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Small Retinoprotective Peptides Reveal a Receptor-binding Region on Pigment Epithelium-derived Factor*[S]

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Background: Pigment epithelium-derived factor (PEDF) interacts with its receptor PEDF-R to exert cytoprotection.
Results: Alanine scanning of a small fragment (17-mer) of PEDF reveals key interacting residues for binding PEDF-R and alternative retinoprotective peptide versions with higher efficacy.
Conclusion: The 17-mer contains a novel PEDF-R binding region important for retinoprotection.
Significance: Altered PEDF peptides could be exploited pharmacologically to improve protection of photoreceptors from degeneration.

The cytoprotective effects of pigment epithelium-derived factor (PEDF) require interactions between an as of a yet undefined region with a distinct ectodomain on the PEDF receptor (PEDF-R). Here we characterized the area in PEDF that interacts with PEDF-R to promote photoreceptor survival. Molecular docking studies suggested that the ligand binding site of PEDF-R interacts with the neurotrophic region of PEDF (44-mer, positions 78–121). Binding assays demonstrated that PEDF-R bound the 44-mer peptide. Moreover, peptide P1 from the PEDF-R ectodomain had affinity for the 44-mer and a shorter fragment within it, 17-mer (positions 98–114). Single residue substitutions to alanine along the 17-mer sequence were designed and tested for binding and biological activity. Altered 17-mer[R99A] did not bind to the P1 peptide, whereas 17-mer[H105A] had higher affinity than the unmodified 17-mer. Peptides 17-mer, 17-mer[H105A], and 44-mer exhibited cytoprotective effects in cultured retina R28 cells. Intravitreal injections of these peptides and PEDF in the *rd1* mouse model of retinal degeneration decreased the numbers of dying photoreceptors, 17-mer[H105A] being most effective. The blocking peptide P1 hindered their protective effects both in retina cells and *in vivo*. Thus, in addition to demonstrating that the region composed of positions 98–114 of PEDF contains critical residues for PEDF-R interaction that mediates survival effects, the findings reveal distinct small PEDF fragments with neurotrophic effects on photoreceptors.

Pathological photoreceptor demise in the eye can perturb the structure and function of the retina and lead to visual loss, as is seen in the retina of patients with retinitis pigmentosa and age-related macular degeneration. Several lines of evidence suggest that vision can be preserved by interfering with photoreceptor cell death (1). Therefore, endogenous neurotrophic factors are likely to play important roles in preventing retinal degeneration. Pigment epithelium-derived factor (PEDF)[3] is a naturally occurring neurotrophic factor found in the interphotoreceptor matrix surrounding the photoreceptors. The human retinal pigment epithelium expresses the *SERPINF1* gene that encodes the PEDF protein (2, 3). The monolayer of retinal pigment epithelium cells secretes the mature PEDF protein in a directional fashion toward its apical side into the interphotoreceptor matrix (4–6), where it is thought to be responsible for photoreceptor survival and for its avascularity. Several reports have revealed that PEDF levels in eyes of patients and animal models of retinal degeneration are lower than in nondiseased patients or wild type animals, respectively (7–9). Furthermore, administration of PEDF in rodent models of retinitis pigmentosa and age-related macular degeneration results in a delay in photoreceptor degeneration (9–15). PEDF is a potential therapeutic agent for retinal degenerations, and further studies on its mechanism of action are fundamental to develop its therapeutic use.

Although the fundamental mechanisms of action remain unclear, there is accumulated evidence that the modular nature of PEDF helps it to participate in multiple cellular functions (16, 17). As a member of the serine protease inhibitor superfamily of serpins, the PEDF protein shares three-dimensional structural homology with other members. However, it does not have a demonstrable serine protease inhibitory activity and belongs to the subclass of noninhibitory serpins, *e.g.* ovalbumin and maspin (2, 18). The PEDF protein (50,000-M_r) is a monomeric glycoprotein with a homologous serpin reactive center loop

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[3] The abbreviations used are: PEDF, pigment epithelium-derived factor; PEDF-R, pigment epithelium-derived factor receptor; LBD, ligand-binding domain; Ni-NTA, nickel-nitrilotriacetic acid; SPR, surface plasmon resonance; PN*n*, postnatal day *n*.

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toward its C-terminal end, which is distinct and separated from regions for neurotrophic and antiangiogenic activities and for collagen and glycosaminoglycan binding motifs (2). It is established that PEDF biological effects are independent of its protease inhibitory potential; however, they depend on interactions with receptors on the surface of target cells (16). Structure-function relationship studies have revealed that a region toward the N terminus of the PEDF polypeptide (human amino acid positions 78–121) confers the neurotrophic properties to the molecule. Peptide 44-mer from the neurotrophic region has demonstrable neuronal differentiating activity on retinoblastoma Y-79 cells, as well as survival effects on spinal cord motor neurons, whereas peptide 34-mer from the antiangiogenic region (human position 44–77) does not exhibit neurotrophic activities (19–21).

We have begun to elucidate the molecular mechanisms that govern the cytoprotective effects of PEDF and have identified PEDF-R protein as a receptor for PEDF. This novel protein encoded by *PNPLA2* (patatin-like phospholipase domain containing family) is a membrane-linked lipase enzyme, which PEDF binding can stimulate (22). Plasma membranes of retina cells contain PEDF-R, which has affinity for PEDF and is essential for cytoprotective activity of PEDF (23). We have also mapped the ligand-binding domain (LBD) to an extracellular loop of the human PEDF-R (positions 203–232) and shown that peptides derived from this ectodomain act as soluble receptor fragments that block both PEDF/PEDF-R interactions and PEDF-mediating survival action (23). However, the region of PEDF that binds PEDF-R remains to be identified.

Therefore, we hypothesized that the neurotrophic region of PEDF interacts with the LBD of PEDF-R to trigger the necessary downstream molecular cascades leading to cell survival. To test this proposition, we designed experiments to map the region of PEDF that interacts with PEDF-R to exert retinoprotective activity. The biological consequences of these interactions were examined in retina cells in culture and in photoreceptors of a mouse model of retina degeneration *in vivo*. The data support the pharmacotherapeutic potential of PEDF as a neuroprotectant in retinal degeneration.

Experimental Procedures

Peptides and Protein—Recombinant human PEDF was expressed, purified, and conjugated with fluorescein using fluorescein-5-EX, succinimidyl ester as outlined previously (24). Recombinant PEDF-R with an N-terminal His_6/Xpress tag was expressed in the Expressway *in vitro* transcription/translation system (Life Technologies Corp., Invitrogen), as described previously (22). Human PEDF-R peptide P1 (Thr^{210}–Leu^{249}) and human PEDF peptides 34-mer (Asp^{44}–Asn^{77}) and 44-mer (Val^{78}–Thr^{121}) were synthesized as before (19, 23), and 17-mer (Gln^{98}–Ser^{115}) and the set of 17-mer alanine scan peptides were all chemically synthesized and purified by Biosynthesis Inc. Sequences of peptides are in Table 1. Fluorescently labeled peptides were synthesized with FITC covalently linked to the N terminus via an 6-aminohexylcarbamoyl linker by Biosynthesis Inc. Lyophilized peptides were dissolved in deionized water at 1 mg/ml and stored at −80 °C. The lipase inhibitor atglistatin was purchased from Cayman Chemical.

TABLE 1
Sequences of peptides used in this study

Name	Sequence
P1	TSIQFNLRNLYRLSKALFPPEPLVLREMCKQGYRDGLRFL
34-mer	FFVPVNKLAAVSNFGYDLYRVRSSMSPTTN
44-mer	VLLSPLSVATALSALSLGADQRTESIIHRALYYDLISSPDIHGT
17-mer	QRTESIIHRALYYDLIS
Q98A	**A**RTESIIHRALYYDLIS
R99A	Q**A**TESIIHRALYYDLIS
T100A	QR**A**ESIIHRALYYDLIS
E101A	QRT**A**SIIHRALYYDLIS
S102A	QRTE**A**IIHRALYYDLIS
I103A	QRTES**A**IHRALYYDLIS
I104A	QRTESI**A**HRALYYDLIS
H105A	QRTESII**A**RALYYDLIS
R106A	QRTESIIH**A**ALYYDLIS
L108A	QRTESIIHRA**A**YYDLIS
Y109A	QRTESIIHRAL**A**YDLIS
Y110A	QRTESIIHRALY**A**DLIS
D111A	QRTESIIHRALYY**A**LIS
L112A	QRTESIIHRALYYD**A**IS
I113A	QRTESIIHRALYYDL**A**S
S114A	QRTESIIHRALYYDLI**A**

We prepared recombinant PEDF with single residue alterations using the full-length human gene *SERPINF1* for PEDF protein. Mutant SERPINF1[R99A] and SERPINF1[H105A] were generated by targeting WT SERPINF1 cDNA by site-directed mutagenesis. WT and mutant SERPINF1 cDNA were cloned into p3XFLAG-CMV™-9 expression vector (Sigma). The resulting expression vectors were transfected into BHK cells using Lipofectamine® 2000. After selection with 0.4 mg/ml neomycin, stably transfected cells were cycled between serum and serum-free media every 24 h. Conditioned serum-free media containing the recombinant proteins were harvested, concentrated by ammonium sulfate precipitation, and purified by a two-step ion-exchange column chromatography as described before (24).

Cell Culture—The retina precursor cell line R28 is widely used and was originally derived from a rat retina at the age of 6 days infected with the psi2 E1A adenovirus and then cloned by limiting dilution (see Kerafast website). R28 cells (Gift from Gail Seigel, University of Buffalo) were cultured in DMEM with 10% FBS and 1% penicillin/streptomycin at 37 °C and 5% CO_2 (23). Cell passages 50–58 were used in experiments in this study.

Modeling and Molecular Docking—The P1 peptide folding was modeled using the *ab initio* fragment assembly protocol of Rosetta (25). One million decoys were generated, and the top 0.5% of models by Rosetta score was clustered using MaxCluster (26). The most representative models from the top five clusters by size were globally docked onto the native PEDF structure (Protein Data Bank code 1IMV, chain A) using both the docking protocol of Rosetta (27) and clusPro (28). For global docking with Rosetta, 10,000 docking models were generated and clustered, and the representative models for each of the top 10 clusters by score were kept, resulting in 50 possible docking models. Each of the 50 possible docking models was subjected to a local refinement docking run, wherein the ligand (P1 peptide) was randomly displaced from its original position and allowed to reposition itself using a least squares search. The hallmark of realistic docking is the so-called "funnel-shaped" plot of score *versus* distance from the original docking position (25), and clear funnels were seen in only two of the local refine-

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ments. For global docking with clusPro, the 5 possible *ab initio* models gave a total of 60 possible docking models. Each of these docking models was subjected to the same local refinement docking procedure, and only one showed a clear funnel-shaped plot. Of the three docking models, one of the models generated using the all-Rosetta method and the one from clusPro show the same arrangement of P1 bound to the neurotrophic region of PEDF (positions 44–121). The models were visually inspected, and no unusual steric clashes and chemical bonding violations were seen. The modeling data were generated by an individual with no knowledge of the other data in this paper. A file with coordinates of the models is found at the National Institutes of Health Helix Systems website (supplemental data).

Circular Dichroism—To assess the secondary structure of peptide P1 CD was performed. Peptide P1 was diluted in 10 mM sodium phosphate, pH 7.4, 50 mM NaF, and 0.05% Tween 20 to a concentration of 0.1 mg/ml. The CD spectrum was scanned from 190 to 260 nm at 25 °C. Using a water bath to increase the temperature, additional scans were taken at 60, 70, and 80 °C. CD spectra of other peptides used in the study are in Fig. 1*D*.

Ligand Blot Binding Assay—Binding of fluorescently tagged PEDF or peptides to immobilized P1 peptide was assayed by ligand blot, as reported previously (23). P1 peptide (1 μg) was immobilized on nitrocellulose by vacuum filtration using the convertible filtration manifold system (Invitrogen, Life Technologies). Peptides immobilized in the membrane were stained with Ponceau Red (Sigma-Aldrich) to confirm peptide immobilization and relative amount. Strips of the nitrocellulose membrane containing P1 peptide slots were sliced and incubated in blocking solution (1% BSA in TBS (50 mM Tris, pH 7.5, 150 mM NaCl) plus 0.1% (v/v) Tween 20) for 1 h at 25 °C. Then the strips were incubated in solutions (1 ml) containing each fluorescently tagged PEDF or peptides at concentrations, as indicated, in TBS plus 0.05% Tween 20 for 2 h at room temperature in the dark. The bound material was detected by imaging the fluorescent tag on a laser scanner (Typhoon^{TM} 9410; GE LifeSciences).

Saturation binding experiments were performed from ligand blots with fluorescently tagged ligand at concentrations that varied as indicated. The amount of bound material detected on the scanned images was quantified based on the fluorescence intensity using the analyze gel tool in ImageJ. Each data point was the average of triplicate assays ± standard error. The plots were fit in GraphPad Prism using nonlinear fit with an equation for binding − saturation, one site − specific binding to obtain K_d values.

Pulldown Assay—Binding of full-length PEDF-R and PEDF peptides was determined via pulldown assay. Full-length His_6/Xpress-tagged PEDF-R was synthesized in an *in vitro* translation system (yield of ~933 ng per 50 μl of reaction) as described before (23). The 34-mer and 44-mer peptides chemically synthesized containing FITC at their N terminus end were used. The *in vitro* expression reaction was divided into two equal aliquots to ensure equal amounts of recombinant PEDF-R protein (approximate 420 ng) in each of the 34-mer and 44-mer pulldown mixtures, and then FITC labeled 34-mer or 44-mer in Tris buffered saline plus 0.1% Tween 20 (TBS-T) was added to each (final concentration, 300 nM). Mixtures were at an estimated molar ratio of 1:6 for PEDF-R:peptide. After incubation under rotation for 2 h at 4 °C, a suspension of Ni-NTA resin (50 μl of bed volume) (Invitrogen) prewashed in TBS-T, was added to the binding reaction mixture and incubated for 1 h at 4 °C. Following the incubation, the resin mixture was sedimented by centrifugation at 800 × *g* for 30 s at 4 °C. Then the resin was washed three times with 500 μl of TBS-T to remove unbound material, and the bound proteins were removed from the resin by adding 20 μl of 1× NuPAGE® LDS sample buffer (Life Technologies; 141 mM Tris base, 2% LDS, 10% glycerol, 0.51 mM EDTA, 0.22 mM SERVA Blue G, 0.175 mM Phenol Red, pH 8.5) containing 1.25 mM DTT and heating the resin at 95 °C for 5 min. The bound material was subjected to SDS-PAGE to separate the His_6/Xpress-tagged PEDF-R and FITC peptides. The bound fractions were loaded on a NuPAGE® Novex® 4–12% Bis-Tris protein gel (1.5 mm, 10 well; Life Technologies, Inc.) and electrophoresed at 170 V for 40 min in NuPAGE® MES SDS running buffer (Novex®; Life Technologies). Low range standards (20,700–103,000 molecular weight), prestained mixture of six proteins were used (Bio-Rad prestained SDS-PAGE standards 161-0305, catalogue no. 161-0305). The proteins and peptides were transferred to a nitrocellulose membrane. The FITC of peptides were detected with a laser scanner (Typhoon^{TM} 9410; GE LifeSciences). His_6/Xpress-tagged PEDF-R was detected via Western blot using anti-Xpress (Invitrogen, diluted at 1:10,000) and HRP-conjugated goat anti-mouse (KPL, diluted at 1:200,000).

Surface Plasmon Resonance (SPR)—Binding of 34-mer and 44-mer peptides to immobilized P1 determined by SPR was performed using a Biacore3000, as described previously (22). Briefly, P1 peptide (5 μg/ml diluted into 10 mM sodium phosphate, pH 7.3) was immobilized on a CM5 sensor chip (Biacore) via amine-coupling chemistry (1500 reference units). A reference surface without peptide was prepared using the same procedure. During binding analysis, the P1 chip was paired with a reference chip, and the binding of 300 μl of PEDF peptide (5 μM in TBS_{50}-T) at a flow rate of 5 ml/min was measured. Subsequently, the chips were washed with TBS_{50}-T, and peptide dissociation was followed for 3 h at the 5 ml/min. The chips were regenerated with regeneration buffer (1% octyl-glucoside, 500 mM NaCl, 10 mM NaOH) at a flow rate of 20 ml/min.

Fluorescence Polarization—The binding assessment of the 17-mer alanine scan peptides was performed using fluorescence polarization. FITC-P1 peptide (20 pM) in TBS, 0.05% Tween 20 was mixed with each of the 17-mer alanine scanning peptides at 0.2 μM, or as indicated, in 50 μl final volume per reaction mixture and incubated at 25 °C for 1 h. The fluorescence polarization was measured with Envision (PerkinElmer) plate reader. The polarization (mP) of each sample was calculated using Equation 1, where *S* is light detected parallel to the excitation plane, and *P* is light detected perpendicular to the excitation plane.

$$mP = \left(\frac{s - p}{s + p}\right)1000 \qquad \text{(Eq. 1)}$$

The change in polarization (ΔmP) is the polarization for the sample normalized to the polarization of free FITC-P1 peptide.

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R28 Cell Survival Assay—The biologic activity of PEDF-derived peptides was determined by the ability to protect retinal cells from serum starvation-mediated cell death, as described (23). Rat retina R28 cells (1.5×10^4/well) were cultured in an 8-well Nunc chamber slide for 16 h in 5% FBS. The cells were then washed with PBS and serum-free media containing effectors was added and incubated at 37 °C for 48 h. For treatment with P1 peptide, PEDF and PEDF-derived peptides were preincubated in 50 μl of medium and rocked at 4 °C for 4 h prior to addition to cells at the indicated final concentration. Antiapoptotic effect was evaluated by performing the TUNEL assay at the end point using an ApopTag fluorescein *in situ* apoptosis detection kit (Chemicon International, Temecula, CA) following the manufacturer's protocol. The nuclei were counterstained with Hoechst, and images were taken using fluorescence microscopy. Five different fields were imaged per treatment from two independent wells in each experiment. Cells were manually counted using ImageJ 1.42 cell counter plugin. The data are shown as the ratio of TUNEL-positive cells over the total cells per field.

In Vivo Retina Protection—All procedures on mice were conducted at the Centro Servizi Stabulario Interdipartimentale, approved by the Ethical Committee of University of Modena and Reggio Emilia (Protocol number 106 22/11/2012) and by the Italian Ministero della Salute and were in accordance with the Association for Research in Vision and Ophthalmology Statement for the Use of Animals in Ophthalmic and Vision Research. C3H/HeN (*rd1*) mice were purchased from Harlan Italy (Udine, Italy). Mice were maintained in 12-h light/dark cycles. For intravitreal administration, *rd1* mice at the age of 11 days (postnatal day 11; PN11) were anesthetized with an intraperitoneal injection of 2 ml/100 g of body weight of avertin (1.25% (w/v) 2,2,2-tribromoethanol and 2.5% (v/v) 2-methyl-2-butanol; Sigma, Milan, IT). Subsequently, 0.5 μl of PBS containing different concentrations of PEDF or PEDF peptides with or without 10 times molar excess (10×) of P1 peptide were delivered intravitreously via a trans-scleral transchoroidal approach. Control eyes received vehicle or P1 peptide only. Treated mice were sacrificed 16 h postinjection at the age of 12 days (PN12).

Analysis based on counting of dying cells (*i.e.* TUNEL+) is a reliable estimation of neuroprotection because degeneration is very fast in this model (29). Eyes were enucleated, fixed, embedded in paraffin, and sectioned as previously described (29). DNA fragmentation in dying cells was detected by TUNEL kit (fluorescein; Roche) according to the producer's protocols. Nuclei were then stained with DAPI (Sigma) for 2 min. The slides were mounted with mowiol 4–88 (Sigma) and analyzed at an Axioskop 40 fluorescence microscope (Zeiss). TUNEL-positive cells were counted in sections passing through the optic nerve and expressed as percentages of the total number of photoreceptors (number of DAPI stained in the photoreceptor outer nuclear layer) in each section analyzed. Paired Student's *t* test analysis compared data derived from at least three different untreated and at least three different treated *rd1* retinas or data from at least three different retinas treated with PEDF or PEDF-derived peptides in the presence or absence of the P1 peptide.

Results

Molecular Docking of the LBD of PEDF-R to PEDF—Although the three-dimensional structure of PEDF has been resolved (Protein Data Bank code 1IMV), there are limited experimental and theoretical data on the structure of PEDF-R. Therefore, the structure of P1 peptide (human PEDF-R positions Thr^{210}–Leu^{249}) was modeled using the *ab initio* fragment assembly protocol of Rosetta. The top five clusters contained 2710, 1200, 249, 235, and 185 members each, respectively. All representative models were dominated by helical structure. The theoretical P1 peptide structure contained three α helices, which was confirmed by circular dichroism (Fig. 1). The modeled P1 peptide structure was docked to the three-dimensional PEDF structure (Protein Data Bank code 1IMV) using two modeling algorithms: Rosetta and ClusPro. The docking models were verified by the strong tendency of the partners to return to the same configuration after random displacement. Both algorithms yielded a model with P1 peptide binding to a cleft on PEDF that contains the 44-mer region (Fig. 1*A*). The model predicts that the interaction between PEDF and the P1 fragment is centered around Glu^{101}, with a combination of backbone and side chain atoms providing contacts and that likely the first six residues of the 44-mer do not affect binding. The majority of interactions between the 44-mer of PEDF and peptide P1 seem to arise from backbone atoms of PEDF contacting the side chains of the P1 fragment. The results suggest that P1 peptide folds into α helical structure and binds to a cleft in PEDF that contains the neurotrophic 44-mer, with helix C of PEDF being in closer proximity to the P1 peptide region of PEDF-R.

Binding of PEDF Peptide Fragments to PEDF-R—To identify a receptor binding site of PEDF, peptides 34-mer and 44-mer derived from biologically active regions were assayed for ability to interact with PEDF-R protein using a pulldown approach. Binding was performed with recombinant His_6/Xpress-tagged PEDF-R protein mixed with a 6-fold molar excess of each peptide labeled at its N terminus with FITC. After separation of unbound, the FITC peptides bound to the recombinant His_6/Xpress-PEDF-R in Ni-NTA resin were detected. We found that FITC-44-mer bound to the PEDF-R, whereas no detection of bound FITC-34-mer was observed (Fig. 2*A*, *lanes 1* and *5*, respectively). FITC peptides mixed with aliquots of *in vitro* translation reaction without PEDF-R expression vector (Fig. 2*A*, *lanes 2* and *6*), and FITC peptides with Ni-NTA beads only and without *in vitro* translation reaction mixtures (Fig. 2*A*, *lanes 3* and *7*) served as negative controls. Xpress tag immunoreactivity confirmed that the amount of His_6/Xpress-tagged PEDF-R was equal in each pulldown mixture (Fig. 2*A*, *bottom blot*).

A ligand blot approach was used to examine the binding between PEDF peptides and the PEDF-R ectodomain containing the LBD, peptide P1. Binding was assessed by incubating membrane slices containing immobilized P1 peptide in solutions of increasing concentrations of FITC-34-mer or FITC-44-mer, as ligands (Fig. 2, *B* and *C*). Fluorescein-conjugated PEDF (Fl-PEDF) was a positive control. The binding data revealed that only 44-mer bound P1 peptide with an apparent affinity of

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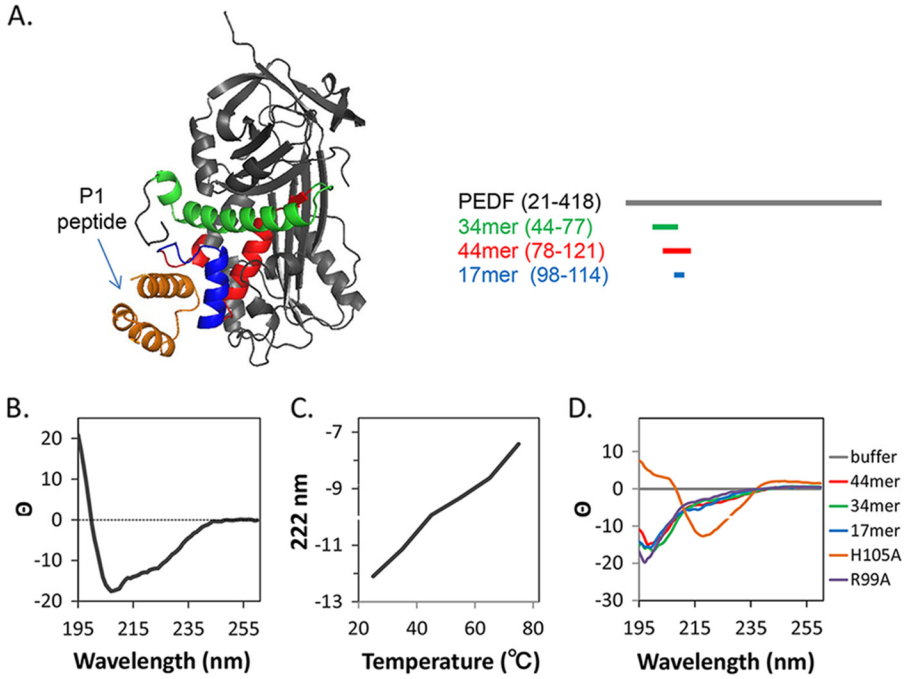

FIGURE 1. **Modeling of binding interaction of LBD of PEDF-R to PEDF.** *A*, the structure of the LBD peptide P1 derived from the *ab initio* fragment assembly protocol of Rosetta is shown in *orange*. The resultant P1 peptide structure docked to the PEDF crystal structure (Protein Data Bank code 1IMV) using Rosetta program is shown. P1 peptide docked to a cleft that contained a solvent-exposed region corresponding to α-helix C within the residues 98–114 (17-mer; *blue*) of the neurotrophic 44 amino acid region (*red*). The antiangiogenic peptide region (34-mer; *green*) was not part of the docking region. A linear representation of the PEDF structure is given at *right* with identical color code as above. *B*, the CD spectrum of peptide P1 contained the negative ellipticity at 222 and 208 nm and a positive peak at 190 nm that are indicative of α helical structure. *C*, additionally, the CD spectrum of peptide P1 changed to reflect peptide unfolding as the temperature was increased from 25 to 80 °C, indicating that the P1 fragment is folded at 25 °C and unfolds at higher temperatures. *D*, CD spectra of peptides used in this study are shown.

~4.5 times lower than that of the full-length PEDF, whereas binding of the 34-mer was undetectable.

Real time binding to P1 peptide was examined by SPR using solutions of 34-mer and 44-mer injected over sensor chips with immobilized P1 peptide (Fig. 2*D*). Sensograms relative to the reference surface (no P1) showed that only the 44-mer, and not the 34-mer, associated to P1, and that dissociation was observed after injections of the 44-mer solution were stopped. The results indicate that the 44-mer interaction with P1 peptide was reversible.

Given that the first 20 amino acids in the region spanning positions 44–121 are part of a large hydrophobic α helix that is buried in the core of the folded PEDF protein and unlikely to contribute significantly to binding, a fragment of 17 amino acids (residue positions Gln^{98}–Ser^{114}) was synthetized and tested for binding. This region contains the solvent-exposed amino acids and helix C in the folded PEDF protein. Ligand blotting revealed that the FITC-17-mer peptide bound to P1 peptide with an apparent affinity ~10 and 45 times lower than that for the 44-mer and for PEDF, respectively (Fig. 2*D*). The estimated K_d values for PEDF, 44-mer, and 17-mer were 9.1 ± 1.1, 40.8 ± 5.9, and 412.6 ± 80.1 nM, respectively. The results imply that the 17-amino acid fragment contains a PEDF-R binding region.

Roles of Arginine 99 and Histidine 105 in PEDF Binding to PEDF-R Peptide P1—To identify the contribution of each side chain in the receptor binding interaction, an alanine scanning methodology was utilized. In total, 17 peptides were designed from the region of PEDF composed of residue positions 98–115: 16 with a single alanine alteration in each consecutive amino acid position and 1 with unmodified sequence given that the 17-mer peptide already contains an alanine at PEDF residue position 107 (Ala^{107}) (Table 1). Binding was assayed by measuring the change in polarization of peptide FITC-P1 in the presence of PEDF peptides (bound) compared with FITC-P1 alone (unbound). The change in FITC-P1 polarization caused by unmodified 17-mer (WT) binding was 59 Δ*mP* as illustrated by a *dotted line* in Fig. 2*E*. Values of peptides with lower affinity for peptide FITC-P1 than the unmodified 17-mer will fall below the line, and those with higher affinity will fall above the line. The alanine scan revealed several amino acid side chains that when altered to those of alanine affected the P1:17-mer interaction. The arginine in the second position in the 17-mer (R99A) and the histidine in the eighth position (H105A) had significant effects on decreasing and increasing P1 peptide affinity, respectively. Fig. 2*F* shows the change in polarization normalized to free FITC-P1 in the presence of 17-mer, 17-mer[R99A], or 17-mer[H105A] peptides at concentrations between 0 and 100 μM. A titration of the 17-mer[R99A] reveals that even at the highest concentration, there was no detectable binding to the FITC-P1 peptide. The 17-mer[H105A] variant bound to FITC-P1 with a relative affinity 6-fold higher than that of unmodified 17-mer peptide. The data demonstrate the importance of the side chain of Arg^{99} in PEDF for binding P1 peptide and reveal that an alanine side chain in position 105 would facilitate interactions between ligand and receptor.

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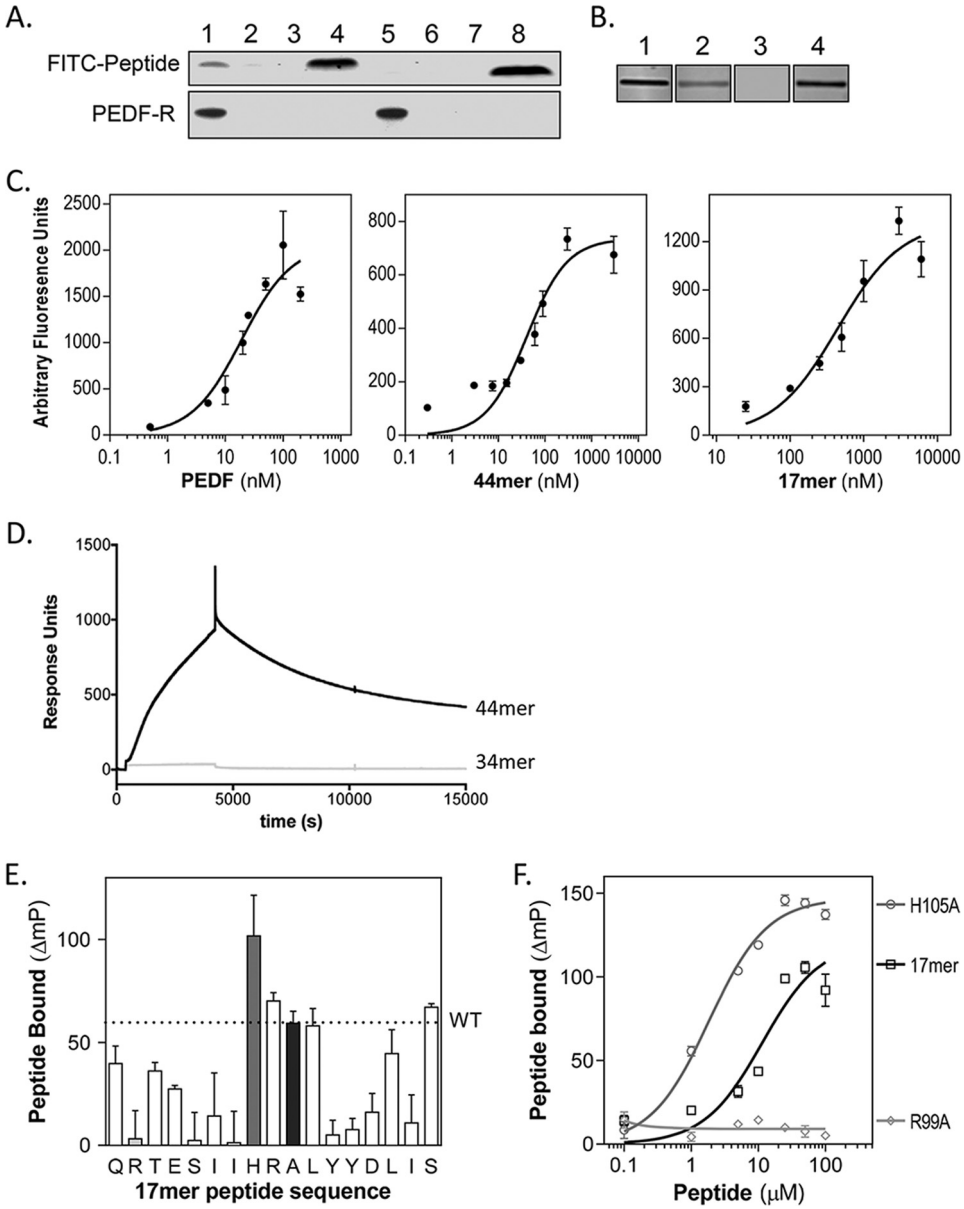

FIGURE 2. **PEDF 44-mer and 17-mer binding to PEDF-R.** *A*, pulldown of FITC-labeled 44-mer and 34-mer peptides bound to recombinant His_6/Xpress-tagged PEDF-R with Ni-NTA beads. The *top* and *bottom blots* show detection of FITC peptides by fluorescence imaging and PEDF-R detected by immunoreactivity with anti-Xpress, respectively. *Lanes 1–4* correspond to 44-mer, and *lanes 5–8* to 34-mer, with *lanes 1* and *5* for FITC peptide with *in vitro* expressed His_6/Xpress-PEDF-R, *lanes 2* and *6* for FITC peptide with *in vitro* expression reaction without PEDF-R plasmid, and *lanes 3* and *7* for FITC peptides incubated without *in vitro* expression reaction. Total amount of FITC peptides in each binding reaction was loaded in *lanes 4* and *8*. *B*, ligand blot of P1 peptide immobilized on nitrocellulose and incubated with solutions of fluorescently labeled ligands. Each condition was performed in triplicate, and a fluorescence image of one representative slice is shown. Concentration of ligands were as follows: *lane 1*, 50 nM FI-PEDF; *lane 2*, 3 μM FITC-44-mer; *lane 3*, 3 μM FITC-34-mer; *lane 4*, 3 μM FITC-17-mer. *C*, saturation binding experiments performed from ligand blots. Concentrations of the fluorescently tagged ligands varied as indicated in the *x* axis. The *y* axis corresponds to estimated intensities of fluorescence in scanned ligand blots using ImageJ. Each data point is the average of triplicate assays ± standard error. The plots were fit in GraphPad Prism, and the estimated K_d values for PEDF, 44-mer, and 17-mer were 9.1 ± 1.1, 40.8 ± 5.9, and 412.6 ± 80.1 nM, respectively. *D*, real time binding to P1 peptide by SPR. Two surfaces were prepared without (reference) and with immobilized P1 peptide on CM5 sensor chips via amine-coupling chemistry. During binding analysis, the P1 chip was paired with a reference chip. The binding of 34-mer or 44-mer peptide (injections of 300 μl at 5 μM) in TBS_{50}-T at a flow rate of 5 ml/min was measured (response units). Subsequently, the chips were washed with TBS_{50}-T, and peptide dissociation was followed for 3 h at 5 ml/min. Sensograms are shown. *E* and *F*, alanine scan of 17-mer and binding to peptide P1. *E*, fluorescence polarization mixtures of each peptide at 10 μM and FITC-P1 peptide at 20 pM. The plot shows the change in FITC-P1 peptide polarization due to 17-mer binding for each peptide. The *letters* on the *x* axis show the amino acid in the 17-mer peptide substituted for an alanine in single letter code ordered as in the sequence. The *A* in the tenth position is for WT 17-mer peptide. Each *bar* corresponds to binding of each peptide of the alanine scan set. The *gray*, *light gray*, and *black bars* correspond to the WT 17-mer, 17-mer[R99A], and 17-mer[H105A], respectively. *F*, binding curves of 17-mer peptides. The plot shows the change in FITC-P1 peptide polarization when titrated with peptides 17-mer, 17-mer[H105A], and 17-mer[R99A] at concentrations as indicated with 20 pM FITC-P1. Each point is the average ± standard error of triplicate assays for each condition. The plots were fit in GraphPad Prism, and the estimated half-maximum polarization change (EC_{50}) values were 11.42 ± 3.16 μM for 17-mer[H105A] and 1.83 ± 0.197 μM for 17-mer.

Protective Effects of 17-mer Peptides in Retina Precursor Cells—We investigated the cytoprotective effects of PEDF peptides on rat retina R28 cells. The R28 cell line was chosen because PEDF binds the PEDF-R found in their plasma membranes and protects them from death induced by serum starvation (15, 23, 30, 31). Moreover, peptide P1 can hinder the PEDF-

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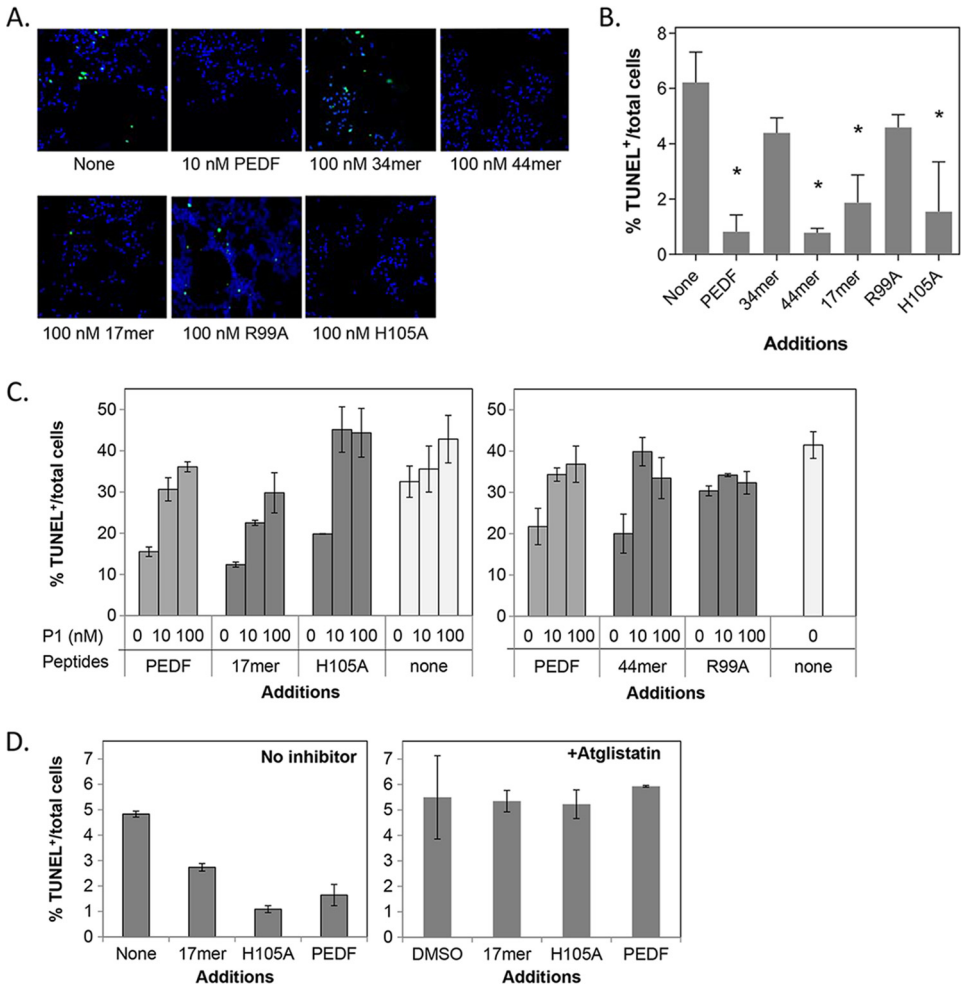

FIGURE 3. **Protective effects of PEDF peptides in cultured cells.** R28 cells in serum-free media were treated with PEDF-derived peptides for 48 h. Cytoprotection was assayed by counting TUNEL-positive nuclei (*green*). *A*, representative images from each condition show merged TUNEL$^+$ nuclei and Hoechst stained nuclei (*blue*, total cells). Concentrations of peptides were as indicated. *B*, quantification of the protective effects by PEDF peptides. Each bar corresponds to the average of the percentage of TUNEL-positive nuclei per total number of cells from triplicate wells ± S.D. (*error bars*) with treatment as indicated in *A*. *, $p < 0.03$. *C*, blocking of the protective effects of PEDF peptides by P1 peptide. Treatments were with PEDF or peptides at 10 nM mixed with P1 peptide at the indicated concentrations. *D*, cells were pretreated with atglistatin (3.5 μM) in DMSO or DMSO (vehicle control) for 1 h before a 48-h treatment with or without PEDF peptides and protein at 10 mM (indicated). Cells were fixed and processed for TUNEL staining and counterstained with Hoechst dye for the nucleus. Quantification of TUNEL-positive nuclei is shown. Each bar corresponds to the average of percentage of TUNEL-positive nuclei per total number of cells from duplicate wells per assay ± S.D. Each plot shows assays performed with an individual batch of R28 cells. PEDF and no additions were positive and negative controls, respectively.

mediated protective effects on these cells (23). Fig. 3 (*A* and *B*) show that treatments of serum-starved R28 cells with peptides 44-mer, 17-mer, and 17-mer[H105A] for 48 h, each caused a significant decrease of 85, 69, and 68% in the number of TUNEL-positive cells relative to no addition, respectively, like PEDF (85%). However, treatment with 34-mer and 17-mer[R99A] revealed only 30 and 28% decreases in the number of TUNEL-positive cells, which were not significant. We also examined the blocking effects of P1 peptide on the protective activity of PEDF peptides. Serum-starved R28 cells were treated with preincubated mixtures of 44-mer, 17-mer, or 17-mer[H105A], each with 1- and 10-fold molar excess of P1 peptide as soluble receptor fragment. P1 peptide reduced effectively the number of TUNEL-positive nuclei of 44-mer, 17-mer, and 17-mer[H105A], with both P1 peptide concentrations (Fig. 3*C*). The percentage of TUNEL-positive cells with P1 peptide (35–40%) was at least 2-fold that without P1 peptide (15–20%) and matched those values without PEDF peptides (40%). Peptide P1 by itself did not have significant effect, nor did it change the percentage of TUNEL-positive cells observed for 17-mer[R99A]. The results demonstrate that the PEDF-R ectodomain peptide P1 blocked efficiently the protective effects of 44-mer, 17-mer, and 17-mer[H105A] peptides, as shown before for PEDF, likely by interfering with their binding to cell surface PEDF-R.

We have shown previously that the phospholipase activity of PEDF-R is inhibited by bromoenol lactone and that this inhibitor attenuates the PEDF-mediated cytoprotective activity in R28 cells (22, 23). In this study, we used atglistatin, a selective and competitive inhibitor of the enzymatic activity of PEDF-R/ATGL (32), and investigated its effects on PEDF-mediated cytoprotection. R28 cells were incubated in media with atglistatin before adding PEDF and PEDF peptides. Fig. 3*D* shows that atglistatin completely abolished the survival activity of PEDF and the peptides 17-mer and H105A, and no effect was seen with vehicle (DMSO) alone. The observations imply that the

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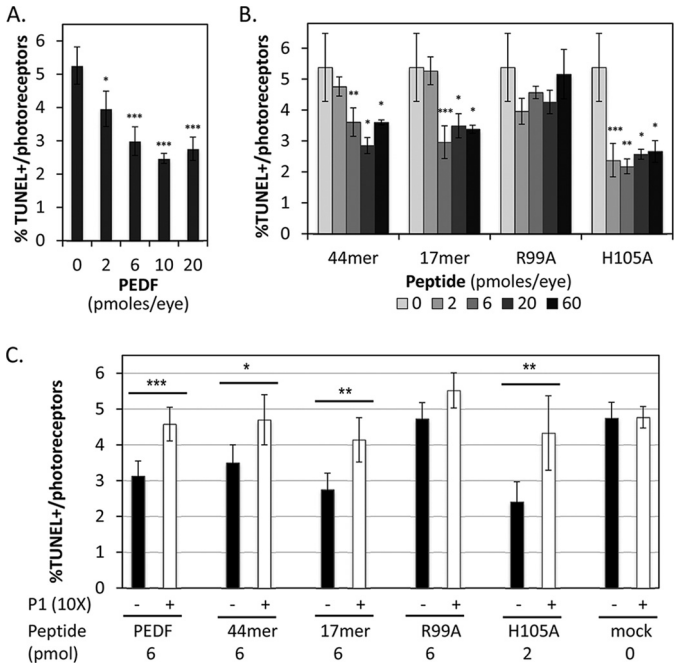

FIGURE 4. **Protective effects of PEDF and PEDF peptides *in vivo*.** PEDF or PEDF peptides were intravitreally injected into *rd1* mutant eyes of PN11 mice, and photoreceptor survival was assayed a day later by counting TUNEL-positive nuclei of photoreceptors in retina sections. *A*, plot of percentages of TUNEL-positive photoreceptor nuclei (TUNEL-positive/total number of photoreceptor nuclei) as a function of amount of PEDF injected. *B*, plot of percentages of TUNEL-positive photoreceptor nuclei (TUNEL-positive/total number of photoreceptor nuclei) as a function of amount of peptide 44-mer, 17-mer, 17-mer[R99A], and 17-mer[H105A] injected. *C*, blocking of the neuroprotective effects of PEDF and PEDF derived peptides by P1 peptide. PEDF and peptides were injected at the indicated concentrations mixed (+) or not mixed (−) with 10-fold excess of P1 peptide. Each point corresponds to the average of the percentages of TUNEL-positive photoreceptors (TUNEL-positive/total number of photoreceptor nuclei) from at least three eyes ± S.D. For Student's *t* test: ***, $p \leq 0.001$; **, $p \leq 0.01$; *, $p \leq 0.05$.

cell survival effects of PEDF and peptides specifically depend on the enzymatic activity of PEDF-R.

Photoreceptor-protective Effects of Small PEDF Peptides in Vivo—We also assayed the neuroprotective effects of PEDF, 44-mer and 17-mer peptides in a retina degeneration model of retinitis pigmentosa, the rd1 mouse. The rd1 mouse is a well characterized animal model of retinitis pigmentosa that lacks phosphodiesterase activity, which affects phototransduction and photoreceptor viability. The *rd1* mutant retina is characterized by a peak of photoreceptor cell death in mice of 11 days of age (PN11) (29, 33). We chose this time during the retinal degeneration process to assess effects of PEDF and of PEDF peptides on photoreceptor cell death. Purified human recombinant PEDF protein was injected into the vitreous of *rd1* mutant mice at PN11, and cell death in photoreceptors was evaluated the following day (PN12) by TUNEL. Fig. 4*A* shows that PEDF at 2, 6, 10, and 20 pmol per eye reduced the number of TUNEL-labeled photoreceptors relative to the vehicle injected contralateral eyes (negative control, 0 in the graph). Doses above 6 pmol per eye plateau to 50% of those without PEDF. The neuroprotective effects of PEDF at 6 pmol per eye assessed by TUNEL staining are shown in Figs. 5 (*A*, *B*, *A′*, and *B′*). We also tested the neuroprotective activity of PEDF-derived peptides *in vivo*. Intravitreal injections of peptides 44-mer and 17-mer at doses of 6 pmol per eye and above decreased cell death of *rd1* mutant photoreceptors of ~30 and 50%, respectively (Fig. 4*B*). Peptide 17-mer[H105A] decreased the number of TUNEL-positive nuclei of *rd1* mutant photoreceptors of more than 50% starting at doses of 2 pmol per eye and was more effective compared with PEDF (Fig. 4, *A* and *B*). Peptide 17-mer[R99A] was an ineffective peptide also *in vivo*. The neuroprotective effects of PEDF-derived peptides evaluated by TUNEL labeling are shown in Fig. 5 (*D*, *E*, *G*, *H*, *J*, *K*, *M*, *N*, *D′*, *E′*, *G′*, *H′*, *J′*, *K′*, *M′*, and *N′*).

To test the contribution of PEDF-R, we injected PEDF or peptides mixed with 10 times molar excess of P1 peptide to block PEDF/PEDF-R interaction. P1 peptide reduced the PEDF-protective effects on the *rd1* photoreceptors, implying that PEDF acted via PEDF-R on photoreceptor survival *in vivo* (Fig. 4*C*), observations that are in agreement with our results using cells in culture (see above). P1 peptide attenuated the protective effects the 44-mer, 17-mer, and 17-mer[H105A] (Fig. 4*C*), as was observed with the full-length PEDF (above). Fig. 5 shows the blocking effects of P1 peptide on PEDF, 44-mer, 17-mer, and 17-mer[H105A]. P1 peptide had neither negative nor positive effects on mock injected and 17-mer[R99A] injected *rd1* mutant retinas (Fig. 5, *L* and *L′*). The results imply that interactions of the fragment of PEDF comprised of residues 98–114 with the P1 peptide region of PEDF-R could trigger downstream effects for protecting the dystrophic retina.

Full-length PEDF with Alterations R99A and H105A—We investigated the effects of R99A and H105A modifications in the full-length PEDF on binding to the receptor and survival activity. Recombinant human PEDF proteins with positions Arg^{99} or His^{105} changed to alanine and both with a 3X-FLAG tag at the N terminus were prepared. Binding assays to the PEDF-R peptide P1 showed that a single alteration in Arg^{99} to alanine resulted in loss of binding, whereas an increase in bound material was observed with the H105A alteration in PEDF (Fig. 6*A*). Binding of the tagged PEDF versions was lower than that of untagged Fl-PEDF. Effects of the proteins on R28 cell survival with the PEDF[R99A] protein had lower efficacy than that with of PEDF[H105A] (Fig. 6*B*), but both had lower effects than that of untagged PEDF. Similarly, in rd1 mice *in vivo*, the H105A was more efficacious in protecting photoreceptors from death than the unmodified PEDF (Fig. 6*C*), but both were less active than the untagged protein as shown above in Fig. 4. When we analyzed how much PEDF or PEDF[H105A] rescues cell death comparing each injected eye to the contralateral, we noted that PEDF[H105A] always performed better than PEDF (the percentage of rescue of dying cells for 2, 6, and 10 pmol of PEDF was 15, 16, and 19%, whereas for PEDF[H105A] it was 26, 29, and 31%). The results imply that R99A and H105A alterations in the full-length proteins reflected the effects observed with the 17-mer[R99A] and 17-mer[H105A] peptides.

Discussion

We have demonstrated that the small peptide fragment 17-mer from the neurotrophic region of PEDF retains the affinity for PEDF-R and the retinoprotective property of the full-length PEDF. The findings are significant given that PEDF-R is

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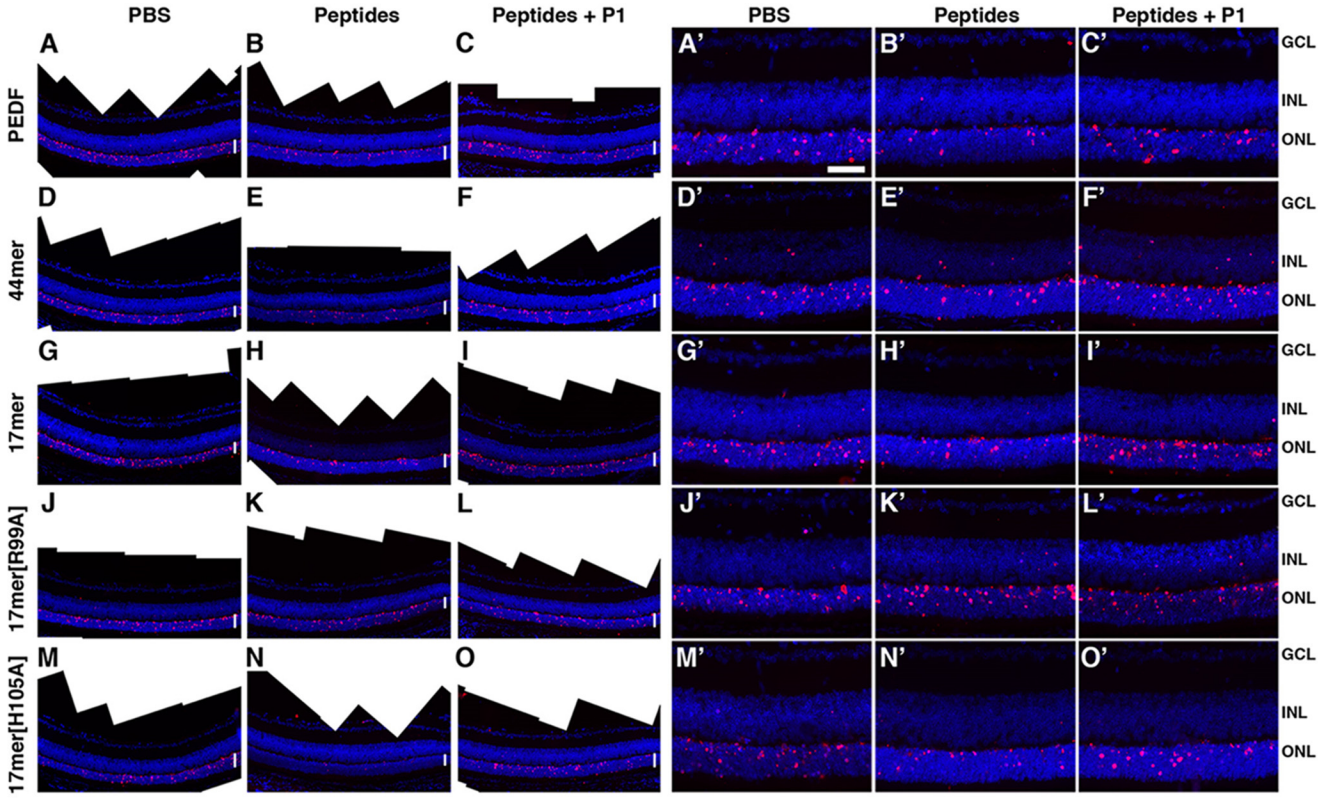

FIGURE 5. **Reduction of dying cells in retinas treated with PEDF and PEDF peptides.** *A–O*, photomerge images of sections visualize a larger area of a representative retina labeled by TUNEL (*red*). *A′–O′*, microphotographs of sections of retinas labeled by TUNEL (*red*) are shown. Nuclei are stained with DAPI (*blue*). *A*, *A′*, *D*, *D′*, *G*, *G′*, *J*, *J′*, *M*, and *M′*, mock treated control retinas. *B* and *B′*, retina injected with 6 pmol of PEDF. *C* and *C′*, contralateral retina injected with 6 pmol of PEDF and 60 pmol of P1 peptide. *E* and *E′*, retina injected with 6 pmol of 44-mer. *F* and *F′*, contralateral retina injected with 6 pmol of 44-mer and 60 pmol of P1 peptide. *H* and *H′*, retina injected with 6 pmol of 17-mer. *I* and *I′*, contralateral retina injected with 6 pmol of 17-mer and 60 pmol of P1 peptide. *K* and *K′*, retina injected with 6 pmol of 17-mer[R99A]. *L* and *L′*, contralateral retina injected with 6 pmol of 17-mer[R99A] and 60 pmol of P1 peptide. *N* and *N′*, retina injected with 2 pmol of 17-mer[H105A]. *O* and *O′*, contralateral retina injected with 2 pmol of 17-mer[H105A] and 20 pmol of P1 peptide. *White vertical lines* in *A–O* indicate the layer of photoreceptor nuclei (outer nuclear layer). *Scale bar* in *A′*, 100 μm. *GCL*, ganglion cell layer; *INL*, inner nuclear layer; *ONL* = outer nuclear layer.

a critical receptor for the PEDF cytoprotective activity (23). The data reveal the region of residues 98–114 of PEDF is retinoprotective and contains a novel site to bind PEDF-R, which in the three-dimensional structure of PEDF maps to a solvent-exposed region with helix C. We provide novel PEDF fragments from this 17-amino acid region with enhanced and attenuated individual affinities for PEDF-R and neuroprotective effects and identify amino acid positions important for the ligand/receptor interactions. The findings led us to conclude that the side chains of amino acids in 17-mer (*e.g.* positions 99 and 105) are available to interact with the LBD of PEDF-R to likely stimulate downstream effects for protecting photoreceptors from degeneration.

The observation that the neurotrophic 44-mer peptide binds PEDF-R and its LBD (*e.g.* P1 fragment) agrees with the prediction from molecular docking algorithms and with the neurotrophic nature of PEDF-R. Pulldown, ligand blotting, and real time binding measured by SPR (Fig. 2) corroborated that only the 44-mer and not the antiangiogenic 34-mer associates to P1 peptide. The 17-mer fragment is the shortest known PEDF fragment with PEDF-R affinity and prosurvival activity. Its sequence is identical to previously reported ERT peptide (residues 98–114) (21) except for the first amino acid residue position (human PEDF position 98), which in 17-mer is a glutamine. It was reported that ERT induces neurite outgrowth on human retinoblastoma cells and neuroendocrine differentiation in prostate cancer cells like the full-length PEDF (21). Given that fragments ERT and 17-mer exhibited similar binding to P1 peptide (data not shown), it is expected that they share neurotrophic properties mediated by PEDF-R.

The amino acid positions crucial for receptor binding (from Fig. 2*D*; Arg^{99}, Ser^{102}, Ile^{104}, Tyr^{109}, and Tyr^{110}) are predicted to be essential for the biological responses mediated by interaction with cell surface PEDF-R. Consequently, a peptide with an alteration R99A with lower affinity for the LBD is less efficacious than unmodified 17-mer, emphasizing the critical arginine at position 99 for survival activity (Figs. 3 and 4). It is possible that the positively charged side chain of Arg^{99} may attract acidic residues Glu^{230} and Glu^{236} of the LBD of PEDF-R that could form the ligand-receptor interface (Fig. 7). However, experiments to test the effects of ionic potential on the 17-mer:P1 peptide binding showed only s minor decrease, if any, in fluorescence polarization with NaCl concentration increases from 0.15 to 2 M (data not shown), suggesting that interactions of other nature, like hydrophobic, dominate over ionic ones. It is worth noting that the arginine residue in position 99 of PEDF is conserved in other species (Table 2; 4 fish, 2 amphibia and 3 aves, 24 mammalian, including human, mouse,

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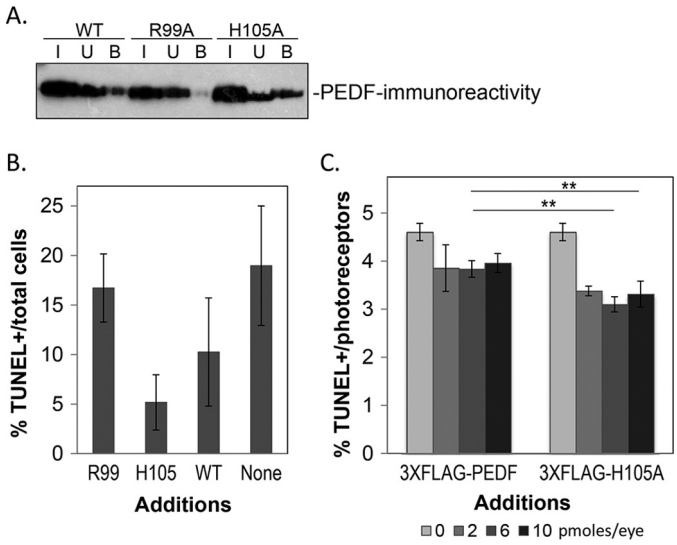

FIGURE 6. **Full-length PEDF with alterations in Arg^{99} and His^{105}.** Full-length PEDF proteins were expressed using an expression cassette for PEDF with a 3X-FLAG tag fused to its N-terminal end. The recombinant proteins were secreted by BHK cells stably transfected with expression vectors containing the particular mutated SERPINF1 cDNA and purified by a two-step ion exchange column chromatography. *A*, binding assays by peptide P1 affinity chromatography of each recombinant protein was performed, and input (*I*), unbound (*U*), and bound (*B*) material were resolved by SDS-PAGE followed by Western blot using a specific anti-PEDF antibody. Binding reactions and washes were with 50 mM Tris, pH 7.5, 300 mM NaCl, 0.005% Tween 20. Incubations were at 4 °C for 1 h. *B*, the protective effects of recombinant 3X-FLAG-PEDF proteins assayed in R28 cells. R28 cells in serum-free media were treated with effectors for 48 h. Cytoprotection was assayed by counting TUNEL-positive nuclei relative to total number of cells counted from (Hoechst stained nuclei). Each bar corresponds to the average of percentage of TUNEL-positive nuclei per total number of cells from duplicate wells per assay ± S.D. The recombinant FLAG-fused PEDF proteins are indicated as Arg^{99}, His^{105}, and WT. SFM indicates no treatment. *C*, protective effects of recombinant 3X-FLAG-PEDF and 3X-FLAG-PEDF[H105A] proteins *in vivo*. Proteins were intravitreally injected into *rd1* mutant eyes of PN11 mice, and photoreceptor survival was assayed a day later as described in Fig. 4. Plot of percentages of TUNEL-positive photoreceptor nuclei (TUNEL-positive/total number of photoreceptor nuclei) as a function of amount of each protein injected. Each point corresponds to the average of the percentages of TUNEL-positive photoreceptors (TUNEL-positive/total number of photoreceptor nuclei) from at least three eyes ± S.D. For Student's *t* test: **, $p \leq 0.01$.

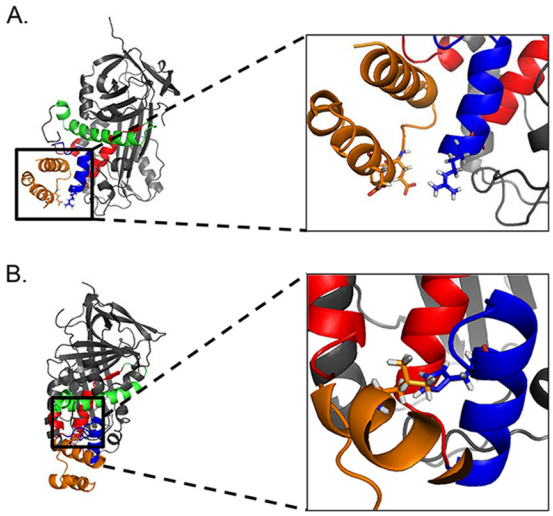

FIGURE 7. **PEDF amino acids that modify binding to the P1 fragment of the PEDF receptor.** P1 peptide (*orange*) interacts with the solvent accessible 17-mer peptide region (*blue*) within the neuroprotective 44-mer peptide region (*red*). *A*, the *inset* shows the close proximity of the positively charged amino acid Arg^{99} (*blue*) of PEDF and two negatively charged amino acids Glu^{230} and Glu^{236} (*orange*) of the LBD of PEDF-R that could be important for binding. *B*, the molecules are rotated 90° to the *right* on the *y* axis and 15° forward on the *z* axis relative to *A*. The *inset* shows the close proximity of the hydrophilic His^{105} (*blue*) to the hydrophobic Leu^{222} (*orange*) in the P1 fragment. Amino acids Arg^{99} and His^{105} of PEDF and Glu^{230}, Glu^{236}, and Leu^{222} are shown with side chains in sticks.

rat, monkey, bovine, dog, and horse) in agreement with its requirement for function across species. In addition, serpins maspin and ovalbumin that do not bind PEDF-R (22) have an aspartic and serine in the homologous position to Arg^{99} of PEDF of their sequences, respectively (Table 3). It is also worth mentioning that residues in P1 peptide region of PEDF-R that are proximal to the 17-mer peptide region (positions 98–114) during docking, Glu^{230} and Glu^{236}, are conserved among species (Table 4; human, bovine, mouse, rat, dog, *Xenopus tropicalis*, and *Dario rerio*). However, we cannot discriminate whether the decrease in apparent affinity of the alanine scan peptides was due to the requirement of such amino acid for interacting with the PEDF-R ectodomain or to effects in peptide conformational change as result of the alteration. In contrast, the 17-mer[H105A] peptide, with a higher observed affinity for LBD than 17-mer, is also more efficacious than its unmodified version in survival of photoreceptors *in vivo*. The enhanced effect could be explained by the replacement of the basic residue (His) for a neutral one (Ala), which would be in proximity to the hydrophobic Leu^{222} in the LBD in a more hydrophobic microenvironment to favor affinity increases (Fig. 7).

