.31
ATOM	1335	O	HOH	208	6.392	29.169	10.024	1.00	34.61
ATOM	1336	O	HOH	209	14.563	22.509	26.281	1.00	32.86
ATOM	1337	O	HOH	210	11.781	15.170	4.221	1.00	35.11
ATOM	1338	O	HOH	211	29.284	26.602	2.812	1.00	41.22
ATOM	1339	O	HOH	212	26.707	26.147	2.077	1.00	36.81
ATOM	1340	O	HOH	213	27.703	38.920	30.452	1.00	40.29
ATOM	1341	O	HOH	214	2.466	35.149	15.007	1.00	47.36
ATOM	1342	O	HOH	215	11.559	36.569	20.077	1.00	36.08
ATOM	1343	O	HOH	216	36.916	36.499	22.993	1.00	39.28
ATOM	1344	O	HOH	217	12.500	39.487	7.120	1.00	46.58
ATOM	1345	O	HOH	218	14.821	6.606	7.069	1.00	59.39
ATOM	1346	O	HOH	219	16.764	9.277	16.796	1.00	37.95
ATOM	1347	O	HOH	220	25.606	15.495	20.016	1.00	36.65
ATOM	1348	O	HOH	221	28.857	38.434	11.361	1.00	47.83
ATOM	1349	O	HOH	222	16.666	11.937	37.670	1.00	51.44
ATOM	1350	O	HOH	223	17.741	5.353	10.662	1.00	36.67
ATOM	1351	O	HOH	224	6.741	27.493	27.322	1.00	54.00
ATOM	1352	O	HOH	225	17.687	25.392	30.802	1.00	35.22
ATOM	1353	O	HOH	226	9.373	8.238	10.483	1.00	50.03
ATOM	1354	O	HOH	227	9.903	35.256	2.411	1.00	39.33
ATOM	1355	O	HOH	228	25.444	27.414	39.923	1.00	53.46
ATOM	1356	O	HOH	229	15.498	11.286	3.945	1.00	51.52
ATOM	1357	O	HOH	230	4.840	29.867	18.011	1.00	45.91
ATOM	1358	O	HOH	231	16.133	12.462	20.099	1.00	37.56
ATOM	1359	O	HOH	232	18.801	34.905	7.917	1.00	19.32
ATOM	1360	O	HOH	233	16.094	11.714	11.655	1.00	27.55
ATOM	1361	O	HOH	234	10.324	21.032	3.458	1.00	22.30
ATOM	1362	O	HOH	235	11.380	29.933	2.945	1.00	24.05
ATOM	1363	O	HOH	236	20.673	31.014	39.345	1.00	43.84
ATOM	1364	O	HOH	237	6.302	30.885	5.376	1.00	32.83
ATOM	1365	O	HOH	238	20.233	25.328	1.898	1.00	20.09
ATOM	1366	O	HOH	239	25.855	29.772	3.518	1.00	27.64
ATOM	1367	O	HOH	240	20.094	36.652	6.244	1.00	26.53
ATOM	1368	O	HOH	241	28.986	34.272	7.891	1.00	32.84
ATOM	1369	O	HOH	242	23.555	39.437	19.855	1.00	27.59
ATOM	1370	O	HOH	243	20.579	13.827	15.927	1.00	27.35
ATOM	1371	O	HOH	244	16.778	27.349	26.127	1.00	27.48
ATOM	1372	O	HOH	245	7.087	28.823	17.027	1.00	26.66
ATOM	1373	O	HOH	246	15.935	1.151	4.105	1.00	40.93
ATOM	1374	O	HOH	247	23.787	-1.193	-0.358	1.00	27.85
ATOM	1375	O	HOH	248	16.819	1.825	0.816	1.00	55.35
ATOM	1376	O	HOH	249	18.284	-2.877	7.035	1.00	32.04
ATOM	1377	O	HOH	250	30.033	6.855	4.495	1.00	29.59
ATOM	1378	O	HOH	251	33.125	7.135	6.322	1.00	24.37
ATOM	1379	O	HOH	252	31.672	6.246	0.437	1.00	26.81
ATOM	1380	O	HOH	253	21.535	-3.160	3.489	1.00	31.09
ATOM	1381	O	HOH	254	25.415	6.148	3.247	1.00	34.18
ATOM	1382	O	HOH	255	23.319	20.880	36.721	1.00	37.79
ATOM	1383	O	HOH	256	29.308	32.927	33.663	1.00	45.01
ATOM	1384	O	HOH	257	23.156	39.331	9.532	1.00	40.76
ATOM	1385	O	HOH	258	26.948	11.733	9.135	1.00	50.50
ATOM	1386	O	HOH	259	21.436	14.214	4.046	1.00	34.89
ATOM	1387	O	HOH	260	18.146	41.066	19.589	1.00	39.65
ATOM	1388	O	HOH	261	3.363	37.186	16.826	1.00	44.46
ATOM	1389	O	HOH	262	31.088	35.988	10.783	1.00	37.23
ATOM	1390	O	HOH	263	21.708	-1.613	1.247	1.00	36.09
ATOM	1391	O	HOH	264	22.014	17.782	3.109	1.00	41.73
ATOM	1392	O	HOH	265	10.470	33.374	0.315	1.00	42.61
ATOM	1393	O	HOH	266	21.307	25.449	34.784	1.00	35.41
ATOM	1394	O	HOH	267	15.879	-4.519	7.678	1.00	46.61
ATOM	1395	O	HOH	268	22.816	10.020	4.055	1.00	41.03
ATOM	1396	O	HOH	269	15.423	4.179	4.197	1.00	42.21
ATOM	1397	O	HOH	270	18.799	13.650	3.643	1.00	36.30
ATOM	1398	O	HOH	271	22.355	38.053	7.200	1.00	40.44
ATOM	1399	O	HOH	272	32.431	32.386	33.140	1.00	46.59

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ATOM   1400  O   HOH   273      30.228  28.980   3.558  1.00 49.90
ATOM   1401  O   HOH   274      16.212  20.746  27.909  1.00 43.25
ATOM   1402  O   HOH   275      16.299  38.750  16.679  1.00 37.49
ATOM   1403  O   HOH   276      38.809  38.321  32.383  1.00 58.21
ATOM   1404  O   HOH   277      30.653  41.731  23.824  1.00 52.09
ATOM   1405  O   HOH   278      14.525   5.443  14.268  1.00 51.79
ATOM   1406  O   HOH   279      20.562  18.083  -1.443  1.00 49.29
ATOM   1407  O   HOH   280      34.477  31.552   9.012  1.00 47.57
ATOM   1408  O   HOH   281       4.489  35.506  11.429  1.00 38.54
ATOM   1409  O   HOH   282      31.031  41.300  21.059  1.00 50.75
ATOM   1410  O   HOH   283      28.690  14.063   8.809  1.00 44.04
ATOM   1411  O   HOH   284      28.910  19.154  28.442  1.00 42.18
ATOM   1412  O   HOH   285      26.937  36.428   6.520  1.00 49.73
ATOM   1413  O   HOH   286      13.734   9.399  15.682  1.00 51.18
ATOM   1414  O   HOH   287       9.840  40.095  13.952  1.00 53.00
ATOM   1415  O   HOH   288      24.419  42.288  17.436  1.00 37.01
ATOM   1416  O   HOH   289      17.974  28.171  31.386  1.00 53.50
ATOM   1417  O   HOH   290      27.916  38.365   8.092  1.00 51.03
ATOM   1418  O   HOH   291      22.121   7.400  14.898  1.00 53.40
ATOM   1419  O   HOH   292      30.521  16.980  11.159  1.00 43.49
ATOM   1420  O   HOH   293      20.529  22.869  37.913  1.00 49.82
ATOM   1421  O   HOH   294       7.077  30.438  22.819  1.00 41.66
ATOM   1422  O   HOH   295       5.769  27.816  24.967  1.00 47.39
ATOM   1423  O   HOH   296      23.540  36.819   3.848  1.00 42.54
ATOM   1424  O   HOH   297      21.054  41.887  11.938  1.00 48.07
ATOM   1425  O   HOH   298      30.461  14.584  11.286  1.00 44.52
ATOM   1426  O   HOH   299      12.470  15.255  21.871  1.00 46.08
ATOM   1427  O   HOH   300      13.158  33.959  27.044  1.00 52.05
ATOM   1428  O   HOH   301       9.769  37.956   8.323  1.00 42.05
ATOM   1429  O   HOH   302      14.750  19.421  35.302  1.00 55.82
ATOM   1430  O   HOH   303      16.724  11.774  25.567  1.00 52.72
ATOM   1431  O   HOH   304      25.273  13.733  24.457  1.00 40.55
ATOM   1432  O   HOH   305      27.604  17.279  26.549  1.00 39.69
ATOM   1433  O   HOH   306      18.135   3.144   3.601  1.00 28.74
ATOM   1434  O   HOH   307      20.639   5.783   2.636  1.00 58.26
ATOM   1435  O   HOH   308      19.480  12.056  27.839  1.00 57.84
ATOM   1436  O   HOH   309       8.573  38.608  16.364  1.00 51.91
ATOM   1437  O   HOH   310      17.975   6.752   3.395  1.00 59.90
ATOM   1438  O   HOH   311      12.283   6.746   1.481  1.00 49.73
ATOM   1439  O   HOH   312      16.172   6.585   5.192  1.00 51.08
ATOM   1440  O   HOH   313      13.216   4.053   6.331  1.00 58.71
ATOM   1441  O   HOH   314      34.190  32.990  11.275  1.00 49.63
ATOM   1442  O   HOH   315      39.437  28.740  12.083  1.00 53.52
ATOM   1443  O   HOH   316      28.088  36.019   4.213  1.00 41.65
ATOM   1444  O   HOH   317      29.064  14.597  19.060  1.00 44.66
ATOM   1445  O   HOH   318      26.275  13.913  22.393  1.00 42.05
ATOM   1446  O   HOH   319      18.488  20.474  37.293  1.00 52.13
ATOM   1447  NI  NI    320      17.047   2.879   5.045  1.00 35.58
END
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INTERNATIONAL SEARCH REPORT