Because the 44-mer and 17-mer fragments maintain the biological activity of PEDF that is attenuated by the blocking LBD peptide, it seems reasonable to conclude that they are folded somehow similarly as in the overall protein and interact with PEDF-R on cells to trigger the necessary pro-survival signaling events like the full-length PEDF. The data points out that the affinities of P1 peptide for PEDF, 44-mer, and 17-mer decrease as the molecules shorten, which may be a result of differences of the regions when they are in the overall protein and in the peptide. Lack of optimal three-dimensional structure may affect stability and binding affinity of the peptides relative to the native state in the full-length protein. However, the biological efficacy may be insensitive to peptide length as 17-mer, 44-mer, and PEDF exhibited similar potencies *in vivo*.

This is the first time that PEDF peptides have been tested in an animal model of retina degeneration. PEDF injected into the vitreous of mice diffuses through the retina and retinal pigment epithelium choroid, where it remains biologically active for photoreceptor survival (12) and for inhibiting neovascularization (34). Although the intravitreally injected protein is cleared in less than 24 h in mice (12), the clearance time of PEDF peptides from the eye is unknown. The fact that activity was observed for the peptides suggests that they remain available to bind and stimulate PEDF-R in the retina, which has been identified previously in photoreceptors (22). Blocking the biological effects of the small PEDF fragments with a soluble receptor fragment (LBD peptide P1) implies that the small PEDF fragments act by interacting with PEDF-R. Together with the observations that PEDF cannot bind nor stimulate LBD-truncated PEDF-R (22), the data imply that 17-mer peptides interact

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TABLE 2
PEDF orthologue alignment

Accession number	Class	Order	Species	Protein	Starting amino acid	Sequence[a]	Ending amino acid
AAA84914	Mammalia	Primates	Human	PEDF	71	QRTESIIHRALYYDLISSPDIHGTYKELLDTVTAPQKNLKSASR	141
XP_003816903	Mammalia	Primates	Bonobo	PEDF	71	QRTESIIHRALYYDLISSPDIHGTYKELLDTVTAPQKNLKSASR	141
XP_001155004	Mammalia	Primates	Chimpanzee	PEDF	71	QRTESIIHRALYYDLISSPDIHGTYKELLDTVTAPQKNLKSASR	141
XP_002747873	Mammalia	Primates	Marmoset	PEDF	71	QRTESIIHRALYYDLISSPDIHGTYKELLDTVTAPQKNLRSASR	141
EHH24345	Mammalia	Primates	Rhesus monkey	PEDF	71	QRTESVIHRALYYDLISSPDIHGTYKELLGTVTAPQKNLKSASR	141
XP_003799139	Mammalia	Primates	Small eared galago	PEDF	71	QQTESVIHRALYYDLINNPDIHGTYKELLATVTDAQKNFKSASR	141
XP_002826865	Mammalia	Primates	Sumatran orangutan	PEDF	71	QRTESTIHRALYYDLISSPDIHGTYKELLDTVTAPQKNFKSASR	141
NP_001072130	Mammalia	Cetartiodactyla	Boar	PEDF	69	QRTESSLHRALYYDLISNPDLHGTYKELLAAVTAPQKNLKSASR	139
XP_003515170	Mammalia	Rodentia	Chinese hamster	PEDF	72	QRTESIIHRALYYDLISNSDIHSTYKELLASVTAPEKSLKSASR	142
NP_776565	Mammalia	Artiodactyla	Cow	PEDF	69	QRTESNIHRALYYDLISNPDIHGTYKDLLASVTAPQKNLKSASR	139
NP_001071056	Mammalia	Carnivora	Dog	PEDF	49	QRTESTIHRALYYDLISNPDIHSTYKELLASVTAPEKNFKSASR	119
XP_003417025	Mammalia	Proboscidea	Elephant	PEDF	70	QRTESTIHRALYYDLISIADIHDTYKELLAAVTAPEKNLKSASR	140
AES06342	Mammalia	Carnivora	Ferret	PEDF	71	QRTESTIHRALYYDLISNPDIHGTYKELLAAVTAPEKNFKSASR	141
NP_001166531	Mammalia	Rodentia	Guinea pig	PEDF	70	QRTEATIHRALYYDMISNPDIHSTYKELLATVTAPQKNLKSASR	140
NP_001137426	Mammalia	Perissodactyla	Horse	PEDF	71	QRTESSIHLALYYDLIKNPDIHGTYKELLASVTAPNKNFKSASR	141
CAX15544	Mammalia	Rodentia	Mouse	PEDF	70	HRTESVIHRALYYDLITNPDIHSTYKELLASVTAPEKNLKSASR	140
EHB07111	Mammalia	Rodentia	Naked mole rat	PEDF	70	QRTESIIHRALYYDVISNPDIHGTYKELLATVTGPQKNLKSASR	140
XP_001371584	Mammalia	Didelphimorphia	Opossum	PEDF	69	PKTQSTIHRALYYDLITNQDIHSTYKELLATVTAAQKNLKSASR	139
XP_001507178	Mammalia	Monotremata	Platypus	PEDF	70	PRTESLIHRALYYDLIHNPDIHGTYKELLATVTAPQKNLKTASR	140
EDM05207	Mammalia	Rodentia	Rat	PEDF	49	QRTESVIHRALYYDLINNPDIHSTYKELLASVTAPEKNFKSASR	119
NP_001132919	Mammalia	Artiodactyla	Sheep	PEDF	69	QRTESSIHRALYYDLISNPDIHGTYKDLLASVTAPQKNLKSASR	139
XP_003770166	Mammalia	Dasyuromorphia	Tasmanian devil	PEDF	72	QRTESTIHRALYYDLITNPDIHGTYKELLASVTASQKNLKSASR	142
NP_035470	Mammalia	Rodentia	Mouse	PEDF	70	HRTESVIHRALYYDLITNPDIHSTYKELLASVTAPEKNLKSASR	140
XP_002918078	Mammalia	Carnivora	Panda	PEDF	71	QRTETTIHRALYYDLITNPDIHGTYKELLASVTAPEKNFKSASR	141
XP_003226635	Reptilia	Squama	Carolina anole	PEDF	263	ERTEDTIQRALFYDLLDKAQVHEVYKGLLGSLTGPAKAFKTAAR	333
AAZ22323	Actinopterygii	Pleuronectiformes	Japanese flounder	PEDF	60	ELAERQLFRALRFHTLQDPQLHNTLKDLLASLRSPGKGLSIAAR	130
XP_003457710	Actinopterygii	Perciformes	Tilapia	PEDF	83	EHAQRQLYRALRYHTLQDPQLHNTLKDMLASVRTAGKGLSTAAR	153
NP_001004539	Actinopterygii	Cypriniformes	Zebrafish	PEDF	61	ERAEKQIYRALRYHTLQDSQLHDTLRDLLSSLRASAKGFKSAER	131
NP_001133806	Actinopterygii	Salmoniformes	Atlantic salmon	PEDF precursor	61	DRSERWLYRALRYHTLQDPQLHDTLRDLLASLRAPGKGLSIAAR	132
NP_001085983	Amphibia	Anura	African clawed frog	PEDF	61	QRTESLIHRSLYYDLLNDPELHATYKELLASLTSHGSGLKSTWR	131
NP_989086	Amphibia	Batrachia	Western clawed frog	PEDF	61	QRTESLIQRSLYYDLLNDPEVHATYKDLLASFTSQASGLKSTWR	131
NP_001244218	Aves	Galliformes	Chicken	PEDF	69	ERTEDVISRALFYDLLNKAEVHNTYKDLLASVTGPEKSLKSASR	139
XP_003211790	Aves	Galliformes	Turkey	PEDF	69	ERTEDVISRALFYDLLNKAEVHNTYKDLLASVTGPEKSLKSASR	139
XP_002197455	Aves	Neognathae	Zebra finch	PEDF	38	ERTEDVISRALFYDLLNKAEVHDTYKELLSSVTGPEKSMKSASR	108

[a] Position Arg[99] of human PEDF and aligned positions are highlighted.

TABLE 3
Alignment of the 17-mer sequence of human PEDF among chicken ovalbumin and human maspin

SERPIN	Sequence[a]	Ending amino acid	Accession number
PEDF	QRTESIIHRALYYDLIS	114	AAA84914
Ovalbumin	DSTRTQINKVVRFDKLP	64	AAB59956
Maspin	GDTANEIGQVLHFENVK	64	AAA18957

[a] Position Arg[99] of human PEDF is highlighted.

TABLE 4
Alignment of P1 peptide region across species

Species	Accession number	Sequence[a]	Ending amino acid
Human	AAH17280.1	SKALFPPEPLVLREMCK	239
Mouse	AAH64747.1	SKALFPPEPMVLREMCK	239
Mouse	BAC27476.1	SKALFPPEPMVLREMCK	239
Rat	XP_341961.1	SKALFPPEPMVLREMCK	239
Bovine	XP_878393.1	SKALFPPEPLVLREMCK	239
Dog	XP_854164.1	SKALFPPEPTVLREMCK	239
X. tropicalis	NP_001015693	TRALFPPEPTVLGEMCQ	240
D. rerio	AAH75928.1	SKALFPPEPKVLAEMCQ	239

[a] Positions Glu[230] and Glu[236] of PEDF-R are highlighted.

with the LBD region of PEDF-R to exert neuroprotective effects on photoreceptors.

Multifunctional proteins combine several independent functions on a single polypeptide chain. To this effect, independence implies that each function is assigned to a different region of the polypeptide chain. As such, PEDF is a multitasking protein that is considered an ocular guardian because it protects the retina from degeneration induced by genetic insults and from pathological neovascularization. Studies of the independent activities of PEDF are challenged by the presence of other properties of the same molecule. The approaches through the use of peptide synthesis, protein chemistry, and recombinant DNA technologies based on the three-dimensional structure of PEDF have been successful to separate and alter them individually (21, 35–38). Our results further emphasize an individual neurotrophic site in PEDF and that its interactions with the ectodomain of PEDF-R are key for the downstream effects leading to the protection of photoreceptors from degeneration. The 17-mer, as derived from the 44-mer, is not expected to confer antiangiogenic or antitumorigenic effects of the 34-mer and PEDF polypeptide (34, 39), as shown before for ERT (21). One advantage for the development of PEDF peptide-based drugs is that small molecules can be more permeable and stable and will facilitate delivery with limited side effects that may be caused by other regions of the entire molecule. Retinitis pigmentosa, a major cause for loss of vision during working age, is associated to mutations in several genes. Identification and characterization of neuroprotective factors targeting common molecular pathways activated in different forms of retinitis pigmentosa may benefit a large group of patients. Thus, we propose that PEDF-based reagents may be used in retina degeneration therapeutics given their retinoprotective properties, which is recapitulated here with the short 17-mer fragments for the *rd1* mutant retina.

Author Contributions—J. K. designed the study, performed binding assays, and wrote the first draft of the paper. P. S. performed and analyzed experiments on survival assays in cells. A. C. and V. M. designed and performed experiments with animal models. J. B. expressed and purified full-length proteins and performed binding assays shown in Fig. 6. L. K. performed part of assays of Fig. 2*C* and survival assays with cells shown in Fig. 3*D*. F. P. constructed expression vectors for mutated gene. D. H. performed protein modeling. S. P. B. conceived and coordinated the study and wrote the paper. All authors reviewed the results and approved the final version of the manuscript.

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http://helix.nih.gov/~hooverdm/Becerra/PEDF_P1_final_docking_model.pdb.gz


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REMARK    The coordinates for chain A are taken from PDB:1IMV, renumbered to match
PEDF.
REMARK    The coordinates for chain B are numbered from PEDF-R.
REAMRK    David Hoover, National Institutes of Health, 2012 Apr 02
ATOM      1  N   THR A  36      27.461  13.876   1.952  1.00  0.00
ATOM      2  CA  THR A  36      28.269  12.726   1.443  1.00  0.00
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ATOM      5  CB  THR A  36      27.904  12.369  -0.010  1.00  0.00
ATOM      6  OG1 THR A  36      26.525  11.985  -0.078  1.00  0.00
ATOM      7  CG2 THR A  36      28.771  11.225  -0.512  1.00  0.00
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ATOM     88  CB  GLU A  42      26.273  23.599  -7.501  1.00  0.00
ATOM     89  CG  GLU A  42      27.484  23.803  -6.601  1.00  0.00
ATOM     90  CD  GLU A  42      27.221  23.304  -5.208  1.00  0.00
ATOM     91  OE1 GLU A  42      26.281  23.760  -4.602  1.00  0.00
ATOM     92  OE2 GLU A  42      27.888  22.387  -4.791  1.00  0.00
ATOM     93  H   GLU A  42      27.638  22.029  -8.944  1.00  0.00
ATOM     94  HA  GLU A  42      25.807  21.640  -6.748  1.00  0.00
ATOM     95 1HB  GLU A  42      26.476  24.023  -8.484  1.00  0.00
ATOM     96 2HB  GLU A  42      25.408  24.096  -7.062  1.00  0.00
ATOM     97 1HG  GLU A  42      28.393  23.341  -6.986  1.00  0.00
ATOM     98 2HG  GLU A  42      27.609  24.885  -6.582  1.00  0.00
ATOM     99  N   GLU A  43      23.494  21.995  -7.414  1.00  0.00
ATOM    100  CA  GLU A  43      22.100  21.928  -7.822  1.00  0.00
ATOM    101  C   GLU A  43      21.318  23.165  -7.406  1.00  0.00
ATOM    102  O   GLU A  43      20.744  23.828  -8.268  1.00  0.00
ATOM    103  CB  GLU A  43      21.440  20.676  -7.241  1.00  0.00
ATOM    104  CG  GLU A  43      21.998  19.365  -7.777  1.00  0.00
ATOM    105  CD  GLU A  43      21.275  18.184  -7.190  1.00  0.00
ATOM    106  OE1 GLU A  43      20.382  18.388  -6.404  1.00  0.00
ATOM    107  OE2 GLU A  43      21.540  17.082  -7.612  1.00  0.00
ATOM    108  H   GLU A  43      23.719  21.989  -6.429  1.00  0.00
ATOM    109  HA  GLU A  43      22.035  21.887  -8.910  1.00  0.00
ATOM    110 1HB  GLU A  43      21.580  20.714  -6.160  1.00  0.00
ATOM    111 2HB  GLU A  43      20.377  20.739  -7.472  1.00  0.00
ATOM    112 1HG  GLU A  43      21.978  19.298  -8.864  1.00  0.00
ATOM    113 2HG  GLU A  43      23.031  19.366  -7.432  1.00  0.00
ATOM    114  N   ASP A  44      21.282  23.486  -6.107  1.00  0.00
ATOM    115  CA  ASP A  44      20.545  24.684  -5.689  1.00  0.00
ATOM    116  C   ASP A  44      21.231  25.773  -6.507  1.00  0.00
ATOM    117  O   ASP A  44      22.445  25.973  -6.415  1.00  0.00
ATOM    118  CB  ASP A  44      20.627  24.949  -4.184  1.00  0.00
ATOM    119  CG  ASP A  44      19.818  23.981  -3.330  1.00  0.00
ATOM    120  OD1 ASP A  44      19.084  23.199  -3.887  1.00  0.00
ATOM    121  OD2 ASP A  44      20.056  23.922  -2.147  1.00  0.00
ATOM    122  H   ASP A  44      21.748  22.926  -5.407  1.00  0.00
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ATOM    123  HA  ASP A  44      19.490  24.575  -5.941  1.00  0.00
ATOM    124 1HB  ASP A  44      21.648  24.999  -3.806  1.00  0.00
ATOM    125 2HB  ASP A  44      20.172  25.939  -4.138  1.00  0.00
ATOM    126  N   PRO A  45      20.464  26.454  -7.364  1.00  0.00
ATOM    127  CA  PRO A  45      20.974  27.524  -8.225  1.00  0.00
ATOM    128  C   PRO A  45      21.721  28.611  -7.461  1.00  0.00
ATOM    129  O   PRO A  45      22.530  29.342  -8.034  1.00  0.00
ATOM    130  CB  PRO A  45      19.714  28.075  -8.901  1.00  0.00
ATOM    131  CG  PRO A  45      18.759  26.931  -8.894  1.00  0.00
ATOM    132  CD  PRO A  45      18.994  26.222  -7.587  1.00  0.00
ATOM    133  HA  PRO A  45      21.714  27.166  -8.956  1.00  0.00
ATOM    134 1HB  PRO A  45      19.307  28.937  -8.353  1.00  0.00
ATOM    135 2HB  PRO A  45      19.923  28.414  -9.927  1.00  0.00
ATOM    136 1HG  PRO A  45      17.719  27.281  -8.973  1.00  0.00
ATOM    137 2HG  PRO A  45      18.937  26.258  -9.746  1.00  0.00
ATOM    138 1HD  PRO A  45      18.380  26.637  -6.773  1.00  0.00
ATOM    139 2HD  PRO A  45      18.763  25.149  -7.648  1.00  0.00
ATOM    140  N   PHE A  46      21.445  28.711  -6.166  1.00  0.00
ATOM    141  CA  PHE A  46      22.072  29.723  -5.329  1.00  0.00
ATOM    142  C   PHE A  46      23.569  29.460  -5.145  1.00  0.00
ATOM    143  O   PHE A  46      24.395  30.380  -5.213  1.00  0.00
ATOM    144  CB  PHE A  46      21.377  29.784  -3.968  1.00  0.00
ATOM    145  CG  PHE A  46      21.960  30.807  -3.035  1.00  0.00
ATOM    146  CD1 PHE A  46      21.660  32.153  -3.184  1.00  0.00
ATOM    147  CD2 PHE A  46      22.810  30.427  -2.008  1.00  0.00
ATOM    148  CE1 PHE A  46      22.197  33.096  -2.326  1.00  0.00
ATOM    149  CE2 PHE A  46      23.347  31.366  -1.149  1.00  0.00
ATOM    150  CZ  PHE A  46      23.039  32.702  -1.309  1.00  0.00
ATOM    151  H   PHE A  46      20.784  28.070  -5.751  1.00  0.00
ATOM    152  HA  PHE A  46      21.993  30.700  -5.808  1.00  0.00
ATOM    153 1HB  PHE A  46      20.326  30.041  -4.094  1.00  0.00
ATOM    154 2HB  PHE A  46      21.456  28.822  -3.463  1.00  0.00
ATOM    155  HD1 PHE A  46      20.993  32.465  -3.988  1.00  0.00
ATOM    156  HD2 PHE A  46      23.053  29.371  -1.882  1.00  0.00
ATOM    157  HE1 PHE A  46      21.953  34.150  -2.455  1.00  0.00
ATOM    158  HE2 PHE A  46      24.013  31.053  -0.345  1.00  0.00
ATOM    159  HZ  PHE A  46      23.463  33.444  -0.633  1.00  0.00
ATOM    160  N   PHE A  47      23.916  28.200  -4.919  1.00  0.00
ATOM    161  CA  PHE A  47      25.304  27.839  -4.710  1.00  0.00
ATOM    162  C   PHE A  47      26.034  27.536  -6.002  1.00  0.00
ATOM    163  O   PHE A  47      27.246  27.334  -5.992  1.00  0.00
ATOM    164  CB  PHE A  47      25.395  26.634  -3.772  1.00  0.00
ATOM    165  CG  PHE A  47      24.762  26.864  -2.428  1.00  0.00
ATOM    166  CD1 PHE A  47      23.491  26.383  -2.153  1.00  0.00
ATOM    167  CD2 PHE A  47      25.437  27.560  -1.437  1.00  0.00
ATOM    168  CE1 PHE A  47      22.908  26.594  -0.918  1.00  0.00
ATOM    169  CE2 PHE A  47      24.858  27.771  -0.201  1.00  0.00
ATOM    170  CZ  PHE A  47      23.591  27.287   0.058  1.00  0.00
ATOM    171  H   PHE A  47      23.210  27.478  -4.891  1.00  0.00
ATOM    172  HA  PHE A  47      25.841  28.676  -4.262  1.00  0.00
ATOM    173 1HB  PHE A  47      24.888  25.776  -4.212  1.00  0.00
ATOM    174 2HB  PHE A  47      26.438  26.383  -3.585  1.00  0.00
ATOM    175  HD1 PHE A  47      22.951  25.834  -2.925  1.00  0.00
ATOM    176  HD2 PHE A  47      26.438  27.943  -1.643  1.00  0.00
ATOM    177  HE1 PHE A  47      21.908  26.211  -0.715  1.00  0.00
ATOM    178  HE2 PHE A  47      25.399  28.320   0.569  1.00  0.00
ATOM    179  HZ  PHE A  47      23.132  27.455   1.032  1.00  0.00
ATOM    180  N   LYS A  48      25.315  27.508  -7.119  1.00  0.00
ATOM    181  CA  LYS A  48      25.978  27.232  -8.389  1.00  0.00
ATOM    182  C   LYS A  48      26.828  28.448  -8.797  1.00  0.00
ATOM    183  O   LYS A  48      27.791  28.329  -9.560  1.00  0.00
ATOM    184  CB  LYS A  48      24.954  26.897  -9.475  1.00  0.00
ATOM    185  CG  LYS A  48      24.252  25.559  -9.286  1.00  0.00
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ATOM    186  CD  LYS A  48      23.208  25.325 -10.368  1.00  0.00
ATOM    187  CE  LYS A  48      23.858  25.079 -11.722  1.00  0.00
ATOM    188  NZ  LYS A  48      22.851  24.783 -12.777  1.00  0.00
ATOM    189  H   LYS A  48      24.319  27.674  -7.110  1.00  0.00
ATOM    190  HA  LYS A  48      26.652  26.382  -8.276  1.00  0.00
ATOM    191 1HB  LYS A  48      24.215  27.698  -9.474  1.00  0.00
ATOM    192 2HB  LYS A  48      25.486  26.896 -10.427  1.00  0.00
ATOM    193 1HG  LYS A  48      25.000  24.767  -9.325  1.00  0.00
ATOM    194 2HG  LYS A  48      23.770  25.556  -8.309  1.00  0.00
ATOM    195 1HD  LYS A  48      22.608  24.457 -10.089  1.00  0.00
ATOM    196 2HD  LYS A  48      22.567  26.204 -10.428  1.00  0.00
ATOM    197 1HE  LYS A  48      24.421  25.970 -11.997  1.00  0.00
ATOM    198 2HE  LYS A  48      24.540  24.235 -11.625  1.00  0.00
ATOM    199 1HZ  LYS A  48      23.322  24.627 -13.657  1.00  0.00
ATOM    200 2HZ  LYS A  48      22.329  23.956 -12.522  1.00  0.00
ATOM    201 3HZ  LYS A  48      22.219  25.565 -12.868  1.00  0.00
ATOM    202  N   VAL A  49      26.471  29.614  -8.267  1.00  0.00
ATOM    203  CA  VAL A  49      27.210  30.846  -8.534  1.00  0.00
ATOM    204  C   VAL A  49      28.543  30.769  -7.796  1.00  0.00
ATOM    205  O   VAL A  49      28.571  30.583  -6.581  1.00  0.00
ATOM    206  CB  VAL A  49      26.438  32.102  -8.089  1.00  0.00
ATOM    207  CG1 VAL A  49      27.283  33.349  -8.300  1.00  0.00
ATOM    208  CG2 VAL A  49      25.124  32.216  -8.848  1.00  0.00
ATOM    209  H   VAL A  49      25.663  29.646  -7.661  1.00  0.00
ATOM    210  HA  VAL A  49      27.441  30.948  -9.595  1.00  0.00
ATOM    211  HB  VAL A  49      26.186  32.008  -7.033  1.00  0.00
ATOM    212 1HG1 VAL A  49      26.721  34.228  -7.980  1.00  0.00
ATOM    213 2HG1 VAL A  49      28.198  33.272  -7.714  1.00  0.00
ATOM    214 3HG1 VAL A  49      27.534  33.445  -9.356  1.00  0.00
ATOM    215 1HG2 VAL A  49      24.591  33.109  -8.521  1.00  0.00
ATOM    216 2HG2 VAL A  49      25.327  32.285  -9.917  1.00  0.00
ATOM    217 3HG2 VAL A  49      24.512  31.336  -8.650  1.00  0.00
ATOM    218  N   PRO A  50      29.664  30.945  -8.503  1.00  0.00
ATOM    219  CA  PRO A  50      30.968  30.873  -7.832  1.00  0.00
ATOM    220  C   PRO A  50      31.149  31.689  -6.531  1.00  0.00
ATOM    221  O   PRO A  50      31.547  31.124  -5.507  1.00  0.00
ATOM    222  CB  PRO A  50      31.921  31.366  -8.925  1.00  0.00
ATOM    223  CG  PRO A  50      31.275  30.944 -10.200  1.00  0.00
ATOM    224  CD  PRO A  50      29.804  31.201 -10.006  1.00  0.00
ATOM    225  HA  PRO A  50      31.209  29.860  -7.478  1.00  0.00
ATOM    226 1HB  PRO A  50      32.050  32.458  -8.886  1.00  0.00
ATOM    227 2HB  PRO A  50      32.921  30.920  -8.819  1.00  0.00
ATOM    228 1HG  PRO A  50      31.667  31.516 -11.054  1.00  0.00
ATOM    229 2HG  PRO A  50      31.466  29.881 -10.410  1.00  0.00
ATOM    230 1HD  PRO A  50      29.521  32.226 -10.287  1.00  0.00
ATOM    231 2HD  PRO A  50      29.180  30.520 -10.603  1.00  0.00
ATOM    232  N   VAL A  51      30.857  32.992  -6.548  1.00  0.00
ATOM    233  CA  VAL A  51      31.020  33.811  -5.341  1.00  0.00
ATOM    234  C   VAL A  51      30.172  33.319  -4.163  1.00  0.00
ATOM    235  O   VAL A  51      30.604  33.389  -3.014  1.00  0.00
ATOM    236  CB  VAL A  51      30.665  35.283  -5.621  1.00  0.00
ATOM    237  CG1 VAL A  51      30.644  36.081  -4.325  1.00  0.00
ATOM    238  CG2 VAL A  51      31.653  35.892  -6.604  1.00  0.00
ATOM    239  H   VAL A  51      30.520  33.426  -7.395  1.00  0.00
ATOM    240  HA  VAL A  51      32.041  33.760  -4.962  1.00  0.00
ATOM    241  HB  VAL A  51      29.682  35.328  -6.090  1.00  0.00
ATOM    242 1HG1 VAL A  51      30.392  37.120  -4.542  1.00  0.00
ATOM    243 2HG1 VAL A  51      29.900  35.660  -3.650  1.00  0.00
ATOM    244 3HG1 VAL A  51      31.627  36.039  -3.856  1.00  0.00
ATOM    245 1HG2 VAL A  51      31.387  36.932  -6.791  1.00  0.00
ATOM    246 2HG2 VAL A  51      32.658  35.844  -6.186  1.00  0.00
ATOM    247 3HG2 VAL A  51      31.622  35.337  -7.542  1.00  0.00
ATOM    248  N   ASN A  52      28.964  32.834  -4.442  1.00  0.00
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ATOM    249  CA  ASN A  52      28.083  32.334  -3.390  1.00  0.00
ATOM    250  C   ASN A  52      28.616  31.022  -2.841  1.00  0.00
ATOM    251  O   ASN A  52      28.512  30.747  -1.652  1.00  0.00
ATOM    252  CB  ASN A  52      26.657  32.162  -3.881  1.00  0.00
ATOM    253  CG  ASN A  52      25.987  33.453  -4.259  1.00  0.00
ATOM    254  OD1 ASN A  52      26.513  34.545  -4.012  1.00  0.00
ATOM    255  ND2 ASN A  52      24.793  33.338  -4.783  1.00  0.00
ATOM    256  H   ASN A  52      28.648  32.810  -5.401  1.00  0.00
ATOM    257  HA  ASN A  52      28.057  33.043  -2.561  1.00  0.00
ATOM    258 1HB  ASN A  52      26.411  31.400  -4.622  1.00  0.00
ATOM    259 2HB  ASN A  52      26.291  31.849  -2.904  1.00  0.00
ATOM    260 1HD2 ASN A  52      24.288  34.156  -5.059  1.00  0.00
ATOM    261 2HD2 ASN A  52      24.387  32.433  -4.907  1.00  0.00
ATOM    262  N   LYS A  53      29.176  30.216  -3.737  1.00  0.00
ATOM    263  CA  LYS A  53      29.755  28.921  -3.399  1.00  0.00
ATOM    264  C   LYS A  53      30.924  29.123  -2.444  1.00  0.00
ATOM    265  O   LYS A  53      31.089  28.387  -1.469  1.00  0.00
ATOM    266  CB  LYS A  53      30.211  28.179  -4.656  1.00  0.00
ATOM    267  CG  LYS A  53      30.584  26.721  -4.425  1.00  0.00
ATOM    268  CD  LYS A  53      30.675  25.958  -5.739  1.00  0.00
ATOM    269  CE  LYS A  53      31.081  24.509  -5.511  1.00  0.00
ATOM    270  NZ  LYS A  53      31.194  23.756  -6.790  1.00  0.00
ATOM    271  H   LYS A  53      29.195  30.528  -4.697  1.00  0.00
ATOM    272  HA  LYS A  53      29.013  28.307  -2.888  1.00  0.00
ATOM    273 1HB  LYS A  53      29.392  28.234  -5.374  1.00  0.00
ATOM    274 2HB  LYS A  53      31.074  28.716  -5.049  1.00  0.00
ATOM    275 1HG  LYS A  53      31.549  26.686  -3.917  1.00  0.00
ATOM    276 2HG  LYS A  53      29.824  26.265  -3.792  1.00  0.00
ATOM    277 1HD  LYS A  53      29.700  25.990  -6.227  1.00  0.00
ATOM    278 2HD  LYS A  53      31.414  26.446  -6.374  1.00  0.00
ATOM    279 1HE  LYS A  53      32.041  24.500  -4.998  1.00  0.00
ATOM    280 2HE  LYS A  53      30.328  24.039  -4.879  1.00  0.00
ATOM    281 1HZ  LYS A  53      31.464  22.802  -6.595  1.00  0.00
ATOM    282 2HZ  LYS A  53      30.303  23.763  -7.266  1.00  0.00
ATOM    283 3HZ  LYS A  53      31.892  24.191  -7.376  1.00  0.00
ATOM    284  N   LEU A  54      31.746  30.124  -2.745  1.00  0.00
ATOM    285  CA  LEU A  54      32.896  30.432  -1.914  1.00  0.00
ATOM    286  C   LEU A  54      32.419  30.967  -0.565  1.00  0.00
ATOM    287  O   LEU A  54      32.999  30.654   0.473  1.00  0.00
ATOM    288  CB  LEU A  54      33.811  31.445  -2.614  1.00  0.00
ATOM    289  CG  LEU A  54      35.088  31.811  -1.846  1.00  0.00
ATOM    290  CD1 LEU A  54      35.939  30.568  -1.627  1.00  0.00
ATOM    291  CD2 LEU A  54      35.863  32.866  -2.621  1.00  0.00
ATOM    292  H   LEU A  54      31.569  30.683  -3.567  1.00  0.00
ATOM    293  HA  LEU A  54      33.463  29.522  -1.724  1.00  0.00
ATOM    294 1HB  LEU A  54      34.062  30.871  -3.504  1.00  0.00
ATOM    295 2HB  LEU A  54      33.269  32.346  -2.902  1.00  0.00
ATOM    296  HG  LEU A  54      34.780  32.252  -0.898  1.00  0.00
ATOM    297 1HD1 LEU A  54      36.844  30.837  -1.081  1.00  0.00
ATOM    298 2HD1 LEU A  54      35.373  29.836  -1.051  1.00  0.00
ATOM    299 3HD1 LEU A  54      36.212  30.139  -2.591  1.00  0.00
ATOM    300 1HD2 LEU A  54      36.770  33.125  -2.074  1.00  0.00
ATOM    301 2HD2 LEU A  54      36.130  32.474  -3.603  1.00  0.00
ATOM    302 3HD2 LEU A  54      35.245  33.756  -2.742  1.00  0.00
ATOM    303  N   ALA A  55      31.355  31.762  -0.582  1.00  0.00
ATOM    304  CA  ALA A  55      30.818  32.314   0.656  1.00  0.00
ATOM    305  C   ALA A  55      30.268  31.204   1.562  1.00  0.00
ATOM    306  O   ALA A  55      30.350  31.297   2.787  1.00  0.00
ATOM    307  CB  ALA A  55      29.692  33.305   0.358  1.00  0.00
ATOM    308  H   ALA A  55      30.907  31.991  -1.458  1.00  0.00
ATOM    309  HA  ALA A  55      31.625  32.806   1.199  1.00  0.00
ATOM    310 1HB  ALA A  55      29.304  33.706   1.295  1.00  0.00
ATOM    311 2HB  ALA A  55      30.077  34.121  -0.254  1.00  0.00
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ATOM    312 3HB  ALA A  55      28.892  32.796  -0.177  1.00  0.00
ATOM    313  N   ALA A  56      29.716  30.155   0.964  1.00  0.00
ATOM    314  CA  ALA A  56      29.180  29.049   1.753  1.00  0.00
ATOM    315  C   ALA A  56      30.294  28.306   2.485  1.00  0.00
ATOM    316  O   ALA A  56      30.113  27.877   3.616  1.00  0.00
ATOM    317  CB  ALA A  56      28.448  28.059   0.847  1.00  0.00
ATOM    318  H   ALA A  56      29.662  30.112  -0.044  1.00  0.00
ATOM    319  HA  ALA A  56      28.506  29.453   2.509  1.00  0.00
ATOM    320 1HB  ALA A  56      28.054  27.240   1.449  1.00  0.00
ATOM    321 2HB  ALA A  56      27.626  28.566   0.342  1.00  0.00
ATOM    322 3HB  ALA A  56      29.141  27.663   0.106  1.00  0.00
ATOM    323  N   ALA A  57      31.447  28.164   1.837  1.00  0.00
ATOM    324  CA  ALA A  57      32.591  27.470   2.424  1.00  0.00
ATOM    325  C   ALA A  57      33.117  28.263   3.600  1.00  0.00
ATOM    326  O   ALA A  57      33.152  27.785   4.730  1.00  0.00
ATOM    327  CB  ALA A  57      33.676  27.313   1.361  1.00  0.00
ATOM    328  H   ALA A  57      31.530  28.551   0.908  1.00  0.00
ATOM    329  HA  ALA A  57      32.261  26.496   2.785  1.00  0.00
ATOM    330 1HB  ALA A  57      34.533  26.796   1.791  1.00  0.00
ATOM    331 2HB  ALA A  57      33.285  26.733   0.524  1.00  0.00
ATOM    332 3HB  ALA A  57      33.985  28.296   1.009  1.00  0.00
ATOM    333  N   VAL A  58      33.531  29.487   3.315  1.00  0.00
ATOM    334  CA  VAL A  58      34.055  30.380   4.330  1.00  0.00
ATOM    335  C   VAL A  58      33.054  30.506   5.484  1.00  0.00
ATOM    336  O   VAL A  58      33.433  30.511   6.657  1.00  0.00
ATOM    337  CB  VAL A  58      34.309  31.736   3.668  1.00  0.00
ATOM    338  CG1 VAL A  58      34.496  32.867   4.677  1.00  0.00
ATOM    339  CG2 VAL A  58      35.473  31.624   2.684  1.00  0.00
ATOM    340  H   VAL A  58      33.479  29.806   2.358  1.00  0.00
ATOM    341  HA  VAL A  58      34.967  29.981   4.777  1.00  0.00
ATOM    342  HB  VAL A  58      33.427  32.020   3.093  1.00  0.00
ATOM    343 1HG1 VAL A  58      34.672  33.803   4.146  1.00  0.00
ATOM    344 2HG1 VAL A  58      33.599  32.961   5.289  1.00  0.00
ATOM    345 3HG1 VAL A  58      35.351  32.647   5.316  1.00  0.00
ATOM    346 1HG2 VAL A  58      35.649  32.592   2.215  1.00  0.00
ATOM    347 2HG2 VAL A  58      36.370  31.310   3.218  1.00  0.00
ATOM    348 3HG2 VAL A  58      35.231  30.889   1.916  1.00  0.00
ATOM    349  N   SER A  59      31.772  30.592   5.150  1.00  0.00
ATOM    350  CA  SER A  59      30.758  30.714   6.178  1.00  0.00
ATOM    351  C   SER A  59      30.668  29.448   7.016  1.00  0.00
ATOM    352  O   SER A  59      30.475  29.537   8.231  1.00  0.00
ATOM    353  CB  SER A  59      29.415  31.030   5.548  1.00  0.00
ATOM    354  OG  SER A  59      29.405  32.290   4.935  1.00  0.00
ATOM    355  H   SER A  59      31.490  30.573   4.180  1.00  0.00
ATOM    356  HA  SER A  59      30.902  31.578   6.828  1.00  0.00
ATOM    357 1HB  SER A  59      29.195  30.270   4.799  1.00  0.00
ATOM    358 2HB  SER A  59      28.651  31.006   6.324  1.00  0.00
ATOM    359  HG  SER A  59      30.073  32.316   4.246  1.00  0.00
ATOM    360  N   ASN A  60      30.810  28.280   6.379  1.00  0.00
ATOM    361  CA  ASN A  60      30.765  27.006   7.101  1.00  0.00
ATOM    362  C   ASN A  60      31.960  26.912   8.048  1.00  0.00
ATOM    363  O   ASN A  60      31.920  26.206   9.056  1.00  0.00
ATOM    364  CB  ASN A  60      30.738  25.819   6.156  1.00  0.00
ATOM    365  CG  ASN A  60      29.424  25.639   5.448  1.00  0.00
ATOM    366  OD1 ASN A  60      28.384  26.142   5.888  1.00  0.00
ATOM    367  ND2 ASN A  60      29.450  24.858   4.398  1.00  0.00
ATOM    368  H   ASN A  60      30.951  28.274   5.379  1.00  0.00
ATOM    369  HA  ASN A  60      29.860  26.957   7.709  1.00  0.00
ATOM    370 1HB  ASN A  60      31.551  25.648   5.450  1.00  0.00
ATOM    371 2HB  ASN A  60      30.802  25.092   6.966  1.00  0.00
ATOM    372 1HD2 ASN A  60      28.613  24.693   3.877  1.00  0.00
ATOM    373 2HD2 ASN A  60      30.307  24.427   4.117  1.00  0.00
ATOM    374  N   PHE A  61      33.034  27.614   7.707  1.00  0.00
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ATOM    375  CA  PHE A  61      34.204  27.652   8.560  1.00  0.00
ATOM    376  C   PHE A  61      33.793  28.495   9.756  1.00  0.00
ATOM    377  O   PHE A  61      34.148  28.196  10.885  1.00  0.00
ATOM    378  CB  PHE A  61      35.385  28.266   7.801  1.00  0.00
ATOM    379  CG  PHE A  61      36.445  28.749   8.762  1.00  0.00
ATOM    380  CD1 PHE A  61      37.360  27.854   9.303  1.00  0.00
ATOM    381  CD2 PHE A  61      36.502  30.094   9.109  1.00  0.00
ATOM    382  CE1 PHE A  61      38.317  28.304  10.204  1.00  0.00
ATOM    383  CE2 PHE A  61      37.455  30.543  10.015  1.00  0.00
ATOM    384  CZ  PHE A  61      38.356  29.644  10.570  1.00  0.00
ATOM    385  H   PHE A  61      33.040  28.132   6.840  1.00  0.00
ATOM    386  HA  PHE A  61      34.462  26.641   8.879  1.00  0.00
ATOM    387 1HB  PHE A  61      35.835  27.524   7.143  1.00  0.00
ATOM    388 2HB  PHE A  61      35.048  29.117   7.210  1.00  0.00
ATOM    389  HD1 PHE A  61      37.315  26.805   9.011  1.00  0.00
ATOM    390  HD2 PHE A  61      35.792  30.797   8.671  1.00  0.00
ATOM    391  HE1 PHE A  61      39.039  27.605  10.625  1.00  0.00
ATOM    392  HE2 PHE A  61      37.497  31.596  10.291  1.00  0.00
ATOM    393  HZ  PHE A  61      39.092  29.991  11.294  1.00  0.00
ATOM    394  N   GLY A  62      33.049  29.565   9.489  1.00  0.00
ATOM    395  CA  GLY A  62      32.581  30.437  10.551  1.00  0.00
ATOM    396  C   GLY A  62      31.756  29.670  11.569  1.00  0.00
ATOM    397  O   GLY A  62      31.954  29.809  12.778  1.00  0.00
ATOM    398  H   GLY A  62      32.803  29.778   8.533  1.00  0.00
ATOM    399 1HA  GLY A  62      33.441  30.880  11.053  1.00  0.00
ATOM    400 2HA  GLY A  62      31.967  31.226  10.119  1.00  0.00
ATOM    401  N   TYR A  63      30.831  28.848  11.081  1.00  0.00
ATOM    402  CA  TYR A  63      29.974  28.058  11.957  1.00  0.00
ATOM    403  C   TYR A  63      30.784  27.089  12.803  1.00  0.00
ATOM    404  O   TYR A  63      30.492  26.915  13.990  1.00  0.00
ATOM    405  CB  TYR A  63      28.934  27.291  11.137  1.00  0.00
ATOM    406  CG  TYR A  63      27.817  28.158  10.599  1.00  0.00
ATOM    407  CD1 TYR A  63      27.538  28.200   9.241  1.00  0.00
ATOM    408  CD2 TYR A  63      27.043  28.931  11.452  1.00  0.00
ATOM    409  CE1 TYR A  63      26.520  28.990   8.744  1.00  0.00
ATOM    410  CE2 TYR A  63      26.021  29.724  10.967  1.00  0.00
ATOM    411  CZ  TYR A  63      25.763  29.751   9.612  1.00  0.00
ATOM    412  OH  TYR A  63      24.746  30.539   9.124  1.00  0.00
ATOM    413  H   TYR A  63      30.719  28.768  10.080  1.00  0.00
ATOM    414  HA  TYR A  63      29.453  28.714  12.655  1.00  0.00
ATOM    415 1HB  TYR A  63      29.461  26.820  10.306  1.00  0.00
ATOM    416 2HB  TYR A  63      28.516  26.521  11.786  1.00  0.00
ATOM    417  HD1 TYR A  63      28.140  27.596   8.562  1.00  0.00
ATOM    418  HD2 TYR A  63      27.253  28.905  12.522  1.00  0.00
ATOM    419  HE1 TYR A  63      26.312  29.013   7.675  1.00  0.00
ATOM    420  HE2 TYR A  63      25.425  30.325  11.654  1.00  0.00
ATOM    421  HH  TYR A  63      24.835  30.729   8.187  1.00  0.00
ATOM    422  N   ASP A  64      31.800  26.462  12.210  1.00  0.00
ATOM    423  CA  ASP A  64      32.626  25.539  12.974  1.00  0.00
ATOM    424  C   ASP A  64      33.280  26.295  14.117  1.00  0.00
ATOM    425  O   ASP A  64      33.279  25.829  15.256  1.00  0.00
ATOM    426  CB  ASP A  64      33.685  24.880  12.087  1.00  0.00
ATOM    427  CG  ASP A  64      33.168  23.722  11.244  1.00  0.00
ATOM    428  OD1 ASP A  64      32.474  22.889  11.777  1.00  0.00
ATOM    429  OD2 ASP A  64      33.338  23.762  10.049  1.00  0.00
ATOM    430  H   ASP A  64      32.009  26.617  11.234  1.00  0.00
ATOM    431  HA  ASP A  64      32.003  24.754  13.403  1.00  0.00
ATOM    432 1HB  ASP A  64      34.216  25.585  11.448  1.00  0.00
ATOM    433 2HB  ASP A  64      34.364  24.498  12.851  1.00  0.00
ATOM    434  N   LEU A  65      33.831  27.467  13.807  1.00  0.00
ATOM    435  CA  LEU A  65      34.494  28.276  14.812  1.00  0.00
ATOM    436  C   LEU A  65      33.514  28.636  15.915  1.00  0.00
ATOM    437  O   LEU A  65      33.827  28.505  17.096  1.00  0.00
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ATOM    438  CB  LEU A  65      35.088  29.541  14.179  1.00  0.00
ATOM    439  CG  LEU A  65      35.811  30.480  15.153  1.00  0.00
ATOM    440  CD1 LEU A  65      36.996  29.764  15.786  1.00  0.00
ATOM    441  CD2 LEU A  65      36.268  31.727  14.411  1.00  0.00
ATOM    442  H   LEU A  65      33.788  27.802  12.855  1.00  0.00
ATOM    443  HA  LEU A  65      35.299  27.702  15.270  1.00  0.00
ATOM    444 1HB  LEU A  65      35.805  29.080  13.502  1.00  0.00
ATOM    445 2HB  LEU A  65      34.344  30.090  13.601  1.00  0.00
ATOM    446  HG  LEU A  65      35.085  30.788  15.906  1.00  0.00
ATOM    447 1HD1 LEU A  65      37.503  30.439  16.476  1.00  0.00
ATOM    448 2HD1 LEU A  65      36.643  28.888  16.331  1.00  0.00
ATOM    449 3HD1 LEU A  65      37.691  29.452  15.008  1.00  0.00
ATOM    450 1HD2 LEU A  65      36.781  32.395  15.104  1.00  0.00
ATOM    451 2HD2 LEU A  65      36.949  31.445  13.607  1.00  0.00
ATOM    452 3HD2 LEU A  65      35.403  32.239  13.989  1.00  0.00
ATOM    453  N   TYR A  66      32.325  29.087  15.535  1.00  0.00
ATOM    454  CA  TYR A  66      31.316  29.445  16.525  1.00  0.00
ATOM    455  C   TYR A  66      31.026  28.263  17.450  1.00  0.00
ATOM    456  O   TYR A  66      30.992  28.412  18.676  1.00  0.00
ATOM    457  CB  TYR A  66      30.030  29.909  15.838  1.00  0.00
ATOM    458  CG  TYR A  66      28.847  30.037  16.773  1.00  0.00
ATOM    459  CD1 TYR A  66      28.701  31.151  17.587  1.00  0.00
ATOM    460  CD2 TYR A  66      27.880  29.046  16.836  1.00  0.00
ATOM    461  CE1 TYR A  66      27.623  31.273  18.443  1.00  0.00
ATOM    462  CE2 TYR A  66      26.798  29.157  17.688  1.00  0.00
ATOM    463  CZ  TYR A  66      26.673  30.273  18.490  1.00  0.00
ATOM    464  OH  TYR A  66      25.597  30.390  19.339  1.00  0.00
ATOM    465  H   TYR A  66      32.108  29.186  14.554  1.00  0.00
ATOM    466  HA  TYR A  66      31.685  30.256  17.154  1.00  0.00
ATOM    467 1HB  TYR A  66      30.239  30.877  15.381  1.00  0.00
ATOM    468 2HB  TYR A  66      29.800  29.182  15.060  1.00  0.00
ATOM    469  HD1 TYR A  66      29.455  31.936  17.545  1.00  0.00
ATOM    470  HD2 TYR A  66      27.985  28.167  16.200  1.00  0.00
ATOM    471  HE1 TYR A  66      27.521  32.153  19.078  1.00  0.00
ATOM    472  HE2 TYR A  66      26.049  28.366  17.724  1.00  0.00
ATOM    473  HH  TYR A  66      25.173  29.548  19.526  1.00  0.00
ATOM    474  N   ARG A  67      30.807  27.091  16.863  1.00  0.00
ATOM    475  CA  ARG A  67      30.512  25.909  17.656  1.00  0.00
ATOM    476  C   ARG A  67      31.641  25.578  18.625  1.00  0.00
ATOM    477  O   ARG A  67      31.387  25.182  19.764  1.00  0.00
ATOM    478  CB  ARG A  67      30.163  24.713  16.782  1.00  0.00
ATOM    479  CG  ARG A  67      28.732  24.692  16.270  1.00  0.00
ATOM    480  CD  ARG A  67      28.318  23.401  15.663  1.00  0.00
ATOM    481  NE  ARG A  67      29.040  23.045  14.452  1.00  0.00
ATOM    482  CZ  ARG A  67      28.594  23.270  13.201  1.00  0.00
ATOM    483  NH1 ARG A  67      27.415  23.814  12.990  1.00  0.00
ATOM    484  NH2 ARG A  67      29.362  22.908  12.189  1.00  0.00
ATOM    485  H   ARG A  67      30.844  27.012  15.857  1.00  0.00
ATOM    486  HA  ARG A  67      29.630  26.088  18.271  1.00  0.00
ATOM    487 1HB  ARG A  67      30.848  24.727  15.935  1.00  0.00
ATOM    488 2HB  ARG A  67      30.343  23.820  17.380  1.00  0.00
ATOM    489 1HG  ARG A  67      28.061  24.900  17.104  1.00  0.00
ATOM    490 2HG  ARG A  67      28.623  25.469  15.513  1.00  0.00
ATOM    491 1HD  ARG A  67      28.480  22.601  16.386  1.00  0.00
ATOM    492 2HD  ARG A  67      27.260  23.452  15.409  1.00  0.00
ATOM    493  HE  ARG A  67      29.941  22.598  14.347  1.00  0.00
ATOM    494 1HH1 ARG A  67      26.832  24.069  13.774  1.00  0.00
ATOM    495 2HH1 ARG A  67      27.099  23.974  12.045  1.00  0.00
ATOM    496 1HH2 ARG A  67      30.258  22.475  12.369  1.00  0.00
ATOM    497 2HH2 ARG A  67      29.052  23.064  11.241  1.00  0.00
ATOM    498  N   VAL A  68      32.884  25.731  18.181  1.00  0.00
ATOM    499  CA  VAL A  68      34.024  25.449  19.048  1.00  0.00
ATOM    500  C   VAL A  68      34.091  26.481  20.177  1.00  0.00
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ATOM    501  O   VAL A  68      34.299  26.139  21.343  1.00  0.00
ATOM    502  CB  VAL A  68      35.318  25.397  18.240  1.00  0.00
ATOM    503  CG1 VAL A  68      36.540  25.260  19.147  1.00  0.00
ATOM    504  CG2 VAL A  68      35.243  24.248  17.235  1.00  0.00
ATOM    505  H   VAL A  68      33.051  26.045  17.236  1.00  0.00
ATOM    506  HA  VAL A  68      33.918  24.482  19.541  1.00  0.00
ATOM    507  HB  VAL A  68      35.418  26.322  17.671  1.00  0.00
ATOM    508 1HG1 VAL A  68      37.444  25.226  18.538  1.00  0.00
ATOM    509 2HG1 VAL A  68      36.590  26.114  19.822  1.00  0.00
ATOM    510 3HG1 VAL A  68      36.461  24.341  19.728  1.00  0.00
ATOM    511 1HG2 VAL A  68      36.165  24.209  16.656  1.00  0.00
ATOM    512 2HG2 VAL A  68      35.109  23.307  17.769  1.00  0.00
ATOM    513 3HG2 VAL A  68      34.400  24.407  16.562  1.00  0.00
ATOM    514  N   ARG A  69      33.889  27.744  19.824  1.00  0.00
ATOM    515  CA  ARG A  69      33.935  28.816  20.799  1.00  0.00
ATOM    516  C   ARG A  69      32.754  28.827  21.761  1.00  0.00
ATOM    517  O   ARG A  69      32.925  29.141  22.936  1.00  0.00
ATOM    518  CB  ARG A  69      34.095  30.169  20.121  1.00  0.00
ATOM    519  CG  ARG A  69      34.352  31.332  21.066  1.00  0.00
ATOM    520  CD  ARG A  69      35.613  31.221  21.843  1.00  0.00
ATOM    521  NE  ARG A  69      36.021  32.449  22.508  1.00  0.00
ATOM    522  CZ  ARG A  69      36.720  32.500  23.659  1.00  0.00
ATOM    523  NH1 ARG A  69      37.058  31.401  24.295  1.00  0.00
ATOM    524  NH2 ARG A  69      37.036  33.688  24.145  1.00  0.00
ATOM    525  H   ARG A  69      33.699  27.966  18.857  1.00  0.00
ATOM    526  HA  ARG A  69      34.811  28.697  21.437  1.00  0.00
ATOM    527 1HB  ARG A  69      34.928  30.080  19.425  1.00  0.00
ATOM    528 2HB  ARG A  69      33.176  30.356  19.565  1.00  0.00
ATOM    529 1HG  ARG A  69      34.397  32.251  20.482  1.00  0.00
ATOM    530 2HG  ARG A  69      33.525  31.392  21.774  1.00  0.00
ATOM    531 1HD  ARG A  69      35.490  30.459  22.612  1.00  0.00
ATOM    532 2HD  ARG A  69      36.419  30.931  21.170  1.00  0.00
ATOM    533  HE  ARG A  69      35.861  33.411  22.239  1.00  0.00
ATOM    534 1HH1 ARG A  69      36.793  30.501  23.919  1.00  0.00
ATOM    535 2HH1 ARG A  69      37.582  31.460  25.156  1.00  0.00
ATOM    536 1HH2 ARG A  69      36.752  34.523  23.652  1.00  0.00
ATOM    537 2HH2 ARG A  69      37.558  33.755  25.005  1.00  0.00
ATOM    538  N   SER A  70      31.557  28.504  21.274  1.00  0.00
ATOM    539  CA  SER A  70      30.374  28.470  22.143  1.00  0.00
ATOM    540  C   SER A  70      30.579  27.394  23.207  1.00  0.00
ATOM    541  O   SER A  70      30.166  27.534  24.355  1.00  0.00
ATOM    542  CB  SER A  70      29.117  28.203  21.338  1.00  0.00
ATOM    543  OG  SER A  70      29.124  26.926  20.760  1.00  0.00
ATOM    544  H   SER A  70      31.455  28.278  20.295  1.00  0.00
ATOM    545  HA  SER A  70      30.135  29.437  22.588  1.00  0.00
ATOM    546 1HB  SER A  70      28.255  28.288  21.999  1.00  0.00
ATOM    547 2HB  SER A  70      29.043  28.949  20.548  1.00  0.00
ATOM    548  HG  SER A  70      28.225  26.672  20.536  1.00  0.00
ATOM    549  N   SER A  71      31.229  26.315  22.800  1.00  0.00
ATOM    550  CA  SER A  71      31.519  25.213  23.687  1.00  0.00
ATOM    551  C   SER A  71      32.511  25.645  24.769  1.00  0.00
ATOM    552  O   SER A  71      32.519  25.091  25.865  1.00  0.00
ATOM    553  CB  SER A  71      32.059  24.038  22.896  1.00  0.00
ATOM    554  OG  SER A  71      31.107  23.517  22.010  1.00  0.00
ATOM    555  H   SER A  71      31.530  26.264  21.837  1.00  0.00
ATOM    556  HA  SER A  71      30.628  24.778  24.142  1.00  0.00
ATOM    557 1HB  SER A  71      32.928  24.370  22.328  1.00  0.00
ATOM    558 2HB  SER A  71      32.360  23.256  23.593  1.00  0.00
ATOM    559  HG  SER A  71      31.488  22.777  21.530  1.00  0.00
ATOM    560  N   MET A  72      33.355  26.625  24.462  1.00  0.00
ATOM    561  CA  MET A  72      34.327  27.110  25.440  1.00  0.00
ATOM    562  C   MET A  72      33.718  28.175  26.352  1.00  0.00
ATOM    563  O   MET A  72      34.137  28.327  27.493  1.00  0.00
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ATOM    564  CB  MET A  72      35.557  27.667  24.726  1.00  0.00
ATOM    565  CG  MET A  72      36.418  26.615  24.041  1.00  0.00
ATOM    566  SD  MET A  72      37.833  27.329  23.180  1.00  0.00
ATOM    567  CE  MET A  72      38.539  25.869  22.421  1.00  0.00
ATOM    568  H   MET A  72      33.330  27.044  23.544  1.00  0.00
ATOM    569  HA  MET A  72      34.640  26.293  26.089  1.00  0.00
ATOM    570 1HB  MET A  72      35.198  28.382  23.987  1.00  0.00
ATOM    571 2HB  MET A  72      36.151  28.189  25.478  1.00  0.00
ATOM    572 1HG  MET A  72      36.774  25.920  24.800  1.00  0.00
ATOM    573 2HG  MET A  72      35.794  26.083  23.323  1.00  0.00
ATOM    574 1HE  MET A  72      39.426  26.146  21.851  1.00  0.00
ATOM    575 2HE  MET A  72      38.814  25.152  23.196  1.00  0.00
ATOM    576 3HE  MET A  72      37.805  25.416  21.753  1.00  0.00
ATOM    577  N   SER A  73      32.730  28.909  25.851  1.00  0.00
ATOM    578  CA  SER A  73      32.077  29.945  26.644  1.00  0.00
ATOM    579  C   SER A  73      30.625  29.526  26.895  1.00  0.00
ATOM    580  O   SER A  73      29.693  30.047  26.279  1.00  0.00
ATOM    581  CB  SER A  73      32.145  31.285  25.938  1.00  0.00
ATOM    582  OG  SER A  73      33.466  31.691  25.705  1.00  0.00
ATOM    583  H   SER A  73      32.423  28.749  24.902  1.00  0.00
ATOM    584  HA  SER A  73      32.598  30.171  27.575  1.00  0.00
ATOM    585 1HB  SER A  73      31.625  31.203  24.984  1.00  0.00
ATOM    586 2HB  SER A  73      31.650  32.032  26.558  1.00  0.00
ATOM    587  HG  SER A  73      33.465  32.541  25.258  1.00  0.00
ATOM    588  N   PRO A  74      30.421  28.567  27.812  1.00  0.00
ATOM    589  CA  PRO A  74      29.099  28.041  28.171  1.00  0.00
ATOM    590  C   PRO A  74      28.181  28.989  28.923  1.00  0.00
ATOM    591  O   PRO A  74      26.968  28.803  28.924  1.00  0.00
ATOM    592  CB  PRO A  74      29.437  26.816  29.026  1.00  0.00
ATOM    593  CG  PRO A  74      30.794  27.105  29.570  1.00  0.00
ATOM    594  CD  PRO A  74      31.505  27.868  28.484  1.00  0.00
ATOM    595  HA  PRO A  74      28.489  27.786  27.292  1.00  0.00
ATOM    596 1HB  PRO A  74      28.705  26.675  29.835  1.00  0.00
ATOM    597 2HB  PRO A  74      29.437  25.893  28.427  1.00  0.00
ATOM    598 1HG  PRO A  74      30.734  27.698  30.495  1.00  0.00
ATOM    599 2HG  PRO A  74      31.330  26.177  29.817  1.00  0.00
ATOM    600 1HD  PRO A  74      32.240  28.579  28.888  1.00  0.00
ATOM    601 2HD  PRO A  74      32.046  27.204  27.795  1.00  0.00
ATOM    602  N   THR A  75      28.752  30.010  29.549  1.00  0.00
ATOM    603  CA  THR A  75      27.953  30.951  30.325  1.00  0.00
ATOM    604  C   THR A  75      28.117  32.427  29.955  1.00  0.00
ATOM    605  O   THR A  75      27.674  33.302  30.697  1.00  0.00
ATOM    606  CB  THR A  75      28.265  30.799  31.825  1.00  0.00
ATOM    607  OG1 THR A  75      29.664  31.018  32.050  1.00  0.00
ATOM    608  CG2 THR A  75      27.890  29.407  32.310  1.00  0.00
ATOM    609  H   THR A  75      29.752  30.143  29.492  1.00  0.00
ATOM    610  HA  THR A  75      26.893  30.763  30.155  1.00  0.00
ATOM    611  HB  THR A  75      27.696  31.543  32.383  1.00  0.00
ATOM    612  HG1 THR A  75      29.856  30.922  32.986  1.00  0.00
ATOM    613 1HG2 THR A  75      28.117  29.319  33.372  1.00  0.00
ATOM    614 2HG2 THR A  75      26.824  29.242  32.151  1.00  0.00
ATOM    615 3HG2 THR A  75      28.459  28.663  31.754  1.00  0.00
ATOM    616  N   THR A  76      28.740  32.706  28.815  1.00  0.00
ATOM    617  CA  THR A  76      28.956  34.083  28.393  1.00  0.00
ATOM    618  C   THR A  76      28.517  34.274  26.953  1.00  0.00
ATOM    619  O   THR A  76      28.486  33.319  26.186  1.00  0.00
ATOM    620  CB  THR A  76      30.433  34.498  28.531  1.00  0.00
ATOM    621  OG1 THR A  76      31.243  33.678  27.679  1.00  0.00
ATOM    622  CG2 THR A  76      30.898  34.343  29.970  1.00  0.00
ATOM    623  H   THR A  76      29.071  31.954  28.228  1.00  0.00
ATOM    624  HA  THR A  76      28.349  34.755  29.001  1.00  0.00
ATOM    625  HB  THR A  76      30.538  35.539  28.226  1.00  0.00
ATOM    626  HG1 THR A  76      32.164  33.938  27.767  1.00  0.00
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ATOM    627 1HG2 THR A  76      31.944  34.641  30.048  1.00  0.00
ATOM    628 2HG2 THR A  76      30.291  34.974  30.619  1.00  0.00
ATOM    629 3HG2 THR A  76      30.794  33.302  30.275  1.00  0.00
ATOM    630  N   ASN A  77      28.175  35.506  26.584  1.00  0.00
ATOM    631  CA  ASN A  77      27.760  35.785  25.214  1.00  0.00
ATOM    632  C   ASN A  77      28.915  35.476  24.282  1.00  0.00
ATOM    633  O   ASN A  77      30.072  35.553  24.680  1.00  0.00
ATOM    634  CB  ASN A  77      27.429  37.269  24.975  1.00  0.00
ATOM    635  CG  ASN A  77      26.175  37.733  25.687  1.00  0.00
ATOM    636  OD1 ASN A  77      25.506  36.982  26.386  1.00  0.00
ATOM    637  ND2 ASN A  77      25.907  39.039  25.506  1.00  0.00
ATOM    638  H   ASN A  77      28.200  36.261  27.254  1.00  0.00
ATOM    639  HA  ASN A  77      26.924  35.139  24.942  1.00  0.00
ATOM    640 1HB  ASN A  77      28.200  38.035  25.069  1.00  0.00
ATOM    641 2HB  ASN A  77      27.198  37.113  23.921  1.00  0.00
ATOM    642 1HD2 ASN A  77      25.100  39.447  25.934  1.00  0.00
ATOM    643 2HD2 ASN A  77      26.514  39.601  24.944  1.00  0.00
ATOM    644  N   VAL A  78      28.609  35.125  23.041  1.00  0.00
ATOM    645  CA  VAL A  78      29.667  34.873  22.075  1.00  0.00
ATOM    646  C   VAL A  78      29.420  35.768  20.878  1.00  0.00
ATOM    647  O   VAL A  78      28.430  35.598  20.182  1.00  0.00
ATOM    648  CB  VAL A  78      29.720  33.400  21.627  1.00  0.00
ATOM    649  CG1 VAL A  78      30.824  33.195  20.601  1.00  0.00
ATOM    650  CG2 VAL A  78      29.931  32.486  22.824  1.00  0.00
ATOM    651  H   VAL A  78      27.646  35.029  22.752  1.00  0.00
ATOM    652  HA  VAL A  78      30.645  35.138  22.479  1.00  0.00
ATOM    653  HB  VAL A  78      28.760  33.129  21.187  1.00  0.00
ATOM    654 1HG1 VAL A  78      30.848  32.149  20.295  1.00  0.00
ATOM    655 2HG1 VAL A  78      30.634  33.823  19.730  1.00  0.00
ATOM    656 3HG1 VAL A  78      31.784  33.465  21.040  1.00  0.00
ATOM    657 1HG2 VAL A  78      29.966  31.450  22.490  1.00  0.00
ATOM    658 2HG2 VAL A  78      30.871  32.741  23.314  1.00  0.00
ATOM    659 3HG2 VAL A  78      29.108  32.612  23.528  1.00  0.00
ATOM    660  N   LEU A  79      30.293  36.743  20.652  1.00  0.00
ATOM    661  CA  LEU A  79      30.130  37.611  19.497  1.00  0.00
ATOM    662  C   LEU A  79      31.255  37.226  18.554  1.00  0.00
ATOM    663  O   LEU A  79      32.421  37.174  18.955  1.00  0.00
ATOM    664  CB  LEU A  79      30.267  39.066  19.930  1.00  0.00
ATOM    665  CG  LEU A  79      29.956  40.026  18.790  1.00  0.00
ATOM    666  CD1 LEU A  79      28.497  39.887  18.350  1.00  0.00
ATOM    667  CD2 LEU A  79      30.353  41.462  19.132  1.00  0.00
ATOM    668  H   LEU A  79      31.075  36.893  21.274  1.00  0.00
ATOM    669  HA  LEU A  79      29.164  37.421  19.031  1.00  0.00
ATOM    670 1HB  LEU A  79      29.493  39.097  20.695  1.00  0.00
ATOM    671 2HB  LEU A  79      31.237  39.262  20.387  1.00  0.00
ATOM    672  HG  LEU A  79      30.566  39.725  17.938  1.00  0.00
ATOM    673 1HD1 LEU A  79      28.295  40.581  17.534  1.00  0.00
ATOM    674 2HD1 LEU A  79      28.315  38.867  18.011  1.00  0.00
ATOM    675 3HD1 LEU A  79      27.841  40.113  19.190  1.00  0.00
ATOM    676 1HD2 LEU A  79      30.115  42.115  18.291  1.00  0.00
ATOM    677 2HD2 LEU A  79      29.805  41.791  20.015  1.00  0.00
ATOM    678 3HD2 LEU A  79      31.424  41.506  19.333  1.00  0.00
ATOM    679  N   LEU A  80      30.904  36.950  17.303  1.00  0.00
ATOM    680  CA  LEU A  80      31.897  36.512  16.344  1.00  0.00
ATOM    681  C   LEU A  80      31.616  36.965  14.920  1.00  0.00
ATOM    682  O   LEU A  80      30.477  36.940  14.467  1.00  0.00
ATOM    683  CB  LEU A  80      32.009  34.983  16.391  1.00  0.00
ATOM    684  CG  LEU A  80      32.750  34.420  17.611  1.00  0.00
ATOM    685  CD1 LEU A  80      32.596  32.906  17.662  1.00  0.00
ATOM    686  CD2 LEU A  80      34.218  34.810  17.539  1.00  0.00
ATOM    687  H   LEU A  80      29.942  37.043  17.008  1.00  0.00
ATOM    688  HA  LEU A  80      32.862  36.952  16.591  1.00  0.00
ATOM    689 1HB  LEU A  80      30.952  34.730  16.446  1.00  0.00
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ATOM    690 2HB  LEU A  80      32.431  34.581  15.470  1.00  0.00
ATOM    691  HG  LEU A  80      32.322  34.892  18.496  1.00  0.00
ATOM    692 1HD1 LEU A  80      33.125  32.515  18.531  1.00  0.00
ATOM    693 2HD1 LEU A  80      31.539  32.650  17.736  1.00  0.00
ATOM    694 3HD1 LEU A  80      33.013  32.467  16.756  1.00  0.00
ATOM    695 1HD2 LEU A  80      34.744  34.410  18.407  1.00  0.00
ATOM    696 2HD2 LEU A  80      34.659  34.404  16.628  1.00  0.00
ATOM    697 3HD2 LEU A  80      34.307  35.897  17.531  1.00  0.00
ATOM    698  N   SER A  81      32.666  37.380  14.220  1.00  0.00
ATOM    699  CA  SER A  81      32.550  37.805  12.828  1.00  0.00
ATOM    700  C   SER A  81      33.652  37.063  12.068  1.00  0.00
ATOM    701  O   SER A  81      34.631  37.657  11.614  1.00  0.00
ATOM    702  CB  SER A  81      32.688  39.309  12.691  1.00  0.00
ATOM    703  OG  SER A  81      32.411  39.747  11.389  1.00  0.00
ATOM    704  H   SER A  81      33.571  37.401  14.667  1.00  0.00
ATOM    705  HA  SER A  81      31.554  37.654  12.411  1.00  0.00
ATOM    706 1HB  SER A  81      31.992  39.786  13.381  1.00  0.00
ATOM    707 2HB  SER A  81      33.707  39.591  12.951  1.00  0.00
ATOM    708  HG  SER A  81      31.663  39.256  11.039  1.00  0.00
ATOM    709  N   PRO A  82      33.494  35.736  11.934  1.00  0.00
ATOM    710  CA  PRO A  82      34.369  34.765  11.274  1.00  0.00
ATOM    711  C   PRO A  82      35.039  35.202   9.975  1.00  0.00
ATOM    712  O   PRO A  82      36.200  34.864   9.738  1.00  0.00
ATOM    713  CB  PRO A  82      33.428  33.581  11.030  1.00  0.00
ATOM    714  CG  PRO A  82      32.463  33.633  12.165  1.00  0.00
ATOM    715  CD  PRO A  82      32.314  35.094  12.495  1.00  0.00
ATOM    716  HA  PRO A  82      35.242  34.495  11.886  1.00  0.00
ATOM    717 1HB  PRO A  82      32.911  33.670  10.063  1.00  0.00
ATOM    718 2HB  PRO A  82      33.976  32.627  11.016  1.00  0.00
ATOM    719 1HG  PRO A  82      31.496  33.189  11.886  1.00  0.00
ATOM    720 2HG  PRO A  82      32.838  33.068  13.031  1.00  0.00
ATOM    721 1HD  PRO A  82      31.411  35.532  12.044  1.00  0.00
ATOM    722 2HD  PRO A  82      32.250  35.271  13.579  1.00  0.00
ATOM    723  N   LEU A  83      34.312  35.938   9.134  1.00  0.00
ATOM    724  CA  LEU A  83      34.853  36.393   7.856  1.00  0.00
ATOM    725  C   LEU A  83      36.252  37.018   7.941  1.00  0.00
ATOM    726  O   LEU A  83      37.136  36.679   7.158  1.00  0.00
ATOM    727  CB  LEU A  83      33.870  37.379   7.223  1.00  0.00
ATOM    728  CG  LEU A  83      34.317  37.925   5.864  1.00  0.00
ATOM    729  CD1 LEU A  83      34.426  36.830   4.800  1.00  0.00
ATOM    730  CD2 LEU A  83      33.427  39.080   5.410  1.00  0.00
ATOM    731  H   LEU A  83      33.366  36.187   9.385  1.00  0.00
ATOM    732  HA  LEU A  83      34.979  35.541   7.189  1.00  0.00
ATOM    733 1HB  LEU A  83      33.011  36.721   7.104  1.00  0.00
ATOM    734 2HB  LEU A  83      33.615  38.189   7.906  1.00  0.00
ATOM    735  HG  LEU A  83      35.322  38.328   5.992  1.00  0.00
ATOM    736 1HD1 LEU A  83      34.746  37.270   3.856  1.00  0.00
ATOM    737 2HD1 LEU A  83      35.156  36.085   5.118  1.00  0.00
ATOM    738 3HD1 LEU A  83      33.455  36.354   4.667  1.00  0.00
ATOM    739 1HD2 LEU A  83      33.772  39.445   4.442  1.00  0.00
ATOM    740 2HD2 LEU A  83      32.397  38.734   5.322  1.00  0.00
ATOM    741 3HD2 LEU A  83      33.477  39.887   6.141  1.00  0.00
ATOM    742  N   SER A  84      36.453  37.927   8.888  1.00  0.00
ATOM    743  CA  SER A  84      37.750  38.575   9.050  1.00  0.00
ATOM    744  C   SER A  84      38.857  37.567   9.374  1.00  0.00
ATOM    745  O   SER A  84      40.011  37.744   8.986  1.00  0.00
ATOM    746  CB  SER A  84      37.665  39.630  10.135  1.00  0.00
ATOM    747  OG  SER A  84      37.418  39.071  11.396  1.00  0.00
ATOM    748  H   SER A  84      35.697  38.177   9.509  1.00  0.00
ATOM    749  HA  SER A  84      38.047  39.172   8.186  1.00  0.00
ATOM    750 1HB  SER A  84      38.609  40.173  10.168  1.00  0.00
ATOM    751 2HB  SER A  84      36.859  40.320   9.889  1.00  0.00
ATOM    752  HG  SER A  84      36.584  38.594  11.376  1.00  0.00
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ATOM    753  N   VAL A  85      38.499  36.508  10.089  1.00  0.00
ATOM    754  CA  VAL A  85      39.461  35.479  10.462  1.00  0.00
ATOM    755  C   VAL A  85      39.689  34.488   9.328  1.00  0.00
ATOM    756  O   VAL A  85      40.810  34.032   9.114  1.00  0.00
ATOM    757  CB  VAL A  85      39.004  34.710  11.716  1.00  0.00
ATOM    758  CG1 VAL A  85      39.954  33.559  12.011  1.00  0.00
ATOM    759  CG2 VAL A  85      38.915  35.645  12.912  1.00  0.00
ATOM    760  H   VAL A  85      37.537  36.412  10.382  1.00  0.00
ATOM    761  HA  VAL A  85      40.445  35.907  10.655  1.00  0.00
ATOM    762  HB  VAL A  85      38.001  34.318  11.545  1.00  0.00
ATOM    763 1HG1 VAL A  85      39.616  33.026  12.900  1.00  0.00
ATOM    764 2HG1 VAL A  85      39.971  32.875  11.163  1.00  0.00
ATOM    765 3HG1 VAL A  85      40.957  33.950  12.183  1.00  0.00
ATOM    766 1HG2 VAL A  85      38.590  35.086  13.789  1.00  0.00
ATOM    767 2HG2 VAL A  85      39.895  36.084  13.103  1.00  0.00
ATOM    768 3HG2 VAL A  85      38.197  36.438  12.702  1.00  0.00
ATOM    769  N   ALA A  86      38.623  34.152   8.607  1.00  0.00
ATOM    770  CA  ALA A  86      38.732  33.215   7.496  1.00  0.00
ATOM    771  C   ALA A  86      39.618  33.834   6.424  1.00  0.00
ATOM    772  O   ALA A  86      40.443  33.152   5.804  1.00  0.00
ATOM    773  CB  ALA A  86      37.359  32.921   6.903  1.00  0.00
ATOM    774  H   ALA A  86      37.721  34.550   8.829  1.00  0.00
ATOM    775  HA  ALA A  86      39.200  32.299   7.856  1.00  0.00
ATOM    776 1HB  ALA A  86      37.464  32.219   6.075  1.00  0.00
ATOM    777 2HB  ALA A  86      36.717  32.485   7.669  1.00  0.00
ATOM    778 3HB  ALA A  86      36.914  33.846   6.540  1.00  0.00
ATOM    779  N   THR A  87      39.445  35.139   6.224  1.00  0.00
ATOM    780  CA  THR A  87      40.210  35.876   5.235  1.00  0.00
ATOM    781  C   THR A  87      41.701  35.902   5.558  1.00  0.00
ATOM    782  O   THR A  87      42.533  35.831   4.656  1.00  0.00
ATOM    783  CB  THR A  87      39.579  37.253   5.078  1.00  0.00
ATOM    784  OG1 THR A  87      38.188  37.078   4.797  1.00  0.00
ATOM    785  CG2 THR A  87      40.253  38.096   3.993  1.00  0.00
ATOM    786  H   THR A  87      38.759  35.629   6.780  1.00  0.00
ATOM    787  HA  THR A  87      40.128  35.386   4.265  1.00  0.00
ATOM    788  HB  THR A  87      39.657  37.789   6.024  1.00  0.00
ATOM    789  HG1 THR A  87      37.982  36.140   4.774  1.00  0.00
ATOM    790 1HG2 THR A  87      39.760  39.066   3.928  1.00  0.00
ATOM    791 2HG2 THR A  87      41.304  38.238   4.244  1.00  0.00
ATOM    792 3HG2 THR A  87      40.174  37.584   3.035  1.00  0.00
ATOM    793  N   ALA A  88      42.046  36.010   6.834  1.00  0.00
ATOM    794  CA  ALA A  88      43.455  36.028   7.205  1.00  0.00
ATOM    795  C   ALA A  88      44.100  34.663   6.925  1.00  0.00
ATOM    796  O   ALA A  88      45.259  34.588   6.502  1.00  0.00
ATOM    797  CB  ALA A  88      43.610  36.374   8.687  1.00  0.00
ATOM    798  H   ALA A  88      41.346  36.080   7.558  1.00  0.00
ATOM    799  HA  ALA A  88      43.968  36.770   6.593  1.00  0.00
ATOM    800 1HB  ALA A  88      44.668  36.384   8.949  1.00  0.00
ATOM    801 2HB  ALA A  88      43.180  37.357   8.878  1.00  0.00
ATOM    802 3HB  ALA A  88      43.095  35.628   9.290  1.00  0.00
ATOM    803  N   LEU A  89      43.350  33.586   7.146  1.00  0.00
ATOM    804  CA  LEU A  89      43.881  32.248   6.900  1.00  0.00
ATOM    805  C   LEU A  89      44.070  32.009   5.412  1.00  0.00
ATOM    806  O   LEU A  89      45.096  31.482   4.979  1.00  0.00
ATOM    807  CB  LEU A  89      42.951  31.184   7.498  1.00  0.00
ATOM    808  CG  LEU A  89      42.909  31.141   9.031  1.00  0.00
ATOM    809  CD1 LEU A  89      41.699  30.344   9.497  1.00  0.00
ATOM    810  CD2 LEU A  89      44.197  30.524   9.558  1.00  0.00
ATOM    811  H   LEU A  89      42.404  33.685   7.487  1.00  0.00
ATOM    812  HA  LEU A  89      44.864  32.155   7.361  1.00  0.00
ATOM    813 1HB  LEU A  89      42.000  31.542   7.108  1.00  0.00
ATOM    814 2HB  LEU A  89      43.160  30.193   7.095  1.00  0.00
ATOM    815  HG  LEU A  89      42.865  32.172   9.383  1.00  0.00
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ATOM    816 1HD1 LEU A  89      41.677  30.319  10.587  1.00  0.00
ATOM    817 2HD1 LEU A  89      40.788  30.817   9.128  1.00  0.00
ATOM    818 3HD1 LEU A  89      41.762  29.327   9.113  1.00  0.00
ATOM    819 1HD2 LEU A  89      44.166  30.495  10.647  1.00  0.00
ATOM    820 2HD2 LEU A  89      44.301  29.511   9.169  1.00  0.00
ATOM    821 3HD2 LEU A  89      45.047  31.126   9.235  1.00  0.00
ATOM    822  N   SER A  90      43.075  32.402   4.627  1.00  0.00
ATOM    823  CA  SER A  90      43.137  32.211   3.183  1.00  0.00
ATOM    824  C   SER A  90      44.247  33.046   2.546  1.00  0.00
ATOM    825  O   SER A  90      44.881  32.627   1.584  1.00  0.00
ATOM    826  CB  SER A  90      41.723  32.569   2.691  1.00  0.00
ATOM    827  OG  SER A  90      41.444  32.117   1.359  1.00  0.00
ATOM    828  H   SER A  90      42.260  32.841   5.031  1.00  0.00
ATOM    829  HA  SER A  90      43.255  31.167   2.889  1.00  0.00
ATOM    830 1HB  SER A  90      40.995  32.115   3.363  1.00  0.00
ATOM    831 2HB  SER A  90      41.609  33.652   2.713  1.00  0.00
ATOM    832  HG  SER A  90      42.213  31.661   1.009  1.00  0.00
ATOM    833  N   ALA A  91      44.476  34.235   3.087  1.00  0.00
ATOM    834  CA  ALA A  91      45.519  35.112   2.577  1.00  0.00
ATOM    835  C   ALA A  91      46.862  34.427   2.834  1.00  0.00
ATOM    836  O   ALA A  91      47.673  34.253   1.922  1.00  0.00
ATOM    837  CB  ALA A  91      45.465  36.428   3.347  1.00  0.00
ATOM    838  H   ALA A  91      43.916  34.540   3.870  1.00  0.00
ATOM    839  HA  ALA A  91      45.374  35.240   1.504  1.00  0.00
ATOM    840 1HB  ALA A  91      46.241  37.097   2.976  1.00  0.00
ATOM    841 2HB  ALA A  91      44.489  36.892   3.207  1.00  0.00
ATOM    842 3HB  ALA A  91      45.628  36.236   4.406  1.00  0.00
ATOM    843  N   LEU A  92      47.080  34.022   4.081  1.00  0.00
ATOM    844  CA  LEU A  92      48.313  33.351   4.470  1.00  0.00
ATOM    845  C   LEU A  92      48.600  32.125   3.596  1.00  0.00
ATOM    846  O   LEU A  92      49.740  31.893   3.193  1.00  0.00
ATOM    847  CB  LEU A  92      48.192  32.950   5.942  1.00  0.00
ATOM    848  CG  LEU A  92      49.479  32.430   6.580  1.00  0.00
ATOM    849  CD1 LEU A  92      50.560  33.508   6.618  1.00  0.00
ATOM    850  CD2 LEU A  92      49.221  31.842   7.968  1.00  0.00
ATOM    851  H   LEU A  92      46.368  34.186   4.778  1.00  0.00
ATOM    852  HA  LEU A  92      49.157  34.025   4.325  1.00  0.00
ATOM    853 1HB  LEU A  92      47.927  33.917   6.368  1.00  0.00
ATOM    854 2HB  LEU A  92      47.375  32.246   6.103  1.00  0.00
ATOM    855  HG  LEU A  92      49.845  31.616   5.954  1.00  0.00
ATOM    856 1HD1 LEU A  92      51.462  33.104   7.078  1.00  0.00
ATOM    857 2HD1 LEU A  92      50.786  33.832   5.602  1.00  0.00
ATOM    858 3HD1 LEU A  92      50.206  34.358   7.201  1.00  0.00