Internati Application No
PCT/EP 02/06909

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/47 G06F19/00

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 7 C07K G06F

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

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

BIOSIS, EPO-Internal, MEDLINE, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KURASAWA YASUHIRO ET AL: "Identification of human APC10/Doc1 as a subunit of anaphase promoting complex." ONCOGENE, vol. 18, no. 37, pages 5131-5137, XP002218316 ISSN: 0950-9232 the whole document figure 1 --- -/--	1-4

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° 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 document 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	Date of mailing of the international search report
25 October 2002	13/11/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Petri, B

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
Y	GROSSBERGER RUPERT ET AL: "Characterization of the DOC1/APC10 subunit of the yeast and the human anaphase-promoting complex." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 274, no. 20, 14 May 1999 (1999-05-14), pages 14500-14507, XP002218317 ISSN: 0021-9258 the whole document figure 2 ---	1-4
Y	SKELLY JANE V ET AL: "Overexpression, isolation, and crystallization of proteins." METHODS IN MOLECULAR BIOLOGY, vol. 56, 1996, pages 23-53, XP002218318 1996 Humana Press Inc. Suite 808, 999 Riverview Drive, Totowa, New Jersey 07512, USA ISBN: 0-89603-259-0 the whole document page 39, line 21 - line 28 ---	1-4
Y	EISENSTEIN E ET AL: "BIOLOGICAL FUNCTION MADE CRYSTAL CLEAR - ANNOTATION OF HYPOTHETICAL PROTEINS VIA STRUCTURAL GENOMICS" CURRENT OPINION IN BIOTECHNOLOGY, LONDON, GB, vol. 1, no. 11, February 2000 (2000-02), pages 25-30, XP001062869 ISSN: 0958-1669 the whole document page 26, column 2, paragraph 3 -page 27, column 1, paragraph 2 ---	1-4
Y	FARBER G K: "NEW APPROACHES TO RATIONAL DRUG DESIGN" PHARMACOLOGY AND THERAPEUTICS, ELSEVIER, GB, vol. 3, no. 84, December 1999 (1999-12), pages 327-332, XP001062868 ISSN: 0163-7258 the whole document page 329, column 2, line 4 - line 7 --- -/--	1-4

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
P,X	WENDT K S ET AL: "Crystal structure of the APC10/DOC1 subunit of the human anaphase-promoting complex." NATURE STRUCTURAL BIOLOGY. UNITED STATES SEP 2001, vol. 8, no. 9, September 2001 (2001-09), pages 784-788, XP001107138 ISSN: 1072-8368 the whole document	1-4
P,X	AU SHANNON W N ET AL: "Implications for the ubiquitination reaction of the anaphase-promoting complex from the crystal structure of the Doc1/Apc10 subunit." JOURNAL OF MOLECULAR BIOLOGY, vol. 316, no. 4, 2002, pages 955-968, XP002218319 1 March, 2002 ISSN: 0022-2836 the whole document	1-4
A	DATABASE PDB 'Online! 31 January 1994 (1994-01-31) ITO, N. ET AL. : "Galactose Oxidase (E.C. 1.1.3.9) (pH 4.5)" retrieved from WWW.RCSB.ORG Database accession no. 1GOF XP002218321 RMSD=2.2A to 1JHJ in 138 equivalenced residues abstract	
A	GIEFFERS CHRISTIAN ET AL: "Three-dimensional structure of the anaphase-promoting complex." MOLECULAR CELL, vol. 7, no. 4, April 2001 (2001-04), pages 907-913, XP002218320 ISSN: 1097-2765	
P,A	EP 1 167 539 A (BOEHRINGER INGELHEIM INT) 2 January 2002 (2002-01-02)	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 5-9 (completely)

Present claims 5-9 relate to structurally undefined compounds and uses thereof, solely defined by reference to a desirable characteristic or property, namely "Inhibitors of APC10".
The claims cover all products and methods having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for none of such products and methods. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the products and relating methods by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search impossible. Consequently, the said claims have not been searched.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 02/06909

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.: 5-9 (completely)
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:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 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 an additional fee, this Authority did not invite payment of any additional fee.

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.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internati[redacted] Application No
PCT/EP 02/06909

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1167539 A	02-01-2002	EP 1167539 A1	02-01-2002
		AU 7969501 A	08-01-2002
		WO 0200923 A1	03-01-2002
		US 2002028472 A1	07-03-2002