ATOM    859 1HD2 LEU A  92      50.160  31.482   8.390  1.00  0.00
ATOM    860 2HD2 LEU A  92      48.802  32.611   8.617  1.00  0.00
ATOM    861 3HD2 LEU A  92      48.518  31.013   7.887  1.00  0.00
ATOM    862  N   SER A  93      47.562  31.348   3.299  1.00  0.00
ATOM    863  CA  SER A  93      47.716  30.146   2.487  1.00  0.00
ATOM    864  C   SER A  93      48.357  30.406   1.121  1.00  0.00
ATOM    865  O   SER A  93      48.612  29.468   0.362  1.00  0.00
ATOM    866  CB  SER A  93      46.363  29.487   2.305  1.00  0.00
ATOM    867  OG  SER A  93      45.575  30.155   1.357  1.00  0.00
ATOM    868  H   SER A  93      46.645  31.595   3.643  1.00  0.00
ATOM    869  HA  SER A  93      48.284  29.358   2.983  1.00  0.00
ATOM    870 1HB  SER A  93      46.517  28.460   1.976  1.00  0.00
ATOM    871 2HB  SER A  93      45.842  29.487   3.261  1.00  0.00
ATOM    872  HG  SER A  93      45.685  31.103   1.462  1.00  0.00
ATOM    873  N   LEU A  94      48.612  31.671   0.802  1.00  0.00
ATOM    874  CA  LEU A  94      49.245  32.004  -0.465  1.00  0.00
ATOM    875  C   LEU A  94      50.732  31.683  -0.390  1.00  0.00
ATOM    876  O   LEU A  94      51.312  31.142  -1.329  1.00  0.00
ATOM    877  CB  LEU A  94      49.023  33.482  -0.809  1.00  0.00
ATOM    878  CG  LEU A  94      47.610  33.834  -1.294  1.00  0.00
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ATOM    879  CD1 LEU A  94      47.474  35.343  -1.453  1.00  0.00
ATOM    880  CD2 LEU A  94      47.333  33.125  -2.611  1.00  0.00
ATOM    881  H   LEU A  94      48.367  32.415   1.440  1.00  0.00
ATOM    882  HA  LEU A  94      48.817  31.393  -1.259  1.00  0.00
ATOM    883 1HB  LEU A  94      49.202  33.921   0.171  1.00  0.00
ATOM    884 2HB  LEU A  94      49.769  33.849  -1.513  1.00  0.00
ATOM    885  HG  LEU A  94      46.909  33.449  -0.553  1.00  0.00
ATOM    886 1HD1 LEU A  94      46.468  35.583  -1.798  1.00  0.00
ATOM    887 2HD1 LEU A  94      47.654  35.828  -0.494  1.00  0.00
ATOM    888 3HD1 LEU A  94      48.201  35.698  -2.183  1.00  0.00
ATOM    889 1HD2 LEU A  94      46.329  33.376  -2.954  1.00  0.00
ATOM    890 2HD2 LEU A  94      48.062  33.444  -3.357  1.00  0.00
ATOM    891 3HD2 LEU A  94      47.408  32.047  -2.467  1.00  0.00
ATOM    892  N   GLY A  95      51.350  32.014   0.735  1.00  0.00
ATOM    893  CA  GLY A  95      52.767  31.746   0.886  1.00  0.00
ATOM    894  C   GLY A  95      52.998  30.430   1.590  1.00  0.00
ATOM    895  O   GLY A  95      53.922  30.311   2.391  1.00  0.00
ATOM    896  H   GLY A  95      50.849  32.452   1.494  1.00  0.00
ATOM    897 1HA  GLY A  95      53.230  31.709  -0.100  1.00  0.00
ATOM    898 2HA  GLY A  95      53.221  32.547   1.469  1.00  0.00
ATOM    899  N   ALA A  96      52.156  29.443   1.295  1.00  0.00
ATOM    900  CA  ALA A  96      52.272  28.127   1.916  1.00  0.00
ATOM    901  C   ALA A  96      52.518  27.062   0.864  1.00  0.00
ATOM    902  O   ALA A  96      52.180  27.244  -0.307  1.00  0.00
ATOM    903  CB  ALA A  96      50.986  27.768   2.661  1.00  0.00
ATOM    904  H   ALA A  96      51.418  29.608   0.625  1.00  0.00
ATOM    905  HA  ALA A  96      53.128  28.133   2.591  1.00  0.00
ATOM    906 1HB  ALA A  96      51.093  26.784   3.117  1.00  0.00
ATOM    907 2HB  ALA A  96      50.796  28.508   3.438  1.00  0.00
ATOM    908 3HB  ALA A  96      50.152  27.754   1.961  1.00  0.00
ATOM    909  N   ASP A  97      53.101  25.943   1.280  1.00  0.00
ATOM    910  CA  ASP A  97      53.373  24.874   0.339  1.00  0.00
ATOM    911  C   ASP A  97      52.367  23.730   0.463  1.00  0.00
ATOM    912  O   ASP A  97      51.745  23.539   1.513  1.00  0.00
ATOM    913  CB  ASP A  97      54.796  24.347   0.540  1.00  0.00
ATOM    914  CG  ASP A  97      55.314  23.484  -0.602  1.00  0.00
ATOM    915  OD1 ASP A  97      54.644  23.393  -1.604  1.00  0.00
ATOM    916  OD2 ASP A  97      56.440  23.052  -0.530  1.00  0.00
ATOM    917  H   ASP A  97      53.360  25.823   2.249  1.00  0.00
ATOM    918  HA  ASP A  97      53.277  25.247  -0.681  1.00  0.00
ATOM    919 1HB  ASP A  97      55.522  25.129   0.762  1.00  0.00
ATOM    920 2HB  ASP A  97      54.647  23.726   1.425  1.00  0.00
ATOM    921  N   GLU A  98      52.221  22.985  -0.630  1.00  0.00
ATOM    922  CA  GLU A  98      51.319  21.843  -0.723  1.00  0.00
ATOM    923  C   GLU A  98      50.702  21.355   0.580  1.00  0.00
ATOM    924  O   GLU A  98      49.563  21.687   0.887  1.00  0.00
ATOM    925  CB  GLU A  98      52.059  20.677  -1.382  1.00  0.00
ATOM    926  CG  GLU A  98      51.208  19.435  -1.600  1.00  0.00
ATOM    927  CD  GLU A  98      52.050  18.264  -2.027  1.00  0.00
ATOM    928  OE1 GLU A  98      53.240  18.425  -2.148  1.00  0.00
ATOM    929  OE2 GLU A  98      51.521  17.182  -2.123  1.00  0.00
ATOM    930  H   GLU A  98      52.776  23.240  -1.434  1.00  0.00
ATOM    931  HA  GLU A  98      50.449  22.107  -1.326  1.00  0.00
ATOM    932 1HB  GLU A  98      52.428  21.037  -2.343  1.00  0.00
ATOM    933 2HB  GLU A  98      52.903  20.430  -0.738  1.00  0.00
ATOM    934 1HG  GLU A  98      50.616  19.156  -0.729  1.00  0.00
ATOM    935 2HG  GLU A  98      50.543  19.719  -2.415  1.00  0.00
ATOM    936  N   ARG A  99      51.456  20.560   1.335  1.00  0.00
ATOM    937  CA  ARG A  99      50.976  19.990   2.589  1.00  0.00
ATOM    938  C   ARG A  99      50.323  20.992   3.537  1.00  0.00
ATOM    939  O   ARG A  99      49.246  20.719   4.067  1.00  0.00
ATOM    940  CB  ARG A  99      52.083  19.225   3.300  1.00  0.00
ATOM    941  CG  ARG A  99      52.483  17.916   2.638  1.00  0.00
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ATOM    942  CD  ARG A  99      53.596  17.203   3.315  1.00  0.00
ATOM    943  NE  ARG A  99      54.008  15.971   2.662  1.00  0.00
ATOM    944  CZ  ARG A  99      55.068  15.226   3.032  1.00  0.00
ATOM    945  NH1 ARG A  99      55.847  15.601   4.023  1.00  0.00
ATOM    946  NH2 ARG A  99      55.320  14.119   2.356  1.00  0.00
ATOM    947  H   ARG A  99      52.393  20.347   1.024  1.00  0.00
ATOM    948  HA  ARG A  99      50.191  19.261   2.386  1.00  0.00
ATOM    949 1HB  ARG A  99      52.948  19.885   3.343  1.00  0.00
ATOM    950 2HB  ARG A  99      51.730  19.023   4.311  1.00  0.00
ATOM    951 1HG  ARG A  99      51.617  17.254   2.628  1.00  0.00
ATOM    952 2HG  ARG A  99      52.791  18.126   1.614  1.00  0.00
ATOM    953 1HD  ARG A  99      54.465  17.859   3.353  1.00  0.00
ATOM    954 2HD  ARG A  99      53.289  16.948   4.329  1.00  0.00
ATOM    955  HE  ARG A  99      53.599  15.493   1.870  1.00  0.00
ATOM    956 1HH1 ARG A  99      55.651  16.460   4.518  1.00  0.00
ATOM    957 2HH1 ARG A  99      56.636  15.029   4.285  1.00  0.00
ATOM    958 1HH2 ARG A  99      54.722  13.854   1.585  1.00  0.00
ATOM    959 2HH2 ARG A  99      56.108  13.543   2.612  1.00  0.00
ATOM    960  N   THR A 100      50.961  22.141   3.752  1.00  0.00
ATOM    961  CA  THR A 100      50.419  23.159   4.655  1.00  0.00
ATOM    962  C   THR A 100      49.189  23.837   4.056  1.00  0.00
ATOM    963  O   THR A 100      48.175  24.042   4.730  1.00  0.00
ATOM    964  CB  THR A 100      51.469  24.234   4.990  1.00  0.00
ATOM    965  OG1 THR A 100      52.583  23.626   5.657  1.00  0.00
ATOM    966  CG2 THR A 100      50.869  25.305   5.888  1.00  0.00
ATOM    967  H   THR A 100      51.838  22.316   3.283  1.00  0.00
ATOM    968  HA  THR A 100      50.090  22.691   5.583  1.00  0.00
ATOM    969  HB  THR A 100      51.817  24.690   4.064  1.00  0.00
ATOM    970  HG1 THR A 100      52.778  22.780   5.247  1.00  0.00
ATOM    971 1HG2 THR A 100      51.626  26.056   6.113  1.00  0.00
ATOM    972 2HG2 THR A 100      50.029  25.777   5.378  1.00  0.00
ATOM    973 3HG2 THR A 100      50.522  24.849   6.814  1.00  0.00
ATOM    974  N   GLU A 101      49.292  24.180   2.778  1.00  0.00
ATOM    975  CA  GLU A 101      48.197  24.817   2.055  1.00  0.00
ATOM    976  C   GLU A 101      46.912  23.997   2.177  1.00  0.00
ATOM    977  O   GLU A 101      45.854  24.542   2.484  1.00  0.00
ATOM    978  CB  GLU A 101      48.566  25.007   0.582  1.00  0.00
ATOM    979  CG  GLU A 101      47.498  25.703  -0.249  1.00  0.00
ATOM    980  CD  GLU A 101      47.963  25.924  -1.662  1.00  0.00
ATOM    981  OE1 GLU A 101      48.336  24.970  -2.301  1.00  0.00
ATOM    982  OE2 GLU A 101      47.840  27.027  -2.140  1.00  0.00
ATOM    983  H   GLU A 101      50.158  23.992   2.293  1.00  0.00
ATOM    984  HA  GLU A 101      47.986  25.795   2.490  1.00  0.00
ATOM    985 1HB  GLU A 101      49.484  25.594   0.557  1.00  0.00
ATOM    986 2HB  GLU A 101      48.757  24.015   0.171  1.00  0.00
ATOM    987 1HG  GLU A 101      46.545  25.174  -0.260  1.00  0.00
ATOM    988 2HG  GLU A 101      47.373  26.664   0.247  1.00  0.00
ATOM    989  N   SER A 102      47.020  22.690   1.931  1.00  0.00
ATOM    990  CA  SER A 102      45.886  21.773   2.011  1.00  0.00
ATOM    991  C   SER A 102      45.248  21.821   3.384  1.00  0.00
ATOM    992  O   SER A 102      44.026  21.949   3.497  1.00  0.00
ATOM    993  CB  SER A 102      46.326  20.359   1.685  1.00  0.00
ATOM    994  OG  SER A 102      45.266  19.446   1.767  1.00  0.00
ATOM    995  H   SER A 102      47.929  22.328   1.679  1.00  0.00
ATOM    996  HA  SER A 102      45.134  21.946   1.240  1.00  0.00
ATOM    997 1HB  SER A 102      46.729  20.345   0.672  1.00  0.00
ATOM    998 2HB  SER A 102      47.104  20.064   2.388  1.00  0.00
ATOM    999  HG  SER A 102      45.487  18.655   1.269  1.00  0.00
ATOM   1000  N   ILE A 103      46.073  21.708   4.425  1.00  0.00
ATOM   1001  CA  ILE A 103      45.576  21.768   5.794  1.00  0.00
ATOM   1002  C   ILE A 103      44.639  22.972   5.901  1.00  0.00
ATOM   1003  O   ILE A 103      43.522  22.859   6.406  1.00  0.00
ATOM   1004  CB  ILE A 103      46.713  21.890   6.825  1.00  0.00
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ATOM   1005  CG1 ILE A 103      47.479  20.570   6.934  1.00  0.00
ATOM   1006  CG2 ILE A 103      46.159  22.301   8.181  1.00  0.00
ATOM   1007  CD1 ILE A 103      46.643  19.419   7.446  1.00  0.00
ATOM   1008  H   ILE A 103      47.062  21.578   4.266  1.00  0.00
ATOM   1009  HA  ILE A 103      44.981  20.885   6.026  1.00  0.00
ATOM   1010  HB  ILE A 103      47.425  22.639   6.481  1.00  0.00
ATOM   1011 1HG1 ILE A 103      47.857  20.331   5.941  1.00  0.00
ATOM   1012 2HG1 ILE A 103      48.318  20.737   7.610  1.00  0.00
ATOM   1013 1HG2 ILE A 103      46.975  22.383   8.898  1.00  0.00
ATOM   1014 2HG2 ILE A 103      45.657  23.264   8.092  1.00  0.00
ATOM   1015 3HG2 ILE A 103      45.447  21.552   8.526  1.00  0.00
ATOM   1016 1HD1 ILE A 103      47.255  18.518   7.496  1.00  0.00
ATOM   1017 2HD1 ILE A 103      46.265  19.656   8.441  1.00  0.00
ATOM   1018 3HD1 ILE A 103      45.805  19.249   6.771  1.00  0.00
ATOM   1019  N   ILE A 104      45.092  24.119   5.406  1.00  0.00
ATOM   1020  CA  ILE A 104      44.281  25.329   5.457  1.00  0.00
ATOM   1021  C   ILE A 104      43.056  25.221   4.555  1.00  0.00
ATOM   1022  O   ILE A 104      41.927  25.433   5.003  1.00  0.00
ATOM   1023  CB  ILE A 104      45.097  26.570   5.050  1.00  0.00
ATOM   1024  CG1 ILE A 104      46.184  26.858   6.089  1.00  0.00
ATOM   1025  CG2 ILE A 104      44.184  27.774   4.881  1.00  0.00
ATOM   1026  CD1 ILE A 104      47.198  27.886   5.643  1.00  0.00
ATOM   1027  H   ILE A 104      46.010  24.159   4.987  1.00  0.00
ATOM   1028  HA  ILE A 104      43.871  25.475   6.456  1.00  0.00
ATOM   1029  HB  ILE A 104      45.608  26.366   4.110  1.00  0.00
ATOM   1030 1HG1 ILE A 104      45.684  27.209   6.992  1.00  0.00
ATOM   1031 2HG1 ILE A 104      46.690  25.916   6.298  1.00  0.00
ATOM   1032 1HG2 ILE A 104      44.777  28.643   4.594  1.00  0.00
ATOM   1033 2HG2 ILE A 104      43.447  27.567   4.106  1.00  0.00
ATOM   1034 3HG2 ILE A 104      43.674  27.979   5.822  1.00  0.00
ATOM   1035 1HD1 ILE A 104      47.936  28.037   6.431  1.00  0.00
ATOM   1036 2HD1 ILE A 104      47.699  27.536   4.740  1.00  0.00
ATOM   1037 3HD1 ILE A 104      46.694  28.829   5.434  1.00  0.00
ATOM   1038  N   HIS A 105      43.270  24.887   3.289  1.00  0.00
ATOM   1039  CA  HIS A 105      42.154  24.780   2.358  1.00  0.00
ATOM   1040  C   HIS A 105      41.039  23.865   2.827  1.00  0.00
ATOM   1041  O   HIS A 105      39.870  24.105   2.526  1.00  0.00
ATOM   1042  CB  HIS A 105      42.657  24.299   0.993  1.00  0.00
ATOM   1043  CG  HIS A 105      43.330  25.368   0.189  1.00  0.00
ATOM   1044  ND1 HIS A 105      43.760  25.166  -1.105  1.00  0.00
ATOM   1045  CD2 HIS A 105      43.647  26.648   0.496  1.00  0.00
ATOM   1046  CE1 HIS A 105      44.313  26.277  -1.561  1.00  0.00
ATOM   1047  NE2 HIS A 105      44.257  27.190  -0.609  1.00  0.00
ATOM   1048  H   HIS A 105      44.206  24.704   2.958  1.00  0.00
ATOM   1049  HA  HIS A 105      41.681  25.754   2.240  1.00  0.00
ATOM   1050 1HB  HIS A 105      43.388  23.500   1.122  1.00  0.00
ATOM   1051 2HB  HIS A 105      41.824  23.935   0.393  1.00  0.00
ATOM   1052  HD2 HIS A 105      43.507  27.251   1.393  1.00  0.00
ATOM   1053  HE1 HIS A 105      44.716  26.322  -2.572  1.00  0.00
ATOM   1054  HE2 HIS A 105      44.604  28.137  -0.673  1.00  0.00
ATOM   1055  N   ARG A 106      41.394  22.820   3.565  1.00  0.00
ATOM   1056  CA  ARG A 106      40.397  21.876   4.031  1.00  0.00
ATOM   1057  C   ARG A 106      39.534  22.421   5.163  1.00  0.00
ATOM   1058  O   ARG A 106      38.377  22.029   5.306  1.00  0.00
ATOM   1059  CB  ARG A 106      41.030  20.547   4.417  1.00  0.00
ATOM   1060  CG  ARG A 106      41.605  19.751   3.256  1.00  0.00
ATOM   1061  CD  ARG A 106      42.286  18.493   3.654  1.00  0.00
ATOM   1062  NE  ARG A 106      41.409  17.493   4.243  1.00  0.00
ATOM   1063  CZ  ARG A 106      41.832  16.363   4.842  1.00  0.00
ATOM   1064  NH1 ARG A 106      43.111  16.064   4.900  1.00  0.00
ATOM   1065  NH2 ARG A 106      40.923  15.548   5.348  1.00  0.00
ATOM   1066  H   ARG A 106      42.363  22.673   3.809  1.00  0.00
ATOM   1067  HA  ARG A 106      39.699  21.648   3.225  1.00  0.00
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ATOM   1068 1HB  ARG A 106      41.823  20.768   5.129  1.00  0.00
ATOM   1069 2HB  ARG A 106      40.255  19.957   4.907  1.00  0.00
ATOM   1070 1HG  ARG A 106      40.792  19.493   2.576  1.00  0.00
ATOM   1071 2HG  ARG A 106      42.330  20.376   2.734  1.00  0.00
ATOM   1072 1HD  ARG A 106      42.745  18.045   2.773  1.00  0.00
ATOM   1073 2HD  ARG A 106      43.057  18.724   4.388  1.00  0.00
ATOM   1074  HE  ARG A 106      40.400  17.475   4.301  1.00  0.00
ATOM   1075 1HH1 ARG A 106      43.791  16.689   4.492  1.00  0.00
ATOM   1076 2HH1 ARG A 106      43.407  15.212   5.353  1.00  0.00
ATOM   1077 1HH2 ARG A 106      39.942  15.783   5.279  1.00  0.00
ATOM   1078 2HH2 ARG A 106      41.212  14.693   5.801  1.00  0.00
ATOM   1079  N   ALA A 107      40.091  23.326   5.961  1.00  0.00
ATOM   1080  CA  ALA A 107      39.349  23.918   7.069  1.00  0.00
ATOM   1081  C   ALA A 107      38.432  25.023   6.545  1.00  0.00
ATOM   1082  O   ALA A 107      37.505  25.459   7.223  1.00  0.00
ATOM   1083  CB  ALA A 107      40.307  24.503   8.109  1.00  0.00
ATOM   1084  H   ALA A 107      41.046  23.612   5.800  1.00  0.00
ATOM   1085  HA  ALA A 107      38.727  23.147   7.525  1.00  0.00
ATOM   1086 1HB  ALA A 107      39.733  24.939   8.926  1.00  0.00
ATOM   1087 2HB  ALA A 107      40.949  23.713   8.498  1.00  0.00
ATOM   1088 3HB  ALA A 107      40.920  25.274   7.645  1.00  0.00
ATOM   1089  N   LEU A 108      38.699  25.465   5.325  1.00  0.00
ATOM   1090  CA  LEU A 108      37.911  26.513   4.703  1.00  0.00
ATOM   1091  C   LEU A 108      36.908  25.948   3.711  1.00  0.00
ATOM   1092  O   LEU A 108      36.189  26.707   3.063  1.00  0.00
ATOM   1093  CB  LEU A 108      38.834  27.523   4.009  1.00  0.00
ATOM   1094  CG  LEU A 108      39.812  28.257   4.936  1.00  0.00
ATOM   1095  CD1 LEU A 108      40.737  29.148   4.118  1.00  0.00
ATOM   1096  CD2 LEU A 108      39.032  29.078   5.951  1.00  0.00
ATOM   1097  H   LEU A 108      39.472  25.062   4.815  1.00  0.00
ATOM   1098  HA  LEU A 108      37.327  27.030   5.463  1.00  0.00
ATOM   1099 1HB  LEU A 108      39.378  26.844   3.354  1.00  0.00
ATOM   1100 2HB  LEU A 108      38.272  28.236   3.407  1.00  0.00
ATOM   1101  HG  LEU A 108      40.373  27.498   5.481  1.00  0.00
ATOM   1102 1HD1 LEU A 108      41.428  29.665   4.784  1.00  0.00
ATOM   1103 2HD1 LEU A 108      41.302  28.537   3.414  1.00  0.00
ATOM   1104 3HD1 LEU A 108      40.145  29.880   3.570  1.00  0.00
ATOM   1105 1HD2 LEU A 108      39.728  29.598   6.610  1.00  0.00
ATOM   1106 2HD2 LEU A 108      38.410  29.806   5.431  1.00  0.00
ATOM   1107 3HD2 LEU A 108      38.398  28.418   6.544  1.00  0.00
ATOM   1108  N   TYR A 109      36.865  24.618   3.607  1.00  0.00
ATOM   1109  CA  TYR A 109      35.949  23.905   2.703  1.00  0.00
ATOM   1110  C   TYR A 109      36.218  24.136   1.223  1.00  0.00
ATOM   1111  O   TYR A 109      35.354  23.923   0.376  1.00  0.00
ATOM   1112  CB  TYR A 109      34.522  24.011   3.257  1.00  0.00
ATOM   1113  CG  TYR A 109      34.626  23.556   4.704  1.00  0.00
ATOM   1114  CD1 TYR A 109      35.123  22.287   4.986  1.00  0.00
ATOM   1115  CD2 TYR A 109      34.282  24.399   5.759  1.00  0.00
ATOM   1116  CE1 TYR A 109      35.341  21.889   6.302  1.00  0.00
ATOM   1117  CE2 TYR A 109      34.493  23.996   7.078  1.00  0.00
ATOM   1118  CZ  TYR A 109      35.046  22.747   7.356  1.00  0.00
ATOM   1119  OH  TYR A 109      35.308  22.348   8.662  1.00  0.00
ATOM   1120  H   TYR A 109      37.500  24.085   4.185  1.00  0.00
ATOM   1121  HA  TYR A 109      36.059  22.829   2.838  1.00  0.00
ATOM   1122 1HB  TYR A 109      34.209  25.050   3.146  1.00  0.00
ATOM   1123 2HB  TYR A 109      33.889  23.373   2.641  1.00  0.00
ATOM   1124  HD1 TYR A 109      35.337  21.610   4.159  1.00  0.00
ATOM   1125  HD2 TYR A 109      33.847  25.373   5.534  1.00  0.00
ATOM   1126  HE1 TYR A 109      35.730  20.895   6.519  1.00  0.00
ATOM   1127  HE2 TYR A 109      34.224  24.659   7.900  1.00  0.00
ATOM   1128  HH  TYR A 109      35.070  23.013   9.313  1.00  0.00
ATOM   1129  N   TYR A 110      37.430  24.571   0.923  1.00  0.00
ATOM   1130  CA  TYR A 110      37.824  24.826  -0.445  1.00  0.00
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ATOM   1131  C   TYR A 110      37.948  23.525  -1.234  1.00  0.00
ATOM   1132  O   TYR A 110      37.736  23.506  -2.448  1.00  0.00
ATOM   1133  CB  TYR A 110      39.146  25.597  -0.481  1.00  0.00
ATOM   1134  CG  TYR A 110      39.041  27.017   0.030  1.00  0.00
ATOM   1135  CD1 TYR A 110      37.806  27.628   0.189  1.00  0.00
ATOM   1136  CD2 TYR A 110      40.179  27.741   0.354  1.00  0.00
ATOM   1137  CE1 TYR A 110      37.705  28.925   0.654  1.00  0.00
ATOM   1138  CE2 TYR A 110      40.090  29.038   0.821  1.00  0.00
ATOM   1139  CZ  TYR A 110      38.851  29.627   0.970  1.00  0.00
ATOM   1140  OH  TYR A 110      38.757  30.918   1.436  1.00  0.00
ATOM   1141  H   TYR A 110      38.097  24.729   1.665  1.00  0.00
ATOM   1142  HA  TYR A 110      37.059  25.420  -0.946  1.00  0.00
ATOM   1143 1HB  TYR A 110      39.859  25.042   0.130  1.00  0.00
ATOM   1144 2HB  TYR A 110      39.484  25.607  -1.516  1.00  0.00
ATOM   1145  HD1 TYR A 110      36.906  27.067  -0.063  1.00  0.00
ATOM   1146  HD2 TYR A 110      41.154  27.271   0.233  1.00  0.00
ATOM   1147  HE1 TYR A 110      36.728  29.393   0.774  1.00  0.00
ATOM   1148  HE2 TYR A 110      40.996  29.591   1.069  1.00  0.00
ATOM   1149  HH  TYR A 110      39.574  31.413   1.337  1.00  0.00
ATOM   1150  N   ASP A 111      38.304  22.441  -0.548  1.00  0.00
ATOM   1151  CA  ASP A 111      38.461  21.154  -1.217  1.00  0.00
ATOM   1152  C   ASP A 111      37.141  20.587  -1.753  1.00  0.00
ATOM   1153  O   ASP A 111      37.101  19.496  -2.321  1.00  0.00
ATOM   1154  CB  ASP A 111      39.105  20.147  -0.260  1.00  0.00
ATOM   1155  CG  ASP A 111      38.243  19.780   0.940  1.00  0.00
ATOM   1156  OD1 ASP A 111      37.259  20.445   1.166  1.00  0.00
ATOM   1157  OD2 ASP A 111      38.482  18.751   1.525  1.00  0.00
ATOM   1158  H   ASP A 111      38.469  22.502   0.447  1.00  0.00
ATOM   1159  HA  ASP A 111      39.100  21.269  -2.093  1.00  0.00
ATOM   1160 1HB  ASP A 111      39.447  19.237  -0.753  1.00  0.00
ATOM   1161 2HB  ASP A 111      39.966  20.726   0.075  1.00  0.00
ATOM   1162  N   LEU A 112      36.063  21.342  -1.579  1.00  0.00
ATOM   1163  CA  LEU A 112      34.756  20.922  -2.058  1.00  0.00
ATOM   1164  C   LEU A 112      34.270  21.904  -3.110  1.00  0.00
ATOM   1165  O   LEU A 112      33.089  21.928  -3.452  1.00  0.00
ATOM   1166  CB  LEU A 112      33.757  20.825  -0.898  1.00  0.00
ATOM   1167  CG  LEU A 112      34.104  19.788   0.178  1.00  0.00
ATOM   1168  CD1 LEU A 112      33.124  19.892   1.338  1.00  0.00
ATOM   1169  CD2 LEU A 112      34.074  18.394  -0.430  1.00  0.00
ATOM   1170  H   LEU A 112      36.151  22.229  -1.103  1.00  0.00
ATOM   1171  HA  LEU A 112      34.837  19.944  -2.530  1.00  0.00
ATOM   1172 1HB  LEU A 112      33.856  21.831  -0.494  1.00  0.00
ATOM   1173 2HB  LEU A 112      32.738  20.676  -1.255  1.00  0.00
ATOM   1174  HG  LEU A 112      35.126  19.989   0.503  1.00  0.00
ATOM   1175 1HD1 LEU A 112      33.379  19.153   2.098  1.00  0.00
ATOM   1176 2HD1 LEU A 112      33.179  20.890   1.773  1.00  0.00
ATOM   1177 3HD1 LEU A 112      32.113  19.708   0.978  1.00  0.00
ATOM   1178 1HD2 LEU A 112      34.322  17.658   0.336  1.00  0.00
ATOM   1179 2HD2 LEU A 112      33.078  18.189  -0.823  1.00  0.00
ATOM   1180 3HD2 LEU A 112      34.802  18.334  -1.239  1.00  0.00
ATOM   1181  N   ILE A 113      35.194  22.715  -3.615  1.00  0.00
ATOM   1182  CA  ILE A 113      34.893  23.700  -4.649  1.00  0.00
ATOM   1183  C   ILE A 113      35.724  23.337  -5.882  1.00  0.00
ATOM   1184  O   ILE A 113      36.950  23.491  -5.885  1.00  0.00
ATOM   1185  CB  ILE A 113      35.207  25.139  -4.202  1.00  0.00
ATOM   1186  CG1 ILE A 113      34.391  25.502  -2.958  1.00  0.00
ATOM   1187  CG2 ILE A 113      34.929  26.120  -5.331  1.00  0.00
ATOM   1188  CD1 ILE A 113      34.773  26.830  -2.344  1.00  0.00
ATOM   1189  H   ILE A 113      36.139  22.642  -3.265  1.00  0.00
ATOM   1190  HA  ILE A 113      33.845  23.642  -4.941  1.00  0.00
ATOM   1191  HB  ILE A 113      36.257  25.202  -3.917  1.00  0.00
ATOM   1192 1HG1 ILE A 113      33.343  25.527  -3.254  1.00  0.00
ATOM   1193 2HG1 ILE A 113      34.543  24.707  -2.228  1.00  0.00
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ATOM   1194 1HG2 ILE A 113      35.155  27.132  -4.997  1.00  0.00
ATOM   1195 2HG2 ILE A 113      35.551  25.873  -6.189  1.00  0.00
ATOM   1196 3HG2 ILE A 113      33.878  26.059  -5.615  1.00  0.00
ATOM   1197 1HD1 ILE A 113      34.152  27.018  -1.467  1.00  0.00
ATOM   1198 2HD1 ILE A 113      35.822  26.806  -2.046  1.00  0.00
ATOM   1199 3HD1 ILE A 113      34.621  27.626  -3.072  1.00  0.00
ATOM   1200  N   SER A 114      35.070  22.843  -6.925  1.00  0.00
ATOM   1201  CA  SER A 114      35.789  22.468  -8.135  1.00  0.00
ATOM   1202  C   SER A 114      35.930  23.672  -9.069  1.00  0.00
ATOM   1203  O   SER A 114      35.434  23.666 -10.196  1.00  0.00
ATOM   1204  CB  SER A 114      35.077  21.327  -8.835  1.00  0.00
ATOM   1205  OG  SER A 114      33.735  21.629  -9.102  1.00  0.00
ATOM   1206  H   SER A 114      34.068  22.722  -6.891  1.00  0.00
ATOM   1207  HA  SER A 114      36.766  22.024  -7.938  1.00  0.00
ATOM   1208 1HB  SER A 114      35.588  21.123  -9.776  1.00  0.00
ATOM   1209 2HB  SER A 114      35.123  20.444  -8.200  1.00  0.00
ATOM   1210  HG  SER A 114      33.321  20.883  -9.544  1.00  0.00
ATOM   1211  N   SER A 115      36.622  24.703  -8.592  1.00  0.00
ATOM   1212  CA  SER A 115      36.816  25.921  -9.375  1.00  0.00
ATOM   1213  C   SER A 115      38.125  26.622  -9.024  1.00  0.00
ATOM   1214  O   SER A 115      38.480  26.746  -7.856  1.00  0.00
ATOM   1215  CB  SER A 115      35.646  26.862  -9.165  1.00  0.00
ATOM   1216  OG  SER A 115      35.801  28.062  -9.873  1.00  0.00
ATOM   1217  H   SER A 115      37.023  24.644  -7.667  1.00  0.00
ATOM   1218  HA  SER A 115      36.772  25.755 -10.452  1.00  0.00
ATOM   1219 1HB  SER A 115      34.736  26.367  -9.503  1.00  0.00
ATOM   1220 2HB  SER A 115      35.563  27.085  -8.103  1.00  0.00
ATOM   1221  HG  SER A 115      36.600  28.506  -9.577  1.00  0.00
ATOM   1222  N   PRO A 116      38.858  27.092 -10.043  1.00  0.00
ATOM   1223  CA  PRO A 116      40.138  27.786  -9.872  1.00  0.00
ATOM   1224  C   PRO A 116      39.949  29.209  -9.371  1.00  0.00
ATOM   1225  O   PRO A 116      38.880  29.568  -8.867  1.00  0.00
ATOM   1226  CB  PRO A 116      40.770  27.753 -11.267  1.00  0.00
ATOM   1227  CG  PRO A 116      39.609  27.772 -12.202  1.00  0.00
ATOM   1228  CD  PRO A 116      38.522  26.999 -11.504  1.00  0.00
ATOM   1229  HA  PRO A 116      40.782  27.311  -9.118  1.00  0.00
ATOM   1230 1HB  PRO A 116      41.429  28.618 -11.432  1.00  0.00
ATOM   1231 2HB  PRO A 116      41.382  26.850 -11.411  1.00  0.00
ATOM   1232 1HG  PRO A 116      39.288  28.802 -12.415  1.00  0.00
ATOM   1233 2HG  PRO A 116      39.867  27.309 -13.166  1.00  0.00
ATOM   1234 1HD  PRO A 116      37.526  27.430 -11.681  1.00  0.00
ATOM   1235 2HD  PRO A 116      38.481  25.950 -11.832  1.00  0.00
ATOM   1236  N   ASP A 117      40.995  30.014  -9.542  1.00  0.00
ATOM   1237  CA  ASP A 117      41.000  31.405  -9.107  1.00  0.00
ATOM   1238  C   ASP A 117      40.127  31.547  -7.865  1.00  0.00
ATOM   1239  O   ASP A 117      39.188  32.348  -7.843  1.00  0.00
ATOM   1240  CB  ASP A 117      40.506  32.331 -10.221  1.00  0.00
ATOM   1241  CG  ASP A 117      41.397  32.360 -11.456  1.00  0.00
ATOM   1242  OD1 ASP A 117      42.578  32.567 -11.308  1.00  0.00
ATOM   1243  OD2 ASP A 117      40.922  32.021 -12.514  1.00  0.00
ATOM   1244  H   ASP A 117      41.816  29.637  -9.993  1.00  0.00
ATOM   1245  HA  ASP A 117      42.013  31.704  -8.836  1.00  0.00
ATOM   1246 1HB  ASP A 117      39.476  32.138 -10.521  1.00  0.00
ATOM   1247 2HB  ASP A 117      40.563  33.293  -9.710  1.00  0.00
ATOM   1248  N   ILE A 118      40.426  30.748  -6.841  1.00  0.00
ATOM   1249  CA  ILE A 118      39.664  30.799  -5.599  1.00  0.00
ATOM   1250  C   ILE A 118      39.950  32.143  -4.916  1.00  0.00
ATOM   1251  O   ILE A 118      39.120  32.675  -4.181  1.00  0.00
ATOM   1252  CB  ILE A 118      40.018  29.639  -4.650  1.00  0.00
ATOM   1253  CG1 ILE A 118      38.861  29.365  -3.687  1.00  0.00
ATOM   1254  CG2 ILE A 118      41.293  29.952  -3.881  1.00  0.00
ATOM   1255  CD1 ILE A 118      37.604  28.873  -4.367  1.00  0.00
ATOM   1256  H   ILE A 118      41.192  30.095  -6.922  1.00  0.00
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ATOM   1257  HA  ILE A 118      38.594  30.777  -5.804  1.00  0.00
ATOM   1258  HB  ILE A 118      40.161  28.732  -5.236  1.00  0.00
ATOM   1259 1HG1 ILE A 118      39.204  28.618  -2.972  1.00  0.00
ATOM   1260 2HG1 ILE A 118      38.648  30.297  -3.162  1.00  0.00
ATOM   1261 1HG2 ILE A 118      41.529  29.122  -3.215  1.00  0.00
ATOM   1262 2HG2 ILE A 118      42.114  30.099  -4.582  1.00  0.00
ATOM   1263 3HG2 ILE A 118      41.151  30.859  -3.294  1.00  0.00
ATOM   1264 1HD1 ILE A 118      36.828  28.701  -3.620  1.00  0.00
ATOM   1265 2HD1 ILE A 118      37.259  29.621  -5.082  1.00  0.00
ATOM   1266 3HD1 ILE A 118      37.814  27.941  -4.891  1.00  0.00
ATOM   1267  N   HIS A 119      41.126  32.697  -5.193  1.00  0.00
ATOM   1268  CA  HIS A 119      41.539  33.972  -4.629  1.00  0.00
ATOM   1269  C   HIS A 119      40.981  35.125  -5.450  1.00  0.00
ATOM   1270  O   HIS A 119      40.781  36.227  -4.937  1.00  0.00
ATOM   1271  CB  HIS A 119      43.055  34.024  -4.450  1.00  0.00
ATOM   1272  CG  HIS A 119      43.506  32.862  -3.591  1.00  0.00
ATOM   1273  ND1 HIS A 119      43.151  32.682  -2.304  1.00  0.00
ATOM   1274  CD2 HIS A 119      44.329  31.801  -3.974  1.00  0.00
ATOM   1275  CE1 HIS A 119      43.740  31.520  -1.874  1.00  0.00
ATOM   1276  NE2 HIS A 119      44.462  30.985  -2.905  1.00  0.00
ATOM   1277  H   HIS A 119      41.752  32.210  -5.819  1.00  0.00
ATOM   1278  HA  HIS A 119      41.135  34.075  -3.622  1.00  0.00
ATOM   1279 1HB  HIS A 119      43.551  33.955  -5.419  1.00  0.00
ATOM   1280 2HB  HIS A 119      43.343  34.954  -3.960  1.00  0.00
ATOM   1281  HD2 HIS A 119      44.829  31.558  -4.912  1.00  0.00
ATOM   1282  HE1 HIS A 119      43.592  31.167  -0.854  1.00  0.00
ATOM   1283  HE2 HIS A 119      44.999  30.130  -2.872  1.00  0.00
ATOM   1284  N   GLY A 120      40.735  34.866  -6.730  1.00  0.00
ATOM   1285  CA  GLY A 120      40.188  35.892  -7.601  1.00  0.00
ATOM   1286  C   GLY A 120      38.759  36.145  -7.180  1.00  0.00
ATOM   1287  O   GLY A 120      38.280  37.285  -7.168  1.00  0.00
ATOM   1288  H   GLY A 120      40.927  33.950  -7.109  1.00  0.00
ATOM   1289 1HA  GLY A 120      40.785  36.799  -7.501  1.00  0.00
ATOM   1290 2HA  GLY A 120      40.229  35.543  -8.632  1.00  0.00
ATOM   1291  N   THR A 121      38.084  35.058  -6.821  1.00  0.00
ATOM   1292  CA  THR A 121      36.700  35.104  -6.373  1.00  0.00
ATOM   1293  C   THR A 121      36.611  35.797  -5.009  1.00  0.00
ATOM   1294  O   THR A 121      35.715  36.609  -4.767  1.00  0.00
ATOM   1295  CB  THR A 121      36.087  33.695  -6.275  1.00  0.00
ATOM   1296  OG1 THR A 121      36.087  33.080  -7.570  1.00  0.00
ATOM   1297  CG2 THR A 121      34.660  33.769  -5.754  1.00  0.00
ATOM   1298  H   THR A 121      38.558  34.167  -6.864  1.00  0.00
ATOM   1299  HA  THR A 121      36.106  35.694  -7.071  1.00  0.00
ATOM   1300  HB  THR A 121      36.689  33.092  -5.596  1.00  0.00
ATOM   1301  HG1 THR A 121      36.962  32.731  -7.758  1.00  0.00
ATOM   1302 1HG2 THR A 121      34.243  32.764  -5.692  1.00  0.00
ATOM   1303 2HG2 THR A 121      34.657  34.226  -4.765  1.00  0.00
ATOM   1304 3HG2 THR A 121      34.056  34.371  -6.433  1.00  0.00
ATOM   1305  N   TYR A 122      37.551  35.474  -4.125  1.00  0.00
ATOM   1306  CA  TYR A 122      37.576  36.051  -2.793  1.00  0.00
ATOM   1307  C   TYR A 122      37.631  37.580  -2.857  1.00  0.00
ATOM   1308  O   TYR A 122      37.030  38.281  -2.036  1.00  0.00
ATOM   1309  CB  TYR A 122      38.801  35.518  -2.051  1.00  0.00
ATOM   1310  CG  TYR A 122      38.498  35.315  -0.588  1.00  0.00
ATOM   1311  CD1 TYR A 122      38.434  36.393   0.285  1.00  0.00
ATOM   1312  CD2 TYR A 122      38.289  34.028  -0.115  1.00  0.00
ATOM   1313  CE1 TYR A 122      38.181  36.179   1.635  1.00  0.00
ATOM   1314  CE2 TYR A 122      38.034  33.817   1.232  1.00  0.00
ATOM   1315  CZ  TYR A 122      37.994  34.888   2.111  1.00  0.00
ATOM   1316  OH  TYR A 122      37.776  34.655   3.455  1.00  0.00
ATOM   1317  H   TYR A 122      38.266  34.810  -4.387  1.00  0.00
ATOM   1318  HA  TYR A 122      36.659  35.795  -2.262  1.00  0.00
ATOM   1319 1HB  TYR A 122      39.081  34.576  -2.525  1.00  0.00
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ATOM   1320 2HB  TYR A 122      39.601  36.245  -2.186  1.00  0.00
ATOM   1321  HD1 TYR A 122      38.586  37.398  -0.108  1.00  0.00
ATOM   1322  HD2 TYR A 122      38.330  33.196  -0.818  1.00  0.00
ATOM   1323  HE1 TYR A 122      38.130  37.020   2.326  1.00  0.00
ATOM   1324  HE2 TYR A 122      37.865  32.806   1.603  1.00  0.00
ATOM   1325  HH  TYR A 122      37.667  33.724   3.662  1.00  0.00
ATOM   1326  N   LYS A 123      38.362  38.089  -3.841  1.00  0.00
ATOM   1327  CA  LYS A 123      38.501  39.522  -4.037  1.00  0.00
ATOM   1328  C   LYS A 123      37.097  40.068  -4.245  1.00  0.00
ATOM   1329  O   LYS A 123      36.699  41.060  -3.636  1.00  0.00
ATOM   1330  CB  LYS A 123      39.406  39.847  -5.226  1.00  0.00
ATOM   1331  CG  LYS A 123      39.627  41.336  -5.460  1.00  0.00
ATOM   1332  CD  LYS A 123      40.592  41.578  -6.611  1.00  0.00
ATOM   1333  CE  LYS A 123      40.780  43.065  -6.873  1.00  0.00
ATOM   1334  NZ  LYS A 123      41.710  43.317  -8.007  1.00  0.00
ATOM   1335  H   LYS A 123      38.835  37.458  -4.472  1.00  0.00
ATOM   1336  HA  LYS A 123      38.939  39.975  -3.147  1.00  0.00
ATOM   1337 1HB  LYS A 123      40.365  39.364  -5.039  1.00  0.00
ATOM   1338 2HB  LYS A 123      38.944  39.407  -6.110  1.00  0.00
ATOM   1339 1HG  LYS A 123      38.665  41.797  -5.689  1.00  0.00
ATOM   1340 2HG  LYS A 123      40.031  41.774  -4.548  1.00  0.00
ATOM   1341 1HD  LYS A 123      41.553  41.129  -6.358  1.00  0.00
ATOM   1342 2HD  LYS A 123      40.193  41.100  -7.505  1.00  0.00
ATOM   1343 1HE  LYS A 123      39.807  43.498  -7.098  1.00  0.00
ATOM   1344 2HE  LYS A 123      41.180  43.523  -5.968  1.00  0.00
ATOM   1345 1HZ  LYS A 123      41.807  44.313  -8.147  1.00  0.00
ATOM   1346 2HZ  LYS A 123      42.614  42.917  -7.798  1.00  0.00
ATOM   1347 3HZ  LYS A 123      41.340  42.894  -8.846  1.00  0.00
ATOM   1348  N   GLU A 124      36.346  39.387  -5.100  1.00  0.00
ATOM   1349  CA  GLU A 124      34.976  39.760  -5.415  1.00  0.00
ATOM   1350  C   GLU A 124      34.099  39.745  -4.171  1.00  0.00
ATOM   1351  O   GLU A 124      33.523  40.764  -3.800  1.00  0.00
ATOM   1352  CB  GLU A 124      34.398  38.822  -6.478  1.00  0.00
ATOM   1353  CG  GLU A 124      34.881  39.103  -7.893  1.00  0.00
ATOM   1354  CD  GLU A 124      34.458  40.471  -8.353  1.00  0.00
ATOM   1355  OE1 GLU A 124      33.290  40.767  -8.279  1.00  0.00
ATOM   1356  OE2 GLU A 124      35.316  41.259  -8.674  1.00  0.00
ATOM   1357  H   GLU A 124      36.750  38.576  -5.547  1.00  0.00
ATOM   1358  HA  GLU A 124      34.950  40.780  -5.799  1.00  0.00
ATOM   1359 1HB  GLU A 124      34.679  37.808  -6.194  1.00  0.00
ATOM   1360 2HB  GLU A 124      33.314  38.925  -6.437  1.00  0.00
ATOM   1361 1HG  GLU A 124      35.959  38.998  -8.013  1.00  0.00
ATOM   1362 2HG  GLU A 124      34.374  38.347  -8.492  1.00  0.00
ATOM   1363  N   LEU A 125      34.004  38.581  -3.532  1.00  0.00
ATOM   1364  CA  LEU A 125      33.202  38.411  -2.319  1.00  0.00
ATOM   1365  C   LEU A 125      33.407  39.589  -1.371  1.00  0.00
ATOM   1366  O   LEU A 125      32.442  40.179  -0.885  1.00  0.00
ATOM   1367  CB  LEU A 125      33.559  37.093  -1.621  1.00  0.00
ATOM   1368  CG  LEU A 125      32.751  36.785  -0.354  1.00  0.00
ATOM   1369  CD1 LEU A 125      31.275  36.641  -0.698  1.00  0.00
ATOM   1370  CD2 LEU A 125      33.282  35.514   0.292  1.00  0.00
ATOM   1371  H   LEU A 125      34.507  37.788  -3.904  1.00  0.00
ATOM   1372  HA  LEU A 125      32.144  38.395  -2.580  1.00  0.00
ATOM   1373 1HB  LEU A 125      33.291  36.395  -2.413  1.00  0.00
ATOM   1374 2HB  LEU A 125      34.627  37.019  -1.418  1.00  0.00
ATOM   1375  HG  LEU A 125      32.917  37.607   0.343  1.00  0.00
ATOM   1376 1HD1 LEU A 125      30.709  36.423   0.208  1.00  0.00
ATOM   1377 2HD1 LEU A 125      30.911  37.570  -1.137  1.00  0.00
ATOM   1378 3HD1 LEU A 125      31.146  35.827  -1.410  1.00  0.00
ATOM   1379 1HD2 LEU A 125      32.707  35.297   1.193  1.00  0.00
ATOM   1380 2HD2 LEU A 125      33.187  34.683  -0.408  1.00  0.00
ATOM   1381 3HD2 LEU A 125      34.331  35.649   0.555  1.00  0.00
ATOM   1382  N   LEU A 126      34.668  39.919  -1.105  1.00  0.00
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ATOM   1383  CA  LEU A 126      34.991  41.028  -0.215  1.00  0.00
ATOM   1384  C   LEU A 126      34.435  42.341  -0.744  1.00  0.00
ATOM   1385  O   LEU A 126      33.816  43.107   0.000  1.00  0.00
ATOM   1386  CB  LEU A 126      36.510  41.131  -0.026  1.00  0.00
ATOM   1387  CG  LEU A 126      37.144  39.998   0.791  1.00  0.00
ATOM   1388  CD1 LEU A 126      38.662  40.109   0.747  1.00  0.00
ATOM   1389  CD2 LEU A 126      36.640  40.061   2.225  1.00  0.00
ATOM   1390  H   LEU A 126      35.419  39.392  -1.527  1.00  0.00
ATOM   1391  HA  LEU A 126      34.524  40.865   0.756  1.00  0.00
ATOM   1392 1HB  LEU A 126      36.823  41.062  -1.066  1.00  0.00
ATOM   1393 2HB  LEU A 126      36.801  42.101   0.378  1.00  0.00
ATOM   1394  HG  LEU A 126      36.803  39.057   0.359  1.00  0.00
ATOM   1395 1HD1 LEU A 126      39.104  39.301   1.329  1.00  0.00
ATOM   1396 2HD1 LEU A 126      39.002  40.039  -0.286  1.00  0.00
ATOM   1397 3HD1 LEU A 126      38.969  41.067   1.166  1.00  0.00
ATOM   1398 1HD2 LEU A 126      37.091  39.255   2.804  1.00  0.00
ATOM   1399 2HD2 LEU A 126      36.912  41.021   2.665  1.00  0.00
ATOM   1400 3HD2 LEU A 126      35.556  39.952   2.236  1.00  0.00
ATOM   1401  N   ASP A 127      34.653  42.602  -2.028  1.00  0.00
ATOM   1402  CA  ASP A 127      34.144  43.827  -2.638  1.00  0.00
ATOM   1403  C   ASP A 127      32.640  43.956  -2.406  1.00  0.00
ATOM   1404  O   ASP A 127      32.130  45.049  -2.142  1.00  0.00
ATOM   1405  CB  ASP A 127      34.454  43.854  -4.137  1.00  0.00
ATOM   1406  CG  ASP A 127      35.919  44.097  -4.472  1.00  0.00
ATOM   1407  OD1 ASP A 127      36.657  44.464  -3.588  1.00  0.00
ATOM   1408  OD2 ASP A 127      36.321  43.767  -5.562  1.00  0.00
ATOM   1409  H   ASP A 127      35.176  41.950  -2.595  1.00  0.00
ATOM   1410  HA  ASP A 127      34.613  44.694  -2.172  1.00  0.00
ATOM   1411 1HB  ASP A 127      34.102  42.970  -4.669  1.00  0.00
ATOM   1412 2HB  ASP A 127      33.864  44.720  -4.439  1.00  0.00
ATOM   1413  N   THR A 128      31.939  42.828  -2.490  1.00  0.00
ATOM   1414  CA  THR A 128      30.491  42.790  -2.308  1.00  0.00
ATOM   1415  C   THR A 128      29.980  43.059  -0.892  1.00  0.00
ATOM   1416  O   THR A 128      29.123  43.922  -0.707  1.00  0.00
ATOM   1417  CB  THR A 128      29.939  41.424  -2.757  1.00  0.00
ATOM   1418  OG1 THR A 128      30.204  41.235  -4.153  1.00  0.00
ATOM   1419  CG2 THR A 128      28.439  41.349  -2.515  1.00  0.00
ATOM   1420  H   THR A 128      32.433  41.969  -2.687  1.00  0.00
ATOM   1421  HA  THR A 128      30.024  43.581  -2.895  1.00  0.00
ATOM   1422  HB  THR A 128      30.437  40.637  -2.192  1.00  0.00
ATOM   1423  HG1 THR A 128      31.114  40.951  -4.270  1.00  0.00
ATOM   1424 1HG2 THR A 128      28.068  40.377  -2.838  1.00  0.00
ATOM   1425 2HG2 THR A 128      28.236  41.482  -1.452  1.00  0.00
ATOM   1426 3HG2 THR A 128      27.941  42.135  -3.081  1.00  0.00
ATOM   1427  N   VAL A 129      30.489  42.328   0.102  1.00  0.00
ATOM   1428  CA  VAL A 129      30.001  42.496   1.473  1.00  0.00
ATOM   1429  C   VAL A 129      30.544  43.689   2.240  1.00  0.00
ATOM   1430  O   VAL A 129      29.995  44.054   3.280  1.00  0.00
ATOM   1431  CB  VAL A 129      30.202  41.200   2.257  1.00  0.00
ATOM   1432  CG1 VAL A 129      29.451  40.053   1.577  1.00  0.00
ATOM   1433  CG2 VAL A 129      31.687  40.885   2.444  1.00  0.00
ATOM   1434  H   VAL A 129      31.216  41.652  -0.082  1.00  0.00
ATOM   1435  HA  VAL A 129      28.928  42.693   1.491  1.00  0.00
ATOM   1436  HB  VAL A 129      29.784  41.322   3.256  1.00  0.00
ATOM   1437 1HG1 VAL A 129      29.600  39.134   2.144  1.00  0.00
ATOM   1438 2HG1 VAL A 129      28.387  40.286   1.539  1.00  0.00
ATOM   1439 3HG1 VAL A 129      29.831  39.920   0.564  1.00  0.00
ATOM   1440 1HG2 VAL A 129      31.795  39.958   3.006  1.00  0.00
ATOM   1441 2HG2 VAL A 129      32.161  40.776   1.468  1.00  0.00
ATOM   1442 3HG2 VAL A 129      32.165  41.698   2.991  1.00  0.00
ATOM   1443  N   THR A 130      31.607  44.309   1.748  1.00  0.00
ATOM   1444  CA  THR A 130      32.140  45.457   2.466  1.00  0.00
ATOM   1445  C   THR A 130      31.673  46.780   1.861  1.00  0.00
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ATOM   1446  O   THR A 130      31.971  47.848   2.401  1.00  0.00
ATOM   1447  CB  THR A 130      33.655  45.343   2.678  1.00  0.00
ATOM   1448  OG1 THR A 130      34.363  45.314   1.441  1.00  0.00
ATOM   1449  CG2 THR A 130      34.004  44.120   3.529  1.00  0.00
ATOM   1450  H   THR A 130      32.056  44.011   0.894  1.00  0.00
ATOM   1451  HA  THR A 130      31.772  45.453   3.492  1.00  0.00
ATOM   1452  HB  THR A 130      34.011  46.241   3.182  1.00  0.00
ATOM   1453  HG1 THR A 130      33.738  45.373   0.714  1.00  0.00
ATOM   1454 1HG2 THR A 130      35.084  44.067   3.662  1.00  0.00
ATOM   1455 2HG2 THR A 130      33.521  44.205   4.502  1.00  0.00
ATOM   1456 3HG2 THR A 130      33.655  43.218   3.028  1.00  0.00
ATOM   1457  N   ALA A 131      30.930  46.706   0.754  1.00  0.00
ATOM   1458  CA  ALA A 131      30.408  47.898   0.079  1.00  0.00
ATOM   1459  C   ALA A 131      29.688  48.802   1.075  1.00  0.00
ATOM   1460  O   ALA A 131      29.088  48.325   2.035  1.00  0.00
ATOM   1461  CB  ALA A 131      29.422  47.454  -1.010  1.00  0.00
ATOM   1462  H   ALA A 131      30.723  45.794   0.372  1.00  0.00
ATOM   1463  HA  ALA A 131      31.245  48.459  -0.337  1.00  0.00
ATOM   1464 1HB  ALA A 131      29.026  48.332  -1.521  1.00  0.00
ATOM   1465 2HB  ALA A 131      29.937  46.817  -1.730  1.00  0.00
ATOM   1466 3HB  ALA A 131      28.603  46.899  -0.555  1.00  0.00
ATOM   1467  N   PRO A 132      29.721  50.123   0.847  1.00  0.00
ATOM   1468  CA  PRO A 132      29.084  51.118   1.721  1.00  0.00
ATOM   1469  C   PRO A 132      27.620  50.847   2.072  1.00  0.00
ATOM   1470  O   PRO A 132      27.206  51.073   3.211  1.00  0.00
ATOM   1471  CB  PRO A 132      29.280  52.429   0.955  1.00  0.00
ATOM   1472  CG  PRO A 132      30.560  52.216   0.152  1.00  0.00
ATOM   1473  CD  PRO A 132      30.449  50.752  -0.252  1.00  0.00
ATOM   1474  HA  PRO A 132      29.555  51.176   2.713  1.00  0.00
ATOM   1475 1HB  PRO A 132      28.427  52.641   0.294  1.00  0.00
ATOM   1476 2HB  PRO A 132      29.378  53.285   1.639  1.00  0.00
ATOM   1477 1HG  PRO A 132      30.603  52.892  -0.715  1.00  0.00
ATOM   1478 2HG  PRO A 132      31.451  52.420   0.763  1.00  0.00
ATOM   1479 1HD  PRO A 132      29.904  50.622  -1.199  1.00  0.00
ATOM   1480 2HD  PRO A 132      31.434  50.280  -0.381  1.00  0.00
ATOM   1481  N   GLN A 133      26.840  50.381   1.094  1.00  0.00
ATOM   1482  CA  GLN A 133      25.421  50.096   1.314  1.00  0.00
ATOM   1483  C   GLN A 133      25.224  49.142   2.492  1.00  0.00
ATOM   1484  O   GLN A 133      24.238  49.248   3.226  1.00  0.00
ATOM   1485  CB  GLN A 133      24.793  49.496   0.053  1.00  0.00
ATOM   1486  CG  GLN A 133      24.612  50.486  -1.084  1.00  0.00
ATOM   1487  CD  GLN A 133      24.070  49.832  -2.341  1.00  0.00
ATOM   1488  OE1 GLN A 133      23.874  48.614  -2.388  1.00  0.00
ATOM   1489  NE2 GLN A 133      23.829  50.637  -3.369  1.00  0.00
ATOM   1490  H   GLN A 133      27.238  50.221   0.180  1.00  0.00
ATOM   1491  HA  GLN A 133      24.899  51.018   1.571  1.00  0.00
ATOM   1492 1HB  GLN A 133      25.444  48.682  -0.266  1.00  0.00
ATOM   1493 2HB  GLN A 133      23.824  49.091   0.346  1.00  0.00
ATOM   1494 1HG  GLN A 133      24.105  51.442  -0.959  1.00  0.00
ATOM   1495 2HG  GLN A 133      25.681  50.659  -1.219  1.00  0.00
ATOM   1496 1HE2 GLN A 133      23.471  50.262  -4.225  1.00  0.00
ATOM   1497 2HE2 GLN A 133      24.005  51.618  -3.289  1.00  0.00
ATOM   1498  N   LYS A 134      26.151  48.202   2.667  1.00  0.00
ATOM   1499  CA  LYS A 134      26.079  47.277   3.799  1.00  0.00
ATOM   1500  C   LYS A 134      26.514  48.196   4.926  1.00  0.00
ATOM   1501  O   LYS A 134      26.648  49.395   4.714  1.00  0.00
ATOM   1502  CB  LYS A 134      27.046  46.102   3.570  1.00  0.00
ATOM   1503  CG  LYS A 134      26.949  45.402   2.195  1.00  0.00
ATOM   1504  CD  LYS A 134      25.733  44.488   1.964  1.00  0.00
ATOM   1505  CE  LYS A 134      25.630  43.909   0.534  1.00  0.00
ATOM   1506  NZ  LYS A 134      24.413  43.096   0.366  1.00  0.00
ATOM   1507  H   LYS A 134      26.917  48.121   2.013  1.00  0.00
ATOM   1508  HA  LYS A 134      25.059  46.906   3.908  1.00  0.00
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ATOM   1509 1HB  LYS A 134      28.057  46.492   3.691  1.00  0.00
ATOM   1510 2HB  LYS A 134      26.846  45.366   4.349  1.00  0.00
ATOM   1511 1HG  LYS A 134      26.917  46.167   1.418  1.00  0.00
ATOM   1512 2HG  LYS A 134      27.835  44.783   2.058  1.00  0.00
ATOM   1513 1HD  LYS A 134      25.790  43.651   2.662  1.00  0.00
ATOM   1514 2HD  LYS A 134      24.826  45.060   2.159  1.00  0.00
ATOM   1515 1HE  LYS A 134      25.616  44.739  -0.171  1.00  0.00
ATOM   1516 2HE  LYS A 134      26.510  43.293   0.351  1.00  0.00
ATOM   1517 1HZ  LYS A 134      24.378  42.734  -0.576  1.00  0.00
ATOM   1518 2HZ  LYS A 134      24.428  42.327   1.022  1.00  0.00
ATOM   1519 3HZ  LYS A 134      23.599  43.669   0.537  1.00  0.00
ATOM   1520  N   ASN A 135      26.729  47.681   6.121  1.00  0.00
ATOM   1521  CA  ASN A 135      27.203  48.573   7.173  1.00  0.00
ATOM   1522  C   ASN A 135      28.317  47.877   7.917  1.00  0.00
ATOM   1523  O   ASN A 135      28.695  48.254   9.030  1.00  0.00
ATOM   1524  CB  ASN A 135      26.096  48.988   8.125  1.00  0.00
ATOM   1525  CG  ASN A 135      24.972  49.731   7.459  1.00  0.00
ATOM   1526  OD1 ASN A 135      25.106  50.905   7.095  1.00  0.00
ATOM   1527  ND2 ASN A 135      23.839  49.081   7.373  1.00  0.00
ATOM   1528  H   ASN A 135      26.580  46.705   6.334  1.00  0.00
ATOM   1529  HA  ASN A 135      27.602  49.487   6.731  1.00  0.00
ATOM   1530 1HB  ASN A 135      25.681  48.278   8.842  1.00  0.00
ATOM   1531 2HB  ASN A 135      26.729  49.705   8.649  1.00  0.00
ATOM   1532 1HD2 ASN A 135      23.047  49.514   6.941  1.00  0.00
ATOM   1533 2HD2 ASN A 135      23.766  48.154   7.737  1.00  0.00
ATOM   1534  N   LEU A 136      28.850  46.863   7.247  1.00  0.00
ATOM   1535  CA  LEU A 136      29.909  46.025   7.765  1.00  0.00
ATOM   1536  C   LEU A 136      31.306  46.488   7.388  1.00  0.00
ATOM   1537  O   LEU A 136      31.582  46.804   6.232  1.00  0.00
ATOM   1538  CB  LEU A 136      29.670  44.596   7.281  1.00  0.00
ATOM   1539  CG  LEU A 136      30.642  43.574   7.866  1.00  0.00
ATOM   1540  CD1 LEU A 136      30.406  43.324   9.356  1.00  0.00
ATOM   1541  CD2 LEU A 136      30.652  42.285   7.049  1.00  0.00
ATOM   1542  H   LEU A 136      28.484  46.679   6.324  1.00  0.00
ATOM   1543  HA  LEU A 136      29.895  46.051   8.854  1.00  0.00
ATOM   1544 1HB  LEU A 136      28.668  44.440   7.677  1.00  0.00
ATOM   1545 2HB  LEU A 136      29.644  44.537   6.193  1.00  0.00
ATOM   1546  HG  LEU A 136      31.642  44.002   7.797  1.00  0.00
ATOM   1547 1HD1 LEU A 136      31.124  42.590   9.720  1.00  0.00
ATOM   1548 2HD1 LEU A 136      30.532  44.257   9.906  1.00  0.00
ATOM   1549 3HD1 LEU A 136      29.395  42.947   9.506  1.00  0.00
ATOM   1550 1HD2 LEU A 136      31.355  41.579   7.492  1.00  0.00
ATOM   1551 2HD2 LEU A 136      29.653  41.849   7.045  1.00  0.00
ATOM   1552 3HD2 LEU A 136      30.956  42.505   6.026  1.00  0.00
ATOM   1553  N   LYS A 137      32.182  46.533   8.382  1.00  0.00
ATOM   1554  CA  LYS A 137      33.570  46.890   8.163  1.00  0.00
ATOM   1555  C   LYS A 137      34.360  45.691   8.664  1.00  0.00
ATOM   1556  O   LYS A 137      34.281  45.330   9.839  1.00  0.00
ATOM   1557  CB  LYS A 137      33.960  48.175   8.896  1.00  0.00
ATOM   1558  CG  LYS A 137      33.234  49.422   8.410  1.00  0.00
ATOM   1559  CD  LYS A 137      33.650  50.650   9.206  1.00  0.00
ATOM   1560  CE  LYS A 137      32.961  51.904   8.689  1.00  0.00
ATOM   1561  NZ  LYS A 137      31.499  51.892   8.969  1.00  0.00
ATOM   1562  H   LYS A 137      31.873  46.312   9.318  1.00  0.00
ATOM   1563  HA  LYS A 137      33.747  47.049   7.099  1.00  0.00
ATOM   1564 1HB  LYS A 137      33.744  48.017   9.953  1.00  0.00
ATOM   1565 2HB  LYS A 137      35.034  48.306   8.761  1.00  0.00
ATOM   1566 1HG  LYS A 137      33.472  49.573   7.356  1.00  0.00
ATOM   1567 2HG  LYS A 137      32.162  49.263   8.521  1.00  0.00
ATOM   1568 1HD  LYS A 137      33.384  50.493  10.252  1.00  0.00
ATOM   1569 2HD  LYS A 137      34.730  50.769   9.121  1.00  0.00
ATOM   1570 1HE  LYS A 137      33.416  52.768   9.173  1.00  0.00
ATOM   1571 2HE  LYS A 137      33.123  51.965   7.613  1.00  0.00
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ATOM   1572 1HZ  LYS A 137      31.081  52.739   8.611  1.00  0.00
ATOM   1573 2HZ  LYS A 137      31.077  51.092   8.520  1.00  0.00
ATOM   1574 3HZ  LYS A 137      31.348  51.837   9.966  1.00  0.00
ATOM   1575  N   SER A 138      35.094  45.058   7.754  1.00  0.00
ATOM   1576  CA  SER A 138      35.873  43.874   8.081  1.00  0.00
ATOM   1577  C   SER A 138      37.286  44.001   7.527  1.00  0.00
ATOM   1578  O   SER A 138      37.473  44.336   6.356  1.00  0.00
ATOM   1579  CB  SER A 138      35.195  42.631   7.538  1.00  0.00
ATOM   1580  OG  SER A 138      35.923  41.468   7.823  1.00  0.00
ATOM   1581  H   SER A 138      35.110  45.411   6.808  1.00  0.00
ATOM   1582  HA  SER A 138      35.900  43.655   9.149  1.00  0.00
ATOM   1583 1HB  SER A 138      34.206  42.549   7.988  1.00  0.00
ATOM   1584 2HB  SER A 138      35.095  42.731   6.458  1.00  0.00
ATOM   1585  HG  SER A 138      35.462  40.706   7.464  1.00  0.00
ATOM   1586  N   ALA A 139      38.281  43.737   8.369  1.00  0.00
ATOM   1587  CA  ALA A 139      39.671  43.816   7.941  1.00  0.00
ATOM   1588  C   ALA A 139      40.503  42.672   8.512  1.00  0.00
ATOM   1589  O   ALA A 139      40.239  42.184   9.616  1.00  0.00
ATOM   1590  CB  ALA A 139      40.285  45.156   8.334  1.00  0.00
ATOM   1591  H   ALA A 139      38.074  43.477   9.323  1.00  0.00
ATOM   1592  HA  ALA A 139      39.708  43.726   6.855  1.00  0.00
ATOM   1593 1HB  ALA A 139      41.323  45.190   8.003  1.00  0.00
ATOM   1594 2HB  ALA A 139      39.727  45.965   7.862  1.00  0.00
ATOM   1595 3HB  ALA A 139      40.246  45.271   9.416  1.00  0.00
ATOM   1596  N   SER A 140      41.502  42.244   7.743  1.00  0.00
ATOM   1597  CA  SER A 140      42.394  41.157   8.143  1.00  0.00
ATOM   1598  C   SER A 140      43.829  41.613   7.950  1.00  0.00
ATOM   1599  O   SER A 140      44.121  42.351   7.013  1.00  0.00
ATOM   1600  CB  SER A 140      42.113  39.900   7.342  1.00  0.00
ATOM   1601  OG  SER A 140      42.368  40.079   5.976  1.00  0.00
ATOM   1602  H   SER A 140      41.643  42.693   6.849  1.00  0.00
ATOM   1603  HA  SER A 140      42.215  40.801   9.159  1.00  0.00
ATOM   1604 1HB  SER A 140      42.747  39.098   7.719  1.00  0.00
ATOM   1605 2HB  SER A 140      41.067  39.628   7.475  1.00  0.00
ATOM   1606  HG  SER A 140      41.626  40.535   5.570  1.00  0.00
ATOM   1607  N   ARG A 141      44.727  41.166   8.821  1.00  0.00
ATOM   1608  CA  ARG A 141      46.131  41.551   8.718  1.00  0.00
ATOM   1609  C   ARG A 141      47.058  40.417   9.137  1.00  0.00
ATOM   1610  O   ARG A 141      46.817  39.753  10.145  1.00  0.00
ATOM   1611  CB  ARG A 141      46.432  42.826   9.492  1.00  0.00
ATOM   1612  CG  ARG A 141      47.795  43.438   9.213  1.00  0.00
ATOM   1613  CD  ARG A 141      47.827  44.355   8.045  1.00  0.00
ATOM   1614  NE  ARG A 141      49.031  45.164   7.946  1.00  0.00
ATOM   1615  CZ  ARG A 141      49.249  46.099   7.002  1.00  0.00
ATOM   1616  NH1 ARG A 141      48.367  46.323   6.053  1.00  0.00
ATOM   1617  NH2 ARG A 141      50.386  46.772   7.040  1.00  0.00
ATOM   1618  H   ARG A 141      44.439  40.550   9.568  1.00  0.00
ATOM   1619  HA  ARG A 141      46.376  41.777   7.680  1.00  0.00
ATOM   1620 1HB  ARG A 141      45.655  43.545   9.235  1.00  0.00
ATOM   1621 2HB  ARG A 141      46.360  42.578  10.552  1.00  0.00
ATOM   1622 1HG  ARG A 141      48.109  44.002  10.091  1.00  0.00
ATOM   1623 2HG  ARG A 141      48.505  42.631   9.026  1.00  0.00
ATOM   1624 1HD  ARG A 141      47.753  43.767   7.131  1.00  0.00
ATOM   1625 2HD  ARG A 141      46.980  45.037   8.108  1.00  0.00
ATOM   1626  HE  ARG A 141      49.857  45.163   8.530  1.00  0.00
ATOM   1627 1HH1 ARG A 141      47.511  45.788   6.027  1.00  0.00
ATOM   1628 2HH1 ARG A 141      48.549  47.028   5.354  1.00  0.00
ATOM   1629 1HH2 ARG A 141      51.062  46.575   7.766  1.00  0.00
ATOM   1630 2HH2 ARG A 141      50.575  47.478   6.345  1.00  0.00
ATOM   1631  N   ILE A 142      48.110  40.193   8.352  1.00  0.00
ATOM   1632  CA  ILE A 142      49.114  39.171   8.662  1.00  0.00
ATOM   1633  C   ILE A 142      50.306  39.924   9.256  1.00  0.00
ATOM   1634  O   ILE A 142      50.843  40.828   8.622  1.00  0.00
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ATOM   1635  CB  ILE A 142      49.550  38.361   7.428  1.00  0.00
ATOM   1636  CG1 ILE A 142      48.332  37.735   6.742  1.00  0.00
ATOM   1637  CG2 ILE A 142      50.552  37.287   7.823  1.00  0.00
ATOM   1638  CD1 ILE A 142      48.641  37.111   5.400  1.00  0.00
ATOM   1639  H   ILE A 142      48.216  40.749   7.515  1.00  0.00
ATOM   1640  HA  ILE A 142      48.739  38.480   9.416  1.00  0.00
ATOM   1641  HB  ILE A 142      50.006  39.034   6.703  1.00  0.00
ATOM   1642 1HG1 ILE A 142      47.937  36.974   7.414  1.00  0.00
ATOM   1643 2HG1 ILE A 142      47.592  38.525   6.614  1.00  0.00
ATOM   1644 1HG2 ILE A 142      50.849  36.723   6.939  1.00  0.00
ATOM   1645 2HG2 ILE A 142      51.430  37.755   8.267  1.00  0.00
ATOM   1646 3HG2 ILE A 142      50.096  36.612   8.547  1.00  0.00
ATOM   1647 1HD1 ILE A 142      47.729  36.689   4.976  1.00  0.00
ATOM   1648 2HD1 ILE A 142      49.035  37.872   4.726  1.00  0.00
ATOM   1649 3HD1 ILE A 142      49.379  36.321   5.527  1.00  0.00
ATOM   1650  N   VAL A 143      50.709  39.566  10.470  1.00  0.00
ATOM   1651  CA  VAL A 143      51.823  40.245  11.122  1.00  0.00
ATOM   1652  C   VAL A 143      52.977  39.288  11.377  1.00  0.00
ATOM   1653  O   VAL A 143      52.778  38.217  11.957  1.00  0.00
ATOM   1654  CB  VAL A 143      51.360  40.903  12.426  1.00  0.00
ATOM   1655  CG1 VAL A 143      52.506  41.646  13.115  1.00  0.00
ATOM   1656  CG2 VAL A 143      50.150  41.809  12.191  1.00  0.00
ATOM   1657  H   VAL A 143      50.241  38.813  10.954  1.00  0.00
ATOM   1658  HA  VAL A 143      52.241  41.024  10.483  1.00  0.00
ATOM   1659  HB  VAL A 143      51.036  40.126  13.119  1.00  0.00
ATOM   1660 1HG1 VAL A 143      52.143  42.101  14.037  1.00  0.00
ATOM   1661 2HG1 VAL A 143      53.307  40.944  13.348  1.00  0.00
ATOM   1662 3HG1 VAL A 143      52.885  42.424  12.453  1.00  0.00
ATOM   1663 1HG2 VAL A 143      49.844  42.261  13.134  1.00  0.00
ATOM   1664 2HG2 VAL A 143      50.416  42.593  11.482  1.00  0.00
ATOM   1665 3HG2 VAL A 143      49.326  41.219  11.788  1.00  0.00
ATOM   1666  N   PHE A 144      54.178  39.686  10.949  1.00  0.00
ATOM   1667  CA  PHE A 144      55.380  38.865  11.109  1.00  0.00
ATOM   1668  C   PHE A 144      56.373  39.354  12.153  1.00  0.00
ATOM   1669  O   PHE A 144      56.416  40.535  12.506  1.00  0.00
ATOM   1670  CB  PHE A 144      56.095  38.747   9.762  1.00  0.00
ATOM   1671  CG  PHE A 144      55.313  37.994   8.724  1.00  0.00
ATOM   1672  CD1 PHE A 144      54.519  38.669   7.809  1.00  0.00
ATOM   1673  CD2 PHE A 144      55.368  36.610   8.661  1.00  0.00
ATOM   1674  CE1 PHE A 144      53.798  37.977   6.854  1.00  0.00
ATOM   1675  CE2 PHE A 144      54.650  35.916   7.707  1.00  0.00
ATOM   1676  CZ  PHE A 144      53.864  36.601   6.802  1.00  0.00
ATOM   1677  H   PHE A 144      54.254  40.587  10.499  1.00  0.00
ATOM   1678  HA  PHE A 144      55.104  37.869  11.457  1.00  0.00
ATOM   1679 1HB  PHE A 144      56.287  39.737   9.350  1.00  0.00
ATOM   1680 2HB  PHE A 144      57.039  38.217   9.885  1.00  0.00
ATOM   1681  HD1 PHE A 144      54.468  39.757   7.849  1.00  0.00
ATOM   1682  HD2 PHE A 144      55.989  36.069   9.376  1.00  0.00
ATOM   1683  HE1 PHE A 144      53.178  38.520   6.141  1.00  0.00
ATOM   1684  HE2 PHE A 144      54.702  34.828   7.668  1.00  0.00
ATOM   1685  HZ  PHE A 144      53.295  36.055   6.051  1.00  0.00
ATOM   1686  N   GLU A 145      57.184  38.414  12.628  1.00  0.00
ATOM   1687  CA  GLU A 145      58.209  38.679  13.626  1.00  0.00
ATOM   1688  C   GLU A 145      59.235  39.710  13.141  1.00  0.00
ATOM   1689  O   GLU A 145      59.386  39.936  11.940  1.00  0.00
ATOM   1690  CB  GLU A 145      58.915  37.377  14.011  1.00  0.00
ATOM   1691  CG  GLU A 145      59.766  36.772  12.903  1.00  0.00
ATOM   1692  CD  GLU A 145      60.369  35.463  13.330  1.00  0.00
ATOM   1693  OE1 GLU A 145      60.108  35.042  14.431  1.00  0.00
ATOM   1694  OE2 GLU A 145      60.998  34.828  12.517  1.00  0.00
ATOM   1695  H   GLU A 145      57.075  37.475  12.272  1.00  0.00
ATOM   1696  HA  GLU A 145      57.754  39.110  14.518  1.00  0.00
ATOM   1697 1HB  GLU A 145      59.546  37.599  14.872  1.00  0.00
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ATOM   1698 2HB  GLU A 145      58.140  36.667  14.301  1.00  0.00
ATOM   1699 1HG  GLU A 145      59.225  36.634  11.967  1.00  0.00
ATOM   1700 2HG  GLU A 145      60.558  37.506  12.758  1.00  0.00
ATOM   1701  N   LYS A 146      59.935  40.327  14.089  1.00  0.00
ATOM   1702  CA  LYS A 146      60.939  41.340  13.790  1.00  0.00
ATOM   1703  C   LYS A 146      61.949  40.890  12.746  1.00  0.00
ATOM   1704  O   LYS A 146      62.218  39.699  12.592  1.00  0.00
ATOM   1705  CB  LYS A 146      61.671  41.744  15.071  1.00  0.00
ATOM   1706  CG  LYS A 146      62.575  40.663  15.646  1.00  0.00
ATOM   1707  CD  LYS A 146      63.257  41.133  16.923  1.00  0.00
ATOM   1708  CE  LYS A 146      64.190  40.067  17.478  1.00  0.00
ATOM   1709  NZ  LYS A 146      64.874  40.518  18.720  1.00  0.00
ATOM   1710  H   LYS A 146      59.758  40.079  15.052  1.00  0.00
ATOM   1711  HA  LYS A 146      60.458  42.222  13.365  1.00  0.00
ATOM   1712 1HB  LYS A 146      62.266  42.627  14.834  1.00  0.00
ATOM   1713 2HB  LYS A 146      60.909  42.008  15.805  1.00  0.00
ATOM   1714 1HG  LYS A 146      61.969  39.782  15.861  1.00  0.00
ATOM   1715 2HG  LYS A 146      63.331  40.411  14.903  1.00  0.00
ATOM   1716 1HD  LYS A 146      63.827  42.036  16.700  1.00  0.00
ATOM   1717 2HD  LYS A 146      62.489  41.363  17.662  1.00  0.00
ATOM   1718 1HE  LYS A 146      63.602  39.175  17.691  1.00  0.00
ATOM   1719 2HE  LYS A 146      64.935  39.836  16.717  1.00  0.00
ATOM   1720 1HZ  LYS A 146      65.482  39.784  19.055  1.00  0.00
ATOM   1721 2HZ  LYS A 146      65.420  41.345  18.523  1.00  0.00
ATOM   1722 3HZ  LYS A 146      64.183  40.732  19.426  1.00  0.00
ATOM   1723  N   LYS A 147      62.482  41.874  12.026  1.00  0.00
ATOM   1724  CA  LYS A 147      63.506  41.697  10.996  1.00  0.00
ATOM   1725  C   LYS A 147      63.318  40.652   9.894  1.00  0.00
ATOM   1726  O   LYS A 147      64.233  40.434   9.104  1.00  0.00
ATOM   1727  CB  LYS A 147      64.831  41.402  11.700  1.00  0.00
ATOM   1728  CG  LYS A 147      65.363  42.551  12.547  1.00  0.00
ATOM   1729  CD  LYS A 147      66.657  42.168  13.250  1.00  0.00
ATOM   1730  CE  LYS A 147      67.163  43.298  14.133  1.00  0.00
ATOM   1731  NZ  LYS A 147      68.406  42.922  14.861  1.00  0.00
ATOM   1732  H   LYS A 147      62.138  42.803  12.223  1.00  0.00
ATOM   1733  HA  LYS A 147      63.594  42.608  10.403  1.00  0.00
ATOM   1734 1HB  LYS A 147      64.669  40.530  12.334  1.00  0.00
ATOM   1735 2HB  LYS A 147      65.558  41.157  10.925  1.00  0.00
ATOM   1736 1HG  LYS A 147      65.543  43.407  11.895  1.00  0.00
ATOM   1737 2HG  LYS A 147      64.609  42.813  13.289  1.00  0.00
ATOM   1738 1HD  LYS A 147      66.471  41.284  13.861  1.00  0.00
ATOM   1739 2HD  LYS A 147      67.407  41.934  12.495  1.00  0.00
ATOM   1740 1HE  LYS A 147      67.360  44.163  13.502  1.00  0.00
ATOM   1741 2HE  LYS A 147      66.383  43.545  14.853  1.00  0.00
ATOM   1742 1HZ  LYS A 147      68.708  43.697  15.434  1.00  0.00
ATOM   1743 2HZ  LYS A 147      68.223  42.120  15.448  1.00  0.00
ATOM   1744 3HZ  LYS A 147      69.130  42.694  14.194  1.00  0.00
ATOM   1745  N   LEU A 148      62.153  40.019   9.810  1.00  0.00
ATOM   1746  CA  LEU A 148      61.936  39.010   8.771  1.00  0.00
ATOM   1747  C   LEU A 148      61.904  39.641   7.363  1.00  0.00
ATOM   1748  O   LEU A 148      61.445  40.772   7.191  1.00  0.00
ATOM   1749  CB  LEU A 148      60.633  38.249   9.047  1.00  0.00
ATOM   1750  CG  LEU A 148      60.365  37.057   8.119  1.00  0.00
ATOM   1751  CD1 LEU A 148      61.408  35.971   8.349  1.00  0.00
ATOM   1752  CD2 LEU A 148      58.964  36.521   8.372  1.00  0.00
ATOM   1753  H   LEU A 148      61.407  40.225  10.459  1.00  0.00
ATOM   1754  HA  LEU A 148      62.767  38.305   8.768  1.00  0.00
ATOM   1755 1HB  LEU A 148      60.844  37.897  10.056  1.00  0.00
ATOM   1756 2HB  LEU A 148      59.772  38.916   9.067  1.00  0.00
ATOM   1757  HG  LEU A 148      60.400  37.429   7.095  1.00  0.00
ATOM   1758 1HD1 LEU A 148      61.209  35.129   7.686  1.00  0.00
ATOM   1759 2HD1 LEU A 148      62.400  36.370   8.140  1.00  0.00
ATOM   1760 3HD1 LEU A 148      61.361  35.636   9.385  1.00  0.00
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ATOM   1761 1HD2 LEU A 148      58.774  35.674   7.712  1.00  0.00
ATOM   1762 2HD2 LEU A 148      58.879  36.198   9.410  1.00  0.00
ATOM   1763 3HD2 LEU A 148      58.233  37.305   8.175  1.00  0.00
ATOM   1764  N   ARG A 149      62.415  38.918   6.368  1.00  0.00
ATOM   1765  CA  ARG A 149      62.431  39.408   4.987  1.00  0.00
ATOM   1766  C   ARG A 149      61.460  38.574   4.139  1.00  0.00
ATOM   1767  O   ARG A 149      61.677  37.378   3.922  1.00  0.00
ATOM   1768  CB  ARG A 149      63.831  39.435   4.391  1.00  0.00
ATOM   1769  CG  ARG A 149      64.792  40.404   5.061  1.00  0.00
ATOM   1770  CD  ARG A 149      66.176  40.365   4.521  1.00  0.00
ATOM   1771  NE  ARG A 149      67.090  41.312   5.138  1.00  0.00
ATOM   1772  CZ  ARG A 149      68.361  41.518   4.741  1.00  0.00
ATOM   1773  NH1 ARG A 149      68.884  40.822   3.757  1.00  0.00
ATOM   1774  NH2 ARG A 149      69.077  42.423   5.385  1.00  0.00
ATOM   1775  H   ARG A 149      62.802  38.007   6.571  1.00  0.00
ATOM   1776  HA  ARG A 149      62.090  40.443   4.959  1.00  0.00
ATOM   1777 1HB  ARG A 149      64.228  38.424   4.466  1.00  0.00
ATOM   1778 2HB  ARG A 149      63.723  39.706   3.341  1.00  0.00
ATOM   1779 1HG  ARG A 149      64.410  41.417   4.933  1.00  0.00
ATOM   1780 2HG  ARG A 149      64.839  40.165   6.124  1.00  0.00
ATOM   1781 1HD  ARG A 149      66.587  39.368   4.673  1.00  0.00
ATOM   1782 2HD  ARG A 149      66.146  40.587   3.455  1.00  0.00
ATOM   1783  HE  ARG A 149      66.940  41.938   5.919  1.00  0.00
ATOM   1784 1HH1 ARG A 149      68.329  40.121   3.286  1.00  0.00
ATOM   1785 2HH1 ARG A 149      69.839  40.991   3.475  1.00  0.00
ATOM   1786 1HH2 ARG A 149      68.665  42.937   6.152  1.00  0.00
ATOM   1787 2HH2 ARG A 149      70.032  42.597   5.109  1.00  0.00
ATOM   1788  N   ILE A 150      60.397  39.220   3.661  1.00  0.00
ATOM   1789  CA  ILE A 150      59.360  38.559   2.867  1.00  0.00
ATOM   1790  C   ILE A 150      59.548  38.608   1.346  1.00  0.00
ATOM   1791  O   ILE A 150      59.697  39.680   0.754  1.00  0.00
ATOM   1792  CB  ILE A 150      57.980  39.158   3.195  1.00  0.00
ATOM   1793  CG1 ILE A 150      57.705  39.073   4.698  1.00  0.00
ATOM   1794  CG2 ILE A 150      56.890  38.444   2.410  1.00  0.00
ATOM   1795  CD1 ILE A 150      56.480  39.842   5.139  1.00  0.00
ATOM   1796  H   ILE A 150      60.311  40.207   3.859  1.00  0.00
ATOM   1797  HA  ILE A 150      59.358  37.486   3.055  1.00  0.00
ATOM   1798  HB  ILE A 150      57.981  40.216   2.935  1.00  0.00
ATOM   1799 1HG1 ILE A 150      57.581  38.020   4.946  1.00  0.00
ATOM   1800 2HG1 ILE A 150      58.583  39.465   5.211  1.00  0.00
ATOM   1801 1HG2 ILE A 150      55.922  38.879   2.653  1.00  0.00
ATOM   1802 2HG2 ILE A 150      57.079  38.555   1.343  1.00  0.00
ATOM   1803 3HG2 ILE A 150      56.888  37.386   2.670  1.00  0.00
ATOM   1804 1HD1 ILE A 150      56.350  39.735   6.216  1.00  0.00
ATOM   1805 2HD1 ILE A 150      56.604  40.898   4.892  1.00  0.00
ATOM   1806 3HD1 ILE A 150      55.601  39.452   4.629  1.00  0.00
ATOM   1807  N   LYS A 151      59.517  37.437   0.718  1.00  0.00
ATOM   1808  CA  LYS A 151      59.665  37.343  -0.726  1.00  0.00
ATOM   1809  C   LYS A 151      58.506  38.087  -1.395  1.00  0.00
ATOM   1810  O   LYS A 151      57.342  37.845  -1.087  1.00  0.00
ATOM   1811  CB  LYS A 151      59.707  35.882  -1.178  1.00  0.00
ATOM   1812  CG  LYS A 151      60.955  35.125  -0.745  1.00  0.00
ATOM   1813  CD  LYS A 151      60.942  33.694  -1.261  1.00  0.00
ATOM   1814  CE  LYS A 151      62.189  32.938  -0.831  1.00  0.00
ATOM   1815  NZ  LYS A 151      62.181  31.530  -1.313  1.00  0.00
ATOM   1816  H   LYS A 151      59.388  36.592   1.255  1.00  0.00
ATOM   1817  HA  LYS A 151      60.594  37.825  -1.034  1.00  0.00
ATOM   1818 1HB  LYS A 151      58.824  35.394  -0.763  1.00  0.00
ATOM   1819 2HB  LYS A 151      59.643  35.882  -2.266  1.00  0.00
ATOM   1820 1HG  LYS A 151      61.829  35.646  -1.137  1.00  0.00
ATOM   1821 2HG  LYS A 151      60.996  35.119   0.344  1.00  0.00
ATOM   1822 1HD  LYS A 151      60.057  33.191  -0.868  1.00  0.00
ATOM   1823 2HD  LYS A 151      60.890  33.718  -2.350  1.00  0.00
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ATOM   1824 1HE  LYS A 151      63.059  33.454  -1.235  1.00  0.00
ATOM   1825 2HE  LYS A 151      62.236  32.947   0.258  1.00  0.00
ATOM   1826 1HZ  LYS A 151      63.023  31.064  -1.006  1.00  0.00
ATOM   1827 2HZ  LYS A 151      61.375  31.050  -0.938  1.00  0.00
ATOM   1828 3HZ  LYS A 151      62.139  31.520  -2.322  1.00  0.00
ATOM   1829  N   SER A 152      58.835  39.003  -2.301  1.00  0.00
ATOM   1830  CA  SER A 152      57.829  39.796  -3.008  1.00  0.00
ATOM   1831  C   SER A 152      56.853  38.941  -3.806  1.00  0.00
ATOM   1832  O   SER A 152      55.751  39.388  -4.139  1.00  0.00
ATOM   1833  CB  SER A 152      58.514  40.790  -3.926  1.00  0.00
ATOM   1834  OG  SER A 152      59.209  40.155  -4.964  1.00  0.00
ATOM   1835  H   SER A 152      59.813  39.153  -2.505  1.00  0.00
ATOM   1836  HA  SER A 152      57.260  40.457  -2.353  1.00  0.00
ATOM   1837 1HB  SER A 152      57.757  41.446  -4.355  1.00  0.00
ATOM   1838 2HB  SER A 152      59.215  41.382  -3.339  1.00  0.00
ATOM   1839  HG  SER A 152      59.626  40.817  -5.520  1.00  0.00
ATOM   1840  N   SER A 153      57.270  37.717  -4.119  1.00  0.00
ATOM   1841  CA  SER A 153      56.433  36.786  -4.865  1.00  0.00
ATOM   1842  C   SER A 153      55.207  36.458  -4.013  1.00  0.00
ATOM   1843  O   SER A 153      54.170  36.023  -4.523  1.00  0.00
ATOM   1844  CB  SER A 153      57.205  35.531  -5.222  1.00  0.00
ATOM   1845  OG  SER A 153      57.551  34.785  -4.087  1.00  0.00
ATOM   1846  H   SER A 153      58.193  37.426  -3.831  1.00  0.00
ATOM   1847  HA  SER A 153      56.157  37.150  -5.855  1.00  0.00
ATOM   1848 1HB  SER A 153      56.587  34.916  -5.876  1.00  0.00
ATOM   1849 2HB  SER A 153      58.115  35.818  -5.748  1.00  0.00
ATOM   1850  HG  SER A 153      58.036  34.001  -4.356  1.00  0.00
ATOM   1851  N   PHE A 154      55.338  36.662  -2.707  1.00  0.00
ATOM   1852  CA  PHE A 154      54.233  36.415  -1.802  1.00  0.00
ATOM   1853  C   PHE A 154      53.381  37.673  -1.662  1.00  0.00
ATOM   1854  O   PHE A 154      52.152  37.612  -1.755  1.00  0.00
ATOM   1855  CB  PHE A 154      54.748  35.959  -0.435  1.00  0.00
ATOM   1856  CG  PHE A 154      53.690  35.929   0.631  1.00  0.00
ATOM   1857  CD1 PHE A 154      52.666  34.995   0.587  1.00  0.00
ATOM   1858  CD2 PHE A 154      53.717  36.835   1.681  1.00  0.00
ATOM   1859  CE1 PHE A 154      51.692  34.967   1.567  1.00  0.00
ATOM   1860  CE2 PHE A 154      52.746  36.809   2.663  1.00  0.00
ATOM   1861  CZ  PHE A 154      51.732  35.873   2.605  1.00  0.00
ATOM   1862  H   PHE A 154      56.216  36.993  -2.333  1.00  0.00
ATOM   1863  HA  PHE A 154      53.589  35.634  -2.208  1.00  0.00
ATOM   1864 1HB  PHE A 154      55.150  34.949  -0.504  1.00  0.00
ATOM   1865 2HB  PHE A 154      55.525  36.636  -0.084  1.00  0.00
ATOM   1866  HD1 PHE A 154      52.635  34.278  -0.234  1.00  0.00
ATOM   1867  HD2 PHE A 154      54.517  37.575   1.726  1.00  0.00
ATOM   1868  HE1 PHE A 154      50.893  34.227   1.520  1.00  0.00
ATOM   1869  HE2 PHE A 154      52.778  37.526   3.483  1.00  0.00
ATOM   1870  HZ  PHE A 154      50.965  35.852   3.378  1.00  0.00
ATOM   1871  N   VAL A 155      54.038  38.809  -1.431  1.00  0.00
ATOM   1872  CA  VAL A 155      53.344  40.083  -1.272  1.00  0.00
ATOM   1873  C   VAL A 155      52.509  40.440  -2.503  1.00  0.00
ATOM   1874  O   VAL A 155      51.416  40.996  -2.380  1.00  0.00
ATOM   1875  CB  VAL A 155      54.337  41.227  -0.992  1.00  0.00
ATOM   1876  CG1 VAL A 155      53.624  42.571  -1.028  1.00  0.00
ATOM   1877  CG2 VAL A 155      55.020  41.024   0.352  1.00  0.00
ATOM   1878  H   VAL A 155      55.046  38.786  -1.364  1.00  0.00
ATOM   1879  HA  VAL A 155      52.619  40.041  -0.458  1.00  0.00
ATOM   1880  HB  VAL A 155      55.119  41.210  -1.751  1.00  0.00
ATOM   1881 1HG1 VAL A 155      54.341  43.368  -0.829  1.00  0.00
ATOM   1882 2HG1 VAL A 155      53.180  42.721  -2.012  1.00  0.00
ATOM   1883 3HG1 VAL A 155      52.842  42.589  -0.269  1.00  0.00
ATOM   1884 1HG2 VAL A 155      55.718  41.840   0.533  1.00  0.00
ATOM   1885 2HG2 VAL A 155      54.268  41.005   1.141  1.00  0.00
ATOM   1886 3HG2 VAL A 155      55.562  40.078   0.345  1.00  0.00
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ATOM   1887  N   ALA A 156      53.024  40.113  -3.685  1.00  0.00
ATOM   1888  CA  ALA A 156      52.324  40.400  -4.933  1.00  0.00
ATOM   1889  C   ALA A 156      50.903  39.809  -4.990  1.00  0.00
ATOM   1890  O   ALA A 156      49.933  40.535  -5.220  1.00  0.00
ATOM   1891  CB  ALA A 156      53.182  40.122  -6.183  1.00  0.00
ATOM   1892  H   ALA A 156      53.923  39.654  -3.720  1.00  0.00
ATOM   1893  HA  ALA A 156      52.201  41.479  -5.025  1.00  0.00
ATOM   1894 1HB  ALA A 156      52.605  40.355  -7.078  1.00  0.00
ATOM   1895 2HB  ALA A 156      54.077  40.744  -6.156  1.00  0.00
ATOM   1896 3HB  ALA A 156      53.469  39.072  -6.201  1.00  0.00
ATOM   1897  N   PRO A 157      50.763  38.484  -4.795  1.00  0.00
ATOM   1898  CA  PRO A 157      49.437  37.859  -4.833  1.00  0.00
ATOM   1899  C   PRO A 157      48.537  38.357  -3.700  1.00  0.00
ATOM   1900  O   PRO A 157      47.346  38.619  -3.902  1.00  0.00
ATOM   1901  CB  PRO A 157      49.731  36.360  -4.713  1.00  0.00
ATOM   1902  CG  PRO A 157      51.095  36.296  -4.115  1.00  0.00
ATOM   1903  CD  PRO A 157      51.808  37.524  -4.616  1.00  0.00
ATOM   1904  HA  PRO A 157      48.880  38.097  -5.751  1.00  0.00
ATOM   1905 1HB  PRO A 157      48.992  35.854  -4.075  1.00  0.00
ATOM   1906 2HB  PRO A 157      49.703  35.864  -5.695  1.00  0.00
ATOM   1907 1HG  PRO A 157      51.047  36.287  -3.016  1.00  0.00
ATOM   1908 2HG  PRO A 157      51.621  35.380  -4.422  1.00  0.00
ATOM   1909 1HD  PRO A 157      52.550  37.897  -3.894  1.00  0.00
ATOM   1910 2HD  PRO A 157      52.343  37.338  -5.559  1.00  0.00
ATOM   1911  N   LEU A 158      49.121  38.480  -2.510  1.00  0.00
ATOM   1912  CA  LEU A 158      48.403  38.932  -1.323  1.00  0.00
ATOM   1913  C   LEU A 158      47.742  40.303  -1.464  1.00  0.00
ATOM   1914  O   LEU A 158      46.545  40.453  -1.210  1.00  0.00
ATOM   1915  CB  LEU A 158      49.372  38.919  -0.141  1.00  0.00
ATOM   1916  CG  LEU A 158      48.756  39.414   1.164  1.00  0.00
ATOM   1917  CD1 LEU A 158      47.533  38.600   1.562  1.00  0.00
ATOM   1918  CD2 LEU A 158      49.778  39.451   2.292  1.00  0.00
ATOM   1919  H   LEU A 158      50.101  38.249  -2.434  1.00  0.00
ATOM   1920  HA  LEU A 158      47.576  38.253  -1.116  1.00  0.00
ATOM   1921 1HB  LEU A 158      49.573  37.850  -0.088  1.00  0.00
ATOM   1922 2HB  LEU A 158      50.295  39.451  -0.370  1.00  0.00
ATOM   1923  HG  LEU A 158      48.431  40.442   0.999  1.00  0.00
ATOM   1924 1HD1 LEU A 158      47.126  38.987   2.496  1.00  0.00
ATOM   1925 2HD1 LEU A 158      46.777  38.674   0.780  1.00  0.00
ATOM   1926 3HD1 LEU A 158      47.818  37.557   1.695  1.00  0.00
ATOM   1927 1HD2 LEU A 158      49.300  39.810   3.204  1.00  0.00
ATOM   1928 2HD2 LEU A 158      50.173  38.449   2.459  1.00  0.00
ATOM   1929 3HD2 LEU A 158      50.594  40.122   2.023  1.00  0.00
ATOM   1930  N   GLU A 159      48.532  41.298  -1.858  1.00  0.00
ATOM   1931  CA  GLU A 159      48.058  42.672  -2.034  1.00  0.00
ATOM   1932  C   GLU A 159      47.019  42.756  -3.161  1.00  0.00
ATOM   1933  O   GLU A 159      46.071  43.539  -3.099  1.00  0.00
ATOM   1934  CB  GLU A 159      49.232  43.610  -2.326  1.00  0.00
ATOM   1935  CG  GLU A 159      48.848  45.078  -2.448  1.00  0.00
ATOM   1936  CD  GLU A 159      50.060  45.943  -2.654  1.00  0.00
ATOM   1937  OE1 GLU A 159      51.146  45.416  -2.679  1.00  0.00
ATOM   1938  OE2 GLU A 159      49.894  47.115  -2.899  1.00  0.00
ATOM   1939  H   GLU A 159      49.502  41.085  -2.042  1.00  0.00
ATOM   1940  HA  GLU A 159      47.559  43.010  -1.125  1.00  0.00
ATOM   1941 1HB  GLU A 159      49.946  43.488  -1.511  1.00  0.00
ATOM   1942 2HB  GLU A 159      49.684  43.274  -3.259  1.00  0.00
ATOM   1943 1HG  GLU A 159      48.125  45.272  -3.240  1.00  0.00
ATOM   1944 2HG  GLU A 159      48.399  45.306  -1.483  1.00  0.00
ATOM   1945  N   LYS A 160      47.196  41.931  -4.184  1.00  0.00
ATOM   1946  CA  LYS A 160      46.272  41.917  -5.304  1.00  0.00
ATOM   1947  C   LYS A 160      44.893  41.390  -4.896  1.00  0.00
ATOM   1948  O   LYS A 160      43.911  42.140  -4.868  1.00  0.00
ATOM   1949  CB  LYS A 160      46.842  41.074  -6.446  1.00  0.00
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ATOM   1950  CG  LYS A 160      45.969  41.032  -7.693  1.00  0.00
ATOM   1951  CD  LYS A 160      46.631  40.231  -8.805  1.00  0.00
ATOM   1952  CE  LYS A 160      45.758  40.186 -10.050  1.00  0.00
ATOM   1953  NZ  LYS A 160      46.387  39.394 -11.142  1.00  0.00
ATOM   1954  H   LYS A 160      47.985  41.300  -4.189  1.00  0.00
ATOM   1955  HA  LYS A 160      46.113  42.934  -5.664  1.00  0.00
ATOM   1956 1HB  LYS A 160      47.816  41.496  -6.699  1.00  0.00
ATOM   1957 2HB  LYS A 160      46.974  40.063  -6.062  1.00  0.00
ATOM   1958 1HG  LYS A 160      45.015  40.573  -7.432  1.00  0.00
ATOM   1959 2HG  LYS A 160      45.800  42.053  -8.032  1.00  0.00
ATOM   1960 1HD  LYS A 160      47.587  40.697  -9.047  1.00  0.00
ATOM   1961 2HD  LYS A 160      46.803  39.216  -8.446  1.00  0.00
ATOM   1962 1HE  LYS A 160      44.802  39.738  -9.782  1.00  0.00
ATOM   1963 2HE  LYS A 160      45.596  41.208 -10.391  1.00  0.00
ATOM   1964 1HZ  LYS A 160      45.778  39.389 -11.948  1.00  0.00
ATOM   1965 2HZ  LYS A 160      47.273  39.810 -11.392  1.00  0.00
ATOM   1966 3HZ  LYS A 160      46.536  38.446 -10.827  1.00  0.00
ATOM   1967  N   SER A 161      44.831  40.103  -4.569  1.00  0.00
ATOM   1968  CA  SER A 161      43.583  39.459  -4.188  1.00  0.00
ATOM   1969  C   SER A 161      42.964  39.897  -2.859  1.00  0.00
ATOM   1970  O   SER A 161      41.747  40.036  -2.761  1.00  0.00
ATOM   1971  CB  SER A 161      43.807  37.960  -4.164  1.00  0.00
ATOM   1972  OG  SER A 161      43.898  37.420  -5.453  1.00  0.00
ATOM   1973  H   SER A 161      45.681  39.557  -4.587  1.00  0.00
ATOM   1974  HA  SER A 161      42.795  39.565  -4.935  1.00  0.00
ATOM   1975 1HB  SER A 161      44.733  37.754  -3.627  1.00  0.00
ATOM   1976 2HB  SER A 161      42.974  37.491  -3.641  1.00  0.00
ATOM   1977  HG  SER A 161      43.016  37.308  -5.816  1.00  0.00
ATOM   1978  N   TYR A 162      43.777  40.117  -1.834  1.00  0.00
ATOM   1979  CA  TYR A 162      43.215  40.507  -0.549  1.00  0.00
ATOM   1980  C   TYR A 162      43.383  41.971  -0.176  1.00  0.00
ATOM   1981  O   TYR A 162      42.901  42.413   0.870  1.00  0.00
ATOM   1982  CB  TYR A 162      43.829  39.640   0.553  1.00  0.00
ATOM   1983  CG  TYR A 162      43.523  38.165   0.414  1.00  0.00
ATOM   1984  CD1 TYR A 162      44.357  37.330  -0.316  1.00  0.00
ATOM   1985  CD2 TYR A 162      42.403  37.612   1.016  1.00  0.00
ATOM   1986  CE1 TYR A 162      44.082  35.983  -0.446  1.00  0.00
ATOM   1987  CE2 TYR A 162      42.119  36.266   0.893  1.00  0.00
ATOM   1988  CZ  TYR A 162      42.961  35.454   0.161  1.00  0.00
ATOM   1989  OH  TYR A 162      42.683  34.112   0.037  1.00  0.00
ATOM   1990  H   TYR A 162      44.778  40.020  -1.924  1.00  0.00
ATOM   1991  HA  TYR A 162      42.134  40.364  -0.559  1.00  0.00
ATOM   1992 1HB  TYR A 162      44.909  39.792   0.520  1.00  0.00
ATOM   1993 2HB  TYR A 162      43.440  40.004   1.503  1.00  0.00
ATOM   1994  HD1 TYR A 162      45.240  37.755  -0.792  1.00  0.00
ATOM   1995  HD2 TYR A 162      41.741  38.258   1.592  1.00  0.00
ATOM   1996  HE1 TYR A 162      44.746  35.339  -1.022  1.00  0.00
ATOM   1997  HE2 TYR A 162      41.232  35.850   1.373  1.00  0.00
ATOM   1998  HH  TYR A 162      43.127  33.705  -0.711  1.00  0.00
ATOM   1999  N   GLY A 163      44.056  42.719  -1.043  1.00  0.00
ATOM   2000  CA  GLY A 163      44.269  44.135  -0.808  1.00  0.00
ATOM   2001  C   GLY A 163      44.802  44.480   0.566  1.00  0.00
ATOM   2002  O   GLY A 163      44.244  45.320   1.264  1.00  0.00
ATOM   2003  H   GLY A 163      44.428  42.298  -1.882  1.00  0.00
ATOM   2004 1HA  GLY A 163      44.988  44.513  -1.535  1.00  0.00
ATOM   2005 2HA  GLY A 163      43.323  44.662  -0.927  1.00  0.00
ATOM   2006  N   THR A 164      45.890  43.832   0.958  1.00  0.00
ATOM   2007  CA  THR A 164      46.499  44.091   2.253  1.00  0.00
ATOM   2008  C   THR A 164      47.981  43.713   2.193  1.00  0.00
ATOM   2009  O   THR A 164      48.363  42.738   1.542  1.00  0.00
ATOM   2010  CB  THR A 164      45.807  43.306   3.383  1.00  0.00
ATOM   2011  OG1 THR A 164      46.394  43.659   4.642  1.00  0.00
ATOM   2012  CG2 THR A 164      45.954  41.809   3.160  1.00  0.00
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ATOM   2013  H   THR A 164      46.307  43.144   0.347  1.00  0.00
ATOM   2014  HA  THR A 164      46.437  45.155   2.484  1.00  0.00
ATOM   2015  HB  THR A 164      44.749  43.568   3.399  1.00  0.00
ATOM   2016  HG1 THR A 164      45.960  43.168   5.345  1.00  0.00
ATOM   2017 1HG2 THR A 164      45.458  41.272   3.968  1.00  0.00
ATOM   2018 2HG2 THR A 164      45.498  41.537   2.208  1.00  0.00
ATOM   2019 3HG2 THR A 164      47.011  41.547   3.145  1.00  0.00
ATOM   2020  N   ARG A 165      48.814  44.512   2.851  1.00  0.00
ATOM   2021  CA  ARG A 165      50.251  44.265   2.895  1.00  0.00
ATOM   2022  C   ARG A 165      50.645  43.783   4.282  1.00  0.00
ATOM   2023  O   ARG A 165      50.077  44.210   5.294  1.00  0.00
ATOM   2024  CB  ARG A 165      51.068  45.474   2.463  1.00  0.00
ATOM   2025  CG  ARG A 165      50.907  45.865   1.002  1.00  0.00
ATOM   2026  CD  ARG A 165      51.664  47.080   0.607  1.00  0.00
ATOM   2027  NE  ARG A 165      51.206  48.308   1.238  1.00  0.00
ATOM   2028  CZ  ARG A 165      51.850  49.489   1.172  1.00  0.00
ATOM   2029  NH1 ARG A 165      52.997  49.600   0.540  1.00  0.00
ATOM   2030  NH2 ARG A 165      51.311  50.529   1.783  1.00  0.00
ATOM   2031  H   ARG A 165      48.438  45.315   3.335  1.00  0.00
ATOM   2032  HA  ARG A 165      50.512  43.478   2.187  1.00  0.00
ATOM   2033 1HB  ARG A 165      50.762  46.307   3.094  1.00  0.00
ATOM   2034 2HB  ARG A 165      52.114  45.236   2.657  1.00  0.00
ATOM   2035 1HG  ARG A 165      51.253  45.038   0.381  1.00  0.00
ATOM   2036 2HG  ARG A 165      49.850  46.049   0.807  1.00  0.00
ATOM   2037 1HD  ARG A 165      52.712  46.948   0.875  1.00  0.00
ATOM   2038 2HD  ARG A 165      51.580  47.215  -0.470  1.00  0.00
ATOM   2039  HE  ARG A 165      50.380  48.475   1.797  1.00  0.00
ATOM   2040 1HH1 ARG A 165      53.406  48.791   0.093  1.00  0.00
ATOM   2041 2HH1 ARG A 165      53.465  50.494   0.502  1.00  0.00
ATOM   2042 1HH2 ARG A 165      50.437  50.422   2.280  1.00  0.00
ATOM   2043 2HH2 ARG A 165      51.773  51.426   1.750  1.00  0.00
ATOM   2044  N   PRO A 166      51.622  42.873   4.346  1.00  0.00
ATOM   2045  CA  PRO A 166      52.101  42.322   5.615  1.00  0.00
ATOM   2046  C   PRO A 166      52.840  43.376   6.411  1.00  0.00
ATOM   2047  O   PRO A 166      53.494  44.248   5.846  1.00  0.00
ATOM   2048  CB  PRO A 166      53.016  41.162   5.209  1.00  0.00
ATOM   2049  CG  PRO A 166      53.494  41.526   3.844  1.00  0.00
ATOM   2050  CD  PRO A 166      52.343  42.252   3.199  1.00  0.00
ATOM   2051  HA  PRO A 166      51.283  41.985   6.268  1.00  0.00
ATOM   2052 1HB  PRO A 166      53.858  41.049   5.908  1.00  0.00
ATOM   2053 2HB  PRO A 166      52.474  40.205   5.199  1.00  0.00
ATOM   2054 1HG  PRO A 166      54.387  42.166   3.893  1.00  0.00
ATOM   2055 2HG  PRO A 166      53.770  40.631   3.268  1.00  0.00
ATOM   2056 1HD  PRO A 166      52.681  43.028   2.498  1.00  0.00
ATOM   2057 2HD  PRO A 166      51.687  41.573   2.634  1.00  0.00
ATOM   2058  N   ARG A 167      52.724  43.304   7.726  1.00  0.00
ATOM   2059  CA  ARG A 167      53.411  44.245   8.586  1.00  0.00
ATOM   2060  C   ARG A 167      54.552  43.476   9.229  1.00  0.00
ATOM   2061  O   ARG A 167      54.369  42.336   9.654  1.00  0.00
ATOM   2062  CB  ARG A 167      52.501  44.917   9.604  1.00  0.00
ATOM   2063  CG  ARG A 167      53.195  45.907  10.526  1.00  0.00
ATOM   2064  CD  ARG A 167      52.296  46.557  11.514  1.00  0.00
ATOM   2065  NE  ARG A 167      51.295  47.437  10.931  1.00  0.00
ATOM   2066  CZ  ARG A 167      51.513  48.721  10.586  1.00  0.00
ATOM   2067  NH1 ARG A 167      52.680  49.290  10.796  1.00  0.00
ATOM   2068  NH2 ARG A 167      50.515  49.402  10.051  1.00  0.00
ATOM   2069  H   ARG A 167      52.150  42.585   8.143  1.00  0.00
ATOM   2070  HA  ARG A 167      53.811  45.066   7.990  1.00  0.00
ATOM   2071 1HB  ARG A 167      51.722  45.432   9.044  1.00  0.00
ATOM   2072 2HB  ARG A 167      52.054  44.123  10.203  1.00  0.00
ATOM   2073 1HG  ARG A 167      53.975  45.382  11.077  1.00  0.00
ATOM   2074 2HG  ARG A 167      53.646  46.691   9.915  1.00  0.00
ATOM   2075 1HD  ARG A 167      51.766  45.785  12.072  1.00  0.00
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ATOM   2076 2HD  ARG A 167      52.896  47.154  12.200  1.00  0.00
ATOM   2077  HE  ARG A 167      50.329  47.250  10.700  1.00  0.00
ATOM   2078 1HH1 ARG A 167      53.427  48.761  11.222  1.00  0.00
ATOM   2079 2HH1 ARG A 167      52.823  50.253  10.530  1.00  0.00
ATOM   2080 1HH2 ARG A 167      49.619  48.954   9.913  1.00  0.00
ATOM   2081 2HH2 ARG A 167      50.651  50.365   9.784  1.00  0.00
ATOM   2082  N   VAL A 168      55.741  44.067   9.273  1.00  0.00
ATOM   2083  CA  VAL A 168      56.859  43.378   9.916  1.00  0.00
ATOM   2084  C   VAL A 168      57.112  44.076  11.241  1.00  0.00
ATOM   2085  O   VAL A 168      57.382  45.271  11.279  1.00  0.00
ATOM   2086  CB  VAL A 168      58.140  43.392   9.060  1.00  0.00
ATOM   2087  CG1 VAL A 168      59.277  42.696   9.793  1.00  0.00
ATOM   2088  CG2 VAL A 168      57.889  42.727   7.716  1.00  0.00
ATOM   2089  H   VAL A 168      55.892  44.982   8.873  1.00  0.00
ATOM   2090  HA  VAL A 168      56.612  42.338  10.133  1.00  0.00
ATOM   2091  HB  VAL A 168      58.418  44.426   8.855  1.00  0.00
ATOM   2092 1HG1 VAL A 168      60.175  42.716   9.174  1.00  0.00
ATOM   2093 2HG1 VAL A 168      59.474  43.213  10.733  1.00  0.00
ATOM   2094 3HG1 VAL A 168      59.000  41.662   9.997  1.00  0.00
ATOM   2095 1HG2 VAL A 168      58.804  42.746   7.124  1.00  0.00
ATOM   2096 2HG2 VAL A 168      57.580  41.693   7.874  1.00  0.00
ATOM   2097 3HG2 VAL A 168      57.103  43.264   7.185  1.00  0.00
ATOM   2098  N   LEU A 169      57.005  43.317  12.325  1.00  0.00
ATOM   2099  CA  LEU A 169      57.197  43.849  13.667  1.00  0.00
ATOM   2100  C   LEU A 169      58.533  44.576  13.879  1.00  0.00
ATOM   2101  O   LEU A 169      59.584  44.185  13.354  1.00  0.00
ATOM   2102  CB  LEU A 169      57.062  42.707  14.682  1.00  0.00
ATOM   2103  CG  LEU A 169      55.623  42.264  14.979  1.00  0.00
ATOM   2104  CD1 LEU A 169      55.630  41.038  15.881  1.00  0.00
ATOM   2105  CD2 LEU A 169      54.863  43.409  15.631  1.00  0.00
ATOM   2106  H   LEU A 169      56.783  42.338  12.211  1.00  0.00
ATOM   2107  HA  LEU A 169      56.442  44.608  13.870  1.00  0.00
ATOM   2108 1HB  LEU A 169      57.589  41.924  14.139  1.00  0.00
ATOM   2109 2HB  LEU A 169      57.591  42.925  15.609  1.00  0.00
ATOM   2110  HG  LEU A 169      55.146  42.050  14.022  1.00  0.00
ATOM   2111 1HD1 LEU A 169      54.604  40.731  16.086  1.00  0.00
ATOM   2112 2HD1 LEU A 169      56.159  40.224  15.385  1.00  0.00
ATOM   2113 3HD1 LEU A 169      56.130  41.279  16.818  1.00  0.00
ATOM   2114 1HD2 LEU A 169      53.840  43.094  15.840  1.00  0.00
ATOM   2115 2HD2 LEU A 169      55.355  43.690  16.562  1.00  0.00
ATOM   2116 3HD2 LEU A 169      54.846  44.266  14.957  1.00  0.00
ATOM   2117  N   THR A 170      58.463  45.650  14.658  1.00  0.00
ATOM   2118  CA  THR A 170      59.606  46.494  14.968  1.00  0.00
ATOM   2119  C   THR A 170      60.472  45.958  16.102  1.00  0.00
ATOM   2120  O   THR A 170      61.676  46.220  16.144  1.00  0.00
ATOM   2121  CB  THR A 170      59.150  47.919  15.333  1.00  0.00
ATOM   2122  OG1 THR A 170      58.436  48.492  14.229  1.00  0.00
ATOM   2123  CG2 THR A 170      60.348  48.794  15.667  1.00  0.00
ATOM   2124  H   THR A 170      57.561  45.881  15.049  1.00  0.00
ATOM   2125  HA  THR A 170      60.273  46.543  14.107  1.00  0.00
ATOM   2126  HB  THR A 170      58.486  47.868  16.196  1.00  0.00
ATOM   2127  HG1 THR A 170      57.668  47.952  14.030  1.00  0.00
ATOM   2128 1HG2 THR A 170      60.005  49.796  15.922  1.00  0.00
ATOM   2129 2HG2 THR A 170      60.885  48.366  16.513  1.00  0.00
ATOM   2130 3HG2 THR A 170      61.011  48.845  14.804  1.00  0.00
ATOM   2131  N   GLY A 171      59.863  45.207  17.016  1.00  0.00
ATOM   2132  CA  GLY A 171      60.607  44.666  18.138  1.00  0.00
ATOM   2133  C   GLY A 171      60.348  45.474  19.397  1.00  0.00
ATOM   2134  O   GLY A 171      60.411  44.946  20.508  1.00  0.00
ATOM   2135  H   GLY A 171      58.876  45.006  16.937  1.00  0.00
ATOM   2136 1HA  GLY A 171      60.299  43.634  18.305  1.00  0.00
ATOM   2137 2HA  GLY A 171      61.671  44.694  17.906  1.00  0.00
ATOM   2138  N   ASN A 172      60.060  46.762  19.220  1.00  0.00
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ATOM   2139  CA  ASN A 172      59.775  47.657  20.333  1.00  0.00
ATOM   2140  C   ASN A 172      58.323  47.440  20.729  1.00  0.00
ATOM   2141  O   ASN A 172      57.408  47.809  19.995  1.00  0.00
ATOM   2142  CB  ASN A 172      60.040  49.112  19.993  1.00  0.00
ATOM   2143  CG  ASN A 172      59.856  50.048  21.155  1.00  0.00
ATOM   2144  OD1 ASN A 172      58.766  50.149  21.731  1.00  0.00
ATOM   2145  ND2 ASN A 172      60.891  50.792  21.451  1.00  0.00
ATOM   2146  H   ASN A 172      60.040  47.126  18.278  1.00  0.00
ATOM   2147  HA  ASN A 172      60.414  47.407  21.181  1.00  0.00
ATOM   2148 1HB  ASN A 172      60.933  49.402  19.438  1.00  0.00
ATOM   2149 2HB  ASN A 172      59.169  49.185  19.342  1.00  0.00
ATOM   2150 1HD2 ASN A 172      60.841  51.438  22.213  1.00  0.00
ATOM   2151 2HD2 ASN A 172      61.732  50.714  20.915  1.00  0.00
ATOM   2152  N   PRO A 173      58.088  46.835  21.898  1.00  0.00
ATOM   2153  CA  PRO A 173      56.722  46.577  22.368  1.00  0.00
ATOM   2154  C   PRO A 173      55.751  47.763  22.311  1.00  0.00
ATOM   2155  O   PRO A 173      54.664  47.641  21.751  1.00  0.00
ATOM   2156  CB  PRO A 173      56.943  46.115  23.812  1.00  0.00
ATOM   2157  CG  PRO A 173      58.276  45.448  23.788  1.00  0.00
ATOM   2158  CD  PRO A 173      59.136  46.307  22.901  1.00  0.00
ATOM   2159  HA  PRO A 173      56.197  45.826  21.759  1.00  0.00
ATOM   2160 1HB  PRO A 173      56.934  46.963  24.512  1.00  0.00
ATOM   2161 2HB  PRO A 173      56.155  45.419  24.137  1.00  0.00
ATOM   2162 1HG  PRO A 173      58.701  45.373  24.800  1.00  0.00
ATOM   2163 2HG  PRO A 173      58.201  44.423  23.395  1.00  0.00
ATOM   2164 1HD  PRO A 173      59.632  47.115  23.458  1.00  0.00
ATOM   2165 2HD  PRO A 173      59.928  45.728  22.402  1.00  0.00
ATOM   2166  N   ARG A 174      56.134  48.903  22.881  1.00  0.00
ATOM   2167  CA  ARG A 174      55.262  50.078  22.872  1.00  0.00
ATOM   2168  C   ARG A 174      54.987  50.646  21.486  1.00  0.00
ATOM   2169  O   ARG A 174      53.897  51.149  21.232  1.00  0.00
ATOM   2170  CB  ARG A 174      55.790  51.164  23.798  1.00  0.00
ATOM   2171  CG  ARG A 174      55.673  50.852  25.281  1.00  0.00
ATOM   2172  CD  ARG A 174      56.261  51.885  26.172  1.00  0.00
ATOM   2173  NE  ARG A 174      56.166  51.582  27.591  1.00  0.00
ATOM   2174  CZ  ARG A 174      56.719  52.323  28.571  1.00  0.00
ATOM   2175  NH1 ARG A 174      57.438  53.388  28.291  1.00  0.00
ATOM   2176  NH2 ARG A 174      56.541  51.937  29.822  1.00  0.00
ATOM   2177  H   ARG A 174      57.038  48.964  23.328  1.00  0.00
ATOM   2178  HA  ARG A 174      54.278  49.810  23.259  1.00  0.00
ATOM   2179 1HB  ARG A 174      56.838  51.317  23.544  1.00  0.00
ATOM   2180 2HB  ARG A 174      55.227  52.071  23.577  1.00  0.00
ATOM   2181 1HG  ARG A 174      54.617  50.754  25.533  1.00  0.00
ATOM   2182 2HG  ARG A 174      56.183  49.908  25.478  1.00  0.00
ATOM   2183 1HD  ARG A 174      57.318  51.998  25.933  1.00  0.00
ATOM   2184 2HD  ARG A 174      55.747  52.831  26.005  1.00  0.00
ATOM   2185  HE  ARG A 174      55.700  50.814  28.056  1.00  0.00
ATOM   2186 1HH1 ARG A 174      57.580  53.659  27.328  1.00  0.00
ATOM   2187 2HH1 ARG A 174      57.844  53.930  29.039  1.00  0.00
ATOM   2188 1HH2 ARG A 174      56.000  51.106  30.019  1.00  0.00
ATOM   2189 2HH2 ARG A 174      56.945  52.474  30.575  1.00  0.00
ATOM   2190  N   LEU A 175      55.972  50.567  20.598  1.00  0.00
ATOM   2191  CA  LEU A 175      55.836  51.087  19.242  1.00  0.00
ATOM   2192  C   LEU A 175      54.991  50.156  18.364  1.00  0.00
ATOM   2193  O   LEU A 175      54.184  50.624  17.555  1.00  0.00
ATOM   2194  CB  LEU A 175      57.222  51.297  18.620  1.00  0.00
ATOM   2195  CG  LEU A 175      58.069  52.398  19.270  1.00  0.00
ATOM   2196  CD1 LEU A 175      59.466  52.409  18.663  1.00  0.00
ATOM   2197  CD2 LEU A 175      57.388  53.745  19.078  1.00  0.00
ATOM   2198  H   LEU A 175      56.841  50.133  20.873  1.00  0.00
ATOM   2199  HA  LEU A 175      55.310  52.041  19.268  1.00  0.00
ATOM   2200 1HB  LEU A 175      57.658  50.320  18.825  1.00  0.00
ATOM   2201 2HB  LEU A 175      57.162  51.449  17.542  1.00  0.00
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ATOM   2202  HG  LEU A 175      58.104  52.192  20.340  1.00  0.00
ATOM   2203 1HD1 LEU A 175      60.060  53.194  19.131  1.00  0.00
ATOM   2204 2HD1 LEU A 175      59.944  51.444  18.833  1.00  0.00
ATOM   2205 3HD1 LEU A 175      59.396  52.597  17.592  1.00  0.00
ATOM   2206 1HD2 LEU A 175      57.990  54.527  19.541  1.00  0.00
ATOM   2207 2HD2 LEU A 175      57.281  53.951  18.012  1.00  0.00
ATOM   2208 3HD2 LEU A 175      56.402  53.724  19.543  1.00  0.00
ATOM   2209  N   ASP A 176      55.175  48.844  18.535  1.00  0.00
ATOM   2210  CA  ASP A 176      54.434  47.833  17.771  1.00  0.00
ATOM   2211  C   ASP A 176      52.946  47.803  18.108  1.00  0.00
ATOM   2212  O   ASP A 176      52.108  47.554  17.236  1.00  0.00
ATOM   2213  CB  ASP A 176      55.039  46.447  18.006  1.00  0.00
ATOM   2214  CG  ASP A 176      56.294  46.162  17.192  1.00  0.00
ATOM   2215  OD1 ASP A 176      56.474  46.790  16.175  1.00  0.00
ATOM   2216  OD2 ASP A 176      57.136  45.439  17.669  1.00  0.00
ATOM   2217  H   ASP A 176      55.854  48.543  19.220  1.00  0.00
ATOM   2218  HA  ASP A 176      54.486  48.063  16.706  1.00  0.00
ATOM   2219 1HB  ASP A 176      55.232  46.230  19.057  1.00  0.00
ATOM   2220 2HB  ASP A 176      54.224  45.818  17.648  1.00  0.00
ATOM   2221  N   LEU A 177      52.622  48.036  19.375  1.00  0.00
ATOM   2222  CA  LEU A 177      51.233  48.047  19.798  1.00  0.00
ATOM   2223  C   LEU A 177      50.541  49.324  19.316  1.00  0.00
ATOM   2224  O   LEU A 177      49.340  49.317  19.057  1.00  0.00
ATOM   2225  CB  LEU A 177      51.141  47.921  21.324  1.00  0.00
ATOM   2226  CG  LEU A 177      49.721  47.765  21.882  1.00  0.00
ATOM   2227  CD1 LEU A 177      49.070  46.513  21.310  1.00  0.00
ATOM   2228  CD2 LEU A 177      49.775  47.699  23.401  1.00  0.00
ATOM   2229  H   LEU A 177      53.346  48.208  20.058  1.00  0.00
ATOM   2230  HA  LEU A 177      50.706  47.209  19.343  1.00  0.00
ATOM   2231 1HB  LEU A 177      51.699  46.996  21.459  1.00  0.00
ATOM   2232 2HB  LEU A 177      51.660  48.736  21.828  1.00  0.00
ATOM   2233  HG  LEU A 177      49.164  48.661  21.606  1.00  0.00
ATOM   2234 1HD1 LEU A 177      48.062  46.410  21.711  1.00  0.00
ATOM   2235 2HD1 LEU A 177      49.020  46.592  20.224  1.00  0.00
ATOM   2236 3HD1 LEU A 177      49.660  45.639  21.584  1.00  0.00
ATOM   2237 1HD2 LEU A 177      48.764  47.589  23.796  1.00  0.00
ATOM   2238 2HD2 LEU A 177      50.380  46.845  23.707  1.00  0.00
ATOM   2239 3HD2 LEU A 177      50.218  48.616  23.790  1.00  0.00
ATOM   2240  N   GLN A 178      51.294  50.416  19.194  1.00  0.00
ATOM   2241  CA  GLN A 178      50.735  51.676  18.706  1.00  0.00
ATOM   2242  C   GLN A 178      50.336  51.461  17.244  1.00  0.00
ATOM   2243  O   GLN A 178      49.221  51.797  16.831  1.00  0.00
ATOM   2244  CB  GLN A 178      51.741  52.823  18.830  1.00  0.00
ATOM   2245  CG  GLN A 178      51.209  54.170  18.372  1.00  0.00
ATOM   2246  CD  GLN A 178      52.230  55.281  18.533  1.00  0.00
ATOM   2247  OE1 GLN A 178      53.381  55.036  18.906  1.00  0.00
ATOM   2248  NE2 GLN A 178      51.813  56.511  18.256  1.00  0.00
ATOM   2249  H   GLN A 178      52.272  50.375  19.443  1.00  0.00
ATOM   2250  HA  GLN A 178      49.845  51.928  19.282  1.00  0.00
ATOM   2251 1HB  GLN A 178      52.029  52.877  19.880  1.00  0.00
ATOM   2252 2HB  GLN A 178      52.609  52.547  18.231  1.00  0.00
ATOM   2253 1HG  GLN A 178      50.709  54.312  17.415  1.00  0.00
ATOM   2254 2HG  GLN A 178      50.479  54.254  19.178  1.00  0.00
ATOM   2255 1HE2 GLN A 178      52.442  57.285  18.344  1.00  0.00
ATOM   2256 2HE2 GLN A 178      50.871  56.665  17.958  1.00  0.00
ATOM   2257  N   GLU A 179      51.276  50.916  16.469  1.00  0.00
ATOM   2258  CA  GLU A 179      51.075  50.637  15.052  1.00  0.00
ATOM   2259  C   GLU A 179      49.793  49.849  14.816  1.00  0.00
ATOM   2260  O   GLU A 179      48.936  50.275  14.041  1.00  0.00
ATOM   2261  CB  GLU A 179      52.272  49.873  14.483  1.00  0.00
ATOM   2262  CG  GLU A 179      53.536  50.707  14.329  1.00  0.00
ATOM   2263  CD  GLU A 179      54.668  49.888  13.776  1.00  0.00
ATOM   2264  OE1 GLU A 179      54.492  48.705  13.604  1.00  0.00
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ATOM   2265  OE2 GLU A 179      55.670  50.461  13.418  1.00  0.00
ATOM   2266  H   GLU A 179      52.164  50.690  16.894  1.00  0.00
ATOM   2267  HA  GLU A 179      50.966  51.573  14.503  1.00  0.00
ATOM   2268 1HB  GLU A 179      52.469  49.040  15.159  1.00  0.00
ATOM   2269 2HB  GLU A 179      51.971  49.487  13.509  1.00  0.00
ATOM   2270 1HG  GLU A 179      53.396  51.595  13.713  1.00  0.00
ATOM   2271 2HG  GLU A 179      53.770  51.008  15.349  1.00  0.00
ATOM   2272  N   ILE A 180      49.659  48.703  15.479  1.00  0.00
ATOM   2273  CA  ILE A 180      48.467  47.884  15.315  1.00  0.00
ATOM   2274  C   ILE A 180      47.186  48.675  15.602  1.00  0.00
ATOM   2275  O   ILE A 180      46.281  48.714  14.766  1.00  0.00
ATOM   2276  CB  ILE A 180      48.512  46.648  16.231  1.00  0.00
ATOM   2277  CG1 ILE A 180      49.624  45.694  15.787  1.00  0.00
ATOM   2278  CG2 ILE A 180      47.167  45.938  16.233  1.00  0.00
ATOM   2279  CD1 ILE A 180      49.922  44.597  16.783  1.00  0.00
ATOM   2280  H   ILE A 180      50.388  48.391  16.105  1.00  0.00
ATOM   2281  HA  ILE A 180      48.358  47.568  14.278  1.00  0.00
ATOM   2282  HB  ILE A 180      48.757  46.965  17.244  1.00  0.00
ATOM   2283 1HG1 ILE A 180      49.313  45.251  14.841  1.00  0.00
ATOM   2284 2HG1 ILE A 180      50.521  46.293  15.628  1.00  0.00
ATOM   2285 1HG2 ILE A 180      47.216  45.066  16.885  1.00  0.00
ATOM   2286 2HG2 ILE A 180      46.397  46.618  16.596  1.00  0.00
ATOM   2287 3HG2 ILE A 180      46.922  45.619  15.220  1.00  0.00
ATOM   2288 1HD1 ILE A 180      50.721  43.962  16.398  1.00  0.00
ATOM   2289 2HD1 ILE A 180      50.235  45.039  17.730  1.00  0.00
ATOM   2290 3HD1 ILE A 180      49.028  43.996  16.942  1.00  0.00
ATOM   2291  N   ASN A 181      47.114  49.313  16.770  1.00  0.00
ATOM   2292  CA  ASN A 181      45.937  50.105  17.141  1.00  0.00
ATOM   2293  C   ASN A 181      45.595  51.202  16.143  1.00  0.00
ATOM   2294  O   ASN A 181      44.425  51.492  15.920  1.00  0.00
ATOM   2295  CB  ASN A 181      46.109  50.715  18.520  1.00  0.00
ATOM   2296  CG  ASN A 181      45.992  49.720  19.641  1.00  0.00
ATOM   2297  OD1 ASN A 181      45.452  48.621  19.469  1.00  0.00
ATOM   2298  ND2 ASN A 181      46.422  50.129  20.807  1.00  0.00
ATOM   2299  H   ASN A 181      47.888  49.250  17.416  1.00  0.00
ATOM   2300  HA  ASN A 181      45.054  49.465  17.167  1.00  0.00
ATOM   2301 1HB  ASN A 181      46.936  51.395  18.730  1.00  0.00
ATOM   2302 2HB  ASN A 181      45.181  51.282  18.455  1.00  0.00
ATOM   2303 1HD2 ASN A 181      46.375  49.520  21.599  1.00  0.00
ATOM   2304 2HD2 ASN A 181      46.796  51.051  20.906  1.00  0.00
ATOM   2305  N   ASN A 182      46.602  51.832  15.557  1.00  0.00
ATOM   2306  CA  ASN A 182      46.319  52.868  14.581  1.00  0.00
ATOM   2307  C   ASN A 182      45.770  52.215  13.321  1.00  0.00
ATOM   2308  O   ASN A 182      44.932  52.792  12.627  1.00  0.00
ATOM   2309  CB  ASN A 182      47.544  53.707  14.268  1.00  0.00
ATOM   2310  CG  ASN A 182      47.939  54.640  15.379  1.00  0.00
ATOM   2311  OD1 ASN A 182      47.129  54.980  16.249  1.00  0.00
ATOM   2312  ND2 ASN A 182      49.155  55.119  15.308  1.00  0.00
ATOM   2313  H   ASN A 182      47.563  51.609  15.773  1.00  0.00
ATOM   2314  HA  ASN A 182      45.556  53.544  14.970  1.00  0.00
ATOM   2315 1HB  ASN A 182      48.441  53.250  13.848  1.00  0.00
ATOM   2316 2HB  ASN A 182      47.033  54.280  13.494  1.00  0.00
ATOM   2317 1HD2 ASN A 182      49.486  55.746  16.014  1.00  0.00
ATOM   2318 2HD2 ASN A 182      49.752  54.858  14.550  1.00  0.00
ATOM   2319  N   TRP A 183      46.233  50.998  13.045  1.00  0.00
ATOM   2320  CA  TRP A 183      45.786  50.243  11.877  1.00  0.00
ATOM   2321  C   TRP A 183      44.315  49.809  12.016  1.00  0.00
ATOM   2322  O   TRP A 183      43.505  50.044  11.122  1.00  0.00
ATOM   2323  CB  TRP A 183      46.681  49.041  11.582  1.00  0.00
ATOM   2324  CG  TRP A 183      46.270  48.438  10.259  1.00  0.00
ATOM   2325  CD1 TRP A 183      46.674  48.858   8.984  1.00  0.00
ATOM   2326  CD2 TRP A 183      45.377  47.328  10.023  1.00  0.00
ATOM   2327  NE1 TRP A 183      46.100  48.093   8.016  1.00  0.00
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ATOM   2328  CE2 TRP A 183      45.294  47.137   8.625  1.00  0.00
ATOM   2329  CE3 TRP A 183      44.660  46.496  10.873  1.00  0.00
ATOM   2330  CZ2 TRP A 183      44.492  46.122   8.117  1.00  0.00
ATOM   2331  CZ3 TRP A 183      43.862  45.485  10.354  1.00  0.00
ATOM   2332  CH2 TRP A 183      43.781  45.298   8.980  1.00  0.00
ATOM   2333  H   TRP A 183      46.915  50.586  13.665  1.00  0.00
ATOM   2334  HA  TRP A 183      45.838  50.872  10.988  1.00  0.00
ATOM   2335 1HB  TRP A 183      47.724  49.353  11.522  1.00  0.00
ATOM   2336 2HB  TRP A 183      46.571  48.290  12.364  1.00  0.00
ATOM   2337  HD1 TRP A 183      47.361  49.701   8.938  1.00  0.00
ATOM   2338  HE1 TRP A 183      46.237  48.202   7.021  1.00  0.00
ATOM   2339  HE3 TRP A 183      44.707  46.612  11.955  1.00  0.00
ATOM   2340  HZ2 TRP A 183      44.435  45.987   7.037  1.00  0.00
ATOM   2341  HZ3 TRP A 183      43.303  44.845  11.037  1.00  0.00
ATOM   2342  HH2 TRP A 183      43.158  44.503   8.569  1.00  0.00
ATOM   2343  N   VAL A 184      43.967  49.172  13.133  1.00  0.00
ATOM   2344  CA  VAL A 184      42.587  48.744  13.330  1.00  0.00
ATOM   2345  C   VAL A 184      41.736  49.955  13.648  1.00  0.00
ATOM   2346  O   VAL A 184      40.558  49.821  13.972  1.00  0.00
ATOM   2347  CB  VAL A 184      42.499  47.745  14.486  1.00  0.00
ATOM   2348  CG1 VAL A 184      43.445  46.577  14.246  1.00  0.00
ATOM   2349  CG2 VAL A 184      42.775  48.407  15.839  1.00  0.00
ATOM   2350  H   VAL A 184      44.649  48.979  13.852  1.00  0.00
ATOM   2351  HA  VAL A 184      42.173  48.308  12.420  1.00  0.00
ATOM   2352  HB  VAL A 184      41.482  47.355  14.541  1.00  0.00
ATOM   2353 1HG1 VAL A 184      43.372  45.873  15.076  1.00  0.00
ATOM   2354 2HG1 VAL A 184      43.173  46.073  13.319  1.00  0.00
ATOM   2355 3HG1 VAL A 184      44.468  46.946  14.173  1.00  0.00
ATOM   2356 1HG2 VAL A 184      42.701  47.662  16.631  1.00  0.00
ATOM   2357 2HG2 VAL A 184      43.777  48.836  15.835  1.00  0.00
ATOM   2358 3HG2 VAL A 184      42.043  49.196  16.015  1.00  0.00
ATOM   2359  N   GLN A 185      42.339  51.138  13.577  1.00  0.00
ATOM   2360  CA  GLN A 185      41.602  52.362  13.847  1.00  0.00
ATOM   2361  C   GLN A 185      41.220  52.979  12.520  1.00  0.00
ATOM   2362  O   GLN A 185      40.049  53.264  12.277  1.00  0.00
ATOM   2363  CB  GLN A 185      42.433  53.346  14.675  1.00  0.00
ATOM   2364  CG  GLN A 185      41.709  54.637  15.018  1.00  0.00
ATOM   2365  CD  GLN A 185      42.520  55.527  15.941  1.00  0.00
ATOM   2366  OE1 GLN A 185      43.623  55.168  16.362  1.00  0.00
ATOM   2367  NE2 GLN A 185      41.975  56.694  16.264  1.00  0.00
ATOM   2368  H   GLN A 185      43.318  51.196  13.334  1.00  0.00
ATOM   2369  HA  GLN A 185      40.690  52.126  14.396  1.00  0.00
ATOM   2370 1HB  GLN A 185      42.716  52.827  15.590  1.00  0.00
ATOM   2371 2HB  GLN A 185      43.328  53.569  14.093  1.00  0.00
ATOM   2372 1HG  GLN A 185      41.246  55.272  14.263  1.00  0.00
ATOM   2373 2HG  GLN A 185      40.932  54.147  15.606  1.00  0.00
ATOM   2374 1HE2 GLN A 185      42.463  57.324  16.870  1.00  0.00
ATOM   2375 2HE2 GLN A 185      41.078  56.946  15.902  1.00  0.00
ATOM   2376  N   ALA A 186      42.214  53.182  11.660  1.00  0.00
ATOM   2377  CA  ALA A 186      41.965  53.742  10.337  1.00  0.00
ATOM   2378  C   ALA A 186      40.972  52.818   9.630  1.00  0.00
ATOM   2379  O   ALA A 186      40.074  53.272   8.921  1.00  0.00
ATOM   2380  CB  ALA A 186      43.259  53.795   9.525  1.00  0.00
ATOM   2381  H   ALA A 186      43.160  52.945  11.924  1.00  0.00
ATOM   2382  HA  ALA A 186      41.525  54.733  10.454  1.00  0.00
ATOM   2383 1HB  ALA A 186      43.053  54.216   8.541  1.00  0.00
ATOM   2384 2HB  ALA A 186      43.988  54.420  10.041  1.00  0.00
ATOM   2385 3HB  ALA A 186      43.659  52.789   9.412  1.00  0.00
ATOM   2386  N   GLN A 187      41.142  51.519   9.863  1.00  0.00
ATOM   2387  CA  GLN A 187      40.308  50.480   9.279  1.00  0.00
ATOM   2388  C   GLN A 187      38.869  50.539   9.755  1.00  0.00
ATOM   2389  O   GLN A 187      37.938  50.649   8.956  1.00  0.00
ATOM   2390  CB  GLN A 187      40.889  49.100   9.599  1.00  0.00
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ATOM   2391  CG  GLN A 187      42.185  48.787   8.872  1.00  0.00
ATOM   2392  CD  GLN A 187      42.005  48.722   7.367  1.00  0.00
ATOM   2393  OE1 GLN A 187      41.075  48.083   6.867  1.00  0.00
ATOM   2394  NE2 GLN A 187      42.897  49.380   6.636  1.00  0.00
ATOM   2395  H   GLN A 187      41.896  51.255  10.481  1.00  0.00
ATOM   2396  HA  GLN A 187      40.262  50.613   8.198  1.00  0.00
ATOM   2397 1HB  GLN A 187      41.052  49.069  10.676  1.00  0.00
ATOM   2398 2HB  GLN A 187      40.128  48.368   9.326  1.00  0.00
ATOM   2399 1HG  GLN A 187      43.117  49.314   9.075  1.00  0.00
ATOM   2400 2HG  GLN A 187      42.256  47.768   9.255  1.00  0.00
ATOM   2401 1HE2 GLN A 187      42.829  49.373   5.638  1.00  0.00
ATOM   2402 2HE2 GLN A 187      43.636  49.884   7.083  1.00  0.00
ATOM   2403  N   MET A 188      38.694  50.453  11.067  1.00  0.00
ATOM   2404  CA  MET A 188      37.366  50.481  11.657  1.00  0.00
ATOM   2405  C   MET A 188      36.811  51.895  11.836  1.00  0.00
ATOM   2406  O   MET A 188      35.849  52.103  12.581  1.00  0.00
ATOM   2407  CB  MET A 188      37.393  49.760  13.003  1.00  0.00
ATOM   2408  CG  MET A 188      37.681  48.268  12.913  1.00  0.00
ATOM   2409  SD  MET A 188      36.363  47.355  12.085  1.00  0.00
ATOM   2410  CE  MET A 188      37.062  47.162  10.448  1.00  0.00
ATOM   2411  H   MET A 188      39.499  50.366  11.671  1.00  0.00
ATOM   2412  HA  MET A 188      36.657  49.979  10.999  1.00  0.00
ATOM   2413 1HB  MET A 188      38.162  50.242  13.606  1.00  0.00
ATOM   2414 2HB  MET A 188      36.418  49.914  13.466  1.00  0.00
ATOM   2415 1HG  MET A 188      38.611  48.134  12.360  1.00  0.00
ATOM   2416 2HG  MET A 188      37.801  47.884  13.925  1.00  0.00
ATOM   2417 1HE  MET A 188      36.363  46.614   9.816  1.00  0.00
ATOM   2418 2HE  MET A 188      37.251  48.145  10.015  1.00  0.00
ATOM   2419 3HE  MET A 188      38.000  46.609  10.516  1.00  0.00
ATOM   2420  N   LYS A 189      37.406  52.857  11.133  1.00  0.00
ATOM   2421  CA  LYS A 189      36.991  54.253  11.231  1.00  0.00
ATOM   2422  C   LYS A 189      36.778  54.632  12.684  1.00  0.00
ATOM   2423  O   LYS A 189      35.858  55.381  13.011  1.00  0.00
ATOM   2424  CB  LYS A 189      35.715  54.502  10.426  1.00  0.00
ATOM   2425  CG  LYS A 189      35.820  54.138   8.951  1.00  0.00
ATOM   2426  CD  LYS A 189      36.832  55.020   8.234  1.00  0.00
ATOM   2427  CE  LYS A 189      36.910  54.683   6.753  1.00  0.00
ATOM   2428  NZ  LYS A 189      37.983  55.449   6.063  1.00  0.00
ATOM   2429  H   LYS A 189      38.166  52.612  10.515  1.00  0.00
ATOM   2430  HA  LYS A 189      37.776  54.900  10.839  1.00  0.00
ATOM   2431 1HB  LYS A 189      34.924  53.911  10.890  1.00  0.00
ATOM   2432 2HB  LYS A 189      35.477  55.562  10.521  1.00  0.00
ATOM   2433 1HG  LYS A 189      36.127  53.094   8.873  1.00  0.00
ATOM   2434 2HG  LYS A 189      34.840  54.263   8.492  1.00  0.00
ATOM   2435 1HD  LYS A 189      36.532  56.062   8.356  1.00  0.00
ATOM   2436 2HD  LYS A 189      37.810  54.869   8.692  1.00  0.00
ATOM   2437 1HE  LYS A 189      37.106  53.616   6.655  1.00  0.00
ATOM   2438 2HE  LYS A 189      35.948  54.918   6.298  1.00  0.00
ATOM   2439 1HZ  LYS A 189      38.001  55.198   5.085  1.00  0.00
ATOM   2440 2HZ  LYS A 189      37.801  56.439   6.153  1.00  0.00
ATOM   2441 3HZ  LYS A 189      38.875  55.231   6.484  1.00  0.00
ATOM   2442  N   GLY A 190      37.632  54.092  13.550  1.00  0.00
ATOM   2443  CA  GLY A 190      37.552  54.370  14.972  1.00  0.00
ATOM   2444  C   GLY A 190      36.262  53.956  15.659  1.00  0.00
ATOM   2445  O   GLY A 190      35.708  54.732  16.431  1.00  0.00
ATOM   2446  H   GLY A 190      38.354  53.473  13.210  1.00  0.00
ATOM   2447 1HA  GLY A 190      38.359  53.845  15.484  1.00  0.00
ATOM   2448 2HA  GLY A 190      37.659  55.442  15.132  1.00  0.00
ATOM   2449  N   LYS A 191      35.781  52.742  15.395  1.00  0.00
ATOM   2450  CA  LYS A 191      34.553  52.254  16.023  1.00  0.00
ATOM   2451  C   LYS A 191      34.835  51.041  16.921  1.00  0.00
ATOM   2452  O   LYS A 191      33.916  50.385  17.419  1.00  0.00
ATOM   2453  CB  LYS A 191      33.516  51.894  14.958  1.00  0.00
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ATOM   2454  CG  LYS A 191      33.127  53.047  14.043  1.00  0.00
ATOM   2455  CD  LYS A 191      32.436  54.160  14.817  1.00  0.00
ATOM   2456  CE  LYS A 191      32.044  55.311  13.903  1.00  0.00
ATOM   2457  NZ  LYS A 191      31.411  56.428  14.655  1.00  0.00
ATOM   2458  H   LYS A 191      36.274  52.144  14.747  1.00  0.00
ATOM   2459  HA  LYS A 191      34.136  53.028  16.668  1.00  0.00
ATOM   2460 1HB  LYS A 191      33.938  51.084  14.362  1.00  0.00
ATOM   2461 2HB  LYS A 191      32.630  51.534  15.483  1.00  0.00
ATOM   2462 1HG  LYS A 191      34.032  53.438  13.575  1.00  0.00
ATOM   2463 2HG  LYS A 191      32.456  52.668  13.274  1.00  0.00
ATOM   2464 1HD  LYS A 191      31.542  53.750  15.290  1.00  0.00
ATOM   2465 2HD  LYS A 191      33.117  54.523  15.586  1.00  0.00
ATOM   2466 1HE  LYS A 191      32.943  55.673  13.405  1.00  0.00
ATOM   2467 2HE  LYS A 191      31.345  54.933  13.158  1.00  0.00
ATOM   2468 1HZ  LYS A 191      31.166  57.170  14.014  1.00  0.00
ATOM   2469 2HZ  LYS A 191      30.576  56.093  15.116  1.00  0.00
ATOM   2470 3HZ  LYS A 191      32.059  56.780  15.345  1.00  0.00
ATOM   2471  N   LEU A 192      36.117  50.751  17.120  1.00  0.00
ATOM   2472  CA  LEU A 192      36.542  49.641  17.962  1.00  0.00
ATOM   2473  C   LEU A 192      37.522  50.150  19.008  1.00  0.00
ATOM   2474  O   LEU A 192      38.453  50.896  18.696  1.00  0.00
ATOM   2475  CB  LEU A 192      37.175  48.529  17.117  1.00  0.00
ATOM   2476  CG  LEU A 192      37.935  47.458  17.911  1.00  0.00
ATOM   2477  CD1 LEU A 192      36.952  46.508  18.579  1.00  0.00
ATOM   2478  CD2 LEU A 192      38.869  46.700  16.978  1.00  0.00
ATOM   2479  H   LEU A 192      36.817  51.323  16.670  1.00  0.00
ATOM   2480  HA  LEU A 192      35.680  49.231  18.488  1.00  0.00
ATOM   2481 1HB  LEU A 192      36.273  48.101  16.682  1.00  0.00
ATOM   2482 2HB  LEU A 192      37.804  48.933  16.324  1.00  0.00
ATOM   2483  HG  LEU A 192      38.549  47.976  18.648  1.00  0.00
ATOM   2484 1HD1 LEU A 192      37.501  45.751  19.141  1.00  0.00
ATOM   2485 2HD1 LEU A 192      36.310  47.067  19.259  1.00  0.00
ATOM   2486 3HD1 LEU A 192      36.341  46.022  17.819  1.00  0.00
ATOM   2487 1HD2 LEU A 192      39.409  45.940  17.544  1.00  0.00
ATOM   2488 2HD2 LEU A 192      38.287  46.222  16.190  1.00  0.00
ATOM   2489 3HD2 LEU A 192      39.581  47.395  16.532  1.00  0.00
ATOM   2490  N   ALA A 193      37.313  49.725  20.247  1.00  0.00
ATOM   2491  CA  ALA A 193      38.160  50.129  21.362  1.00  0.00
ATOM   2492  C   ALA A 193      39.641  49.826  21.134  1.00  0.00
ATOM   2493  O   ALA A 193      40.017  48.666  20.951  1.00  0.00
ATOM   2494  CB  ALA A 193      37.711  49.443  22.653  1.00  0.00
ATOM   2495  H   ALA A 193      36.539  49.100  20.419  1.00  0.00
ATOM   2496  HA  ALA A 193      38.088  51.210  21.482  1.00  0.00
ATOM   2497 1HB  ALA A 193      38.355  49.757  23.474  1.00  0.00
ATOM   2498 2HB  ALA A 193      36.680  49.721  22.874  1.00  0.00
ATOM   2499 3HB  ALA A 193      37.778  48.363  22.533  1.00  0.00
ATOM   2500  N   ARG A 194      40.478  50.864  21.144  1.00  0.00
ATOM   2501  CA  ARG A 194      41.916  50.675  20.972  1.00  0.00
ATOM   2502  C   ARG A 194      42.370  49.704  22.065  1.00  0.00
ATOM   2503  O   ARG A 194      42.219  49.984  23.252  1.00  0.00
ATOM   2504  CB  ARG A 194      42.702  51.978  20.979  1.00  0.00
ATOM   2505  CG  ARG A 194      42.474  52.869  19.769  1.00  0.00
ATOM   2506  CD  ARG A 194      43.244  54.139  19.790  1.00  0.00
ATOM   2507  NE  ARG A 194      42.844  55.069  20.834  1.00  0.00
ATOM   2508  CZ  ARG A 194      43.525  56.182  21.170  1.00  0.00
ATOM   2509  NH1 ARG A 194      44.657  56.488  20.575  1.00  0.00
ATOM   2510  NH2 ARG A 194      43.038  56.946  22.131  1.00  0.00
ATOM   2511  H   ARG A 194      40.116  51.798  21.272  1.00  0.00
ATOM   2512  HA  ARG A 194      42.116  50.235  19.994  1.00  0.00
ATOM   2513 1HB  ARG A 194      42.417  52.517  21.881  1.00  0.00
ATOM   2514 2HB  ARG A 194      43.758  51.711  21.034  1.00  0.00
ATOM   2515 1HG  ARG A 194      42.761  52.318  18.873  1.00  0.00
ATOM   2516 2HG  ARG A 194      41.414  53.119  19.718  1.00  0.00
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ATOM   2517 1HD  ARG A 194      44.299  53.911  19.942  1.00  0.00
ATOM   2518 2HD  ARG A 194      43.116  54.646  18.835  1.00  0.00
ATOM   2519  HE  ARG A 194      42.040  55.043  21.447  1.00  0.00
ATOM   2520 1HH1 ARG A 194      45.026  55.884  19.854  1.00  0.00
ATOM   2521 2HH1 ARG A 194      45.152  57.327  20.841  1.00  0.00
ATOM   2522 1HH2 ARG A 194      42.176  56.686  22.591  1.00  0.00
ATOM   2523 2HH2 ARG A 194      43.528  57.785  22.403  1.00  0.00
ATOM   2524  N   SER A 195      42.914  48.562  21.657  1.00  0.00
ATOM   2525  CA  SER A 195      43.366  47.535  22.591  1.00  0.00
ATOM   2526  C   SER A 195      44.574  47.915  23.435  1.00  0.00
ATOM   2527  O   SER A 195      45.274  48.885  23.156  1.00  0.00
ATOM   2528  CB  SER A 195      43.671  46.265  21.820  1.00  0.00
ATOM   2529  OG  SER A 195      42.534  45.749  21.185  1.00  0.00
ATOM   2530  H   SER A 195      43.016  48.404  20.665  1.00  0.00
ATOM   2531  HA  SER A 195      42.587  47.202  23.278  1.00  0.00
ATOM   2532 1HB  SER A 195      44.428  46.488  21.068  1.00  0.00
ATOM   2533 2HB  SER A 195      44.059  45.520  22.514  1.00  0.00
ATOM   2534  HG  SER A 195      41.865  45.547  21.842  1.00  0.00
ATOM   2535  N   THR A 196      44.811  47.117  24.468  1.00  0.00
ATOM   2536  CA  THR A 196      45.923  47.331  25.382  1.00  0.00
ATOM   2537  C   THR A 196      46.253  46.024  26.103  1.00  0.00
ATOM   2538  O   THR A 196      46.258  45.958  27.334  1.00  0.00
ATOM   2539  CB  THR A 196      45.612  48.428  26.417  1.00  0.00
ATOM   2540  OG1 THR A 196      45.329  49.660  25.742  1.00  0.00
ATOM   2541  CG2 THR A 196      46.792  48.627  27.355  1.00  0.00
ATOM   2542  H   THR A 196      44.193  46.333  24.620  1.00  0.00
ATOM   2543  HA  THR A 196      46.810  47.627  24.821  1.00  0.00
ATOM   2544  HB  THR A 196      44.736  48.131  26.995  1.00  0.00
ATOM   2545  HG1 THR A 196      46.093  49.920  25.220  1.00  0.00
ATOM   2546 1HG2 THR A 196      46.553  49.405  28.079  1.00  0.00
ATOM   2547 2HG2 THR A 196      47.002  47.694  27.879  1.00  0.00
ATOM   2548 3HG2 THR A 196      47.668  48.924  26.779  1.00  0.00
ATOM   2549  N   LYS A 197      46.523  44.982  25.322  1.00  0.00
ATOM   2550  CA  LYS A 197      46.844  43.671  25.873  1.00  0.00
ATOM   2551  C   LYS A 197      48.343  43.395  25.794  1.00  0.00
ATOM   2552  O   LYS A 197      48.843  42.454  26.417  1.00  0.00
ATOM   2553  CB  LYS A 197      46.066  42.577  25.140  1.00  0.00
ATOM   2554  CG  LYS A 197      44.553  42.728  25.207  1.00  0.00
ATOM   2555  CD  LYS A 197      44.050  42.633  26.640  1.00  0.00
ATOM   2556  CE  LYS A 197      42.531  42.697  26.700  1.00  0.00
ATOM   2557  NZ  LYS A 197      42.029  42.695  28.100  1.00  0.00
ATOM   2558  H   LYS A 197      46.505  45.103  24.319  1.00  0.00
ATOM   2559  HA  LYS A 197      46.576  43.639  26.930  1.00  0.00
ATOM   2560 1HB  LYS A 197      46.387  42.601  24.098  1.00  0.00
ATOM   2561 2HB  LYS A 197      46.355  41.625  25.586  1.00  0.00
ATOM   2562 1HG  LYS A 197      44.283  43.700  24.790  1.00  0.00
ATOM   2563 2HG  LYS A 197      44.099  41.939  24.609  1.00  0.00
ATOM   2564 1HD  LYS A 197      44.392  41.689  27.066  1.00  0.00
ATOM   2565 2HD  LYS A 197      44.470  43.461  27.211  1.00  0.00
ATOM   2566 1HE  LYS A 197      42.207  43.608  26.199  1.00  0.00
ATOM   2567 2HE  LYS A 197      42.132  41.832  26.170  1.00  0.00
ATOM   2568 1HZ  LYS A 197      41.019  42.738  28.096  1.00  0.00
ATOM   2569 2HZ  LYS A 197      42.328  41.849  28.565  1.00  0.00
ATOM   2570 3HZ  LYS A 197      42.397  43.497  28.591  1.00  0.00
ATOM   2571  N   GLU A 198      49.051  44.222  25.029  1.00  0.00
ATOM   2572  CA  GLU A 198      50.495  44.081  24.859  1.00  0.00
ATOM   2573  C   GLU A 198      50.819  42.839  24.045  1.00  0.00
ATOM   2574  O   GLU A 198      50.637  41.712  24.507  1.00  0.00
ATOM   2575  CB  GLU A 198      51.197  44.019  26.217  1.00  0.00
ATOM   2576  CG  GLU A 198      51.131  45.312  27.018  1.00  0.00
ATOM   2577  CD  GLU A 198      51.858  45.180  28.328  1.00  0.00
ATOM   2578  OE1 GLU A 198      52.389  44.127  28.588  1.00  0.00
ATOM   2579  OE2 GLU A 198      51.979  46.165  29.018  1.00  0.00
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ATOM   2580  H   GLU A 198      48.570  44.971  24.552  1.00  0.00
ATOM   2581  HA  GLU A 198      50.887  44.935  24.305  1.00  0.00
ATOM   2582 1HB  GLU A 198      50.725  43.217  26.784  1.00  0.00
ATOM   2583 2HB  GLU A 198      52.240  43.764  26.026  1.00  0.00
ATOM   2584 1HG  GLU A 198      51.513  46.177  26.478  1.00  0.00
ATOM   2585 2HG  GLU A 198      50.067  45.443  27.206  1.00  0.00
ATOM   2586  N   ILE A 199      51.302  43.052  22.828  1.00  0.00
ATOM   2587  CA  ILE A 199      51.653  41.945  21.957  1.00  0.00
ATOM   2588  C   ILE A 199      52.517  40.939  22.704  1.00  0.00
ATOM   2589  O   ILE A 199      53.329  41.306  23.554  1.00  0.00
ATOM   2590  CB  ILE A 199      52.398  42.425  20.698  1.00  0.00
ATOM   2591  CG1 ILE A 199      53.687  43.154  21.086  1.00  0.00
ATOM   2592  CG2 ILE A 199      51.504  43.327  19.862  1.00  0.00
ATOM   2593  CD1 ILE A 199      54.583  43.478  19.912  1.00  0.00
ATOM   2594  H   ILE A 199      51.429  43.998  22.497  1.00  0.00
ATOM   2595  HA  ILE A 199      50.762  41.393  21.660  1.00  0.00
ATOM   2596  HB  ILE A 199      52.694  41.558  20.108  1.00  0.00
ATOM   2597 1HG1 ILE A 199      53.399  44.077  21.589  1.00  0.00
ATOM   2598 2HG1 ILE A 199      54.224  42.513  21.786  1.00  0.00
ATOM   2599 1HG2 ILE A 199      52.046  43.658  18.977  1.00  0.00
ATOM   2600 2HG2 ILE A 199      50.614  42.777  19.558  1.00  0.00
ATOM   2601 3HG2 ILE A 199      51.209  44.195  20.452  1.00  0.00
ATOM   2602 1HD1 ILE A 199      55.476  43.993  20.266  1.00  0.00
ATOM   2603 2HD1 ILE A 199      54.873  42.554  19.409  1.00  0.00
ATOM   2604 3HD1 ILE A 199      54.049  44.119  19.212  1.00  0.00
ATOM   2605  N   PRO A 200      52.336  39.647  22.403  1.00  0.00
ATOM   2606  CA  PRO A 200      53.093  38.560  23.035  1.00  0.00
ATOM   2607  C   PRO A 200      54.599  38.697  22.804  1.00  0.00
ATOM   2608  O   PRO A 200      55.037  39.198  21.764  1.00  0.00
ATOM   2609  CB  PRO A 200      52.529  37.292  22.387  1.00  0.00
ATOM   2610  CG  PRO A 200      51.165  37.683  21.930  1.00  0.00
ATOM   2611  CD  PRO A 200      51.291  39.113  21.477  1.00  0.00
ATOM   2612  HA  PRO A 200      52.984  38.546  24.130  1.00  0.00
ATOM   2613 1HB  PRO A 200      53.152  36.960  21.543  1.00  0.00
ATOM   2614 2HB  PRO A 200      52.485  36.458  23.103  1.00  0.00
ATOM   2615 1HG  PRO A 200      50.820  37.037  21.109  1.00  0.00
ATOM   2616 2HG  PRO A 200      50.431  37.589  22.744  1.00  0.00
ATOM   2617 1HD  PRO A 200      51.594  39.191  20.422  1.00  0.00
ATOM   2618 2HD  PRO A 200      50.346  39.667  21.581  1.00  0.00
ATOM   2619  N   ASP A 201      55.389  38.253  23.775  1.00  0.00
ATOM   2620  CA  ASP A 201      56.838  38.330  23.645  1.00  0.00
ATOM   2621  C   ASP A 201      57.265  37.473  22.453  1.00  0.00
ATOM   2622  O   ASP A 201      58.028  37.918  21.590  1.00  0.00
ATOM   2623  CB  ASP A 201      57.534  37.866  24.927  1.00  0.00
ATOM   2624  CG  ASP A 201      57.422  38.840  26.092  1.00  0.00
ATOM   2625  OD1 ASP A 201      57.024  39.959  25.869  1.00  0.00
ATOM   2626  OD2 ASP A 201      57.582  38.417  27.211  1.00  0.00
ATOM   2627  H   ASP A 201      54.991  37.857  24.614  1.00  0.00
ATOM   2628  HA  ASP A 201      57.137  39.360  23.447  1.00  0.00
ATOM   2629 1HB  ASP A 201      57.225  36.873  25.254  1.00  0.00
ATOM   2630 2HB  ASP A 201      58.568  37.831  24.582  1.00  0.00
ATOM   2631  N   GLU A 202      56.761  36.244  22.402  1.00  0.00
ATOM   2632  CA  GLU A 202      57.094  35.340  21.311  1.00  0.00
ATOM   2633  C   GLU A 202      56.030  35.429  20.214  1.00  0.00
ATOM   2634  O   GLU A 202      54.861  35.108  20.447  1.00  0.00
ATOM   2635  CB  GLU A 202      57.222  33.902  21.820  1.00  0.00
ATOM   2636  CG  GLU A 202      57.590  32.886  20.748  1.00  0.00
ATOM   2637  CD  GLU A 202      57.711  31.503  21.325  1.00  0.00
ATOM   2638  OE1 GLU A 202      57.500  31.352  22.504  1.00  0.00
ATOM   2639  OE2 GLU A 202      57.903  30.581  20.568  1.00  0.00
ATOM   2640  H   GLU A 202      56.136  35.928  23.130  1.00  0.00
ATOM   2641  HA  GLU A 202      58.044  35.635  20.863  1.00  0.00
ATOM   2642 1HB  GLU A 202      57.989  33.906  22.594  1.00  0.00
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ATOM   2643 2HB  GLU A 202      56.262  33.633  22.260  1.00  0.00
ATOM   2644 1HG  GLU A 202      56.894  32.870  19.909  1.00  0.00
ATOM   2645 2HG  GLU A 202      58.566  33.222  20.402  1.00  0.00
ATOM   2646  N   ILE A 203      56.440  35.890  19.031  1.00  0.00
ATOM   2647  CA  ILE A 203      55.547  36.017  17.880  1.00  0.00
ATOM   2648  C   ILE A 203      56.270  35.595  16.610  1.00  0.00
ATOM   2649  O   ILE A 203      57.364  36.082  16.325  1.00  0.00
ATOM   2650  CB  ILE A 203      55.062  37.464  17.675  1.00  0.00
ATOM   2651  CG1 ILE A 203      54.204  37.983  18.822  1.00  0.00
ATOM   2652  CG2 ILE A 203      54.309  37.615  16.349  1.00  0.00
ATOM   2653  CD1 ILE A 203      53.745  39.417  18.554  1.00  0.00
ATOM   2654  H   ILE A 203      57.408  36.160  18.935  1.00  0.00
ATOM   2655  HA  ILE A 203      54.702  35.336  17.973  1.00  0.00
ATOM   2656  HB  ILE A 203      55.924  38.131  17.673  1.00  0.00
ATOM   2657 1HG1 ILE A 203      53.351  37.313  18.918  1.00  0.00
ATOM   2658 2HG1 ILE A 203      54.809  37.931  19.728  1.00  0.00
ATOM   2659 1HG2 ILE A 203      53.979  38.647  16.233  1.00  0.00
ATOM   2660 2HG2 ILE A 203      54.969  37.351  15.524  1.00  0.00
ATOM   2661 3HG2 ILE A 203      53.442  36.955  16.345  1.00  0.00
ATOM   2662 1HD1 ILE A 203      53.134  39.766  19.387  1.00  0.00
ATOM   2663 2HD1 ILE A 203      54.616  40.065  18.447  1.00  0.00
ATOM   2664 3HD1 ILE A 203      53.157  39.446  17.638  1.00  0.00
ATOM   2665  N   SER A 204      55.667  34.684  15.853  1.00  0.00
ATOM   2666  CA  SER A 204      56.252  34.246  14.588  1.00  0.00
ATOM   2667  C   SER A 204      55.361  34.866  13.521  1.00  0.00
ATOM   2668  O   SER A 204      55.769  35.787  12.815  1.00  0.00
ATOM   2669  CB  SER A 204      56.304  32.735  14.477  1.00  0.00
ATOM   2670  OG  SER A 204      56.847  32.315  13.256  1.00  0.00
ATOM   2671  H   SER A 204      54.789  34.285  16.153  1.00  0.00
ATOM   2672  HA  SER A 204      57.312  34.488  14.494  1.00  0.00
ATOM   2673 1HB  SER A 204      56.917  32.347  15.290  1.00  0.00
ATOM   2674 2HB  SER A 204      55.291  32.343  14.568  1.00  0.00
ATOM   2675  HG  SER A 204      57.742  32.652  13.171  1.00  0.00
ATOM   2676  N   ILE A 205      54.136  34.358  13.431  1.00  0.00
ATOM   2677  CA  ILE A 205      53.142  34.866  12.498  1.00  0.00
ATOM   2678  C   ILE A 205      51.874  35.187  13.295  1.00  0.00
ATOM   2679  O   ILE A 205      51.339  34.330  14.002  1.00  0.00
ATOM   2680  CB  ILE A 205      52.753  33.828  11.444  1.00  0.00
ATOM   2681  CG1 ILE A 205      53.942  33.257  10.684  1.00  0.00
ATOM   2682  CG2 ILE A 205      51.704  34.406  10.491  1.00  0.00
ATOM   2683  CD1 ILE A 205      53.454  32.187   9.709  1.00  0.00
ATOM   2684  H   ILE A 205      53.893  33.588  14.038  1.00  0.00
ATOM   2685  HA  ILE A 205      53.478  35.801  12.050  1.00  0.00
ATOM   2686  HB  ILE A 205      52.347  32.949  11.944  1.00  0.00
ATOM   2687 1HG1 ILE A 205      54.423  34.085  10.165  1.00  0.00
ATOM   2688 2HG1 ILE A 205      54.630  32.844  11.422  1.00  0.00
ATOM   2689 1HG2 ILE A 205      51.437  33.657   9.746  1.00  0.00
ATOM   2690 2HG2 ILE A 205      50.816  34.688  11.055  1.00  0.00
ATOM   2691 3HG2 ILE A 205      52.111  35.285   9.991  1.00  0.00
ATOM   2692 1HD1 ILE A 205      54.304  31.776   9.163  1.00  0.00
ATOM   2693 2HD1 ILE A 205      52.958  31.388  10.262  1.00  0.00
ATOM   2694 3HD1 ILE A 205      52.752  32.629   9.004  1.00  0.00
ATOM   2695  N   LEU A 206      51.403  36.427  13.192  1.00  0.00
ATOM   2696  CA  LEU A 206      50.193  36.839  13.896  1.00  0.00
ATOM   2697  C   LEU A 206      49.112  37.177  12.882  1.00  0.00
ATOM   2698  O   LEU A 206      49.370  37.921  11.934  1.00  0.00
ATOM   2699  CB  LEU A 206      50.476  38.038  14.810  1.00  0.00
ATOM   2700  CG  LEU A 206      49.231  38.741  15.368  1.00  0.00
ATOM   2701  CD1 LEU A 206      48.489  37.812  16.318  1.00  0.00
ATOM   2702  CD2 LEU A 206      49.646  40.021  16.079  1.00  0.00
ATOM   2703  H   LEU A 206      51.890  37.099  12.616  1.00  0.00
ATOM   2704  HA  LEU A 206      49.828  36.014  14.507  1.00  0.00
ATOM   2705 1HB  LEU A 206      51.007  37.528  15.612  1.00  0.00
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ATOM   2706 2HB  LEU A 206      51.140  38.760  14.335  1.00  0.00
ATOM   2707  HG  LEU A 206      48.608  39.019  14.518  1.00  0.00
ATOM   2708 1HD1 LEU A 206      47.607  38.320  16.709  1.00  0.00
ATOM   2709 2HD1 LEU A 206      48.181  36.914  15.783  1.00  0.00
ATOM   2710 3HD1 LEU A 206      49.144  37.537  17.144  1.00  0.00
ATOM   2711 1HD2 LEU A 206      48.761  40.520  16.474  1.00  0.00
ATOM   2712 2HD2 LEU A 206      50.324  39.779  16.898  1.00  0.00
ATOM   2713 3HD2 LEU A 206      50.150  40.682  15.374  1.00  0.00
ATOM   2714  N   LEU A 207      47.916  36.618  13.071  1.00  0.00
ATOM   2715  CA  LEU A 207      46.787  36.896  12.184  1.00  0.00
ATOM   2716  C   LEU A 207      45.811  37.749  12.967  1.00  0.00
ATOM   2717  O   LEU A 207      45.525  37.475  14.130  1.00  0.00
ATOM   2718  CB  LEU A 207      46.124  35.604  11.691  1.00  0.00
ATOM   2719  CG  LEU A 207      47.039  34.664  10.895  1.00  0.00
ATOM   2720  CD1 LEU A 207      46.291  33.385  10.540  1.00  0.00
ATOM   2721  CD2 LEU A 207      47.526  35.371   9.639  1.00  0.00
ATOM   2722  H   LEU A 207      47.787  35.986  13.848  1.00  0.00
ATOM   2723  HA  LEU A 207      47.134  37.454  11.315  1.00  0.00
ATOM   2724 1HB  LEU A 207      45.873  35.156  12.651  1.00  0.00
ATOM   2725 2HB  LEU A 207      45.210  35.806  11.134  1.00  0.00
ATOM   2726  HG  LEU A 207      47.909  34.454  11.518  1.00  0.00
ATOM   2727 1HD1 LEU A 207      46.949  32.724   9.975  1.00  0.00
ATOM   2728 2HD1 LEU A 207      45.973  32.884  11.454  1.00  0.00
ATOM   2729 3HD1 LEU A 207      45.418  33.631   9.936  1.00  0.00
ATOM   2730 1HD2 LEU A 207      48.176  34.702   9.074  1.00  0.00
ATOM   2731 2HD2 LEU A 207      46.670  35.651   9.024  1.00  0.00
ATOM   2732 3HD2 LEU A 207      48.081  36.266   9.917  1.00  0.00
ATOM   2733  N   LEU A 208      45.300  38.787  12.321  1.00  0.00
ATOM   2734  CA  LEU A 208      44.368  39.698  12.960  1.00  0.00
ATOM   2735  C   LEU A 208      43.093  39.865  12.130  1.00  0.00
ATOM   2736  O   LEU A 208      43.143  40.077  10.921  1.00  0.00
ATOM   2737  CB  LEU A 208      45.040  41.057  13.192  1.00  0.00
ATOM   2738  CG  LEU A 208      46.378  41.004  13.942  1.00  0.00
ATOM   2739  CD1 LEU A 208      47.020  42.384  13.961  1.00  0.00
ATOM   2740  CD2 LEU A 208      46.148  40.497  15.358  1.00  0.00
ATOM   2741  H   LEU A 208      45.565  38.949  11.360  1.00  0.00
ATOM   2742  HA  LEU A 208      44.056  39.287  13.920  1.00  0.00
ATOM   2743 1HB  LEU A 208      45.204  41.353  12.157  1.00  0.00
ATOM   2744 2HB  LEU A 208      44.364  41.766  13.670  1.00  0.00
ATOM   2745  HG  LEU A 208      47.009  40.280  13.427  1.00  0.00
ATOM   2746 1HD1 LEU A 208      47.970  42.337  14.495  1.00  0.00
ATOM   2747 2HD1 LEU A 208      47.197  42.717  12.938  1.00  0.00
ATOM   2748 3HD1 LEU A 208      46.357  43.088  14.463  1.00  0.00
ATOM   2749 1HD2 LEU A 208      47.099  40.459  15.889  1.00  0.00
ATOM   2750 2HD2 LEU A 208      45.466  41.169  15.879  1.00  0.00
ATOM   2751 3HD2 LEU A 208      45.713  39.498  15.321  1.00  0.00
ATOM   2752  N   GLY A 209      41.947  39.747  12.787  1.00  0.00
ATOM   2753  CA  GLY A 209      40.681  39.899  12.097  1.00  0.00
ATOM   2754  C   GLY A 209      39.777  40.830  12.883  1.00  0.00
ATOM   2755  O   GLY A 209      39.300  40.478  13.963  1.00  0.00
ATOM   2756  H   GLY A 209      41.947  39.549  13.777  1.00  0.00
ATOM   2757 1HA  GLY A 209      40.863  40.313  11.105  1.00  0.00
ATOM   2758 2HA  GLY A 209      40.209  38.922  12.000  1.00  0.00
ATOM   2759  N   VAL A 210      39.555  42.028  12.355  1.00  0.00
ATOM   2760  CA  VAL A 210      38.701  42.989  13.027  1.00  0.00
ATOM   2761  C   VAL A 210      37.504  43.327  12.162  1.00  0.00
ATOM   2762  O   VAL A 210      37.615  43.435  10.938  1.00  0.00
ATOM   2763  CB  VAL A 210      39.460  44.284  13.373  1.00  0.00
ATOM   2764  CG1 VAL A 210      40.755  43.962  14.105  1.00  0.00
ATOM   2765  CG2 VAL A 210      39.747  45.087  12.113  1.00  0.00
ATOM   2766  H   VAL A 210      39.982  42.280  11.475  1.00  0.00
ATOM   2767  HA  VAL A 210      38.286  42.576  13.947  1.00  0.00
ATOM   2768  HB  VAL A 210      38.829  44.905  14.008  1.00  0.00
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ATOM   2769 1HG1 VAL A 210      41.278  44.889  14.342  1.00  0.00
ATOM   2770 2HG1 VAL A 210      40.529  43.428  15.027  1.00  0.00
ATOM   2771 3HG1 VAL A 210      41.387  43.342  13.470  1.00  0.00
ATOM   2772 1HG2 VAL A 210      40.283  45.998  12.376  1.00  0.00
ATOM   2773 2HG2 VAL A 210      40.356  44.490  11.434  1.00  0.00
ATOM   2774 3HG2 VAL A 210      38.807  45.347  11.626  1.00  0.00
ATOM   2775  N   ALA A 211      36.358  43.487  12.820  1.00  0.00
ATOM   2776  CA  ALA A 211      35.108  43.786  12.144  1.00  0.00
ATOM   2777  C   ALA A 211      34.182  44.616  13.026  1.00  0.00
ATOM   2778  O   ALA A 211      34.205  44.498  14.253  1.00  0.00
ATOM   2779  CB  ALA A 211      34.389  42.504  11.732  1.00  0.00
ATOM   2780  H   ALA A 211      36.364  43.396  13.826  1.00  0.00
ATOM   2781  HA  ALA A 211      35.324  44.381  11.256  1.00  0.00
ATOM   2782 1HB  ALA A 211      33.456  42.757  11.228  1.00  0.00
ATOM   2783 2HB  ALA A 211      35.023  41.932  11.055  1.00  0.00
ATOM   2784 3HB  ALA A 211      34.172  41.908  12.617  1.00  0.00
ATOM   2785  N   HIS A 212      33.376  45.466  12.394  1.00  0.00
ATOM   2786  CA  HIS A 212      32.415  46.293  13.110  1.00  0.00
ATOM   2787  C   HIS A 212      31.091  46.363  12.358  1.00  0.00
ATOM   2788  O   HIS A 212      31.070  46.341  11.124  1.00  0.00
ATOM   2789  CB  HIS A 212      32.989  47.697  13.323  1.00  0.00
ATOM   2790  CG  HIS A 212      31.914  48.610  13.863  1.00  0.00
ATOM   2791  ND1 HIS A 212      31.358  48.474  15.081  1.00  0.00
ATOM   2792  CD2 HIS A 212      31.316  49.694  13.213  1.00  0.00
ATOM   2793  CE1 HIS A 212      30.415  49.462  15.208  1.00  0.00
ATOM   2794  NE2 HIS A 212      30.391  50.212  14.058  1.00  0.00
ATOM   2795  H   HIS A 212      33.434  45.538  11.388  1.00  0.00
ATOM   2796  HA  HIS A 212      32.200  45.848  14.081  1.00  0.00
ATOM   2797 1HB  HIS A 212      33.810  47.663  14.040  1.00  0.00
ATOM   2798 2HB  HIS A 212      33.349  48.102  12.378  1.00  0.00
ATOM   2799  HD2 HIS A 212      31.467  50.140  12.229  1.00  0.00
ATOM   2800  HE1 HIS A 212      29.827  49.554  16.121  1.00  0.00
ATOM   2801  HE2 HIS A 212      29.791  51.005  13.879  1.00  0.00
ATOM   2802  N   PHE A 213      29.988  46.461  13.096  1.00  0.00
ATOM   2803  CA  PHE A 213      28.678  46.545  12.459  1.00  0.00
ATOM   2804  C   PHE A 213      27.603  47.320  13.231  1.00  0.00
ATOM   2805  O   PHE A 213      27.314  47.038  14.400  1.00  0.00
ATOM   2806  CB  PHE A 213      28.150  45.146  12.129  1.00  0.00
ATOM   2807  CG  PHE A 213      26.889  45.241  11.300  1.00  0.00
ATOM   2808  CD1 PHE A 213      26.978  45.417   9.926  1.00  0.00
ATOM   2809  CD2 PHE A 213      25.639  45.150  11.903  1.00  0.00
ATOM   2810  CE1 PHE A 213      25.824  45.498   9.157  1.00  0.00
ATOM   2811  CE2 PHE A 213      24.483  45.230  11.136  1.00  0.00
ATOM   2812  CZ  PHE A 213      24.576  45.403   9.761  1.00  0.00
ATOM   2813  H   PHE A 213      30.047  46.478  14.104  1.00  0.00
ATOM   2814  HA  PHE A 213      28.758  47.092  11.518  1.00  0.00
ATOM   2815 1HB  PHE A 213      28.894  44.589  11.561  1.00  0.00
ATOM   2816 2HB  PHE A 213      27.917  44.608  13.047  1.00  0.00
ATOM   2817  HD1 PHE A 213      27.962  45.490   9.461  1.00  0.00
ATOM   2818  HD2 PHE A 213      25.568  45.015  12.983  1.00  0.00
ATOM   2819  HE1 PHE A 213      25.897  45.636   8.079  1.00  0.00
ATOM   2820  HE2 PHE A 213      23.505  45.158  11.611  1.00  0.00
ATOM   2821  HZ  PHE A 213      23.671  45.465   9.158  1.00  0.00
ATOM   2822  N   LYS A 214      27.011  48.293  12.547  1.00  0.00
ATOM   2823  CA  LYS A 214      25.938  49.113  13.089  1.00  0.00
ATOM   2824  C   LYS A 214      25.045  49.337  11.872  1.00  0.00
ATOM   2825  O   LYS A 214      25.362  50.157  11.010  1.00  0.00
ATOM   2826  CB  LYS A 214      26.440  50.426  13.691  1.00  0.00
ATOM   2827  CG  LYS A 214      25.362  51.259  14.372  1.00  0.00
ATOM   2828  CD  LYS A 214      25.954  52.490  15.041  1.00  0.00
ATOM   2829  CE  LYS A 214      24.896  53.262  15.817  1.00  0.00
ATOM   2830  NZ  LYS A 214      25.477  54.421  16.547  1.00  0.00
ATOM   2831  H   LYS A 214      27.331  48.462  11.604  1.00  0.00
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ATOM   2832  HA  LYS A 214      25.421  48.568  13.880  1.00  0.00
ATOM   2833 1HB  LYS A 214      27.213  50.170  14.417  1.00  0.00
ATOM   2834 2HB  LYS A 214      26.883  51.002  12.879  1.00  0.00
ATOM   2835 1HG  LYS A 214      24.636  51.568  13.619  1.00  0.00
ATOM   2836 2HG  LYS A 214      24.867  50.641  15.120  1.00  0.00
ATOM   2837 1HD  LYS A 214      26.743  52.169  15.723  1.00  0.00
ATOM   2838 2HD  LYS A 214      26.380  53.133  14.272  1.00  0.00
ATOM   2839 1HE  LYS A 214      24.146  53.617  15.111  1.00  0.00
ATOM   2840 2HE  LYS A 214      24.430  52.581  16.529  1.00  0.00
ATOM   2841 1HZ  LYS A 214      24.745  54.905  17.048  1.00  0.00
ATOM   2842 2HZ  LYS A 214      26.172  54.093  17.203  1.00  0.00
ATOM   2843 3HZ  LYS A 214      25.908  55.053  15.888  1.00  0.00
ATOM   2844  N   GLY A 215      23.941  48.600  11.785  1.00  0.00
ATOM   2845  CA  GLY A 215      23.069  48.743  10.633  1.00  0.00
ATOM   2846  C   GLY A 215      21.743  49.448  10.843  1.00  0.00
ATOM   2847  O   GLY A 215      21.564  50.194  11.807  1.00  0.00
ATOM   2848  H   GLY A 215      23.696  47.939  12.508  1.00  0.00
ATOM   2849 1HA  GLY A 215      23.588  49.312   9.862  1.00  0.00
ATOM   2850 2HA  GLY A 215      22.821  47.754  10.249  1.00  0.00
ATOM   2851  N   GLN A 216      20.818  49.214   9.913  1.00  0.00
ATOM   2852  CA  GLN A 216      19.485  49.800   9.968  1.00  0.00
ATOM   2853  C   GLN A 216      18.447  48.835   9.421  1.00  0.00
ATOM   2854  O   GLN A 216      18.663  48.206   8.384  1.00  0.00
ATOM   2855  CB  GLN A 216      19.439  51.111   9.179  1.00  0.00
ATOM   2856  CG  GLN A 216      20.238  52.242   9.804  1.00  0.00
ATOM   2857  CD  GLN A 216      20.127  53.534   9.017  1.00  0.00
ATOM   2858  OE1 GLN A 216      19.415  53.604   8.011  1.00  0.00
ATOM   2859  NE2 GLN A 216      20.834  54.564   9.468  1.00  0.00
ATOM   2860  H   GLN A 216      21.057  48.606   9.143  1.00  0.00
ATOM   2861  HA  GLN A 216      19.215  49.997  11.005  1.00  0.00
ATOM   2862 1HB  GLN A 216      19.825  50.893   8.183  1.00  0.00
ATOM   2863 2HB  GLN A 216      18.390  51.398   9.107  1.00  0.00
ATOM   2864 1HG  GLN A 216      20.179  52.490  10.864  1.00  0.00
ATOM   2865 2HG  GLN A 216      21.208  51.791   9.591  1.00  0.00
ATOM   2866 1HE2 GLN A 216      20.800  55.442   8.989  1.00  0.00
ATOM   2867 2HE2 GLN A 216      21.399  54.462  10.287  1.00  0.00
ATOM   2868  N   TRP A 217      17.318  48.728  10.116  1.00  0.00
ATOM   2869  CA  TRP A 217      16.233  47.861   9.675  1.00  0.00
ATOM   2870  C   TRP A 217      15.526  48.627   8.570  1.00  0.00
ATOM   2871  O   TRP A 217      15.705  49.837   8.443  1.00  0.00
ATOM   2872  CB  TRP A 217      15.242  47.552  10.794  1.00  0.00
ATOM   2873  CG  TRP A 217      15.948  47.255  12.092  1.00  0.00
ATOM   2874  CD1 TRP A 217      16.162  48.160  13.139  1.00  0.00
ATOM   2875  CD2 TRP A 217      16.518  46.009  12.547  1.00  0.00
ATOM   2876  NE1 TRP A 217      16.807  47.560  14.171  1.00  0.00
ATOM   2877  CE2 TRP A 217      17.043  46.230  13.842  1.00  0.00
ATOM   2878  CE3 TRP A 217      16.619  44.748  11.972  1.00  0.00
ATOM   2879  CZ2 TRP A 217      17.650  45.186  14.528  1.00  0.00
ATOM   2880  CZ3 TRP A 217      17.230  43.712  12.669  1.00  0.00
ATOM   2881  CH2 TRP A 217      17.743  43.929  13.942  1.00  0.00
ATOM   2882  H   TRP A 217      17.208  49.259  10.968  1.00  0.00
ATOM   2883  HA  TRP A 217      16.640  46.928   9.287  1.00  0.00
ATOM   2884 1HB  TRP A 217      14.585  48.405  10.963  1.00  0.00
ATOM   2885 2HB  TRP A 217      14.644  46.679  10.535  1.00  0.00
ATOM   2886  HD1 TRP A 217      15.800  49.176  12.993  1.00  0.00
ATOM   2887  HE1 TRP A 217      17.073  48.006  15.037  1.00  0.00
ATOM   2888  HE3 TRP A 217      16.227  44.540  10.977  1.00  0.00
ATOM   2889  HZ2 TRP A 217      18.046  45.372  15.527  1.00  0.00
ATOM   2890  HZ3 TRP A 217      17.300  42.730  12.200  1.00  0.00
ATOM   2891  HH2 TRP A 217      18.222  43.117  14.490  1.00  0.00
ATOM   2892  N   VAL A 218      14.731  47.936   7.762  1.00  0.00
ATOM   2893  CA  VAL A 218      14.005  48.631   6.710  1.00  0.00
ATOM   2894  C   VAL A 218      12.898  49.413   7.429  1.00  0.00
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ATOM   2895  O   VAL A 218      12.459  50.469   6.972  1.00  0.00
ATOM   2896  CB  VAL A 218      13.406  47.676   5.661  1.00  0.00
ATOM   2897  CG1 VAL A 218      12.524  48.441   4.685  1.00  0.00
ATOM   2898  CG2 VAL A 218      14.510  46.941   4.916  1.00  0.00
ATOM   2899  H   VAL A 218      14.618  46.937   7.861  1.00  0.00
ATOM   2900  HA  VAL A 218      14.647  49.340   6.187  1.00  0.00
ATOM   2901  HB  VAL A 218      12.810  46.918   6.171  1.00  0.00
ATOM   2902 1HG1 VAL A 218      12.109  47.750   3.951  1.00  0.00
ATOM   2903 2HG1 VAL A 218      11.712  48.923   5.229  1.00  0.00
ATOM   2904 3HG1 VAL A 218      13.120  49.198   4.174  1.00  0.00
ATOM   2905 1HG2 VAL A 218      14.069  46.270   4.180  1.00  0.00
ATOM   2906 2HG2 VAL A 218      15.150  47.665   4.411  1.00  0.00
ATOM   2907 3HG2 VAL A 218      15.104  46.363   5.624  1.00  0.00
ATOM   2908  N   THR A 219      12.470  48.885   8.572  1.00  0.00
ATOM   2909  CA  THR A 219      11.431  49.513   9.370  1.00  0.00
ATOM   2910  C   THR A 219      12.001  49.866  10.724  1.00  0.00
ATOM   2911  O   THR A 219      12.475  48.991  11.444  1.00  0.00
ATOM   2912  CB  THR A 219      10.202  48.603   9.549  1.00  0.00
ATOM   2913  OG1 THR A 219       9.642  48.294   8.267  1.00  0.00
ATOM   2914  CG2 THR A 219       9.150  49.290  10.406  1.00  0.00
ATOM   2915  H   THR A 219      12.882  48.020   8.893  1.00  0.00
ATOM   2916  HA  THR A 219      11.106  50.437   8.891  1.00  0.00
ATOM   2917  HB  THR A 219      10.514  47.677  10.032  1.00  0.00
ATOM   2918  HG1 THR A 219      10.153  47.592   7.855  1.00  0.00
ATOM   2919 1HG2 THR A 219       8.289  48.631  10.522  1.00  0.00
ATOM   2920 2HG2 THR A 219       9.570  49.516  11.386  1.00  0.00
ATOM   2921 3HG2 THR A 219       8.836  50.215   9.924  1.00  0.00
ATOM   2922  N   LYS A 220      11.953  51.144  11.075  1.00  0.00
ATOM   2923  CA  LYS A 220      12.472  51.577  12.361  1.00  0.00
ATOM   2924  C   LYS A 220      11.495  51.217  13.473  1.00  0.00
ATOM   2925  O   LYS A 220      10.346  50.841  13.216  1.00  0.00
ATOM   2926  CB  LYS A 220      12.743  53.082  12.355  1.00  0.00
ATOM   2927  CG  LYS A 220      11.497  53.945  12.206  1.00  0.00
ATOM   2928  CD  LYS A 220      11.851  55.424  12.149  1.00  0.00
ATOM   2929  CE  LYS A 220      10.604  56.288  12.032  1.00  0.00
ATOM   2930  NZ  LYS A 220      10.932  57.740  12.025  1.00  0.00
ATOM   2931  H   LYS A 220      11.554  51.829  10.449  1.00  0.00
ATOM   2932  HA  LYS A 220      13.407  51.058  12.575  1.00  0.00
ATOM   2933 1HB  LYS A 220      13.239  53.321  13.296  1.00  0.00
ATOM   2934 2HB  LYS A 220      13.423  53.282  11.527  1.00  0.00
ATOM   2935 1HG  LYS A 220      10.985  53.658  11.286  1.00  0.00
ATOM   2936 2HG  LYS A 220      10.843  53.760  13.058  1.00  0.00
ATOM   2937 1HD  LYS A 220      12.392  55.686  13.059  1.00  0.00
ATOM   2938 2HD  LYS A 220      12.492  55.594  11.285  1.00  0.00
ATOM   2939 1HE  LYS A 220      10.093  56.027  11.107  1.00  0.00
ATOM   2940 2HE  LYS A 220       9.955  56.067  12.879  1.00  0.00
ATOM   2941 1HZ  LYS A 220      10.080  58.277  11.947  1.00  0.00
ATOM   2942 2HZ  LYS A 220      11.406  57.983  12.884  1.00  0.00
ATOM   2943 3HZ  LYS A 220      11.533  57.945  11.239  1.00  0.00
ATOM   2944  N   PHE A 221      11.973  51.321  14.707  1.00  0.00
ATOM   2945  CA  PHE A 221      11.165  51.048  15.881  1.00  0.00
ATOM   2946  C   PHE A 221      10.824  52.390  16.505  1.00  0.00
ATOM   2947  O   PHE A 221      11.558  53.366  16.328  1.00  0.00
ATOM   2948  CB  PHE A 221      11.899  50.170  16.895  1.00  0.00
ATOM   2949  CG  PHE A 221      12.098  48.778  16.349  1.00  0.00
ATOM   2950  CD1 PHE A 221      11.039  47.880  16.349  1.00  0.00
ATOM   2951  CD2 PHE A 221      13.339  48.393  15.856  1.00  0.00
ATOM   2952  CE1 PHE A 221      11.222  46.591  15.863  1.00  0.00
ATOM   2953  CE2 PHE A 221      13.521  47.104  15.371  1.00  0.00
ATOM   2954  CZ  PHE A 221      12.464  46.202  15.377  1.00  0.00
ATOM   2955  H   PHE A 221      12.936  51.601  14.827  1.00  0.00
ATOM   2956  HA  PHE A 221      10.243  50.545  15.587  1.00  0.00
ATOM   2957 1HB  PHE A 221      12.878  50.592  17.118  1.00  0.00
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ATOM   2958 2HB  PHE A 221      11.319  50.095  17.814  1.00  0.00
ATOM   2959  HD1 PHE A 221      10.070  48.200  16.732  1.00  0.00
ATOM   2960  HD2 PHE A 221      14.170  49.099  15.851  1.00  0.00
ATOM   2961  HE1 PHE A 221      10.391  45.886  15.863  1.00  0.00
ATOM   2962  HE2 PHE A 221      14.494  46.800  14.986  1.00  0.00
ATOM   2963  HZ  PHE A 221      12.611  45.190  15.002  1.00  0.00
ATOM   2964  N   ASP A 222       9.715  52.441  17.235  1.00  0.00
ATOM   2965  CA  ASP A 222       9.300  53.675  17.884  1.00  0.00
ATOM   2966  C   ASP A 222      10.097  53.828  19.175  1.00  0.00
ATOM   2967  O   ASP A 222       9.884  53.085  20.134  1.00  0.00
ATOM   2968  CB  ASP A 222       7.796  53.675  18.168  1.00  0.00
ATOM   2969  CG  ASP A 222       7.275  54.959  18.798  1.00  0.00
ATOM   2970  OD1 ASP A 222       8.074  55.805  19.124  1.00  0.00
ATOM   2971  OD2 ASP A 222       6.082  55.152  18.806  1.00  0.00
ATOM   2972  H   ASP A 222       9.147  51.613  17.344  1.00  0.00
ATOM   2973  HA  ASP A 222       9.525  54.525  17.239  1.00  0.00
ATOM   2974 1HB  ASP A 222       7.189  53.426  17.297  1.00  0.00
ATOM   2975 2HB  ASP A 222       7.739  52.864  18.895  1.00  0.00
ATOM   2976  N   SER A 223      11.018  54.788  19.195  1.00  0.00
ATOM   2977  CA  SER A 223      11.849  55.017  20.372  1.00  0.00
ATOM   2978  C   SER A 223      10.998  55.288  21.610  1.00  0.00
ATOM   2979  O   SER A 223      11.456  55.131  22.746  1.00  0.00
ATOM   2980  CB  SER A 223      12.799  56.172  20.121  1.00  0.00
ATOM   2981  OG  SER A 223      12.119  57.387  19.962  1.00  0.00
ATOM   2982  H   SER A 223      11.147  55.371  18.381  1.00  0.00
ATOM   2983  HA  SER A 223      12.546  54.203  20.575  1.00  0.00
ATOM   2984 1HB  SER A 223      13.479  56.254  20.969  1.00  0.00
ATOM   2985 2HB  SER A 223      13.370  55.965  19.217  1.00  0.00
ATOM   2986  HG  SER A 223      12.754  58.090  19.806  1.00  0.00
ATOM   2987  N   ARG A 224       9.754  55.693  21.384  1.00  0.00
ATOM   2988  CA  ARG A 224       8.841  55.987  22.480  1.00  0.00
ATOM   2989  C   ARG A 224       8.186  54.702  22.988  1.00  0.00
ATOM   2990  O   ARG A 224       7.569  54.688  24.057  1.00  0.00
ATOM   2991  CB  ARG A 224       7.807  57.038  22.104  1.00  0.00
ATOM   2992  CG  ARG A 224       8.372  58.423  21.832  1.00  0.00
ATOM   2993  CD  ARG A 224       7.369  59.412  21.361  1.00  0.00
ATOM   2994  NE  ARG A 224       6.805  59.122  20.053  1.00  0.00
ATOM   2995  CZ  ARG A 224       5.805  59.820  19.479  1.00  0.00
ATOM   2996  NH1 ARG A 224       5.231  60.822  20.107  1.00  0.00
ATOM   2997  NH2 ARG A 224       5.398  59.454  18.276  1.00  0.00
ATOM   2998  H   ARG A 224       9.432  55.800  20.433  1.00  0.00
ATOM   2999  HA  ARG A 224       9.394  56.415  23.317  1.00  0.00
ATOM   3000 1HB  ARG A 224       7.296  56.677  21.212  1.00  0.00
ATOM   3001 2HB  ARG A 224       7.098  57.096  22.930  1.00  0.00
ATOM   3002 1HG  ARG A 224       8.814  58.805  22.753  1.00  0.00
ATOM   3003 2HG  ARG A 224       9.145  58.337  21.067  1.00  0.00
ATOM   3004 1HD  ARG A 224       6.544  59.445  22.072  1.00  0.00
ATOM   3005 2HD  ARG A 224       7.839  60.393  21.304  1.00  0.00
ATOM   3006  HE  ARG A 224       7.048  58.396  19.392  1.00  0.00
ATOM   3007 1HH1 ARG A 224       5.542  61.078  21.034  1.00  0.00
ATOM   3008 2HH1 ARG A 224       4.483  61.332  19.660  1.00  0.00
ATOM   3009 1HH2 ARG A 224       5.838  58.669  17.815  1.00  0.00
ATOM   3010 2HH2 ARG A 224       4.651  59.959  17.824  1.00  0.00
ATOM   3011  N   LYS A 225       8.343  53.622  22.225  1.00  0.00
ATOM   3012  CA  LYS A 225       7.758  52.329  22.574  1.00  0.00
ATOM   3013  C   LYS A 225       8.777  51.382  23.228  1.00  0.00
ATOM   3014  O   LYS A 225       8.469  50.225  23.530  1.00  0.00
ATOM   3015  CB  LYS A 225       7.160  51.673  21.329  1.00  0.00
ATOM   3016  CG  LYS A 225       5.966  52.413  20.739  1.00  0.00
ATOM   3017  CD  LYS A 225       5.435  51.708  19.500  1.00  0.00
ATOM   3018  CE  LYS A 225       4.264  52.465  18.891  1.00  0.00
ATOM   3019  NZ  LYS A 225       3.118  52.571  19.834  1.00  0.00
ATOM   3020  H   LYS A 225       8.886  53.704  21.377  1.00  0.00
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ATOM   3021  HA  LYS A 225       6.968  52.469  23.313  1.00  0.00
ATOM   3022 1HB  LYS A 225       7.954  51.615  20.585  1.00  0.00
ATOM   3023 2HB  LYS A 225       6.856  50.665  21.613  1.00  0.00
ATOM   3024 1HG  LYS A 225       5.181  52.462  21.495  1.00  0.00
ATOM   3025 2HG  LYS A 225       6.280  53.423  20.477  1.00  0.00
ATOM   3026 1HD  LYS A 225       6.242  51.636  18.769  1.00  0.00
ATOM   3027 2HD  LYS A 225       5.111  50.706  19.782  1.00  0.00
ATOM   3028 1HE  LYS A 225       4.606  53.464  18.622  1.00  0.00
ATOM   3029 2HE  LYS A 225       3.947  51.937  17.992  1.00  0.00
ATOM   3030 1HZ  LYS A 225       2.364  53.078  19.393  1.00  0.00
ATOM   3031 2HZ  LYS A 225       2.800  51.644  20.083  1.00  0.00
ATOM   3032 3HZ  LYS A 225       3.412  53.061  20.667  1.00  0.00
ATOM   3033  N   THR A 226       9.988  51.885  23.447  1.00  0.00
ATOM   3034  CA  THR A 226      11.054  51.104  24.068  1.00  0.00
ATOM   3035  C   THR A 226      10.978  51.255  25.585  1.00  0.00
ATOM   3036  O   THR A 226      11.093  52.360  26.103  1.00  0.00
ATOM   3037  CB  THR A 226      12.448  51.537  23.577  1.00  0.00
ATOM   3038  OG1 THR A 226      12.539  51.346  22.159  1.00  0.00
ATOM   3039  CG2 THR A 226      13.533  50.723  24.265  1.00  0.00
ATOM   3040  H   THR A 226      10.173  52.839  23.173  1.00  0.00
ATOM   3041  HA  THR A 226      10.920  50.047  23.836  1.00  0.00
ATOM   3042  HB  THR A 226      12.590  52.594  23.802  1.00  0.00
ATOM   3043  HG1 THR A 226      13.408  51.616  21.855  1.00  0.00
ATOM   3044 1HG2 THR A 226      14.510  51.044  23.906  1.00  0.00
ATOM   3045 2HG2 THR A 226      13.473  50.876  25.343  1.00  0.00
ATOM   3046 3HG2 THR A 226      13.392  49.667  24.040  1.00  0.00
ATOM   3047  N   SER A 227      10.787  50.148  26.296  1.00  0.00
ATOM   3048  CA  SER A 227      10.700  50.205  27.752  1.00  0.00
ATOM   3049  C   SER A 227      11.471  49.085  28.430  1.00  0.00
ATOM   3050  O   SER A 227      11.703  48.040  27.834  1.00  0.00
ATOM   3051  CB  SER A 227       9.246  50.165  28.181  1.00  0.00
ATOM   3052  OG  SER A 227       8.630  48.954  27.840  1.00  0.00
ATOM   3053  H   SER A 227      10.700  49.255  25.833  1.00  0.00
ATOM   3054  HA  SER A 227      11.026  51.159  28.168  1.00  0.00
ATOM   3055 1HB  SER A 227       9.199  50.295  29.262  1.00  0.00
ATOM   3056 2HB  SER A 227       8.716  50.982  27.695  1.00  0.00
ATOM   3057  HG  SER A 227       9.089  48.229  28.271  1.00  0.00
ATOM   3058  N   LEU A 228      11.864  49.306  29.680  1.00  0.00
ATOM   3059  CA  LEU A 228      12.580  48.283  30.425  1.00  0.00
ATOM   3060  C   LEU A 228      11.626  47.114  30.614  1.00  0.00
ATOM   3061  O   LEU A 228      10.492  47.294  31.049  1.00  0.00
ATOM   3062  CB  LEU A 228      13.080  48.820  31.772  1.00  0.00
ATOM   3063  CG  LEU A 228      14.156  49.910  31.681  1.00  0.00
ATOM   3064  CD1 LEU A 228      14.473  50.447  33.070  1.00  0.00
ATOM   3065  CD2 LEU A 228      15.404  49.339  31.026  1.00  0.00
ATOM   3066  H   LEU A 228      11.667  50.191  30.125  1.00  0.00
ATOM   3067  HA  LEU A 228      13.441  47.947  29.849  1.00  0.00
ATOM   3068 1HB  LEU A 228      12.150  49.243  32.150  1.00  0.00
ATOM   3069 2HB  LEU A 228      13.407  48.016  32.431  1.00  0.00
ATOM   3070  HG  LEU A 228      13.767  50.695  31.032  1.00  0.00
ATOM   3071 1HD1 LEU A 228      15.238  51.221  32.996  1.00  0.00
ATOM   3072 2HD1 LEU A 228      13.571  50.872  33.511  1.00  0.00
ATOM   3073 3HD1 LEU A 228      14.838  49.636  33.699  1.00  0.00
ATOM   3074 1HD2 LEU A 228      16.168  50.115  30.961  1.00  0.00
ATOM   3075 2HD2 LEU A 228      15.780  48.507  31.621  1.00  0.00
ATOM   3076 3HD2 LEU A 228      15.160  48.987  30.023  1.00  0.00
ATOM   3077  N   GLU A 229      12.080  45.915  30.271  1.00  0.00
ATOM   3078  CA  GLU A 229      11.257  44.721  30.410  1.00  0.00
ATOM   3079  C   GLU A 229      12.060  43.624  31.078  1.00  0.00
ATOM   3080  O   GLU A 229      13.255  43.780  31.313  1.00  0.00
ATOM   3081  CB  GLU A 229      10.739  44.249  29.049  1.00  0.00
ATOM   3082  CG  GLU A 229       9.867  45.264  28.322  1.00  0.00
ATOM   3083  CD  GLU A 229       8.550  45.453  29.022  1.00  0.00
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ATOM   3084  OE1 GLU A 229       8.225  44.650  29.863  1.00  0.00
ATOM   3085  OE2 GLU A 229       7.921  46.460  28.798  1.00  0.00
ATOM   3086  H   GLU A 229      13.017  45.827  29.905  1.00  0.00
ATOM   3087  HA  GLU A 229      10.399  44.935  31.048  1.00  0.00
ATOM   3088 1HB  GLU A 229      11.612  44.018  28.439  1.00  0.00
ATOM   3089 2HB  GLU A 229      10.166  43.338  29.225  1.00  0.00
ATOM   3090 1HG  GLU A 229      10.349  46.232  28.188  1.00  0.00
ATOM   3091 2HG  GLU A 229       9.699  44.805  27.349  1.00  0.00
ATOM   3092  N   ASP A 230      11.395  42.516  31.381  1.00  0.00
ATOM   3093  CA  ASP A 230      12.046  41.387  32.023  1.00  0.00
ATOM   3094  C   ASP A 230      12.709  40.480  31.002  1.00  0.00
ATOM   3095  O   ASP A 230      12.124  40.161  29.971  1.00  0.00
ATOM   3096  CB  ASP A 230      11.039  40.591  32.857  1.00  0.00
ATOM   3097  CG  ASP A 230      10.482  41.344  34.058  1.00  0.00
ATOM   3098  OD1 ASP A 230      11.257  41.922  34.784  1.00  0.00
ATOM   3099  OD2 ASP A 230       9.285  41.469  34.152  1.00  0.00
ATOM   3100  H   ASP A 230      10.411  42.456  31.160  1.00  0.00
ATOM   3101  HA  ASP A 230      12.839  41.743  32.681  1.00  0.00
ATOM   3102 1HB  ASP A 230      10.215  40.183  32.271  1.00  0.00
ATOM   3103 2HB  ASP A 230      11.678  39.778  33.203  1.00  0.00
ATOM   3104  N   PHE A 231      13.941  40.078  31.291  1.00  0.00
ATOM   3105  CA  PHE A 231      14.685  39.190  30.413  1.00  0.00
ATOM   3106  C   PHE A 231      15.097  38.004  31.261  1.00  0.00
ATOM   3107  O   PHE A 231      15.858  38.150  32.216  1.00  0.00
ATOM   3108  CB  PHE A 231      15.917  39.867  29.816  1.00  0.00
ATOM   3109  CG  PHE A 231      16.572  38.952  28.803  1.00  0.00
ATOM   3110  CD1 PHE A 231      17.447  37.950  29.209  1.00  0.00
ATOM   3111  CD2 PHE A 231      16.302  39.117  27.450  1.00  0.00
ATOM   3112  CE1 PHE A 231      18.067  37.134  28.270  1.00  0.00
ATOM   3113  CE2 PHE A 231      16.923  38.306  26.507  1.00  0.00
ATOM   3114  CZ  PHE A 231      17.821  37.328  26.917  1.00  0.00
ATOM   3115  H   PHE A 231      14.372  40.399  32.146  1.00  0.00
ATOM   3116  HA  PHE A 231      14.044  38.853  29.597  1.00  0.00
ATOM   3117 1HB  PHE A 231      15.632  40.791  29.315  1.00  0.00
ATOM   3118 2HB  PHE A 231      16.639  40.088  30.601  1.00  0.00
ATOM   3119  HD1 PHE A 231      17.641  37.811  30.273  1.00  0.00
ATOM   3120  HD2 PHE A 231      15.597  39.885  27.129  1.00  0.00
ATOM   3121  HE1 PHE A 231      18.744  36.345  28.597  1.00  0.00
ATOM   3122  HE2 PHE A 231      16.707  38.437  25.447  1.00  0.00
ATOM   3123  HZ  PHE A 231      18.332  36.715  26.176  1.00  0.00
ATOM   3124  N   TYR A 232      14.590  36.828  30.922  1.00  0.00
ATOM   3125  CA  TYR A 232      14.912  35.634  31.687  1.00  0.00
ATOM   3126  C   TYR A 232      16.273  35.076  31.319  1.00  0.00
ATOM   3127  O   TYR A 232      16.427  34.450  30.275  1.00  0.00
ATOM   3128  CB  TYR A 232      13.838  34.564  31.478  1.00  0.00
ATOM   3129  CG  TYR A 232      12.491  34.924  32.064  1.00  0.00
ATOM   3130  CD1 TYR A 232      11.493  35.471  31.271  1.00  0.00
ATOM   3131  CD2 TYR A 232      12.221  34.715  33.408  1.00  0.00
ATOM   3132  CE1 TYR A 232      10.260  35.803  31.800  1.00  0.00
ATOM   3133  CE2 TYR A 232      10.993  35.042  33.948  1.00  0.00
ATOM   3134  CZ  TYR A 232      10.014  35.586  33.141  1.00  0.00
ATOM   3135  OH  TYR A 232       8.789  35.913  33.674  1.00  0.00
ATOM   3136  H   TYR A 232      13.973  36.751  30.126  1.00  0.00
ATOM   3137  HA  TYR A 232      14.961  35.877  32.749  1.00  0.00
ATOM   3138 1HB  TYR A 232      13.738  34.412  30.402  1.00  0.00
ATOM   3139 2HB  TYR A 232      14.203  33.647  31.942  1.00  0.00
ATOM   3140  HD1 TYR A 232      11.694  35.639  30.213  1.00  0.00
ATOM   3141  HD2 TYR A 232      12.998  34.286  34.040  1.00  0.00
ATOM   3142  HE1 TYR A 232       9.486  36.232  31.166  1.00  0.00
ATOM   3143  HE2 TYR A 232      10.800  34.871  35.008  1.00  0.00
ATOM   3144  HH  TYR A 232       8.725  35.721  34.613  1.00  0.00
ATOM   3145  N   LEU A 233      17.262  35.316  32.179  1.00  0.00
ATOM   3146  CA  LEU A 233      18.617  34.818  31.950  1.00  0.00
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ATOM   3147  C   LEU A 233      18.595  33.296  32.056  1.00  0.00
ATOM   3148  O   LEU A 233      19.464  32.606  31.524  1.00  0.00
ATOM   3149  CB  LEU A 233      19.604  35.426  32.954  1.00  0.00
ATOM   3150  CG  LEU A 233      19.838  36.935  32.808  1.00  0.00
ATOM   3151  CD1 LEU A 233      20.728  37.437  33.937  1.00  0.00
ATOM   3152  CD2 LEU A 233      20.471  37.222  31.454  1.00  0.00
ATOM   3153  H   LEU A 233      17.070  35.856  33.011  1.00  0.00
ATOM   3154  HA  LEU A 233      18.939  35.085  30.944  1.00  0.00
ATOM   3155 1HB  LEU A 233      19.066  35.219  33.878  1.00  0.00
ATOM   3156 2HB  LEU A 233      20.554  34.892  32.960  1.00  0.00
ATOM   3157  HG  LEU A 233      18.861  37.418  32.828  1.00  0.00
ATOM   3158 1HD1 LEU A 233      20.888  38.510  33.825  1.00  0.00
ATOM   3159 2HD1 LEU A 233      20.245  37.242  34.895  1.00  0.00
ATOM   3160 3HD1 LEU A 233      21.687  36.921  33.902  1.00  0.00
ATOM   3161 1HD2 LEU A 233      20.637  38.295  31.351  1.00  0.00
ATOM   3162 2HD2 LEU A 233      21.425  36.699  31.380  1.00  0.00
ATOM   3163 3HD2 LEU A 233      19.806  36.880  30.661  1.00  0.00
ATOM   3164  N   ASP A 234      17.583  32.788  32.750  1.00  0.00
ATOM   3165  CA  ASP A 234      17.394  31.360  32.946  1.00  0.00
ATOM   3166  C   ASP A 234      16.201  31.123  33.859  1.00  0.00
ATOM   3167  O   ASP A 234      15.562  32.064  34.325  1.00  0.00
ATOM   3168  CB  ASP A 234      18.654  30.717  33.532  1.00  0.00
ATOM   3169  CG  ASP A 234      19.172  31.387  34.797  1.00  0.00
ATOM   3170  OD1 ASP A 234      18.416  31.517  35.730  1.00  0.00
ATOM   3171  OD2 ASP A 234      20.354  31.621  34.879  1.00  0.00
ATOM   3172  H   ASP A 234      16.920  33.432  33.156  1.00  0.00
ATOM   3173  HA  ASP A 234      17.176  30.882  31.991  1.00  0.00
ATOM   3174 1HB  ASP A 234      18.554  29.645  33.704  1.00  0.00
ATOM   3175 2HB  ASP A 234      19.355  30.891  32.715  1.00  0.00
ATOM   3176  N   GLU A 235      15.900  29.858  34.102  1.00  0.00
ATOM   3177  CA  GLU A 235      14.775  29.475  34.933  1.00  0.00
ATOM   3178  C   GLU A 235      14.757  30.024  36.367  1.00  0.00
ATOM   3179  O   GLU A 235      13.689  30.112  36.974  1.00  0.00
ATOM   3180  CB  GLU A 235      14.705  27.947  34.983  1.00  0.00
ATOM   3181  CG  GLU A 235      14.264  27.295  33.680  1.00  0.00
ATOM   3182  CD  GLU A 235      14.314  25.796  33.775  1.00  0.00
ATOM   3183  OE1 GLU A 235      14.748  25.298  34.785  1.00  0.00
ATOM   3184  OE2 GLU A 235      13.815  25.147  32.885  1.00  0.00
ATOM   3185  H   GLU A 235      16.477  29.137  33.692  1.00  0.00
ATOM   3186  HA  GLU A 235      13.851  29.870  34.510  1.00  0.00
ATOM   3187 1HB  GLU A 235      15.701  27.591  35.247  1.00  0.00
ATOM   3188 2HB  GLU A 235      14.003  27.686  35.775  1.00  0.00
ATOM   3189 1HG  GLU A 235      13.271  27.605  33.354  1.00  0.00
ATOM   3190 2HG  GLU A 235      15.005  27.638  32.958  1.00  0.00
ATOM   3191  N   GLU A 236      15.916  30.395  36.911  1.00  0.00
ATOM   3192  CA  GLU A 236      15.966  30.937  38.272  1.00  0.00
ATOM   3193  C   GLU A 236      16.268  32.457  38.343  1.00  0.00
ATOM   3194  O   GLU A 236      15.928  33.100  39.328  1.00  0.00
ATOM   3195  CB  GLU A 236      17.010  30.167  39.084  1.00  0.00
ATOM   3196  CG  GLU A 236      16.710  28.684  39.248  1.00  0.00
ATOM   3197  CD  GLU A 236      17.784  27.994  40.042  1.00  0.00
ATOM   3198  OE1 GLU A 236      18.720  28.649  40.434  1.00  0.00
ATOM   3199  OE2 GLU A 236      17.615  26.839  40.355  1.00  0.00
ATOM   3200  H   GLU A 236      16.774  30.305  36.386  1.00  0.00
ATOM   3201  HA  GLU A 236      14.991  30.831  38.748  1.00  0.00
ATOM   3202 1HB  GLU A 236      17.965  30.290  38.573  1.00  0.00
ATOM   3203 2HB  GLU A 236      17.059  30.637  40.067  1.00  0.00
ATOM   3204 1HG  GLU A 236      15.739  28.485  39.701  1.00  0.00
ATOM   3205 2HG  GLU A 236      16.716  28.307  38.226  1.00  0.00
ATOM   3206  N   ARG A 237      16.872  33.044  37.312  1.00  0.00
ATOM   3207  CA  ARG A 237      17.215  34.479  37.353  1.00  0.00
ATOM   3208  C   ARG A 237      16.581  35.382  36.287  1.00  0.00
ATOM   3209  O   ARG A 237      16.500  35.022  35.110  1.00  0.00
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ATOM   3210  CB  ARG A 237      18.725  34.664  37.349  1.00  0.00
ATOM   3211  CG  ARG A 237      19.192  36.111  37.345  1.00  0.00
ATOM   3212  CD  ARG A 237      20.666  36.279  37.433  1.00  0.00
ATOM   3213  NE  ARG A 237      21.118  37.660  37.388  1.00  0.00
ATOM   3214  CZ  ARG A 237      22.398  38.051  37.542  1.00  0.00
ATOM   3215 NH1 ARG A 237      23.349  37.177  37.789  1.00  0.00
ATOM   3216 NH2 ARG A 237      22.671  39.342  37.462  1.00  0.00
ATOM   3217  H   ARG A 237      17.101  32.507  36.488  1.00  0.00
ATOM   3218  HA  ARG A 237      16.857  34.917  38.285  1.00  0.00
ATOM   3219 1HB  ARG A 237      19.109  34.165  38.237  1.00  0.00
ATOM   3220 2HB  ARG A 237      19.104  34.162  36.458  1.00  0.00
ATOM   3221 1HG  ARG A 237      18.856  36.582  36.421  1.00  0.00
ATOM   3222 2HG  ARG A 237      18.743  36.622  38.197  1.00  0.00
ATOM   3223 1HD  ARG A 237      21.015  35.852  38.373  1.00  0.00
ATOM   3224 2HD  ARG A 237      21.132  35.754  36.601  1.00  0.00
ATOM   3225  HE  ARG A 237      20.587  38.508  37.242  1.00  0.00
ATOM   3226 1HH1 ARG A 237      23.121  36.195  37.864  1.00  0.00
ATOM   3227 2HH1 ARG A 237      24.302  37.490  37.901  1.00  0.00
ATOM   3228 1HH2 ARG A 237      21.926  40.002  37.289  1.00  0.00
ATOM   3229 2HH2 ARG A 237      23.621  39.662  37.574  1.00  0.00
ATOM   3230  N   THR A 238      16.166  36.576  36.706  1.00  0.00
ATOM   3231  CA  THR A 238      15.549  37.544  35.799  1.00  0.00
ATOM   3232  C   THR A 238      16.170  38.924  35.947  1.00  0.00
ATOM   3233  O   THR A 238      16.631  39.287  37.021  1.00  0.00
ATOM   3234  CB  THR A 238      14.031  37.653  36.036  1.00  0.00
ATOM   3235  OG1 THR A 238      13.425  36.365  35.873  1.00  0.00
ATOM   3236  CG2 THR A 238      13.407  38.631  35.053  1.00  0.00
ATOM   3237  H   THR A 238      16.282  36.818  37.680  1.00  0.00
ATOM   3238  HA  THR A 238      15.720  37.242  34.765  1.00  0.00
ATOM   3239  HB  THR A 238      13.856  38.001  37.054  1.00  0.00
ATOM   3240  HG1 THR A 238      12.479  36.435  36.022  1.00  0.00
ATOM   3241 1HG2 THR A 238      12.335  38.695  35.236  1.00  0.00
ATOM   3242 2HG2 THR A 238      13.858  39.615  35.182  1.00  0.00
ATOM   3243 3HG2 THR A 238      13.581  38.283  34.035  1.00  0.00
ATOM   3244  N   VAL A 239      16.184  39.690  34.864  1.00  0.00
ATOM   3245  CA  VAL A 239      16.748  41.037  34.882  1.00  0.00
ATOM   3246  C   VAL A 239      15.903  41.944  34.005  1.00  0.00
ATOM   3247  O   VAL A 239      15.005  41.478  33.300  1.00  0.00
ATOM   3248  CB  VAL A 239      18.208  41.063  34.392  1.00  0.00
ATOM   3249  CG1 VAL A 239      19.093  40.232  35.309  1.00  0.00
ATOM   3250  CG2 VAL A 239      18.299  40.554  32.962  1.00  0.00
ATOM   3251  H   VAL A 239      15.794  39.331  34.004  1.00  0.00
ATOM   3252  HA  VAL A 239      16.717  41.467  35.884  1.00  0.00
ATOM   3253  HB  VAL A 239      18.561  42.094  34.384  1.00  0.00
ATOM   3254 1HG1 VAL A 239      20.121  40.262  34.948  1.00  0.00
ATOM   3255 2HG1 VAL A 239      19.052  40.638  36.320  1.00  0.00
ATOM   3256 3HG1 VAL A 239      18.741  39.200  35.317  1.00  0.00
ATOM   3257 1HG2 VAL A 239      19.337  40.580  32.631  1.00  0.00
ATOM   3258 2HG2 VAL A 239      17.929  39.530  32.917  1.00  0.00
ATOM   3259 3HG2 VAL A 239      17.696  41.187  32.311  1.00  0.00
ATOM   3260  N   ARG A 240      16.185  43.241  34.048  1.00  0.00
ATOM   3261  CA  ARG A 240      15.432  44.176  33.233  1.00  0.00
ATOM   3262  C   ARG A 240      16.346  44.856  32.231  1.00  0.00
ATOM   3263  O   ARG A 240      17.337  45.494  32.601  1.00  0.00
ATOM   3264  CB  ARG A 240      14.663  45.187  34.070  1.00  0.00
ATOM   3265  CG  ARG A 240      13.461  44.622  34.811  1.00  0.00
ATOM   3266  CD  ARG A 240      12.769  45.599  35.690  1.00  0.00
ATOM   3267  NE  ARG A 240      11.701  45.031  36.498  1.00  0.00
ATOM   3268  CZ  ARG A 240      10.433  44.859  36.079  1.00  0.00
ATOM   3269 NH1 ARG A 240      10.058  45.242  34.878  1.00  0.00
ATOM   3270 NH2 ARG A 240       9.566  44.316  36.916  1.00  0.00
ATOM   3271  H   ARG A 240      16.922  43.590  34.644  1.00  0.00
ATOM   3272  HA  ARG A 240      14.673  43.640  32.662  1.00  0.00
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ATOM   3273 1HB  ARG A 240      15.365  45.604  34.791  1.00  0.00
ATOM   3274 2HB  ARG A 240      14.329  45.973  33.393  1.00  0.00
ATOM   3275 1HG  ARG A 240      12.740  44.261  34.077  1.00  0.00
ATOM   3276 2HG  ARG A 240      13.796  43.789  35.430  1.00  0.00
ATOM   3277 1HD  ARG A 240      13.496  46.038  36.372  1.00  0.00
ATOM   3278 2HD  ARG A 240      12.330  46.382  35.073  1.00  0.00
ATOM   3279  HE  ARG A 240      11.725  44.690  37.450  1.00  0.00
ATOM   3280 1HH1 ARG A 240      10.729  45.672  34.256  1.00  0.00
ATOM   3281 2HH1 ARG A 240       9.103  45.105  34.583  1.00  0.00
ATOM   3282 1HH2 ARG A 240       9.866  44.043  37.842  1.00  0.00
ATOM   3283 2HH2 ARG A 240       8.609  44.176  36.628  1.00  0.00
ATOM   3284  N   VAL A 241      16.009  44.706  30.957  1.00  0.00
ATOM   3285  CA  VAL A 241      16.789  45.314  29.898  1.00  0.00
ATOM   3286  C   VAL A 241      15.839  46.075  28.982  1.00  0.00
ATOM   3287  O   VAL A 241      14.684  45.694  28.818  1.00  0.00
ATOM   3288  CB  VAL A 241      17.564  44.246  29.106  1.00  0.00
ATOM   3289  CG1 VAL A 241      18.512  43.452  30.003  1.00  0.00
ATOM   3290  CG2 VAL A 241      16.628  43.324  28.330  1.00  0.00
ATOM   3291  H   VAL A 241      15.195  44.159  30.716  1.00  0.00
ATOM   3292  HA  VAL A 241      17.495  46.045  30.295  1.00  0.00
ATOM   3293  HB  VAL A 241      18.190  44.741  28.363  1.00  0.00
ATOM   3294 1HG1 VAL A 241      19.041  42.708  29.406  1.00  0.00
ATOM   3295 2HG1 VAL A 241      19.233  44.129  30.460  1.00  0.00
ATOM   3296 3HG1 VAL A 241      17.940  42.950  30.783  1.00  0.00
ATOM   3297 1HG2 VAL A 241      17.214  42.585  27.784  1.00  0.00
ATOM   3298 2HG2 VAL A 241      15.960  42.816  29.026  1.00  0.00
ATOM   3299 3HG2 VAL A 241      16.040  43.912  27.625  1.00  0.00
ATOM   3300  N   PRO A 242      16.301  47.191  28.408  1.00  0.00
ATOM   3301  CA  PRO A 242      15.409  47.928  27.515  1.00  0.00
ATOM   3302  C   PRO A 242      15.055  47.051  26.312  1.00  0.00
ATOM   3303  O   PRO A 242      15.932  46.457  25.685  1.00  0.00
ATOM   3304  CB  PRO A 242      16.241  49.169  27.172  1.00  0.00
ATOM   3305  CG  PRO A 242      17.700  48.750  27.355  1.00  0.00
ATOM   3306  CD  PRO A 242      17.630  47.778  28.526  1.00  0.00
ATOM   3307  HA  PRO A 242      14.453  48.191  27.991  1.00  0.00
ATOM   3308 1HB  PRO A 242      16.060  49.503  26.140  1.00  0.00
ATOM   3309 2HB  PRO A 242      15.995  50.014  27.832  1.00  0.00
ATOM   3310 1HG  PRO A 242      18.096  48.278  26.444  1.00  0.00
ATOM   3311 2HG  PRO A 242      18.339  49.619  27.571  1.00  0.00
ATOM   3312 1HD  PRO A 242      18.408  47.003  28.470  1.00  0.00
ATOM   3313 2HD  PRO A 242      17.751  48.285  29.495  1.00  0.00
ATOM   3314  N   MET A 243      13.765  46.963  26.011  1.00  0.00
ATOM   3315  CA  MET A 243      13.278  46.159  24.900  1.00  0.00
ATOM   3316  C   MET A 243      12.639  47.034  23.854  1.00  0.00
ATOM   3317  O   MET A 243      11.852  47.925  24.167  1.00  0.00
ATOM   3318  CB  MET A 243      12.281  45.111  25.391  1.00  0.00
ATOM   3319  CG  MET A 243      12.890  44.025  26.267  1.00  0.00
ATOM   3320  SD  MET A 243      11.872  42.537  26.338  1.00  0.00
ATOM   3321  CE  MET A 243      12.397  41.695  24.848  1.00  0.00
ATOM   3322  H   MET A 243      13.102  47.474  26.576  1.00  0.00
ATOM   3323  HA  MET A 243      14.111  45.645  24.420  1.00  0.00
ATOM   3324 1HB  MET A 243      11.514  45.642  25.952  1.00  0.00
ATOM   3325 2HB  MET A 243      11.836  44.656  24.505  1.00  0.00
ATOM   3326 1HG  MET A 243      13.868  43.769  25.860  1.00  0.00
ATOM   3327 2HG  MET A 243      13.008  44.426  27.273  1.00  0.00
ATOM   3328 1HE  MET A 243      11.855  40.754  24.751  1.00  0.00
ATOM   3329 2HE  MET A 243      12.190  42.325  23.982  1.00  0.00
ATOM   3330 3HE  MET A 243      13.468  41.494  24.903  1.00  0.00
ATOM   3331  N   MET A 244      12.974  46.792  22.602  1.00  0.00
ATOM   3332  CA  MET A 244      12.350  47.566  21.559  1.00  0.00
ATOM   3333  C   MET A 244      11.046  46.835  21.285  1.00  0.00
ATOM   3334  O   MET A 244      10.912  45.646  21.597  1.00  0.00
ATOM   3335  CB  MET A 244      13.229  47.663  20.314  1.00  0.00
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ATOM   3336  CG  MET A 244      14.493  48.492  20.498  1.00  0.00
ATOM   3337  SD  MET A 244      15.456  48.639  18.980  1.00  0.00
ATOM   3338  CE  MET A 244      16.385  47.109  19.020  1.00  0.00
ATOM   3339  H   MET A 244      13.651  46.085  22.352  1.00  0.00
ATOM   3340  HA  MET A 244      12.161  48.580  21.911  1.00  0.00
ATOM   3341 1HB  MET A 244      13.500  46.646  20.036  1.00  0.00
ATOM   3342 2HB  MET A 244      12.617  48.105  19.526  1.00  0.00
ATOM   3343 1HG  MET A 244      14.200  49.487  20.834  1.00  0.00
ATOM   3344 2HG  MET A 244      15.103  48.015  21.264  1.00  0.00
ATOM   3345 1HE  MET A 244      17.031  47.052  18.143  1.00  0.00
ATOM   3346 2HE  MET A 244      16.996  47.078  19.924  1.00  0.00
ATOM   3347 3HE  MET A 244      15.696  46.265  19.019  1.00  0.00
ATOM   3348  N   SER A 245      10.078  47.545  20.723  1.00  0.00
ATOM   3349  CA  SER A 245       8.782  46.947  20.482  1.00  0.00
ATOM   3350  C   SER A 245       8.126  47.357  19.177  1.00  0.00
ATOM   3351  O   SER A 245       8.353  48.451  18.653  1.00  0.00
ATOM   3352  CB  SER A 245       7.861  47.280  21.640  1.00  0.00
ATOM   3353  OG  SER A 245       8.339  46.772  22.855  1.00  0.00
ATOM   3354  H   SER A 245      10.233  48.507  20.458  1.00  0.00
ATOM   3355  HA  SER A 245       8.796  45.857  20.510  1.00  0.00
ATOM   3356 1HB  SER A 245       7.777  48.363  21.717  1.00  0.00
ATOM   3357 2HB  SER A 245       6.879  46.854  21.439  1.00  0.00
ATOM   3358  HG  SER A 245       9.022  47.353  23.198  1.00  0.00
ATOM   3359  N   ASP A 246       7.319  46.444  18.660  1.00  0.00
ATOM   3360  CA  ASP A 246       6.561  46.660  17.449  1.00  0.00
ATOM   3361  C   ASP A 246       5.474  45.610  17.511  1.00  0.00
ATOM   3362  O   ASP A 246       5.711  44.446  17.194  1.00  0.00
ATOM   3363  CB  ASP A 246       7.418  46.524  16.188  1.00  0.00
ATOM   3364  CG  ASP A 246       6.686  46.847  14.892  1.00  0.00
ATOM   3365  OD1 ASP A 246       5.491  47.020  14.935  1.00  0.00
ATOM   3366  OD2 ASP A 246       7.342  47.073  13.904  1.00  0.00
ATOM   3367  H   ASP A 246       7.236  45.560  19.141  1.00  0.00
ATOM   3368  HA  ASP A 246       6.138  47.665  17.452  1.00  0.00
ATOM   3369 1HB  ASP A 246       8.347  47.091  16.231  1.00  0.00
ATOM   3370 2HB  ASP A 246       7.640  45.457  16.222  1.00  0.00
ATOM   3371  N   PRO A 247       4.265  46.009  17.939  1.00  0.00
ATOM   3372  CA  PRO A 247       3.112  45.112  18.064  1.00  0.00
ATOM   3373  C   PRO A 247       2.530  44.640  16.735  1.00  0.00
ATOM   3374  O   PRO A 247       1.757  43.681  16.696  1.00  0.00
ATOM   3375  CB  PRO A 247       2.098  45.948  18.851  1.00  0.00
ATOM   3376  CG  PRO A 247       2.465  47.360  18.547  1.00  0.00
ATOM   3377  CD  PRO A 247       3.965  47.364  18.418  1.00  0.00
ATOM   3378  HA  PRO A 247       3.360  44.169  18.572  1.00  0.00
ATOM   3379 1HB  PRO A 247       1.066  45.729  18.539  1.00  0.00
ATOM   3380 2HB  PRO A 247       2.159  45.745  19.930  1.00  0.00
ATOM   3381 1HG  PRO A 247       1.987  47.704  17.617  1.00  0.00
ATOM   3382 2HG  PRO A 247       2.135  48.039  19.348  1.00  0.00
ATOM   3383 1HD  PRO A 247       4.319  48.119  17.700  1.00  0.00
ATOM   3384 2HD  PRO A 247       4.464  47.573  19.375  1.00  0.00
ATOM   3385  N   LYS A 248       2.901  45.308  15.648  1.00  0.00
ATOM   3386  CA  LYS A 248       2.405  44.928  14.331  1.00  0.00
ATOM   3387  C   LYS A 248       3.573  44.838  13.353  1.00  0.00
ATOM   3388  O   LYS A 248       3.579  45.487  12.306  1.00  0.00
ATOM   3389  CB  LYS A 248       1.361  45.927  13.831  1.00  0.00
ATOM   3390  CG  LYS A 248       0.087  45.976  14.664  1.00  0.00
ATOM   3391  CD  LYS A 248      -0.933  46.930  14.060  1.00  0.00
ATOM   3392  CE  LYS A 248      -2.167  47.052  14.942  1.00  0.00
ATOM   3393  NZ  LYS A 248      -3.174  47.984  14.364  1.00  0.00
ATOM   3394  H   LYS A 248       3.535  46.090  15.728  1.00  0.00
ATOM   3395  HA  LYS A 248       1.941  43.942  14.382  1.00  0.00
ATOM   3396 1HB  LYS A 248       1.833  46.910  13.832  1.00  0.00
ATOM   3397 2HB  LYS A 248       1.113  45.646  12.807  1.00  0.00
ATOM   3398 1HG  LYS A 248      -0.336  44.972  14.710  1.00  0.00
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ATOM   3399 2HG  LYS A 248       0.344  46.308  15.670  1.00  0.00
ATOM   3400 1HD  LYS A 248      -0.468  47.910  13.947  1.00  0.00
ATOM   3401 2HD  LYS A 248      -1.224  46.552  13.080  1.00  0.00
ATOM   3402 1HE  LYS A 248      -2.609  46.063  15.051  1.00  0.00
ATOM   3403 2HE  LYS A 248      -1.853  47.419  15.919  1.00  0.00
ATOM   3404 1HZ  LYS A 248      -3.974  48.037  14.978  1.00  0.00
ATOM   3405 2HZ  LYS A 248      -2.765  48.902  14.263  1.00  0.00
ATOM   3406 3HZ  LYS A 248      -3.465  47.644  13.459  1.00  0.00
ATOM   3407  N   ALA A 249       4.563  44.024  13.714  1.00  0.00
ATOM   3408  CA  ALA A 249       5.761  43.817  12.903  1.00  0.00
ATOM   3409  C   ALA A 249       5.542  42.784  11.805  1.00  0.00
ATOM   3410  O   ALA A 249       4.847  41.786  11.997  1.00  0.00
ATOM   3411  CB  ALA A 249       6.933  43.369  13.776  1.00  0.00
ATOM   3412  H   ALA A 249       4.472  43.532  14.591  1.00  0.00
ATOM   3413  HA  ALA A 249       6.013  44.754  12.407  1.00  0.00
ATOM   3414 1HB  ALA A 249       7.814  43.221  13.152  1.00  0.00
ATOM   3415 2HB  ALA A 249       7.143  44.133  14.524  1.00  0.00
ATOM   3416 3HB  ALA A 249       6.680  42.434  14.273  1.00  0.00
ATOM   3417  N   VAL A 250       6.136  43.029  10.646  1.00  0.00
ATOM   3418  CA  VAL A 250       6.011  42.103   9.539  1.00  0.00
ATOM   3419  C   VAL A 250       7.375  41.474   9.289  1.00  0.00
ATOM   3420  O   VAL A 250       8.305  42.133   8.821  1.00  0.00
ATOM   3421  CB  VAL A 250       5.506  42.791   8.257  1.00  0.00
ATOM   3422  CG1 VAL A 250       5.415  41.790   7.115  1.00  0.00
ATOM   3423  CG2 VAL A 250       4.154  43.444   8.500  1.00  0.00
ATOM   3424  H   VAL A 250       6.684  43.869  10.525  1.00  0.00
ATOM   3425  HA  VAL A 250       5.328  41.287   9.779  1.00  0.00
ATOM   3426  HB  VAL A 250       6.198  43.589   7.987  1.00  0.00
ATOM   3427 1HG1 VAL A 250       5.057  42.294   6.217  1.00  0.00
ATOM   3428 2HG1 VAL A 250       6.401  41.366   6.924  1.00  0.00
ATOM   3429 3HG1 VAL A 250       4.722  40.993   7.384  1.00  0.00
ATOM   3430 1HG2 VAL A 250       3.812  43.926   7.585  1.00  0.00
ATOM   3431 2HG2 VAL A 250       3.433  42.684   8.801  1.00  0.00
ATOM   3432 3HG2 VAL A 250       4.246  44.190   9.290  1.00  0.00
ATOM   3433  N   LEU A 251       7.479  40.193   9.628  1.00  0.00
ATOM   3434  CA  LEU A 251       8.714  39.435   9.484  1.00  0.00
ATOM   3435  C   LEU A 251       8.433  38.039   8.919  1.00  0.00
ATOM   3436  O   LEU A 251       7.278  37.632   8.798  1.00  0.00
ATOM   3437  CB  LEU A 251       9.434  39.336  10.835  1.00  0.00
ATOM   3438  CG  LEU A 251       8.593  38.765  11.983  1.00  0.00
ATOM   3439  CD1 LEU A 251       8.543  37.246  11.888  1.00  0.00
ATOM   3440  CD2 LEU A 251       9.185  39.203  13.314  1.00  0.00
ATOM   3441  H   LEU A 251       6.660  39.734  10.001  1.00  0.00
ATOM   3442  HA  LEU A 251       9.368  39.935   8.770  1.00  0.00
ATOM   3443 1HB  LEU A 251      10.222  38.635  10.564  1.00  0.00
ATOM   3444 2HB  LEU A 251       9.879  40.288  11.125  1.00  0.00
ATOM   3445  HG  LEU A 251       7.596  39.200  11.902  1.00  0.00
ATOM   3446 1HD1 LEU A 251       7.943  36.850  12.708  1.00  0.00
ATOM   3447 2HD1 LEU A 251       8.095  36.955  10.938  1.00  0.00
ATOM   3448 3HD1 LEU A 251       9.553  36.844  11.952  1.00  0.00
ATOM   3449 1HD2 LEU A 251       8.585  38.797  14.130  1.00  0.00
ATOM   3450 2HD2 LEU A 251      10.208  38.835  13.397  1.00  0.00
ATOM   3451 3HD2 LEU A 251       9.185  40.292  13.372  1.00  0.00
ATOM   3452  N   ARG A 252       9.485  37.315   8.551  1.00  0.00
ATOM   3453  CA  ARG A 252       9.315  35.966   8.025  1.00  0.00
ATOM   3454  C   ARG A 252       9.532  34.982   9.183  1.00  0.00
ATOM   3455  O   ARG A 252      10.576  34.966   9.823  1.00  0.00
ATOM   3456  CB  ARG A 252      10.214  35.673   6.833  1.00  0.00
ATOM   3457  CG  ARG A 252       9.790  36.338   5.533  1.00  0.00
ATOM   3458  CD  ARG A 252      10.630  35.983   4.361  1.00  0.00
ATOM   3459  NE  ARG A 252      10.532  34.592   3.949  1.00  0.00
ATOM   3460  CZ  ARG A 252      11.400  33.975   3.123  1.00  0.00
ATOM   3461  NH1 ARG A 252      12.407  34.630   2.588  1.00  0.00
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ATOM   3462  NH2 ARG A 252      11.197  32.699   2.844  1.00  0.00
ATOM   3463  H   ARG A 252      10.416  37.697   8.634  1.00  0.00
ATOM   3464  HA  ARG A 252       8.299  35.842   7.648  1.00  0.00
ATOM   3465 1HB  ARG A 252      11.215  36.011   7.099  1.00  0.00
ATOM   3466 2HB  ARG A 252      10.220  34.592   6.697  1.00  0.00
ATOM   3467 1HG  ARG A 252       8.763  36.045   5.312  1.00  0.00
ATOM   3468 2HG  ARG A 252       9.838  37.420   5.666  1.00  0.00
ATOM   3469 1HD  ARG A 252      10.330  36.596   3.511  1.00  0.00
ATOM   3470 2HD  ARG A 252      11.674  36.180   4.600  1.00  0.00
ATOM   3471  HE  ARG A 252       9.843  33.893   4.196  1.00  0.00
ATOM   3472 1HH1 ARG A 252      12.537  35.609   2.797  1.00  0.00
ATOM   3473 2HH1 ARG A 252      13.046  34.150   1.971  1.00  0.00
ATOM   3474 1HH2 ARG A 252      10.408  32.216   3.250  1.00  0.00
ATOM   3475 2HH2 ARG A 252      11.832  32.214   2.227  1.00  0.00
ATOM   3476  N   TYR A 253       8.529  34.156   9.443  1.00  0.00
ATOM   3477  CA  TYR A 253       8.558  33.239  10.575  1.00  0.00
ATOM   3478  C   TYR A 253       8.487  31.749  10.230  1.00  0.00
ATOM   3479  O   TYR A 253       8.184  31.373   9.096  1.00  0.00
ATOM   3480  CB  TYR A 253       7.444  33.717  11.524  1.00  0.00
ATOM   3481  CG  TYR A 253       7.204  32.799  12.698  1.00  0.00
ATOM   3482  CD1 TYR A 253       6.136  31.908  12.654  1.00  0.00
ATOM   3483  CD2 TYR A 253       8.048  32.825  13.801  1.00  0.00
ATOM   3484  CE1 TYR A 253       5.938  31.010  13.693  1.00  0.00
ATOM   3485  CE2 TYR A 253       7.844  31.928  14.843  1.00  0.00
ATOM   3486  CZ  TYR A 253       6.796  31.016  14.783  1.00  0.00
ATOM   3487  OH  TYR A 253       6.602  30.110  15.805  1.00  0.00
ATOM   3488  H   TYR A 253       7.721  34.164   8.837  1.00  0.00
ATOM   3489  HA  TYR A 253       9.507  33.334  11.104  1.00  0.00
ATOM   3490 1HB  TYR A 253       7.732  34.704  11.888  1.00  0.00
ATOM   3491 2HB  TYR A 253       6.531  33.799  10.934  1.00  0.00
ATOM   3492  HD1 TYR A 253       5.465  31.933  11.795  1.00  0.00
ATOM   3493  HD2 TYR A 253       8.858  33.554  13.827  1.00  0.00
ATOM   3494  HE1 TYR A 253       5.103  30.310  13.664  1.00  0.00
ATOM   3495  HE2 TYR A 253       8.506  31.939  15.709  1.00  0.00
ATOM   3496  HH  TYR A 253       7.248  30.196  16.510  1.00  0.00
ATOM   3497  N   GLY A 254       8.781  30.912  11.224  1.00  0.00
ATOM   3498  CA  GLY A 254       8.736  29.474  11.045  1.00  0.00
ATOM   3499  C   GLY A 254       9.160  28.754  12.309  1.00  0.00
ATOM   3500  O   GLY A 254      10.138  29.150  12.942  1.00  0.00
ATOM   3501  H   GLY A 254       9.042  31.288  12.125  1.00  0.00
ATOM   3502 1HA  GLY A 254       7.718  29.178  10.791  1.00  0.00
ATOM   3503 2HA  GLY A 254       9.407  29.195  10.234  1.00  0.00
ATOM   3504  N   LEU A 255       8.431  27.704  12.686  1.00  0.00
ATOM   3505  CA  LEU A 255       8.752  26.922  13.883  1.00  0.00
ATOM   3506  C   LEU A 255       9.361  25.572  13.475  1.00  0.00
ATOM   3507  O   LEU A 255       8.773  24.844  12.684  1.00  0.00
ATOM   3508  CB  LEU A 255       7.435  26.771  14.668  1.00  0.00
ATOM   3509  CG  LEU A 255       7.383  25.950  15.968  1.00  0.00
ATOM   3510  CD1 LEU A 255       7.234  24.442  15.750  1.00  0.00
ATOM   3511  CD2 LEU A 255       8.513  26.303  16.926  1.00  0.00
ATOM   3512  H   LEU A 255       7.632  27.441  12.126  1.00  0.00
ATOM   3513  HA  LEU A 255       9.500  27.450  14.474  1.00  0.00
ATOM   3514 1HB  LEU A 255       7.260  27.815  14.923  1.00  0.00
ATOM   3515 2HB  LEU A 255       6.625  26.412  14.033  1.00  0.00
ATOM   3516  HG  LEU A 255       6.454  26.208  16.477  1.00  0.00
ATOM   3517 1HD1 LEU A 255       7.205  23.935  16.715  1.00  0.00
ATOM   3518 2HD1 LEU A 255       6.309  24.242  15.209  1.00  0.00
ATOM   3519 3HD1 LEU A 255       8.081  24.073  15.172  1.00  0.00
ATOM   3520 1HD2 LEU A 255       8.428  25.695  17.827  1.00  0.00
ATOM   3521 2HD2 LEU A 255       9.472  26.109  16.445  1.00  0.00
ATOM   3522 3HD2 LEU A 255       8.448  27.358  17.193  1.00  0.00
ATOM   3523  N   ASP A 256      10.542  25.248  14.001  1.00  0.00
ATOM   3524  CA  ASP A 256      11.209  23.974  13.690  1.00  0.00
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ATOM   3525  C   ASP A 256      10.955  23.042  14.864  1.00  0.00
ATOM   3526  O   ASP A 256      11.579  23.176  15.915  1.00  0.00
ATOM   3527  CB  ASP A 256      12.710  24.157  13.452  1.00  0.00
ATOM   3528  CG  ASP A 256      13.451  22.876  13.093  1.00  0.00
ATOM   3529  OD1 ASP A 256      12.840  21.834  13.115  1.00  0.00
ATOM   3530  OD2 ASP A 256      14.571  22.966  12.649  1.00  0.00
ATOM   3531  H   ASP A 256      10.991  25.897  14.631  1.00  0.00
ATOM   3532  HA  ASP A 256      10.777  23.542  12.787  1.00  0.00
ATOM   3533 1HB  ASP A 256      12.943  24.929  12.718  1.00  0.00
ATOM   3534 2HB  ASP A 256      13.021  24.491  14.443  1.00  0.00
ATOM   3535  N   SER A 257      10.036  22.102  14.679  1.00  0.00
ATOM   3536  CA  SER A 257       9.672  21.158  15.728  1.00  0.00
ATOM   3537  C   SER A 257      10.845  20.359  16.275  1.00  0.00
ATOM   3538  O   SER A 257      10.933  20.132  17.478  1.00  0.00
ATOM   3539  CB  SER A 257       8.609  20.211  15.205  1.00  0.00
ATOM   3540  OG  SER A 257       9.086  19.411  14.158  1.00  0.00
ATOM   3541  H   SER A 257       9.576  22.042  13.782  1.00  0.00
ATOM   3542  HA  SER A 257       9.161  21.624  16.572  1.00  0.00
ATOM   3543 1HB  SER A 257       8.283  19.568  16.023  1.00  0.00
ATOM   3544 2HB  SER A 257       7.765  20.798  14.847  1.00  0.00
ATOM   3545  HG  SER A 257       8.385  18.828  13.857  1.00  0.00
ATOM   3546  N   ASP A 258      11.741  19.934  15.393  1.00  0.00
ATOM   3547  CA  ASP A 258      12.901  19.144  15.792  1.00  0.00
ATOM   3548  C   ASP A 258      13.859  19.920  16.696  1.00  0.00
ATOM   3549  O   ASP A 258      14.182  19.474  17.799  1.00  0.00
ATOM   3550  CB  ASP A 258      13.648  18.646  14.552  1.00  0.00
ATOM   3551  CG  ASP A 258      12.922  17.555  13.777  1.00  0.00
ATOM   3552  OD1 ASP A 258      11.962  17.028  14.288  1.00  0.00
ATOM   3553  OD2 ASP A 258      13.232  17.366  12.625  1.00  0.00
ATOM   3554  H   ASP A 258      11.615  20.165  14.418  1.00  0.00
ATOM   3555  HA  ASP A 258      12.578  18.283  16.378  1.00  0.00
ATOM   3556 1HB  ASP A 258      13.937  19.445  13.869  1.00  0.00
ATOM   3557 2HB  ASP A 258      14.538  18.226  15.021  1.00  0.00
ATOM   3558  N   LEU A 259      14.327  21.069  16.217  1.00  0.00
ATOM   3559  CA  LEU A 259      15.240  21.898  16.995  1.00  0.00
ATOM   3560  C   LEU A 259      14.515  22.440  18.211  1.00  0.00
ATOM   3561  O   LEU A 259      15.142  22.834  19.195  1.00  0.00
ATOM   3562  CB  LEU A 259      15.799  23.043  16.141  1.00  0.00
ATOM   3563  CG  LEU A 259      16.723  22.612  14.995  1.00  0.00
ATOM   3564  CD1 LEU A 259      17.272  23.839  14.278  1.00  0.00
ATOM   3565  CD2 LEU A 259      17.855  21.759  15.548  1.00  0.00
ATOM   3566  H   LEU A 259      14.047  21.376  15.297  1.00  0.00
ATOM   3567  HA  LEU A 259      16.072  21.291  17.350  1.00  0.00
ATOM   3568 1HB  LEU A 259      14.866  23.438  15.741  1.00  0.00
ATOM   3569 2HB  LEU A 259      16.282  23.805  16.754  1.00  0.00
ATOM   3570  HG  LEU A 259      16.134  21.990  14.321  1.00  0.00
ATOM   3571 1HD1 LEU A 259      17.927  23.523  13.466  1.00  0.00
ATOM   3572 2HD1 LEU A 259      16.446  24.422  13.871  1.00  0.00
ATOM   3573 3HD1 LEU A 259      17.836  24.449  14.982  1.00  0.00
ATOM   3574 1HD2 LEU A 259      18.510  21.453  14.732  1.00  0.00
ATOM   3575 2HD2 LEU A 259      18.425  22.337  16.275  1.00  0.00
ATOM   3576 3HD2 LEU A 259      17.441  20.874  16.031  1.00  0.00
ATOM   3577  N   SER A 260      13.190  22.464  18.128  1.00  0.00
ATOM   3578  CA  SER A 260      12.365  22.964  19.212  1.00  0.00
ATOM   3579  C   SER A 260      12.598  24.468  19.405  1.00  0.00
ATOM   3580  O   SER A 260      12.849  24.934  20.523  1.00  0.00
ATOM   3581  CB  SER A 260      12.662  22.202  20.489  1.00  0.00
ATOM   3582  OG  SER A 260      12.406  20.831  20.356  1.00  0.00
ATOM   3583  H   SER A 260      12.745  22.125  17.287  1.00  0.00
ATOM   3584  HA  SER A 260      11.302  22.756  19.079  1.00  0.00
ATOM   3585 1HB  SER A 260      13.713  22.344  20.742  1.00  0.00
ATOM   3586 2HB  SER A 260      12.040  22.603  21.288  1.00  0.00
ATOM   3587  HG  SER A 260      12.957  20.470  19.657  1.00  0.00
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ATOM   3588  N   CYS A 261      12.520  25.225  18.310  1.00  0.00
ATOM   3589  CA  CYS A 261      12.725  26.672  18.380  1.00  0.00
ATOM   3590  C   CYS A 261      11.964  27.464  17.316  1.00  0.00
ATOM   3591  O   CYS A 261      11.554  26.917  16.292  1.00  0.00
ATOM   3592  CB  CYS A 261      14.231  26.791  18.146  1.00  0.00
ATOM   3593  SG  CYS A 261      14.783  26.229  16.518  1.00  0.00
ATOM   3594  H   CYS A 261      12.317  24.800  17.417  1.00  0.00
ATOM   3595  HA  CYS A 261      12.482  27.098  19.354  1.00  0.00
ATOM   3596 1HB  CYS A 261      14.545  27.832  18.228  1.00  0.00
ATOM   3597 2HB  CYS A 261      14.774  26.189  18.874  1.00  0.00
ATOM   3598  HG  CYS A 261      15.939  26.885  16.529  1.00  0.00
ATOM   3599  N   LYS A 262      11.791  28.759  17.579  1.00  0.00
ATOM   3600  CA  LYS A 262      11.090  29.677  16.677  1.00  0.00
ATOM   3601  C   LYS A 262      12.076  30.555  15.914  1.00  0.00
ATOM   3602  O   LYS A 262      12.846  31.302  16.517  1.00  0.00
ATOM   3603  CB  LYS A 262      10.104  30.550  17.456  1.00  0.00
ATOM   3604  CG  LYS A 262       9.063  29.770  18.247  1.00  0.00
ATOM   3605  CD  LYS A 262       8.169  30.701  19.053  1.00  0.00
ATOM   3606  CE  LYS A 262       7.112  29.924  19.824  1.00  0.00
ATOM   3607  NZ  LYS A 262       6.207  30.825  20.588  1.00  0.00
ATOM   3608  H   LYS A 262      12.167  29.113  18.447  1.00  0.00
ATOM   3609  HA  LYS A 262      10.535  29.108  15.930  1.00  0.00
ATOM   3610 1HB  LYS A 262      10.692  31.165  18.138  1.00  0.00
ATOM   3611 2HB  LYS A 262       9.603  31.191  16.731  1.00  0.00
ATOM   3612 1HG  LYS A 262       8.454  29.197  17.547  1.00  0.00
ATOM   3613 2HG  LYS A 262       9.579  29.087  18.921  1.00  0.00
ATOM   3614 1HD  LYS A 262       8.792  31.260  19.753  1.00  0.00
ATOM   3615 2HD  LYS A 262       7.682  31.394  18.368  1.00  0.00
ATOM   3616 1HE  LYS A 262       6.528  29.343  19.111  1.00  0.00
ATOM   3617 2HE  LYS A 262       7.619  29.249  20.513  1.00  0.00
ATOM   3618 1HZ  LYS A 262       5.522  30.272  21.084  1.00  0.00
ATOM   3619 2HZ  LYS A 262       6.747  31.364  21.250  1.00  0.00
ATOM   3620 3HZ  LYS A 262       5.736  31.450  19.949  1.00  0.00
ATOM   3621  N   ILE A 263      12.036  30.468  14.586  1.00  0.00
ATOM   3622  CA  ILE A 263      12.930  31.241  13.720  1.00  0.00
ATOM   3623  C   ILE A 263      12.233  32.449  13.082  1.00  0.00
ATOM   3624  O   ILE A 263      11.163  32.319  12.497  1.00  0.00
ATOM   3625  CB  ILE A 263      13.517  30.360  12.602  1.00  0.00
ATOM   3626  CG1 ILE A 263      14.218  29.137  13.200  1.00  0.00
ATOM   3627  CG2 ILE A 263      14.481  31.163  11.743  1.00  0.00
ATOM   3628  CD1 ILE A 263      14.617  28.100  12.174  1.00  0.00
ATOM   3629  H   ILE A 263      11.362  29.844  14.166  1.00  0.00
ATOM   3630  HA  ILE A 263      13.738  31.684  14.300  1.00  0.00
ATOM   3631  HB  ILE A 263      12.704  29.984  11.982  1.00  0.00
ATOM   3632 1HG1 ILE A 263      15.107  29.494  13.720  1.00  0.00
ATOM   3633 2HG1 ILE A 263      13.532  28.690  13.920  1.00  0.00
ATOM   3634 1HG2 ILE A 263      14.888  30.525  10.959  1.00  0.00
ATOM   3635 2HG2 ILE A 263      13.954  32.002  11.291  1.00  0.00
ATOM   3636 3HG2 ILE A 263      15.296  31.539  12.363  1.00  0.00
ATOM   3637 1HD1 ILE A 263      15.107  27.264  12.673  1.00  0.00
ATOM   3638 2HD1 ILE A 263      13.728  27.741  11.654  1.00  0.00
ATOM   3639 3HD1 ILE A 263      15.303  28.544  11.455  1.00  0.00
ATOM   3640  N   ALA A 264      12.839  33.625  13.200  1.00  0.00
ATOM   3641  CA  ALA A 264      12.273  34.831  12.606  1.00  0.00
ATOM   3642  C   ALA A 264      13.365  35.593  11.866  1.00  0.00
ATOM   3643  O   ALA A 264      14.529  35.589  12.272  1.00  0.00
ATOM   3644  CB  ALA A 264      11.656  35.745  13.663  1.00  0.00
ATOM   3645  H   ALA A 264      13.708  33.689  13.710  1.00  0.00
ATOM   3646  HA  ALA A 264      11.508  34.540  11.886  1.00  0.00
ATOM   3647 1HB  ALA A 264      11.245  36.632  13.181  1.00  0.00
ATOM   3648 2HB  ALA A 264      10.859  35.214  14.184  1.00  0.00
ATOM   3649 3HB  ALA A 264      12.422  36.043  14.378  1.00  0.00
ATOM   3650  N   GLN A 265      12.984  36.252  10.779  1.00  0.00
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ATOM   3651  CA  GLN A 265      13.939  37.003   9.983  1.00  0.00
ATOM   3652  C   GLN A 265      13.511  38.445   9.748  1.00  0.00
ATOM   3653  O   GLN A 265      12.432  38.709   9.214  1.00  0.00
ATOM   3654  CB  GLN A 265      14.153  36.311   8.634  1.00  0.00
ATOM   3655  CG  GLN A 265      15.175  36.991   7.740  1.00  0.00
ATOM   3656  CD  GLN A 265      15.273  36.341   6.374  1.00  0.00
ATOM   3657  OE1 GLN A 265      14.462  36.609   5.483  1.00  0.00
ATOM   3658  NE2 GLN A 265      16.267  35.477   6.200  1.00  0.00
ATOM   3659  H   GLN A 265      12.014  36.234  10.496  1.00  0.00
ATOM   3660  HA  GLN A 265      14.888  37.066  10.515  1.00  0.00
ATOM   3661 1HB  GLN A 265      14.472  35.291   8.851  1.00  0.00
ATOM   3662 2HB  GLN A 265      13.184  36.289   8.135  1.00  0.00
ATOM   3663 1HG  GLN A 265      15.210  38.071   7.600  1.00  0.00
ATOM   3664 2HG  GLN A 265      16.034  36.676   8.335  1.00  0.00
ATOM   3665 1HE2 GLN A 265      16.382  35.016   5.320  1.00  0.00
ATOM   3666 2HE2 GLN A 265      16.901  35.287   6.950  1.00  0.00
ATOM   3667  N   LEU A 266      14.372  39.377  10.145  1.00  0.00
ATOM   3668  CA  LEU A 266      14.100  40.798   9.990  1.00  0.00
ATOM   3669  C   LEU A 266      15.097  41.359   8.992  1.00  0.00
ATOM   3670  O   LEU A 266      16.285  41.071   9.070  1.00  0.00
ATOM   3671  CB  LEU A 266      14.192  41.530  11.335  1.00  0.00
ATOM   3672  CG  LEU A 266      13.072  41.206  12.332  1.00  0.00
ATOM   3673  CD1 LEU A 266      13.445  41.714  13.718  1.00  0.00
ATOM   3674  CD2 LEU A 266      11.771  41.837  11.858  1.00  0.00
ATOM   3675  H   LEU A 266      15.242  39.086  10.567  1.00  0.00
ATOM   3676  HA  LEU A 266      13.096  40.936   9.591  1.00  0.00
ATOM   3677 1HB  LEU A 266      15.138  41.126  11.692  1.00  0.00
ATOM   3678 2HB  LEU A 266      14.284  42.608  11.203  1.00  0.00
ATOM   3679  HG  LEU A 266      12.938  40.124  12.329  1.00  0.00
ATOM   3680 1HD1 LEU A 266      12.643  41.480  14.420  1.00  0.00
ATOM   3681 2HD1 LEU A 266      14.365  41.232  14.047  1.00  0.00
ATOM   3682 3HD1 LEU A 266      13.591  42.793  13.683  1.00  0.00
ATOM   3683 1HD2 LEU A 266      10.976  41.606  12.567  1.00  0.00
ATOM   3684 2HD2 LEU A 266      11.894  42.918  11.790  1.00  0.00
ATOM   3685 3HD2 LEU A 266      11.509  41.439  10.878  1.00  0.00
ATOM   3686  N   PRO A 267      14.626  42.160   8.028  1.00  0.00
ATOM   3687  CA  PRO A 267      15.536  42.736   7.035  1.00  0.00
ATOM   3688  C   PRO A 267      16.252  44.013   7.476  1.00  0.00
ATOM   3689  O   PRO A 267      15.744  44.797   8.290  1.00  0.00
ATOM   3690  CB  PRO A 267      14.597  42.931   5.844  1.00  0.00
ATOM   3691  CG  PRO A 267      13.243  43.261   6.472  1.00  0.00
ATOM   3692  CD  PRO A 267      13.223  42.449   7.760  1.00  0.00
ATOM   3693  HA  PRO A 267      16.373  42.067   6.786  1.00  0.00
ATOM   3694 1HB  PRO A 267      14.940  43.746   5.189  1.00  0.00
ATOM   3695 2HB  PRO A 267      14.537  42.024   5.225  1.00  0.00
ATOM   3696 1HG  PRO A 267      13.148  44.339   6.669  1.00  0.00
ATOM   3697 2HG  PRO A 267      12.416  42.982   5.803  1.00  0.00
ATOM   3698 1HD  PRO A 267      12.777  43.007   8.597  1.00  0.00
ATOM   3699 2HD  PRO A 267      12.650  41.516   7.655  1.00  0.00
ATOM   3700  N   LEU A 268      17.445  44.200   6.923  1.00  0.00
ATOM   3701  CA  LEU A 268      18.258  45.378   7.181  1.00  0.00
ATOM   3702  C   LEU A 268      18.482  46.016   5.825  1.00  0.00
ATOM   3703  O   LEU A 268      18.402  45.355   4.791  1.00  0.00
ATOM   3704  CB  LEU A 268      19.582  45.021   7.867  1.00  0.00
ATOM   3705  CG  LEU A 268      19.493  44.793   9.382  1.00  0.00
ATOM   3706  CD1 LEU A 268      19.132  43.342   9.671  1.00  0.00
ATOM   3707  CD2 LEU A 268      20.819  45.159  10.031  1.00  0.00
ATOM   3708  H   LEU A 268      17.795  43.488   6.298  1.00  0.00
ATOM   3709  HA  LEU A 268      17.714  46.061   7.832  1.00  0.00
ATOM   3710 1HB  LEU A 268      19.797  44.081   7.360  1.00  0.00
ATOM   3711 2HB  LEU A 268      20.364  45.744   7.637  1.00  0.00
ATOM   3712  HG  LEU A 268      18.734  45.475   9.767  1.00  0.00
ATOM   3713 1HD1 LEU A 268      19.070  43.190  10.749  1.00  0.00
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ATOM   3714 2HD1 LEU A 268      18.169  43.109   9.217  1.00  0.00
ATOM   3715 3HD1 LEU A 268      19.897  42.688   9.256  1.00  0.00
ATOM   3716 1HD2 LEU A 268      20.753  44.997  11.107  1.00  0.00
ATOM   3717 2HD2 LEU A 268      21.612  44.535   9.617  1.00  0.00
ATOM   3718 3HD2 LEU A 268      21.044  46.207   9.835  1.00  0.00
ATOM   3719  N   THR A 269      18.760  47.306   5.832  1.00  0.00
ATOM   3720  CA  THR A 269      19.017  48.036   4.605  1.00  0.00
ATOM   3721  C   THR A 269      20.357  47.571   4.027  1.00  0.00
ATOM   3722  O   THR A 269      21.270  47.195   4.766  1.00  0.00
ATOM   3723  CB  THR A 269      19.045  49.558   4.835  1.00  0.00
ATOM   3724  OG1 THR A 269      20.070  49.883   5.782  1.00  0.00
ATOM   3725  CG2 THR A 269      17.702  50.043   5.360  1.00  0.00
ATOM   3726  H   THR A 269      18.795  47.798   6.714  1.00  0.00
ATOM   3727  HA  THR A 269      18.241  47.812   3.873  1.00  0.00
ATOM   3728  HB  THR A 269      19.265  50.055   3.890  1.00  0.00
ATOM   3729  HG1 THR A 269      20.302  50.811   5.697  1.00  0.00
ATOM   3730 1HG2 THR A 269      17.741  51.121   5.515  1.00  0.00
ATOM   3731 2HG2 THR A 269      16.922  49.808   4.636  1.00  0.00
ATOM   3732 3HG2 THR A 269      17.482  49.548   6.304  1.00  0.00
ATOM   3733  N   GLY A 270      20.483  47.602   2.709  1.00  0.00
ATOM   3734  CA  GLY A 270      21.732  47.183   2.099  1.00  0.00
ATOM   3735  C   GLY A 270      21.703  45.708   1.777  1.00  0.00
ATOM   3736  O   GLY A 270      22.739  45.055   1.700  1.00  0.00
ATOM   3737  H   GLY A 270      19.726  47.912   2.117  1.00  0.00
ATOM   3738 1HA  GLY A 270      21.887  47.748   1.180  1.00  0.00
ATOM   3739 2HA  GLY A 270      22.550  47.384   2.789  1.00  0.00
ATOM   3740  N   SER A 271      20.494  45.189   1.606  1.00  0.00
ATOM   3741  CA  SER A 271      20.269  43.796   1.277  1.00  0.00
ATOM   3742  C   SER A 271      20.872  42.820   2.291  1.00  0.00
ATOM   3743  O   SER A 271      21.695  41.971   1.943  1.00  0.00
ATOM   3744  CB  SER A 271      20.823  43.516  -0.106  1.00  0.00
ATOM   3745  OG  SER A 271      20.185  44.279  -1.093  1.00  0.00
ATOM   3746  H   SER A 271      19.700  45.804   1.713  1.00  0.00
ATOM   3747  HA  SER A 271      19.215  43.545   1.153  1.00  0.00
ATOM   3748 1HB  SER A 271      21.887  43.750  -0.109  1.00  0.00
ATOM   3749 2HB  SER A 271      20.684  42.459  -0.331  1.00  0.00
ATOM   3750  HG  SER A 271      20.564  44.073  -1.951  1.00  0.00
ATOM   3751  N   MET A 272      20.463  42.954   3.550  1.00  0.00
ATOM   3752  CA  MET A 272      20.930  42.074   4.621  1.00  0.00
ATOM   3753  C   MET A 272      19.765  41.666   5.514  1.00  0.00
ATOM   3754  O   MET A 272      18.698  42.283   5.481  1.00  0.00
ATOM   3755  CB  MET A 272      22.017  42.762   5.445  1.00  0.00
ATOM   3756  CG  MET A 272      23.297  43.058   4.676  1.00  0.00
ATOM   3757  SD  MET A 272      24.554  43.853   5.697  1.00  0.00
ATOM   3758  CE  MET A 272      23.754  45.412   6.064  1.00  0.00
ATOM   3759  H   MET A 272      19.807  43.690   3.769  1.00  0.00
ATOM   3760  HA  MET A 272      21.345  41.160   4.197  1.00  0.00
ATOM   3761 1HB  MET A 272      21.592  43.694   5.815  1.00  0.00
ATOM   3762 2HB  MET A 272      22.242  42.105   6.285  1.00  0.00
ATOM   3763 1HG  MET A 272      23.690  42.116   4.294  1.00  0.00
ATOM   3764 2HG  MET A 272      23.048  43.712   3.841  1.00  0.00
ATOM   3765 1HE  MET A 272      24.409  46.018   6.691  1.00  0.00
ATOM   3766 2HE  MET A 272      23.547  45.943   5.134  1.00  0.00
ATOM   3767 3HE  MET A 272      22.818  45.225   6.592  1.00  0.00
ATOM   3768  N   SER A 273      19.974  40.621   6.309  1.00  0.00
ATOM   3769  CA  SER A 273      18.948  40.139   7.224  1.00  0.00
ATOM   3770  C   SER A 273      19.560  39.527   8.473  1.00  0.00
ATOM   3771  O   SER A 273      20.725  39.137   8.498  1.00  0.00
ATOM   3772  CB  SER A 273      18.059  39.129   6.525  1.00  0.00
ATOM   3773  OG  SER A 273      18.756  37.961   6.185  1.00  0.00
ATOM   3774  H   SER A 273      20.867  40.149   6.278  1.00  0.00
ATOM   3775  HA  SER A 273      18.225  40.905   7.506  1.00  0.00
ATOM   3776 1HB  SER A 273      17.236  38.870   7.190  1.00  0.00
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ATOM   3777 2HB  SER A 273      17.662  39.582   5.617  1.00  0.00
ATOM   3778  HG  SER A 273      19.353  37.726   6.899  1.00  0.00
ATOM   3779  N   ILE A 274      18.754  39.463   9.519  1.00  0.00
ATOM   3780  CA  ILE A 274      19.172  38.876  10.771  1.00  0.00
ATOM   3781  C   ILE A 274      18.202  37.737  11.021  1.00  0.00
ATOM   3782  O   ILE A 274      16.986  37.902  10.883  1.00  0.00
ATOM   3783  CB  ILE A 274      19.239  39.882  11.921  1.00  0.00
ATOM   3784  CG1 ILE A 274      20.432  40.808  11.694  1.00  0.00
ATOM   3785  CG2 ILE A 274      19.393  39.182  13.270  1.00  0.00
ATOM   3786  CD1 ILE A 274      20.626  41.842  12.798  1.00  0.00
ATOM   3787  H   ILE A 274      17.819  39.836   9.438  1.00  0.00
ATOM   3788  HA  ILE A 274      20.176  38.461  10.685  1.00  0.00
ATOM   3789  HB  ILE A 274      18.323  40.472  11.931  1.00  0.00
ATOM   3790 1HG1 ILE A 274      21.320  40.181  11.622  1.00  0.00
ATOM   3791 2HG1 ILE A 274      20.270  41.317  10.743  1.00  0.00
ATOM   3792 1HG2 ILE A 274      19.438  39.927  14.064  1.00  0.00
ATOM   3793 2HG2 ILE A 274      18.541  38.524  13.438  1.00  0.00
ATOM   3794 3HG2 ILE A 274      20.311  38.594  13.273  1.00  0.00
ATOM   3795 1HD1 ILE A 274      21.492  42.464  12.567  1.00  0.00
ATOM   3796 2HD1 ILE A 274      19.738  42.470  12.869  1.00  0.00
ATOM   3797 3HD1 ILE A 274      20.788  41.335  13.748  1.00  0.00
ATOM   3798  N   ILE A 275      18.741  36.574  11.356  1.00  0.00
ATOM   3799  CA  ILE A 275      17.903  35.424  11.635  1.00  0.00
ATOM   3800  C   ILE A 275      18.008  35.090  13.117  1.00  0.00
ATOM   3801  O   ILE A 275      19.096  34.848  13.628  1.00  0.00
ATOM   3802  CB  ILE A 275      18.302  34.198  10.793  1.00  0.00
ATOM   3803  CG1 ILE A 275      18.162  34.507   9.300  1.00  0.00
ATOM   3804  CG2 ILE A 275      17.455  32.994  11.173  1.00  0.00
ATOM   3805  CD1 ILE A 275      18.732  33.436   8.399  1.00  0.00
ATOM   3806  H   ILE A 275      19.744  36.479  11.420  1.00  0.00
ATOM   3807  HA  ILE A 275      16.855  35.658  11.450  1.00  0.00
ATOM   3808  HB  ILE A 275      19.353  33.973  10.970  1.00  0.00
ATOM   3809 1HG1 ILE A 275      17.099  34.629   9.093  1.00  0.00
ATOM   3810 2HG1 ILE A 275      18.677  35.450   9.115  1.00  0.00
ATOM   3811 1HG2 ILE A 275      17.749  32.136  10.568  1.00  0.00
ATOM   3812 2HG2 ILE A 275      17.603  32.762  12.227  1.00  0.00
ATOM   3813 3HG2 ILE A 275      16.403  33.218  10.995  1.00  0.00
ATOM   3814 1HD1 ILE A 275      18.596  33.726   7.357  1.00  0.00
ATOM   3815 2HD1 ILE A 275      19.796  33.315   8.605  1.00  0.00
ATOM   3816 3HD1 ILE A 275      18.218  32.494   8.582  1.00  0.00
ATOM   3817  N   PHE A 276      16.872  35.107  13.807  1.00  0.00
ATOM   3818  CA  PHE A 276      16.840  34.798  15.233  1.00  0.00
ATOM   3819  C   PHE A 276      16.389  33.360  15.410  1.00  0.00
ATOM   3820  O   PHE A 276      15.495  32.888  14.708  1.00  0.00
ATOM   3821  CB  PHE A 276      15.910  35.751  15.986  1.00  0.00
ATOM   3822  CG  PHE A 276      16.400  37.171  16.025  1.00  0.00
ATOM   3823  CD1 PHE A 276      15.960  38.097  15.091  1.00  0.00
ATOM   3824  CD2 PHE A 276      17.302  37.583  16.995  1.00  0.00
ATOM   3825  CE1 PHE A 276      16.411  39.404  15.126  1.00  0.00
ATOM   3826  CE2 PHE A 276      17.753  38.888  17.033  1.00  0.00
ATOM   3827  CZ  PHE A 276      17.306  39.799  16.097  1.00  0.00
ATOM   3828  H   PHE A 276      16.010  35.339  13.334  1.00  0.00
ATOM   3829  HA  PHE A 276      17.841  34.894  15.655  1.00  0.00
ATOM   3830 1HB  PHE A 276      14.930  35.773  15.512  1.00  0.00
ATOM   3831 2HB  PHE A 276      15.804  35.430  17.022  1.00  0.00
ATOM   3832  HD1 PHE A 276      15.251  37.785  14.325  1.00  0.00
ATOM   3833  HD2 PHE A 276      17.655  36.862  17.734  1.00  0.00
ATOM   3834  HE1 PHE A 276      16.057  40.121  14.386  1.00  0.00
ATOM   3835  HE2 PHE A 276      18.461  39.199  17.800  1.00  0.00
ATOM   3836  HZ  PHE A 276      17.662  40.828  16.124  1.00  0.00
ATOM   3837  N   PHE A 277      17.027  32.671  16.345  1.00  0.00
ATOM   3838  CA  PHE A 277      16.685  31.293  16.675  1.00  0.00
ATOM   3839  C   PHE A 277      16.296  31.357  18.143  1.00  0.00
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ATOM   3840  O   PHE A 277      17.141  31.476  19.017  1.00  0.00
ATOM   3841  CB  PHE A 277      17.846  30.326  16.433  1.00  0.00
ATOM   3842  CG  PHE A 277      18.282  30.250  14.998  1.00  0.00
ATOM   3843  CD1 PHE A 277      19.273  31.089  14.513  1.00  0.00
ATOM   3844  CD2 PHE A 277      17.701  29.339  14.129  1.00  0.00
ATOM   3845  CE1 PHE A 277      19.675  31.020  13.193  1.00  0.00
ATOM   3846  CE2 PHE A 277      18.101  29.266  12.809  1.00  0.00
ATOM   3847  CZ  PHE A 277      19.089  30.108  12.340  1.00  0.00
ATOM   3848  H   PHE A 277      17.779  33.125  16.845  1.00  0.00
ATOM   3849  HA  PHE A 277      15.848  30.962  16.059  1.00  0.00
ATOM   3850 1HB  PHE A 277      18.718  30.636  17.008  1.00  0.00
ATOM   3851 2HB  PHE A 277      17.559  29.317  16.726  1.00  0.00
ATOM   3852  HD1 PHE A 277      19.738  31.810  15.188  1.00  0.00
ATOM   3853  HD2 PHE A 277      16.919  28.674  14.499  1.00  0.00
ATOM   3854  HE1 PHE A 277      20.455  31.686  12.825  1.00  0.00
ATOM   3855  HE2 PHE A 277      17.636  28.545  12.136  1.00  0.00
ATOM   3856  HZ  PHE A 277      19.404  30.053  11.299  1.00  0.00
ATOM   3857  N   LEU A 278      15.000  31.303  18.397  1.00  0.00
ATOM   3858  CA  LEU A 278      14.467  31.397  19.748  1.00  0.00
ATOM   3859  C   LEU A 278      13.938  30.061  20.288  1.00  0.00
ATOM   3860  O   LEU A 278      12.891  29.577  19.854  1.00  0.00
ATOM   3861  CB  LEU A 278      13.357  32.455  19.784  1.00  0.00
ATOM   3862  CG  LEU A 278      12.680  32.644  21.148  1.00  0.00
ATOM   3863  CD1 LEU A 278      13.695  33.133  22.172  1.00  0.00
ATOM   3864  CD2 LEU A 278      11.532  33.633  21.012  1.00  0.00
ATOM   3865  H   LEU A 278      14.361  31.193  17.623  1.00  0.00
ATOM   3866  HA  LEU A 278      15.262  31.684  20.435  1.00  0.00
ATOM   3867 1HB  LEU A 278      13.945  33.337  19.533  1.00  0.00
ATOM   3868 2HB  LEU A 278      12.610  32.284  19.009  1.00  0.00
ATOM   3869  HG  LEU A 278      12.258  31.681  21.436  1.00  0.00
ATOM   3870 1HD1 LEU A 278      13.206  33.264  23.137  1.00  0.00
ATOM   3871 2HD1 LEU A 278      14.496  32.399  22.269  1.00  0.00
ATOM   3872 3HD1 LEU A 278      14.113  34.085  21.845  1.00  0.00
ATOM   3873 1HD2 LEU A 278      11.051  33.766  21.982  1.00  0.00
ATOM   3874 2HD2 LEU A 278      11.916  34.592  20.663  1.00  0.00
ATOM   3875 3HD2 LEU A 278      10.804  33.251  20.297  1.00  0.00
ATOM   3876  N   PRO A 279      14.651  29.449  21.249  1.00  0.00
ATOM   3877  CA  PRO A 279      14.156  28.173  21.774  1.00  0.00
ATOM   3878  C   PRO A 279      12.790  28.310  22.465  1.00  0.00
ATOM   3879  O   PRO A 279      12.411  29.398  22.896  1.00  0.00
ATOM   3880  CB  PRO A 279      15.274  27.776  22.742  1.00  0.00
ATOM   3881  CG  PRO A 279      15.885  29.104  23.191  1.00  0.00
ATOM   3882  CD  PRO A 279      15.856  29.927  21.910  1.00  0.00
ATOM   3883  HA  PRO A 279      13.983  27.427  20.985  1.00  0.00
ATOM   3884 1HB  PRO A 279      14.882  27.209  23.600  1.00  0.00
ATOM   3885 2HB  PRO A 279      16.025  27.140  22.251  1.00  0.00
ATOM   3886 1HG  PRO A 279      15.295  29.560  23.999  1.00  0.00
ATOM   3887 2HG  PRO A 279      16.905  28.962  23.578  1.00  0.00
ATOM   3888 1HD  PRO A 279      15.802  31.007  22.111  1.00  0.00
ATOM   3889 2HD  PRO A 279      16.748  29.760  21.288  1.00  0.00
ATOM   3890  N   LEU A 280      12.052  27.206  22.551  1.00  0.00
ATOM   3891  CA  LEU A 280      10.728  27.199  23.178  1.00  0.00
ATOM   3892  C   LEU A 280      10.779  27.416  24.694  1.00  0.00
ATOM   3893  O   LEU A 280      10.150  28.339  25.224  1.00  0.00
ATOM   3894  CB  LEU A 280      10.016  25.877  22.863  1.00  0.00
ATOM   3895  CG  LEU A 280       9.588  25.698  21.401  1.00  0.00
ATOM   3896  CD1 LEU A 280       9.051  24.291  21.183  1.00  0.00
ATOM   3897  CD2 LEU A 280       8.536  26.739  21.048  1.00  0.00
ATOM   3898  H   LEU A 280      12.421  26.346  22.170  1.00  0.00
ATOM   3899  HA  LEU A 280      10.136  28.027  22.789  1.00  0.00
ATOM   3900 1HB  LEU A 280      10.818  25.182  23.106  1.00  0.00
ATOM   3901 2HB  LEU A 280       9.171  25.705  23.530  1.00  0.00
ATOM   3902  HG  LEU A 280      10.465  25.888  20.782  1.00  0.00
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ATOM   3903 1HD1 LEU A 280       8.750  24.173  20.142  1.00  0.00
ATOM   3904 2HD1 LEU A 280       9.828  23.564  21.420  1.00  0.00
ATOM   3905 3HD1 LEU A 280       8.190  24.126  21.830  1.00  0.00
ATOM   3906 1HD2 LEU A 280       8.233  26.611  20.008  1.00  0.00
ATOM   3907 2HD2 LEU A 280       7.668  26.614  21.696  1.00  0.00
ATOM   3908 3HD2 LEU A 280       8.950  27.737  21.184  1.00  0.00
ATOM   3909  N   LYS A 281      11.530  26.567  25.391  1.00  0.00
ATOM   3910  CA  LYS A 281      11.660  26.674  26.845  1.00  0.00
ATOM   3911  C   LYS A 281      12.884  27.523  27.187  1.00  0.00
ATOM   3912  O   LYS A 281      13.854  27.544  26.425  1.00  0.00
ATOM   3913  CB  LYS A 281      11.770  25.291  27.489  1.00  0.00
ATOM   3914  CG  LYS A 281      10.518  24.434  27.355  1.00  0.00
ATOM   3915  CD  LYS A 281      10.723  23.057  27.969  1.00  0.00
ATOM   3916  CE  LYS A 281       9.462  22.211  27.867  1.00  0.00
ATOM   3917  NZ  LYS A 281       9.642  20.867  28.478  1.00  0.00
ATOM   3918  H   LYS A 281      12.023  25.831  24.906  1.00  0.00
ATOM   3919  HA  LYS A 281      10.784  27.176  27.258  1.00  0.00
ATOM   3920 1HB  LYS A 281      12.610  24.783  27.013  1.00  0.00
ATOM   3921 2HB  LYS A 281      11.992  25.446  28.545  1.00  0.00
ATOM   3922 1HG  LYS A 281       9.696  24.940  27.863  1.00  0.00
ATOM   3923 2HG  LYS A 281      10.282  24.329  26.297  1.00  0.00
ATOM   3924 1HD  LYS A 281      11.538  22.559  27.442  1.00  0.00
ATOM   3925 2HD  LYS A 281      10.992  23.180  29.018  1.00  0.00
ATOM   3926 1HE  LYS A 281       8.656  22.737  28.378  1.00  0.00
ATOM   3927 2HE  LYS A 281       9.210  22.100  26.812  1.00  0.00
ATOM   3928 1HZ  LYS A 281       8.785  20.339  28.389  1.00  0.00
ATOM   3929 2HZ  LYS A 281      10.389  20.378  28.004  1.00  0.00
ATOM   3930 3HZ  LYS A 281       9.874  20.970  29.456  1.00  0.00
ATOM   3931  N   VAL A 282      12.841  28.228  28.315  1.00  0.00
ATOM   3932  CA  VAL A 282      13.985  29.039  28.722  1.00  0.00
ATOM   3933  C   VAL A 282      15.132  28.087  29.043  1.00  0.00
ATOM   3934  O   VAL A 282      14.957  27.101  29.766  1.00  0.00
ATOM   3935  CB  VAL A 282      13.677  29.924  29.944  1.00  0.00
ATOM   3936  CG1 VAL A 282      14.932  30.651  30.405  1.00  0.00
ATOM   3937  CG2 VAL A 282      12.576  30.921  29.617  1.00  0.00
ATOM   3938  H   VAL A 282      12.018  28.209  28.900  1.00  0.00
ATOM   3939  HA  VAL A 282      14.320  29.687  27.911  1.00  0.00
ATOM   3940  HB  VAL A 282      13.304  29.295  30.752  1.00  0.00
ATOM   3941 1HG1 VAL A 282      14.696  31.272  31.270  1.00  0.00
ATOM   3942 2HG1 VAL A 282      15.694  29.923  30.679  1.00  0.00
ATOM   3943 3HG1 VAL A 282      15.304  31.282  29.598  1.00  0.00
ATOM   3944 1HG2 VAL A 282      12.370  31.537  30.491  1.00  0.00
ATOM   3945 2HG2 VAL A 282      12.895  31.556  28.791  1.00  0.00
ATOM   3946 3HG2 VAL A 282      11.671  30.383  29.332  1.00  0.00
ATOM   3947  N   THR A 283      16.302  28.384  28.492  1.00  0.00
ATOM   3948  CA  THR A 283      17.474  27.541  28.692  1.00  0.00
ATOM   3949  C   THR A 283      18.745  28.187  28.135  1.00  0.00
ATOM   3950  O   THR A 283      18.686  29.110  27.315  1.00  0.00
ATOM   3951  CB  THR A 283      17.285  26.160  28.037  1.00  0.00
ATOM   3952  OG1 THR A 283      18.398  25.317  28.363  1.00  0.00
ATOM   3953  CG2 THR A 283      17.183  26.296  26.526  1.00  0.00
ATOM   3954  H   THR A 283      16.384  29.213  27.921  1.00  0.00
ATOM   3955  HA  THR A 283      17.652  27.404  29.759  1.00  0.00
ATOM   3956  HB  THR A 283      16.372  25.707  28.423  1.00  0.00
ATOM   3957  HG1 THR A 283      18.278  24.457  27.954  1.00  0.00
ATOM   3958 1HG2 THR A 283      17.049  25.310  26.081  1.00  0.00
ATOM   3959 2HG2 THR A 283      16.330  26.927  26.274  1.00  0.00
ATOM   3960 3HG2 THR A 283      18.095  26.748  26.139  1.00  0.00
ATOM   3961  N   GLN A 284      19.892  27.697  28.600  1.00  0.00
ATOM   3962  CA  GLN A 284      21.186  28.183  28.137  1.00  0.00
ATOM   3963  C   GLN A 284      21.764  27.103  27.232  1.00  0.00
ATOM   3964  O   GLN A 284      22.838  27.264  26.642  1.00  0.00
ATOM   3965  CB  GLN A 284      22.131  28.478  29.305  1.00  0.00
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ATOM   3966  CG  GLN A 284      21.660  29.594  30.221  1.00  0.00
ATOM   3967  CD  GLN A 284      22.621  29.848  31.366  1.00  0.00
ATOM   3968  OE1 GLN A 284      23.730  29.306  31.396  1.00  0.00
ATOM   3969  NE2 GLN A 284      22.200  30.671  32.320  1.00  0.00
ATOM   3970  H   GLN A 284      19.861  26.965  29.296  1.00  0.00
ATOM   3971  HA  GLN A 284      21.048  29.098  27.562  1.00  0.00
ATOM   3972 1HB  GLN A 284      22.230  27.552  29.872  1.00  0.00
ATOM   3973 2HB  GLN A 284      23.096  28.741  28.870  1.00  0.00
ATOM   3974 1HG  GLN A 284      21.323  30.561  29.847  1.00  0.00
ATOM   3975 2HG  GLN A 284      20.805  29.037  30.604  1.00  0.00
ATOM   3976 1HE2 GLN A 284      22.791  30.876  33.101  1.00  0.00
ATOM   3977 2HE2 GLN A 284      21.293  31.087  32.257  1.00  0.00
ATOM   3978  N   ASN A 285      21.032  25.995  27.145  1.00  0.00
ATOM   3979  CA  ASN A 285      21.407  24.864  26.307  1.00  0.00
ATOM   3980  C   ASN A 285      20.751  25.001  24.933  1.00  0.00
ATOM   3981  O   ASN A 285      19.562  24.725  24.757  1.00  0.00
ATOM   3982  CB  ASN A 285      21.037  23.540  26.949  1.00  0.00
ATOM   3983  CG  ASN A 285      21.502  22.339  26.172  1.00  0.00
ATOM   3984  OD1 ASN A 285      21.787  22.424  24.972  1.00  0.00
ATOM   3985  ND2 ASN A 285      21.501  21.207  26.829  1.00  0.00
ATOM   3986  H   ASN A 285      20.181  25.945  27.687  1.00  0.00
ATOM   3987  HA  ASN A 285      22.487  24.860  26.153  1.00  0.00
ATOM   3988 1HB  ASN A 285      21.210  23.367  28.012  1.00  0.00
ATOM   3989 2HB  ASN A 285      19.970  23.680  26.773  1.00  0.00
ATOM   3990 1HD2 ASN A 285      21.799  20.367  26.375  1.00  0.00
ATOM   3991 2HD2 ASN A 285      21.203  21.182  27.783  1.00  0.00
ATOM   3992  N   LEU A 286      21.550  25.432  23.965  1.00  0.00
ATOM   3993  CA  LEU A 286      21.084  25.651  22.603  1.00  0.00
ATOM   3994  C   LEU A 286      21.796  24.724  21.612  1.00  0.00
ATOM   3995  O   LEU A 286      21.752  24.939  20.400  1.00  0.00
ATOM   3996  CB  LEU A 286      21.290  27.119  22.208  1.00  0.00
ATOM   3997  CG  LEU A 286      20.644  28.145  23.148  1.00  0.00
ATOM   3998  CD1 LEU A 286      20.893  29.555  22.630  1.00  0.00
ATOM   3999  CD2 LEU A 286      19.153  27.865  23.258  1.00  0.00
ATOM   4000  H   LEU A 286      22.518  25.613  24.189  1.00  0.00
ATOM   4001  HA  LEU A 286      20.023  25.411  22.537  1.00  0.00
ATOM   4002 1HB  LEU A 286      22.375  27.172  22.285  1.00  0.00
ATOM   4003 2HB  LEU A 286      20.990  27.305  21.177  1.00  0.00
ATOM   4004  HG  LEU A 286      21.085  28.002  24.135  1.00  0.00
ATOM   4005 1HD1 LEU A 286      20.430  30.277  23.304  1.00  0.00
ATOM   4006 2HD1 LEU A 286      21.966  29.741  22.582  1.00  0.00
ATOM   4007 3HD1 LEU A 286      20.460  29.659  21.636  1.00  0.00
ATOM   4008 1HD2 LEU A 286      18.695  28.595  23.927  1.00  0.00
ATOM   4009 2HD2 LEU A 286      18.695  27.939  22.272  1.00  0.00
ATOM   4010 3HD2 LEU A 286      18.999  26.862  23.656  1.00  0.00
ATOM   4011  N   THR A 287      22.429  23.685  22.147  1.00  0.00
ATOM   4012  CA  THR A 287      23.187  22.711  21.367  1.00  0.00
ATOM   4013  C   THR A 287      22.565  22.159  20.083  1.00  0.00
ATOM   4014  O   THR A 287      23.139  22.320  19.005  1.00  0.00
ATOM   4015  CB  THR A 287      23.538  21.506  22.259  1.00  0.00
ATOM   4016  OG1 THR A 287      24.322  21.947  23.375  1.00  0.00
ATOM   4017  CG2 THR A 287      24.323  20.469  21.471  1.00  0.00
ATOM   4018  H   THR A 287      22.374  23.576  23.150  1.00  0.00
ATOM   4019  HA  THR A 287      24.101  23.171  20.991  1.00  0.00
ATOM   4020  HB  THR A 287      22.616  21.058  22.629  1.00  0.00
ATOM   4021  HG1 THR A 287      23.820  22.586  23.886  1.00  0.00
ATOM   4022 1HG2 THR A 287      24.562  19.625  22.118  1.00  0.00
ATOM   4023 2HG2 THR A 287      23.725  20.124  20.628  1.00  0.00
ATOM   4024 3HG2 THR A 287      25.246  20.916  21.102  1.00  0.00
ATOM   4025  N   LEU A 288      21.421  21.487  20.189  1.00  0.00
ATOM   4026  CA  LEU A 288      20.771  20.925  19.004  1.00  0.00
ATOM   4027  C   LEU A 288      20.744  21.956  17.890  1.00  0.00
ATOM   4028  O   LEU A 288      20.998  21.626  16.728  1.00  0.00
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ATOM   4029  CB  LEU A 288      19.349  20.455  19.336  1.00  0.00
ATOM   4030  CG  LEU A 288      19.265  19.189  20.198  1.00  0.00
ATOM   4031  CD1 LEU A 288      17.818  18.918  20.588  1.00  0.00
ATOM   4032  CD2 LEU A 288      19.845  18.011  19.429  1.00  0.00
ATOM   4033  H   LEU A 288      20.990  21.359  21.094  1.00  0.00
ATOM   4034  HA  LEU A 288      21.345  20.072  18.643  1.00  0.00
ATOM   4035 1HB  LEU A 288      19.006  21.318  19.905  1.00  0.00
ATOM   4036 2HB  LEU A 288      18.740  20.346  18.439  1.00  0.00
ATOM   4037  HG  LEU A 288      19.888  19.353  21.077  1.00  0.00
ATOM   4038 1HD1 LEU A 288      17.768  18.017  21.200  1.00  0.00
ATOM   4039 2HD1 LEU A 288      17.430  19.764  21.156  1.00  0.00
ATOM   4040 3HD1 LEU A 288      17.219  18.779  19.689  1.00  0.00
ATOM   4041 1HD2 LEU A 288      19.785  17.112  20.043  1.00  0.00
ATOM   4042 2HD2 LEU A 288      19.279  17.862  18.509  1.00  0.00
ATOM   4043 3HD2 LEU A 288      20.888  18.214  19.185  1.00  0.00
ATOM   4044  N   ILE A 289      20.435  23.202  18.261  1.00  0.00
ATOM   4045  CA  ILE A 289      20.356  24.322  17.320  1.00  0.00
ATOM   4046  C   ILE A 289      21.714  24.685  16.718  1.00  0.00
ATOM   4047  O   ILE A 289      21.864  24.769  15.497  1.00  0.00
ATOM   4048  CB  ILE A 289      19.765  25.573  17.995  1.00  0.00
ATOM   4049  CG1 ILE A 289      18.296  25.341  18.357  1.00  0.00
ATOM   4050  CG2 ILE A 289      19.908  26.785  17.088  1.00  0.00
ATOM   4051  CD1 ILE A 289      17.714  26.405  19.259  1.00  0.00
ATOM   4052  H   ILE A 289      20.249  23.368  19.240  1.00  0.00
ATOM   4053  HA  ILE A 289      19.753  24.054  16.454  1.00  0.00
ATOM   4054  HB  ILE A 289      20.294  25.755  18.931  1.00  0.00
ATOM   4055 1HG1 ILE A 289      17.734  25.308  17.424  1.00  0.00
ATOM   4056 2HG1 ILE A 289      18.234  24.372  18.852  1.00  0.00
ATOM   4057 1HG2 ILE A 289      19.485  27.660  17.580  1.00  0.00
ATOM   4058 2HG2 ILE A 289      20.963  26.961  16.879  1.00  0.00
ATOM   4059 3HG2 ILE A 289      19.379  26.604  16.152  1.00  0.00
ATOM   4060 1HD1 ILE A 289      16.670  26.172  19.472  1.00  0.00
ATOM   4061 2HD1 ILE A 289      18.275  26.439  20.193  1.00  0.00
ATOM   4062 3HD1 ILE A 289      17.774  27.374  18.766  1.00  0.00
ATOM   4063  N   GLU A 290      22.697  24.905  17.583  1.00  0.00
ATOM   4064  CA  GLU A 290      24.038  25.243  17.141  1.00  0.00
ATOM   4065  C   GLU A 290      24.565  24.182  16.169  1.00  0.00
ATOM   4066  O   GLU A 290      25.170  24.503  15.138  1.00  0.00
ATOM   4067  CB  GLU A 290      24.977  25.385  18.341  1.00  0.00
ATOM   4068  CG  GLU A 290      24.624  26.525  19.285  1.00  0.00
ATOM   4069  CD  GLU A 290      25.525  26.538  20.488  1.00  0.00
ATOM   4070  OE1 GLU A 290      26.496  25.819  20.487  1.00  0.00
ATOM   4071  OE2 GLU A 290      25.308  27.347  21.359  1.00  0.00
ATOM   4072  H   GLU A 290      22.508  24.836  18.573  1.00  0.00
ATOM   4073  HA  GLU A 290      24.021  26.189  16.598  1.00  0.00
ATOM   4074 1HB  GLU A 290      24.944  24.440  18.884  1.00  0.00
ATOM   4075 2HB  GLU A 290      25.981  25.541  17.944  1.00  0.00
ATOM   4076 1HG  GLU A 290      24.642  27.505  18.808  1.00  0.00
ATOM   4077 2HG  GLU A 290      23.606  26.293  19.597  1.00  0.00
ATOM   4078  N   GLU A 291      24.321  22.919  16.508  1.00  0.00
ATOM   4079  CA  GLU A 291      24.759  21.788  15.697  1.00  0.00
ATOM   4080  C   GLU A 291      24.170  21.778  14.291  1.00  0.00
ATOM   4081  O   GLU A 291      24.661  21.073  13.413  1.00  0.00
ATOM   4082  CB  GLU A 291      24.410  20.477  16.405  1.00  0.00
ATOM   4083  CG  GLU A 291      25.173  20.240  17.701  1.00  0.00
ATOM   4084  CD  GLU A 291      26.656  20.185  17.459  1.00  0.00
ATOM   4085  OE1 GLU A 291      27.077  19.404  16.641  1.00  0.00
ATOM   4086  OE2 GLU A 291      27.358  21.001  18.010  1.00  0.00
ATOM   4087  H   GLU A 291      23.812  22.744  17.362  1.00  0.00
ATOM   4088  HA  GLU A 291      25.838  21.835  15.549  1.00  0.00
ATOM   4089 1HB  GLU A 291      23.340  20.503  16.614  1.00  0.00
ATOM   4090 2HB  GLU A 291      24.624  19.669  15.705  1.00  0.00
ATOM   4091 1HG  GLU A 291      24.959  20.980  18.472  1.00  0.00
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ATOM   4092 2HG  GLU A 291      24.822  19.263  18.030  1.00  0.00
ATOM   4093  N   SER A 292      23.123  22.567  14.077  1.00  0.00
ATOM   4094  CA  SER A 292      22.469  22.624  12.779  1.00  0.00
ATOM   4095  C   SER A 292      23.012  23.718  11.875  1.00  0.00
ATOM   4096  O   SER A 292      22.984  23.592  10.648  1.00  0.00
ATOM   4097  CB  SER A 292      20.977  22.811  12.973  1.00  0.00
ATOM   4098  OG  SER A 292      20.400  21.747  13.679  1.00  0.00
ATOM   4099  H   SER A 292      22.772  23.141  14.830  1.00  0.00
ATOM   4100  HA  SER A 292      22.506  21.680  12.233  1.00  0.00
ATOM   4101 1HB  SER A 292      20.810  23.735  13.525  1.00  0.00
ATOM   4102 2HB  SER A 292      20.504  22.884  11.994  1.00  0.00
ATOM   4103  HG  SER A 292      20.809  21.680  14.545  1.00  0.00
ATOM   4104  N   LEU A 293      23.504  24.791  12.485  1.00  0.00
ATOM   4105  CA  LEU A 293      24.016  25.928  11.734  1.00  0.00
ATOM   4106  C   LEU A 293      25.066  25.579  10.692  1.00  0.00
ATOM   4107  O   LEU A 293      26.195  25.216  11.024  1.00  0.00
ATOM   4108  CB  LEU A 293      24.540  26.989  12.702  1.00  0.00
ATOM   4109  CG  LEU A 293      23.482  27.464  13.702  1.00  0.00
ATOM   4110  CD1 LEU A 293      24.069  28.430  14.733  1.00  0.00
ATOM   4111  CD2 LEU A 293      22.254  28.049  13.003  1.00  0.00
ATOM   4112  H   LEU A 293      23.524  24.819  13.494  1.00  0.00
ATOM   4113  HA  LEU A 293      23.208  26.381  11.161  1.00  0.00
ATOM   4114 1HB  LEU A 293      25.312  26.406  13.202  1.00  0.00
ATOM   4115 2HB  LEU A 293      25.000  27.824  12.175  1.00  0.00
ATOM   4116  HG  LEU A 293      23.141  26.587  14.253  1.00  0.00
ATOM   4117 1HD1 LEU A 293      23.287  28.744  15.425  1.00  0.00
ATOM   4118 2HD1 LEU A 293      24.864  27.931  15.288  1.00  0.00
ATOM   4119 3HD1 LEU A 293      24.474  29.303  14.223  1.00  0.00
ATOM   4120 1HD2 LEU A 293      21.530  28.372  13.751  1.00  0.00
ATOM   4121 2HD2 LEU A 293      22.553  28.902  12.394  1.00  0.00
ATOM   4122 3HD2 LEU A 293      21.802  27.290  12.365  1.00  0.00
ATOM   4123  N   THR A 294      24.672  25.668   9.427  1.00  0.00
ATOM   4124  CA  THR A 294      25.581  25.443   8.316  1.00  0.00
ATOM   4125  C   THR A 294      25.053  26.374   7.247  1.00  0.00
ATOM   4126  O   THR A 294      23.972  26.941   7.404  1.00  0.00
ATOM   4127  CB  THR A 294      25.606  23.986   7.818  1.00  0.00
ATOM   4128  OG1 THR A 294      24.324  23.642   7.276  1.00  0.00
ATOM   4129  CG2 THR A 294      25.941  23.038   8.959  1.00  0.00
ATOM   4130  H   THR A 294      23.708  25.900   9.235  1.00  0.00
ATOM   4131  HA  THR A 294      26.597  25.705   8.612  1.00  0.00
ATOM   4132  HB  THR A 294      26.358  23.892   7.035  1.00  0.00
ATOM   4133  HG1 THR A 294      24.342  22.733   6.966  1.00  0.00
ATOM   4134 1HG2 THR A 294      25.955  22.013   8.587  1.00  0.00
ATOM   4135 2HG2 THR A 294      26.921  23.290   9.365  1.00  0.00
ATOM   4136 3HG2 THR A 294      25.189  23.131   9.741  1.00  0.00
ATOM   4137  N   SER A 295      25.809  26.543   6.170  1.00  0.00
ATOM   4138  CA  SER A 295      25.406  27.442   5.102  1.00  0.00
ATOM   4139  C   SER A 295      24.203  26.906   4.367  1.00  0.00
ATOM   4140  O   SER A 295      23.240  27.639   4.105  1.00  0.00
ATOM   4141  CB  SER A 295      26.555  27.663   4.138  1.00  0.00
ATOM   4142  OG  SER A 295      27.620  28.350   4.736  1.00  0.00
ATOM   4143  H   SER A 295      26.681  26.040   6.087  1.00  0.00
ATOM   4144  HA  SER A 295      25.213  28.460   5.443  1.00  0.00
ATOM   4145 1HB  SER A 295      26.910  26.693   3.791  1.00  0.00
ATOM   4146 2HB  SER A 295      26.193  28.241   3.289  1.00  0.00
ATOM   4147  HG  SER A 295      27.948  27.843   5.483  1.00  0.00
ATOM   4148  N   GLU A 296      24.252  25.617   4.047  1.00  0.00
ATOM   4149  CA  GLU A 296      23.159  24.993   3.322  1.00  0.00
ATOM   4150  C   GLU A 296      21.894  24.949   4.166  1.00  0.00
ATOM   4151  O   GLU A 296      20.798  25.207   3.670  1.00  0.00
ATOM   4152  CB  GLU A 296      23.548  23.580   2.881  1.00  0.00
ATOM   4153  CG  GLU A 296      24.599  23.532   1.781  1.00  0.00
ATOM   4154  CD  GLU A 296      25.021  22.119   1.490  1.00  0.00
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ATOM   4155  OE1 GLU A 296      24.564  21.231   2.168  1.00  0.00
ATOM   4156  OE2 GLU A 296      25.710  21.914   0.518  1.00  0.00
ATOM   4157  H   GLU A 296      25.053  25.059   4.306  1.00  0.00
ATOM   4158  HA  GLU A 296      22.919  25.582   2.436  1.00  0.00
ATOM   4159 1HB  GLU A 296      23.923  23.063   3.764  1.00  0.00
ATOM   4160 2HB  GLU A 296      22.637  23.092   2.533  1.00  0.00
ATOM   4161 1HG  GLU A 296      24.282  24.014   0.856  1.00  0.00
ATOM   4162 2HG  GLU A 296      25.439  24.081   2.205  1.00  0.00
ATOM   4163  N   PHE A 297      22.034  24.633   5.445  1.00  0.00
ATOM   4164  CA  PHE A 297      20.867  24.589   6.304  1.00  0.00
ATOM   4165  C   PHE A 297      20.202  25.955   6.330  1.00  0.00
ATOM   4166  O   PHE A 297      18.979  26.048   6.235  1.00  0.00
ATOM   4167  CB  PHE A 297      21.293  24.164   7.707  1.00  0.00
ATOM   4168  CG  PHE A 297      20.207  24.351   8.739  1.00  0.00
ATOM   4169  CD1 PHE A 297      20.333  25.357   9.691  1.00  0.00
ATOM   4170  CD2 PHE A 297      19.101  23.510   8.759  1.00  0.00
ATOM   4171  CE1 PHE A 297      19.369  25.506  10.680  1.00  0.00
ATOM   4172  CE2 PHE A 297      18.137  23.657   9.750  1.00  0.00
ATOM   4173  CZ  PHE A 297      18.278  24.646  10.718  1.00  0.00
ATOM   4174  H   PHE A 297      22.941  24.421   5.836  1.00  0.00
ATOM   4175  HA  PHE A 297      20.141  23.878   5.906  1.00  0.00
ATOM   4176 1HB  PHE A 297      21.560  23.108   7.714  1.00  0.00
ATOM   4177 2HB  PHE A 297      22.147  24.756   8.034  1.00  0.00
ATOM   4178  HD1 PHE A 297      21.194  26.024   9.650  1.00  0.00
ATOM   4179  HD2 PHE A 297      18.989  22.734   8.001  1.00  0.00
ATOM   4180  HE1 PHE A 297      19.470  26.296  11.423  1.00  0.00
ATOM   4181  HE2 PHE A 297      17.270  22.996   9.769  1.00  0.00
ATOM   4182  HZ  PHE A 297      17.533  24.744  11.506  1.00  0.00
ATOM   4183  N   ILE A 298      21.001  27.015   6.442  1.00  0.00
ATOM   4184  CA  ILE A 298      20.450  28.365   6.484  1.00  0.00
ATOM   4185  C   ILE A 298      19.729  28.750   5.185  1.00  0.00
ATOM   4186  O   ILE A 298      18.781  29.530   5.218  1.00  0.00
ATOM   4187  CB  ILE A 298      21.528  29.373   6.898  1.00  0.00
ATOM   4188  CG1 ILE A 298      21.962  29.087   8.336  1.00  0.00
ATOM   4189  CG2 ILE A 298      21.046  30.816   6.790  1.00  0.00
ATOM   4190  CD1 ILE A 298      20.808  29.240   9.326  1.00  0.00
ATOM   4191  H   ILE A 298      22.002  26.890   6.499  1.00  0.00
ATOM   4192  HA  ILE A 298      19.672  28.439   7.242  1.00  0.00
ATOM   4193  HB  ILE A 298      22.397  29.249   6.252  1.00  0.00
ATOM   4194 1HG1 ILE A 298      22.350  28.069   8.361  1.00  0.00
ATOM   4195 2HG1 ILE A 298      22.763  29.786   8.578  1.00  0.00
ATOM   4196 1HG2 ILE A 298      21.846  31.491   7.095  1.00  0.00
ATOM   4197 2HG2 ILE A 298      20.765  31.029   5.760  1.00  0.00
ATOM   4198 3HG2 ILE A 298      20.182  30.961   7.439  1.00  0.00
ATOM   4199 1HD1 ILE A 298      21.162  29.028  10.335  1.00  0.00
ATOM   4200 2HD1 ILE A 298      20.424  30.260   9.284  1.00  0.00
ATOM   4201 3HD1 ILE A 298      20.012  28.543   9.069  1.00  0.00
ATOM   4202  N   HIS A 299      20.167  28.208   4.049  1.00  0.00
ATOM   4203  CA  HIS A 299      19.528  28.509   2.759  1.00  0.00
ATOM   4204  C   HIS A 299      18.109  27.923   2.689  1.00  0.00
ATOM   4205  O   HIS A 299      17.211  28.525   2.096  1.00  0.00
ATOM   4206  CB  HIS A 299      20.373  27.973   1.599  1.00  0.00
ATOM   4207  CG  HIS A 299      19.694  28.063   0.268  1.00  0.00
ATOM   4208  ND1 HIS A 299      19.430  29.266  -0.352  1.00  0.00
ATOM   4209  CD2 HIS A 299      19.224  27.101  -0.560  1.00  0.00
ATOM   4210  CE1 HIS A 299      18.827  29.039  -1.507  1.00  0.00
ATOM   4211  NE2 HIS A 299      18.690  27.734  -1.656  1.00  0.00
ATOM   4212  H   HIS A 299      20.955  27.576   4.072  1.00  0.00
ATOM   4213  HA  HIS A 299      19.423  29.588   2.645  1.00  0.00
ATOM   4214 1HB  HIS A 299      21.300  28.541   1.514  1.00  0.00
ATOM   4215 2HB  HIS A 299      20.606  26.921   1.760  1.00  0.00
ATOM   4216  HD1 HIS A 299      19.718  30.170  -0.036  1.00  0.00
ATOM   4217  HD2 HIS A 299      19.206  26.013  -0.497  1.00  0.00
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ATOM   4218  HE1 HIS A 299      18.534  29.867  -2.152  1.00  0.00
ATOM   4219  N   ASP A 300      17.901  26.757   3.295  1.00  0.00
ATOM   4220  CA  ASP A 300      16.584  26.135   3.287  1.00  0.00
ATOM   4221  C   ASP A 300      15.660  26.898   4.219  1.00  0.00
ATOM   4222  O   ASP A 300      14.524  27.210   3.873  1.00  0.00
ATOM   4223  CB  ASP A 300      16.667  24.664   3.702  1.00  0.00
ATOM   4224  CG  ASP A 300      17.293  23.750   2.656  1.00  0.00
ATOM   4225  OD1 ASP A 300      17.440  24.176   1.535  1.00  0.00
ATOM   4226  OD2 ASP A 300      17.761  22.698   3.020  1.00  0.00
ATOM   4227  H   ASP A 300      18.662  26.292   3.769  1.00  0.00
ATOM   4228  HA  ASP A 300      16.158  26.185   2.284  1.00  0.00
ATOM   4229 1HB  ASP A 300      17.162  24.510   4.661  1.00  0.00
ATOM   4230 2HB  ASP A 300      15.606  24.432   3.798  1.00  0.00
ATOM   4231  N   ILE A 301      16.153  27.201   5.411  1.00  0.00
ATOM   4232  CA  ILE A 301      15.363  27.944   6.374  1.00  0.00
ATOM   4233  C   ILE A 301      14.969  29.277   5.752  1.00  0.00
ATOM   4234  O   ILE A 301      13.851  29.740   5.934  1.00  0.00
ATOM   4235  CB  ILE A 301      16.188  28.159   7.644  1.00  0.00
ATOM   4236  CG1 ILE A 301      16.454  26.819   8.325  1.00  0.00
ATOM   4237  CG2 ILE A 301      15.535  29.161   8.594  1.00  0.00
ATOM   4238  CD1 ILE A 301      15.162  26.120   8.753  1.00  0.00
ATOM   4239  H   ILE A 301      17.089  26.915   5.659  1.00  0.00
ATOM   4240  HA  ILE A 301      14.433  27.421   6.593  1.00  0.00
ATOM   4241  HB  ILE A 301      17.174  28.533   7.368  1.00  0.00
ATOM   4242 1HG1 ILE A 301      17.002  26.198   7.617  1.00  0.00
ATOM   4243 2HG1 ILE A 301      17.081  27.017   9.195  1.00  0.00
ATOM   4244 1HG2 ILE A 301      16.157  29.280   9.481  1.00  0.00
ATOM   4245 2HG2 ILE A 301      15.430  30.122   8.093  1.00  0.00
ATOM   4246 3HG2 ILE A 301      14.551  28.796   8.888  1.00  0.00
ATOM   4247 1HD1 ILE A 301      15.403  25.171   9.233  1.00  0.00
ATOM   4248 2HD1 ILE A 301      14.620  26.754   9.455  1.00  0.00
ATOM   4249 3HD1 ILE A 301      14.541  25.935   7.878  1.00  0.00
ATOM   4250  N   ASP A 302      15.879  29.879   4.996  1.00  0.00
ATOM   4251  CA  ASP A 302      15.592  31.159   4.373  1.00  0.00
ATOM   4252  C   ASP A 302      14.391  31.056   3.440  1.00  0.00
ATOM   4253  O   ASP A 302      13.540  31.944   3.407  1.00  0.00
ATOM   4254  CB  ASP A 302      16.816  31.668   3.607  1.00  0.00
ATOM   4255  CG  ASP A 302      16.653  33.061   3.016  1.00  0.00
ATOM   4256  OD1 ASP A 302      16.467  33.987   3.770  1.00  0.00
ATOM   4257  OD2 ASP A 302      16.871  33.214   1.837  1.00  0.00
ATOM   4258  H   ASP A 302      16.782  29.451   4.847  1.00  0.00
ATOM   4259  HA  ASP A 302      15.330  31.891   5.137  1.00  0.00
ATOM   4260 1HB  ASP A 302      17.739  31.624   4.185  1.00  0.00
ATOM   4261 2HB  ASP A 302      16.855  30.934   2.801  1.00  0.00
ATOM   4262  N   ARG A 303      14.311  29.965   2.690  1.00  0.00
ATOM   4263  CA  ARG A 303      13.214  29.798   1.750  1.00  0.00
ATOM   4264  C   ARG A 303      11.938  29.206   2.324  1.00  0.00
ATOM   4265  O   ARG A 303      10.855  29.521   1.845  1.00  0.00
ATOM   4266  CB  ARG A 303      13.663  29.001   0.534  1.00  0.00
ATOM   4267  CG  ARG A 303      14.746  29.665  -0.301  1.00  0.00
ATOM   4268  CD  ARG A 303      15.168  28.882  -1.491  1.00  0.00
ATOM   4269  NE  ARG A 303      14.126  28.693  -2.488  1.00  0.00
ATOM   4270  CZ  ARG A 303      14.236  27.894  -3.567  1.00  0.00
ATOM   4271  NH1 ARG A 303      15.349  27.239  -3.815  1.00  0.00
ATOM   4272  NH2 ARG A 303      13.202  27.804  -4.385  1.00  0.00
ATOM   4273  H   ARG A 303      15.010  29.240   2.764  1.00  0.00
ATOM   4274  HA  ARG A 303      12.899  30.772   1.373  1.00  0.00
ATOM   4275 1HB  ARG A 303      14.028  28.042   0.899  1.00  0.00
ATOM   4276 2HB  ARG A 303      12.780  28.842  -0.085  1.00  0.00
ATOM   4277 1HG  ARG A 303      14.375  30.630  -0.648  1.00  0.00
ATOM   4278 2HG  ARG A 303      15.623  29.819   0.328  1.00  0.00
ATOM   4279 1HD  ARG A 303      15.995  29.397  -1.979  1.00  0.00
ATOM   4280 2HD  ARG A 303      15.494  27.895  -1.168  1.00  0.00
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ATOM   4281  HE  ARG A 303      13.201  29.100  -2.539  1.00  0.00
ATOM   4282 1HH1 ARG A 303      16.136  27.333  -3.189  1.00  0.00
ATOM   4283 2HH1 ARG A 303      15.411  26.646  -4.629  1.00  0.00
ATOM   4284 1HH2 ARG A 303      12.360  28.328  -4.190  1.00  0.00
ATOM   4285 2HH2 ARG A 303      13.258  27.213  -5.202  1.00  0.00
ATOM   4286  N   GLU A 304      12.058  28.353   3.338  1.00  0.00
ATOM   4287  CA  GLU A 304      10.890  27.722   3.946  1.00  0.00
ATOM   4288  C   GLU A 304      10.100  28.706   4.839  1.00  0.00
ATOM   4289  O   GLU A 304       8.953  28.430   5.217  1.00  0.00
ATOM   4290  CB  GLU A 304      11.321  26.499   4.759  1.00  0.00
ATOM   4291  CG  GLU A 304      11.858  25.346   3.924  1.00  0.00
ATOM   4292  CD  GLU A 304      12.333  24.216   4.794  1.00  0.00
ATOM   4293  OE1 GLU A 304      12.258  24.343   5.993  1.00  0.00
ATOM   4294  OE2 GLU A 304      12.665  23.183   4.263  1.00  0.00
ATOM   4295  H   GLU A 304      12.977  28.136   3.697  1.00  0.00
ATOM   4296  HA  GLU A 304      10.196  27.402   3.168  1.00  0.00
ATOM   4297 1HB  GLU A 304      12.092  26.834   5.453  1.00  0.00
ATOM   4298 2HB  GLU A 304      10.447  26.165   5.320  1.00  0.00
ATOM   4299 1HG  GLU A 304      11.141  24.966   3.197  1.00  0.00
ATOM   4300 2HG  GLU A 304      12.708  25.783   3.401  1.00  0.00
ATOM   4301  N   LEU A 305      10.694  29.862   5.150  1.00  0.00
ATOM   4302  CA  LEU A 305      10.050  30.873   6.002  1.00  0.00
ATOM   4303  C   LEU A 305       8.843  31.549   5.352  1.00  0.00
ATOM   4304  O   LEU A 305       8.831  31.793   4.152  1.00  0.00
ATOM   4305  CB  LEU A 305      11.091  31.881   6.496  1.00  0.00
ATOM   4306  CG  LEU A 305      11.437  31.736   7.981  1.00  0.00
ATOM   4307  CD1 LEU A 305      11.663  30.284   8.405  1.00  0.00
ATOM   4308  CD2 LEU A 305      12.617  32.628   8.367  1.00  0.00
ATOM   4309  H   LEU A 305      11.618  30.043   4.784  1.00  0.00
ATOM   4310  HA  LEU A 305       9.655  30.397   6.899  1.00  0.00
ATOM   4311 1HB  LEU A 305      11.935  31.582   5.876  1.00  0.00
ATOM   4312 2HB  LEU A 305      10.807  32.905   6.255  1.00  0.00
ATOM   4313  HG  LEU A 305      10.575  32.084   8.550  1.00  0.00
ATOM   4314 1HD1 LEU A 305      11.904  30.248   9.467  1.00  0.00
ATOM   4315 2HD1 LEU A 305      10.758  29.706   8.220  1.00  0.00
ATOM   4316 3HD1 LEU A 305      12.488  29.862   7.832  1.00  0.00
ATOM   4317 1HD2 LEU A 305      12.836  32.502   9.428  1.00  0.00
ATOM   4318 2HD2 LEU A 305      13.492  32.349   7.779  1.00  0.00
ATOM   4319 3HD2 LEU A 305      12.365  33.670   8.171  1.00  0.00
ATOM   4320  N   LYS A 306       7.829  31.853   6.156  1.00  0.00
ATOM   4321  CA  LYS A 306       6.598  32.491   5.669  1.00  0.00
ATOM   4322  C   LYS A 306       6.400  33.878   6.292  1.00  0.00
ATOM   4323  O   LYS A 306       6.635  34.058   7.486  1.00  0.00
ATOM   4324  CB  LYS A 306       5.385  31.607   5.964  1.00  0.00
ATOM   4325  CG  LYS A 306       5.367  30.289   5.201  1.00  0.00
ATOM   4326  CD  LYS A 306       4.115  29.484   5.517  1.00  0.00
ATOM   4327  CE  LYS A 306       4.102  28.162   4.764  1.00  0.00
ATOM   4328  NZ  LYS A 306       2.885  27.361   5.067  1.00  0.00
ATOM   4329  H   LYS A 306       7.914  31.634   7.138  1.00  0.00
ATOM   4330  HA  LYS A 306       6.663  32.644   4.591  1.00  0.00
ATOM   4331 1HB  LYS A 306       5.390  31.405   7.035  1.00  0.00
ATOM   4332 2HB  LYS A 306       4.497  32.186   5.708  1.00  0.00
ATOM   4333 1HG  LYS A 306       5.400  30.507   4.133  1.00  0.00
ATOM   4334 2HG  LYS A 306       6.249  29.714   5.481  1.00  0.00
ATOM   4335 1HD  LYS A 306       4.088  29.292   6.590  1.00  0.00
ATOM   4336 2HD  LYS A 306       3.243  30.072   5.232  1.00  0.00
ATOM   4337 1HE  LYS A 306       4.139  28.376   3.697  1.00  0.00
ATOM   4338 2HE  LYS A 306       4.989  27.597   5.051  1.00  0.00
ATOM   4339 1HZ  LYS A 306       2.915  26.494   4.549  1.00  0.00
ATOM   4340 2HZ  LYS A 306       2.851  27.161   6.057  1.00  0.00
ATOM   4341 3HZ  LYS A 306       2.063  27.884   4.801  1.00  0.00
ATOM   4342  N   THR A 307       5.967  34.856   5.494  1.00  0.00
ATOM   4343  CA  THR A 307       5.746  36.206   6.016  1.00  0.00
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ATOM   4344  C   THR A 307       4.493  36.213   6.868  1.00  0.00
ATOM   4345  O   THR A 307       3.435  35.753   6.445  1.00  0.00
ATOM   4346  CB  THR A 307       5.606  37.250   4.893  1.00  0.00
ATOM   4347  OG1 THR A 307       6.799  37.266   4.099  1.00  0.00
ATOM   4348  CG2 THR A 307       5.373  38.635   5.479  1.00  0.00
ATOM   4349  H   THR A 307       5.787  34.671   4.518  1.00  0.00
ATOM   4350  HA  THR A 307       6.583  36.497   6.652  1.00  0.00
ATOM   4351  HB  THR A 307       4.762  36.978   4.260  1.00  0.00
ATOM   4352  HG1 THR A 307       6.709  37.917   3.400  1.00  0.00
ATOM   4353 1HG2 THR A 307       5.276  39.359   4.670  1.00  0.00
ATOM   4354 2HG2 THR A 307       4.460  38.629   6.074  1.00  0.00
ATOM   4355 3HG2 THR A 307       6.217  38.908   6.111  1.00  0.00
ATOM   4356  N   VAL A 308       4.623  36.744   8.073  1.00  0.00
ATOM   4357  CA  VAL A 308       3.511  36.821   8.995  1.00  0.00
ATOM   4358  C   VAL A 308       3.582  38.169   9.681  1.00  0.00
ATOM   4359  O   VAL A 308       4.506  38.940   9.446  1.00  0.00
ATOM   4360  CB  VAL A 308       3.513  35.682  10.037  1.00  0.00
ATOM   4361  CG1 VAL A 308       2.081  35.280  10.402  1.00  0.00
ATOM   4362  CG2 VAL A 308       4.295  34.443   9.605  1.00  0.00
ATOM   4363  H   VAL A 308       5.523  37.105   8.356  1.00  0.00
ATOM   4364  HA  VAL A 308       2.556  36.775   8.470  1.00  0.00
ATOM   4365  HB  VAL A 308       4.010  36.031  10.942  1.00  0.00
ATOM   4366 1HG1 VAL A 308       2.105  34.476  11.138  1.00  0.00
ATOM   4367 2HG1 VAL A 308       1.557  36.139  10.821  1.00  0.00
ATOM   4368 3HG1 VAL A 308       1.560  34.937   9.508  1.00  0.00
ATOM   4369 1HG2 VAL A 308       4.249  33.690  10.391  1.00  0.00
ATOM   4370 2HG2 VAL A 308       3.860  34.040   8.690  1.00  0.00
ATOM   4371 3HG2 VAL A 308       5.335  34.714   9.424  1.00  0.00
ATOM   4372  N   GLN A 309       2.589  38.463  10.510  1.00  0.00
ATOM   4373  CA  GLN A 309       2.568  39.709  11.262  1.00  0.00
ATOM   4374  C   GLN A 309       2.765  39.261  12.700  1.00  0.00
ATOM   4375  O   GLN A 309       2.205  38.245  13.115  1.00  0.00
ATOM   4376  CB  GLN A 309       1.257  40.481  11.087  1.00  0.00
ATOM   4377  CG  GLN A 309       0.997  40.952   9.666  1.00  0.00
ATOM   4378  CD  GLN A 309      -0.335  41.662   9.527  1.00  0.00
ATOM   4379  OE1 GLN A 309      -1.038  41.893  10.515  1.00  0.00
ATOM   4380  NE2 GLN A 309      -0.693  42.011   8.296  1.00  0.00
ATOM   4381  H   GLN A 309       1.829  37.807  10.623  1.00  0.00
ATOM   4382  HA  GLN A 309       3.386  40.349  10.931  1.00  0.00
ATOM   4383 1HB  GLN A 309       0.455  39.816  11.408  1.00  0.00
ATOM   4384 2HB  GLN A 309       1.306  41.339  11.756  1.00  0.00
ATOM   4385 1HG  GLN A 309       1.734  41.505   9.084  1.00  0.00
ATOM   4386 2HG  GLN A 309       0.896  39.945   9.258  1.00  0.00
ATOM   4387 1HE2 GLN A 309      -1.563  42.482   8.142  1.00  0.00
ATOM   4388 2HE2 GLN A 309      -0.094  41.803   7.523  1.00  0.00
ATOM   4389  N   ALA A 310       3.552  39.994  13.473  1.00  0.00
ATOM   4390  CA  ALA A 310       3.780  39.552  14.835  1.00  0.00
ATOM   4391  C   ALA A 310       4.018  40.657  15.821  1.00  0.00
ATOM   4392  O   ALA A 310       4.255  41.805  15.456  1.00  0.00
ATOM   4393  CB  ALA A 310       5.021  38.661  14.889  1.00  0.00
ATOM   4394  H   ALA A 310       3.995  40.842  13.150  1.00  0.00
ATOM   4395  HA  ALA A 310       2.887  39.038  15.190  1.00  0.00
ATOM   4396 1HB  ALA A 310       5.187  38.332  15.915  1.00  0.00
ATOM   4397 2HB  ALA A 310       4.873  37.791  14.249  1.00  0.00
ATOM   4398 3HB  ALA A 310       5.887  39.223  14.544  1.00  0.00
ATOM   4399  N   VAL A 311       3.925  40.289  17.089  1.00  0.00
ATOM   4400  CA  VAL A 311       4.170  41.213  18.176  1.00  0.00
ATOM   4401  C   VAL A 311       5.614  40.920  18.508  1.00  0.00
ATOM   4402  O   VAL A 311       5.935  39.881  19.075  1.00  0.00
ATOM   4403  CB  VAL A 311       3.257  41.004  19.399  1.00  0.00
ATOM   4404  CG1 VAL A 311       3.609  41.991  20.501  1.00  0.00
ATOM   4405  CG2 VAL A 311       1.795  41.148  19.003  1.00  0.00
ATOM   4406  H   VAL A 311       3.675  39.334  17.302  1.00  0.00
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ATOM   4407  HA  VAL A 311       4.044  42.247  17.853  1.00  0.00
ATOM   4408  HB  VAL A 311       3.386  39.986  19.767  1.00  0.00
ATOM   4409 1HG1 VAL A 311       2.954  41.829  21.358  1.00  0.00
ATOM   4410 2HG1 VAL A 311       4.645  41.844  20.805  1.00  0.00
ATOM   4411 3HG1 VAL A 311       3.479  43.009  20.134  1.00  0.00
ATOM   4412 1HG2 VAL A 311       1.164  40.997  19.879  1.00  0.00
ATOM   4413 2HG2 VAL A 311       1.625  42.147  18.601  1.00  0.00
ATOM   4414 3HG2 VAL A 311       1.548  40.405  18.246  1.00  0.00
ATOM   4415  N   LEU A 312       6.480  41.842  18.116  1.00  0.00
ATOM   4416  CA  LEU A 312       7.907  41.694  18.304  1.00  0.00
ATOM   4417  C   LEU A 312       8.535  42.610  19.353  1.00  0.00
ATOM   4418  O   LEU A 312       8.298  43.825  19.379  1.00  0.00
ATOM   4419  CB  LEU A 312       8.604  41.908  16.955  1.00  0.00
ATOM   4420  CG  LEU A 312      10.127  42.080  17.026  1.00  0.00
ATOM   4421  CD1 LEU A 312      10.789  40.744  17.331  1.00  0.00
ATOM   4422  CD2 LEU A 312      10.637  42.648  15.710  1.00  0.00
ATOM   4423  H   LEU A 312       6.126  42.677  17.670  1.00  0.00
ATOM   4424  HA  LEU A 312       8.124  40.693  18.675  1.00  0.00
ATOM   4425 1HB  LEU A 312       8.357  40.962  16.476  1.00  0.00
ATOM   4426 2HB  LEU A 312       8.155  42.727  16.393  1.00  0.00
ATOM   4427  HG  LEU A 312      10.333  42.812  17.808  1.00  0.00
ATOM   4428 1HD1 LEU A 312      11.870  40.876  17.380  1.00  0.00
ATOM   4429 2HD1 LEU A 312      10.427  40.367  18.288  1.00  0.00
ATOM   4430 3HD1 LEU A 312      10.547  40.030  16.544  1.00  0.00
ATOM   4431 1HD2 LEU A 312      11.719  42.770  15.763  1.00  0.00
ATOM   4432 2HD2 LEU A 312      10.388  41.965  14.898  1.00  0.00
ATOM   4433 3HD2 LEU A 312      10.171  43.616  15.526  1.00  0.00
ATOM   4434  N   THR A 313       9.336  42.004  20.222  1.00  0.00
ATOM   4435  CA  THR A 313      10.079  42.732  21.243  1.00  0.00
ATOM   4436  C   THR A 313      11.487  42.177  21.176  1.00  0.00
ATOM   4437  O   THR A 313      11.710  40.991  21.427  1.00  0.00
ATOM   4438  CB  THR A 313       9.498  42.561  22.659  1.00  0.00
ATOM   4439  OG1 THR A 313       9.418  41.166  22.980  1.00  0.00
ATOM   4440  CG2 THR A 313       8.110  43.177  22.744  1.00  0.00
ATOM   4441  H   THR A 313       9.429  41.000  20.168  1.00  0.00
ATOM   4442  HA  THR A 313      10.079  43.797  21.010  1.00  0.00
ATOM   4443  HB  THR A 313      10.157  43.052  23.374  1.00  0.00
ATOM   4444  HG1 THR A 313       8.636  40.788  22.569  1.00  0.00
ATOM   4445 1HG2 THR A 313       7.716  43.047  23.752  1.00  0.00
ATOM   4446 2HG2 THR A 313       8.170  44.240  22.512  1.00  0.00
ATOM   4447 3HG2 THR A 313       7.450  42.686  22.030  1.00  0.00
ATOM   4448  N   VAL A 314      12.430  43.032  20.806  1.00  0.00
ATOM   4449  CA  VAL A 314      13.827  42.636  20.706  1.00  0.00
ATOM   4450  C   VAL A 314      14.677  43.605  21.535  1.00  0.00
ATOM   4451  O   VAL A 314      14.530  44.825  21.422  1.00  0.00
ATOM   4452  CB  VAL A 314      14.321  42.624  19.247  1.00  0.00
ATOM   4453  CG1 VAL A 314      13.985  43.939  18.560  1.00  0.00
ATOM   4454  CG2 VAL A 314      15.818  42.363  19.194  1.00  0.00
ATOM   4455  H   VAL A 314      12.172  43.984  20.588  1.00  0.00
ATOM   4456  HA  VAL A 314      13.990  41.645  21.132  1.00  0.00
ATOM   4457  HB  VAL A 314      13.838  41.803  18.717  1.00  0.00
ATOM   4458 1HG1 VAL A 314      14.341  43.913  17.530  1.00  0.00
ATOM   4459 2HG1 VAL A 314      12.906  44.088  18.567  1.00  0.00
ATOM   4460 3HG1 VAL A 314      14.469  44.760  19.089  1.00  0.00
ATOM   4461 1HG2 VAL A 314      16.150  42.357  18.156  1.00  0.00
ATOM   4462 2HG2 VAL A 314      16.343  43.148  19.738  1.00  0.00
ATOM   4463 3HG2 VAL A 314      16.037  41.397  19.649  1.00  0.00
ATOM   4464  N   PRO A 315      15.572  43.069  22.388  1.00  0.00
ATOM   4465  CA  PRO A 315      16.424  43.920  23.220  1.00  0.00
ATOM   4466  C   PRO A 315      17.380  44.808  22.426  1.00  0.00
ATOM   4467  O   PRO A 315      17.751  44.488  21.293  1.00  0.00
ATOM   4468  CB  PRO A 315      17.184  42.916  24.093  1.00  0.00
ATOM   4469  CG  PRO A 315      16.328  41.696  24.086  1.00  0.00
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ATOM   4470  CD  PRO A 315      15.711  41.648  22.714  1.00  0.00
ATOM   4471  HA  PRO A 315      15.849  44.642  23.819  1.00  0.00
ATOM   4472 1HB  PRO A 315      18.184  42.704  23.686  1.00  0.00
ATOM   4473 2HB  PRO A 315      17.326  43.297  25.115  1.00  0.00
ATOM   4474 1HG  PRO A 315      16.923  40.792  24.284  1.00  0.00
ATOM   4475 2HG  PRO A 315      15.554  41.749  24.866  1.00  0.00
ATOM   4476 1HD  PRO A 315      16.349  41.120  21.989  1.00  0.00
ATOM   4477 2HD  PRO A 315      14.736  41.140  22.714  1.00  0.00
ATOM   4478  N   LYS A 316      17.748  45.940  23.022  1.00  0.00
ATOM   4479  CA  LYS A 316      18.697  46.866  22.415  1.00  0.00
ATOM   4480  C   LYS A 316      20.032  46.163  22.611  1.00  0.00
ATOM   4481  O   LYS A 316      20.294  45.612  23.683  1.00  0.00
ATOM   4482  CB  LYS A 316      18.674  48.251  23.064  1.00  0.00
ATOM   4483  CG  LYS A 316      19.608  49.265  22.417  1.00  0.00
ATOM   4484  CD  LYS A 316      19.462  50.638  23.057  1.00  0.00
ATOM   4485  CE  LYS A 316      20.385  51.655  22.401  1.00  0.00
ATOM   4486  NZ  LYS A 316      20.242  53.007  23.006  1.00  0.00
ATOM   4487  H   LYS A 316      17.354  46.161  23.925  1.00  0.00
ATOM   4488  HA  LYS A 316      18.460  46.997  21.359  1.00  0.00
ATOM   4489 1HB  LYS A 316      17.647  48.614  23.006  1.00  0.00
ATOM   4490 2HB  LYS A 316      18.952  48.118  24.110  1.00  0.00
ATOM   4491 1HG  LYS A 316      20.634  48.915  22.536  1.00  0.00
ATOM   4492 2HG  LYS A 316      19.367  49.330  21.357  1.00  0.00
ATOM   4493 1HD  LYS A 316      18.426  50.963  22.949  1.00  0.00
ATOM   4494 2HD  LYS A 316      19.707  50.556  24.115  1.00  0.00
ATOM   4495 1HE  LYS A 316      21.411  51.311  22.519  1.00  0.00
ATOM   4496 2HE  LYS A 316      20.139  51.705  21.341  1.00  0.00
ATOM   4497 1HZ  LYS A 316      20.869  53.650  22.544  1.00  0.00
ATOM   4498 2HZ  LYS A 316      19.290  53.327  22.896  1.00  0.00
ATOM   4499 3HZ  LYS A 316      20.470  52.961  23.989  1.00  0.00
ATOM   4500  N   LEU A 317      20.881  46.175  21.594  1.00  0.00
ATOM   4501  CA  LEU A 317      22.159  45.486  21.713  1.00  0.00
ATOM   4502  C   LEU A 317      23.379  46.305  21.294  1.00  0.00
ATOM   4503  O   LEU A 317      23.388  46.930  20.235  1.00  0.00
ATOM   4504  CB  LEU A 317      22.072  44.208  20.881  1.00  0.00
ATOM   4505  CG  LEU A 317      23.003  43.085  21.324  1.00  0.00
ATOM   4506  CD1 LEU A 317      22.613  42.553  22.705  1.00  0.00
ATOM   4507  CD2 LEU A 317      23.068  41.974  20.275  1.00  0.00
ATOM   4508  H   LEU A 317      20.659  46.655  20.733  1.00  0.00
ATOM   4509  HA  LEU A 317      22.349  45.247  22.759  1.00  0.00
ATOM   4510 1HB  LEU A 317      21.037  43.937  21.081  1.00  0.00
ATOM   4511 2HB  LEU A 317      22.196  44.410  19.817  1.00  0.00
ATOM   4512  HG  LEU A 317      24.005  43.508  21.405  1.00  0.00
ATOM   4513 1HD1 LEU A 317      23.295  41.753  22.993  1.00  0.00
ATOM   4514 2HD1 LEU A 317      22.672  43.360  23.436  1.00  0.00
ATOM   4515 3HD1 LEU A 317      21.595  42.166  22.671  1.00  0.00
ATOM   4516 1HD2 LEU A 317      23.741  41.188  20.620  1.00  0.00
ATOM   4517 2HD2 LEU A 317      22.072  41.559  20.122  1.00  0.00
ATOM   4518 3HD2 LEU A 317      23.439  42.382  19.335  1.00  0.00
ATOM   4519  N   LYS A 318      24.399  46.307  22.147  1.00  0.00
ATOM   4520  CA  LYS A 318      25.654  47.009  21.872  1.00  0.00
ATOM   4521  C   LYS A 318      26.721  46.141  22.515  1.00  0.00
ATOM   4522  O   LYS A 318      26.915  46.176  23.729  1.00  0.00
ATOM   4523  CB  LYS A 318      25.667  48.431  22.436  1.00  0.00
ATOM   4524  CG  LYS A 318      26.902  49.242  22.068  1.00  0.00
ATOM   4525  CD  LYS A 318      26.804  50.667  22.591  1.00  0.00
ATOM   4526  CE  LYS A 318      27.987  51.508  22.135  1.00  0.00
ATOM   4527  NZ  LYS A 318      27.859  52.927  22.564  1.00  0.00
ATOM   4528  H   LYS A 318      24.298  45.803  23.016  1.00  0.00
ATOM   4529  HA  LYS A 318      25.808  47.081  20.795  1.00  0.00
ATOM   4530 1HB  LYS A 318      24.777  48.933  22.057  1.00  0.00
ATOM   4531 2HB  LYS A 318      25.600  48.345  23.521  1.00  0.00
ATOM   4532 1HG  LYS A 318      27.777  48.756  22.500  1.00  0.00
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ATOM   4533 2HG  LYS A 318      26.995  49.259  20.983  1.00  0.00
ATOM   4534 1HD  LYS A 318      25.878  51.110  22.221  1.00  0.00
ATOM   4535 2HD  LYS A 318      26.780  50.637  23.681  1.00  0.00
ATOM   4536 1HE  LYS A 318      28.894  51.081  22.560  1.00  0.00
ATOM   4537 2HE  LYS A 318      28.039  51.462  21.048  1.00  0.00
ATOM   4538 1HZ  LYS A 318      28.662  53.450  22.242  1.00  0.00
ATOM   4539 2HZ  LYS A 318      27.018  53.325  22.170  1.00  0.00
ATOM   4540 3HZ  LYS A 318      27.811  52.971  23.572  1.00  0.00
ATOM   4541  N   LEU A 319      27.401  45.348  21.692  1.00  0.00
ATOM   4542  CA  LEU A 319      28.411  44.429  22.191  1.00  0.00
ATOM   4543  C   LEU A 319      29.757  44.559  21.508  1.00  0.00
ATOM   4544  O   LEU A 319      29.871  45.082  20.398  1.00  0.00
ATOM   4545  CB  LEU A 319      28.021  42.966  21.983  1.00  0.00
ATOM   4546  CG  LEU A 319      26.636  42.513  22.425  1.00  0.00
ATOM   4547  CD1 LEU A 319      26.461  41.027  22.125  1.00  0.00
ATOM   4548  CD2 LEU A 319      26.343  42.816  23.890  1.00  0.00
ATOM   4549  H   LEU A 319      27.214  45.383  20.700  1.00  0.00
ATOM   4550  HA  LEU A 319      28.612  44.642  23.240  1.00  0.00
ATOM   4551 1HB  LEU A 319      28.075  42.921  20.896  1.00  0.00
ATOM   4552 2HB  LEU A 319      28.758  42.287  22.412  1.00  0.00
ATOM   4553  HG  LEU A 319      25.909  43.083  21.846  1.00  0.00
ATOM   4554 1HD1 LEU A 319      25.469  40.706  22.442  1.00  0.00
ATOM   4555 2HD1 LEU A 319      26.571  40.857  21.054  1.00  0.00
ATOM   4556 3HD1 LEU A 319      27.216  40.456  22.664  1.00  0.00
ATOM   4557 1HD2 LEU A 319      25.340  42.468  24.139  1.00  0.00
ATOM   4558 2HD2 LEU A 319      27.072  42.306  24.520  1.00  0.00
ATOM   4559 3HD2 LEU A 319      26.406  43.891  24.059  1.00  0.00
ATOM   4560  N   SER A 320      30.776  44.064  22.200  1.00  0.00
ATOM   4561  CA  SER A 320      32.140  44.075  21.704  1.00  0.00
ATOM   4562  C   SER A 320      32.837  42.820  22.222  1.00  0.00
ATOM   4563  O   SER A 320      32.386  42.185  23.183  1.00  0.00
ATOM   4564  CB  SER A 320      32.867  45.331  22.143  1.00  0.00
ATOM   4565  OG  SER A 320      33.038  45.381  23.533  1.00  0.00
ATOM   4566  H   SER A 320      30.586  43.665  23.108  1.00  0.00
ATOM   4567  HA  SER A 320      32.205  44.165  20.619  1.00  0.00
ATOM   4568 1HB  SER A 320      33.845  45.353  21.665  1.00  0.00
ATOM   4569 2HB  SER A 320      32.289  46.198  21.826  1.00  0.00
ATOM   4570  HG  SER A 320      33.500  46.189  23.769  1.00  0.00
ATOM   4571  N   TYR A 321      33.921  42.451  21.552  1.00  0.00
ATOM   4572  CA  TYR A 321      34.697  41.283  21.912  1.00  0.00
ATOM   4573  C   TYR A 321      36.099  41.506  21.415  1.00  0.00
ATOM   4574  O   TYR A 321      36.308  41.992  20.302  1.00  0.00
ATOM   4575  CB  TYR A 321      34.103  40.004  21.317  1.00  0.00
ATOM   4576  CG  TYR A 321      34.985  38.786  21.480  1.00  0.00
ATOM   4577  CD1 TYR A 321      35.059  38.118  22.694  1.00  0.00
ATOM   4578  CD2 TYR A 321      35.738  38.306  20.419  1.00  0.00
ATOM   4579  CE1 TYR A 321      35.863  37.004  22.848  1.00  0.00
ATOM   4580  CE2 TYR A 321      36.544  37.193  20.562  1.00  0.00
ATOM   4581  CZ  TYR A 321      36.604  36.545  21.779  1.00  0.00
ATOM   4582  OH  TYR A 321      37.405  35.436  21.926  1.00  0.00
ATOM   4583  H   TYR A 321      34.211  43.010  20.762  1.00  0.00
ATOM   4584  HA  TYR A 321      34.717  41.172  22.996  1.00  0.00
ATOM   4585 1HB  TYR A 321      33.148  39.831  21.813  1.00  0.00
ATOM   4586 2HB  TYR A 321      33.934  40.191  20.257  1.00  0.00
ATOM   4587  HD1 TYR A 321      34.471  38.486  23.534  1.00  0.00
ATOM   4588  HD2 TYR A 321      35.686  38.822  19.461  1.00  0.00
ATOM   4589  HE1 TYR A 321      35.912  36.490  23.808  1.00  0.00
ATOM   4590  HE2 TYR A 321      37.129  36.832  19.716  1.00  0.00
ATOM   4591  HH  TYR A 321      38.090  35.376  21.256  1.00  0.00
ATOM   4592  N   GLU A 322      37.057  41.140  22.253  1.00  0.00
ATOM   4593  CA  GLU A 322      38.459  41.284  21.930  1.00  0.00
ATOM   4594  C   GLU A 322      39.144  40.103  22.569  1.00  0.00
ATOM   4595  O   GLU A 322      39.312  40.071  23.778  1.00  0.00
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ATOM   4596  CB  GLU A 322      39.035  42.608  22.438  1.00  0.00
ATOM   4597  CG  GLU A 322      38.461  43.844  21.761  1.00  0.00
ATOM   4598  CD  GLU A 322      39.214  45.083  22.157  1.00  0.00
ATOM   4599  OE1 GLU A 322      40.289  44.957  22.693  1.00  0.00
ATOM   4600  OE2 GLU A 322      38.769  46.157  21.825  1.00  0.00
ATOM   4601  H   GLU A 322      36.796  40.748  23.146  1.00  0.00
ATOM   4602  HA  GLU A 322      38.594  41.255  20.848  1.00  0.00
ATOM   4603 1HB  GLU A 322      38.831  42.654  23.508  1.00  0.00
ATOM   4604 2HB  GLU A 322      40.112  42.571  22.274  1.00  0.00
ATOM   4605 1HG  GLU A 322      38.433  43.769  20.674  1.00  0.00
ATOM   4606 2HG  GLU A 322      37.444  43.899  22.146  1.00  0.00
ATOM   4607  N   GLY A 323      39.521  39.122  21.765  1.00  0.00
ATOM   4608  CA  GLY A 323      40.172  37.966  22.330  1.00  0.00
ATOM   4609  C   GLY A 323      41.084  37.268  21.357  1.00  0.00
ATOM   4610  O   GLY A 323      41.451  37.815  20.321  1.00  0.00
ATOM   4611  H   GLY A 323      39.365  39.161  20.768  1.00  0.00
ATOM   4612 1HA  GLY A 323      40.768  38.277  23.188  1.00  0.00
ATOM   4613 2HA  GLY A 323      39.414  37.253  22.654  1.00  0.00
ATOM   4614  N   GLU A 324      41.457  36.048  21.713  1.00  0.00
ATOM   4615  CA  GLU A 324      42.320  35.233  20.887  1.00  0.00
ATOM   4616  C   GLU A 324      41.557  33.950  20.567  1.00  0.00
ATOM   4617  O   GLU A 324      40.974  33.327  21.452  1.00  0.00
ATOM   4618  CB  GLU A 324      43.645  34.932  21.590  1.00  0.00
ATOM   4619  CG  GLU A 324      44.517  36.154  21.840  1.00  0.00
ATOM   4620  CD  GLU A 324      44.087  36.888  23.080  1.00  0.00
ATOM   4621  OE1 GLU A 324      43.277  36.364  23.806  1.00  0.00
ATOM   4622  OE2 GLU A 324      44.650  37.919  23.361  1.00  0.00
ATOM   4623  H   GLU A 324      41.125  35.678  22.592  1.00  0.00
ATOM   4624  HA  GLU A 324      42.541  35.755  19.955  1.00  0.00
ATOM   4625 1HB  GLU A 324      43.400  34.461  22.543  1.00  0.00
ATOM   4626 2HB  GLU A 324      44.186  34.223  20.963  1.00  0.00
ATOM   4627 1HG  GLU A 324      45.580  35.923  21.906  1.00  0.00
ATOM   4628 2HG  GLU A 324      44.336  36.780  20.967  1.00  0.00
ATOM   4629  N   VAL A 325      41.545  33.570  19.296  1.00  0.00
ATOM   4630  CA  VAL A 325      40.849  32.366  18.866  1.00  0.00
ATOM   4631  C   VAL A 325      41.864  31.315  18.407  1.00  0.00
ATOM   4632  O   VAL A 325      41.568  30.477  17.557  1.00  0.00
ATOM   4633  CB  VAL A 325      39.856  32.657  17.726  1.00  0.00
ATOM   4634  CG1 VAL A 325      38.739  33.569  18.212  1.00  0.00
ATOM   4635  CG2 VAL A 325      40.574  33.283  16.540  1.00  0.00
ATOM   4636  H   VAL A 325      42.031  34.129  18.609  1.00  0.00
ATOM   4637  HA  VAL A 325      40.303  31.907  19.691  1.00  0.00
ATOM   4638  HB  VAL A 325      39.430  31.716  17.377  1.00  0.00
ATOM   4639 1HG1 VAL A 325      38.045  33.764  17.393  1.00  0.00
ATOM   4640 2HG1 VAL A 325      38.205  33.086  19.031  1.00  0.00
ATOM   4641 3HG1 VAL A 325      39.163  34.510  18.559  1.00  0.00
ATOM   4642 1HG2 VAL A 325      39.857  33.482  15.743  1.00  0.00
ATOM   4643 2HG2 VAL A 325      41.040  34.218  16.851  1.00  0.00
ATOM   4644 3HG2 VAL A 325      41.340  32.599  16.176  1.00  0.00
ATOM   4645  N   THR A 326      43.063  31.366  18.981  1.00  0.00
ATOM   4646  CA  THR A 326      44.122  30.428  18.620  1.00  0.00
ATOM   4647  C   THR A 326      43.843  29.035  19.175  1.00  0.00
ATOM   4648  O   THR A 326      44.133  28.027  18.526  1.00  0.00
ATOM   4649  CB  THR A 326      45.495  30.905  19.128  1.00  0.00
ATOM   4650  OG1 THR A 326      45.890  32.083  18.412  1.00  0.00
ATOM   4651  CG2 THR A 326      46.543  29.821  18.929  1.00  0.00
ATOM   4652  H   THR A 326      43.247  32.069  19.683  1.00  0.00
ATOM   4653  HA  THR A 326      44.168  30.323  17.536  1.00  0.00
ATOM   4654  HB  THR A 326      45.418  31.144  20.188  1.00  0.00
ATOM   4655  HG1 THR A 326      45.948  31.882  17.475  1.00  0.00
ATOM   4656 1HG2 THR A 326      47.507  30.176  19.294  1.00  0.00
ATOM   4657 2HG2 THR A 326      46.252  28.928  19.482  1.00  0.00
ATOM   4658 3HG2 THR A 326      46.622  29.582  17.869  1.00  0.00
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ATOM   4659  N   LYS A 327      43.289  28.981  20.382  1.00  0.00
ATOM   4660  CA  LYS A 327      42.985  27.702  21.005  1.00  0.00
ATOM   4661  C   LYS A 327      41.834  27.019  20.281  1.00  0.00
ATOM   4662  O   LYS A 327      41.770  25.791  20.225  1.00  0.00
ATOM   4663  CB  LYS A 327      42.646  27.888  22.485  1.00  0.00
ATOM   4664  CG  LYS A 327      42.386  26.591  23.239  1.00  0.00
ATOM   4665  CD  LYS A 327      42.155  26.849  24.720  1.00  0.00
ATOM   4666  CE  LYS A 327      41.898  25.553  25.475  1.00  0.00
ATOM   4667  NZ  LYS A 327      41.683  25.789  26.929  1.00  0.00
ATOM   4668  H   LYS A 327      43.074  29.834  20.879  1.00  0.00
ATOM   4669  HA  LYS A 327      43.848  27.040  20.929  1.00  0.00
ATOM   4670 1HB  LYS A 327      43.487  28.411  22.941  1.00  0.00
ATOM   4671 2HB  LYS A 327      41.758  28.519  22.533  1.00  0.00
ATOM   4672 1HG  LYS A 327      41.505  26.112  22.811  1.00  0.00
ATOM   4673 2HG  LYS A 327      43.250  25.939  23.114  1.00  0.00
ATOM   4674 1HD  LYS A 327      43.039  27.340  25.130  1.00  0.00
ATOM   4675 2HD  LYS A 327      41.293  27.508  24.828  1.00  0.00
ATOM   4676 1HE  LYS A 327      41.015  25.079  25.050  1.00  0.00
ATOM   4677 2HE  LYS A 327      42.761  24.901  25.337  1.00  0.00
ATOM   4678 1HZ  LYS A 327      41.517  24.906  27.392  1.00  0.00
ATOM   4679 2HZ  LYS A 327      42.503  26.227  27.324  1.00  0.00
ATOM   4680 3HZ  LYS A 327      40.884  26.392  27.057  1.00  0.00
ATOM   4681  N   SER A 328      40.932  27.824  19.725  1.00  0.00
ATOM   4682  CA  SER A 328      39.782  27.305  18.991  1.00  0.00
ATOM   4683  C   SER A 328      40.264  26.666  17.695  1.00  0.00
ATOM   4684  O   SER A 328      39.924  25.523  17.377  1.00  0.00
ATOM   4685  CB  SER A 328      38.781  28.409  18.710  1.00  0.00
ATOM   4686  OG  SER A 328      38.193  28.897  19.884  1.00  0.00
ATOM   4687  H   SER A 328      41.048  28.823  19.815  1.00  0.00
ATOM   4688  HA  SER A 328      39.173  26.612  19.574  1.00  0.00
ATOM   4689 1HB  SER A 328      39.297  29.226  18.205  1.00  0.00
ATOM   4690 2HB  SER A 328      38.001  28.016  18.059  1.00  0.00
ATOM   4691  HG  SER A 328      37.568  29.592  19.662  1.00  0.00
ATOM   4692  N   LEU A 329      41.064  27.415  16.950  1.00  0.00
ATOM   4693  CA  LEU A 329      41.579  26.921  15.696  1.00  0.00
ATOM   4694  C   LEU A 329      42.407  25.666  15.907  1.00  0.00
ATOM   4695  O   LEU A 329      42.430  24.785  15.054  1.00  0.00
ATOM   4696  CB  LEU A 329      42.389  28.001  14.984  1.00  0.00
ATOM   4697  CG  LEU A 329      41.501  29.147  14.500  1.00  0.00
ATOM   4698  CD1 LEU A 329      42.313  30.264  13.848  1.00  0.00
ATOM   4699  CD2 LEU A 329      40.391  28.646  13.578  1.00  0.00
ATOM   4700  H   LEU A 329      41.321  28.343  17.256  1.00  0.00
ATOM   4701  HA  LEU A 329      40.751  26.641  15.046  1.00  0.00
ATOM   4702 1HB  LEU A 329      43.027  28.316  15.808  1.00  0.00
ATOM   4703 2HB  LEU A 329      43.005  27.584  14.187  1.00  0.00
ATOM   4704  HG  LEU A 329      41.015  29.573  15.378  1.00  0.00
ATOM   4705 1HD1 LEU A 329      41.642  31.058  13.519  1.00  0.00
ATOM   4706 2HD1 LEU A 329      43.023  30.667  14.570  1.00  0.00
ATOM   4707 3HD1 LEU A 329      42.853  29.867  12.989  1.00  0.00
ATOM   4708 1HD2 LEU A 329      39.779  29.489  13.254  1.00  0.00
ATOM   4709 2HD2 LEU A 329      40.832  28.161  12.707  1.00  0.00
ATOM   4710 3HD2 LEU A 329      39.767  27.931  14.114  1.00  0.00
ATOM   4711  N   GLN A 330      43.072  25.564  17.052  1.00  0.00
ATOM   4712  CA  GLN A 330      43.900  24.396  17.312  1.00  0.00
ATOM   4713  C   GLN A 330      43.107  23.101  17.339  1.00  0.00
ATOM   4714  O   GLN A 330      43.598  22.062  16.886  1.00  0.00
ATOM   4715  CB  GLN A 330      44.639  24.563  18.643  1.00  0.00
ATOM   4716  CG  GLN A 330      45.591  23.427  18.973  1.00  0.00
ATOM   4717  CD  GLN A 330      46.361  23.672  20.257  1.00  0.00
ATOM   4718  OE1 GLN A 330      46.161  24.684  20.934  1.00  0.00
ATOM   4719  NE2 GLN A 330      47.250  22.746  20.598  1.00  0.00
ATOM   4720  H   GLN A 330      43.012  26.290  17.751  1.00  0.00
ATOM   4721  HA  GLN A 330      44.624  24.275  16.507  1.00  0.00
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ATOM   4722 1HB  GLN A 330      45.191  25.501  18.580  1.00  0.00
ATOM   4723 2HB  GLN A 330      43.877  24.642  19.418  1.00  0.00
ATOM   4724 1HG  GLN A 330      45.287  22.380  18.959  1.00  0.00
ATOM   4725 2HG  GLN A 330      46.255  23.622  18.130  1.00  0.00
ATOM   4726 1HE2 GLN A 330      47.789  22.854  21.435  1.00  0.00
ATOM   4727 2HE2 GLN A 330      47.382  21.941  20.019  1.00  0.00
ATOM   4728  N   GLU A 331      41.885  23.142  17.858  1.00  0.00
ATOM   4729  CA  GLU A 331      41.087  21.928  17.863  1.00  0.00
ATOM   4730  C   GLU A 331      40.067  21.976  16.741  1.00  0.00
ATOM   4731  O   GLU A 331      38.917  21.574  16.899  1.00  0.00
ATOM   4732  CB  GLU A 331      40.389  21.740  19.212  1.00  0.00
ATOM   4733  CG  GLU A 331      41.317  21.341  20.350  1.00  0.00
ATOM   4734  CD  GLU A 331      40.556  21.149  21.633  1.00  0.00
ATOM   4735  OE1 GLU A 331      39.354  21.260  21.611  1.00  0.00
ATOM   4736  OE2 GLU A 331      41.164  20.781  22.611  1.00  0.00
ATOM   4737  H   GLU A 331      41.495  23.988  18.248  1.00  0.00
ATOM   4738  HA  GLU A 331      41.727  21.064  17.683  1.00  0.00
ATOM   4739 1HB  GLU A 331      39.904  22.686  19.454  1.00  0.00
ATOM   4740 2HB  GLU A 331      39.631  20.969  19.074  1.00  0.00
ATOM   4741 1HG  GLU A 331      41.902  20.446  20.139  1.00  0.00
ATOM   4742 2HG  GLU A 331      41.984  22.195  20.448  1.00  0.00
ATOM   4743  N   MET A 332      40.515  22.488  15.599  1.00  0.00
ATOM   4744  CA  MET A 332      39.698  22.587  14.396  1.00  0.00
ATOM   4745  C   MET A 332      40.515  22.029  13.250  1.00  0.00
ATOM   4746  O   MET A 332      40.463  22.529  12.129  1.00  0.00
ATOM   4747  CB  MET A 332      39.297  24.027  14.077  1.00  0.00
ATOM   4748  CG  MET A 332      38.144  24.534  14.938  1.00  0.00
ATOM   4749  SD  MET A 332      37.693  26.228  14.543  1.00  0.00
ATOM   4750  CE  MET A 332      37.351  25.974  12.796  1.00  0.00
ATOM   4751  H   MET A 332      41.468  22.821  15.575  1.00  0.00
ATOM   4752  HA  MET A 332      38.793  21.991  14.511  1.00  0.00
ATOM   4753 1HB  MET A 332      40.181  24.644  14.233  1.00  0.00
ATOM   4754 2HB  MET A 332      39.016  24.053  13.023  1.00  0.00
ATOM   4755 1HG  MET A 332      37.286  23.884  14.774  1.00  0.00
ATOM   4756 2HG  MET A 332      38.450  24.476  15.982  1.00  0.00
ATOM   4757 1HE  MET A 332      37.047  26.918  12.343  1.00  0.00
ATOM   4758 2HE  MET A 332      38.249  25.605  12.299  1.00  0.00
ATOM   4759 3HE  MET A 332      36.549  25.243  12.685  1.00  0.00
ATOM   4760  N   LYS A 333      41.271  20.979  13.559  1.00  0.00
ATOM   4761  CA  LYS A 333      42.132  20.316  12.594  1.00  0.00
ATOM   4762  C   LYS A 333      43.063  21.329  11.940  1.00  0.00
ATOM   4763  O   LYS A 333      43.269  21.326  10.722  1.00  0.00
ATOM   4764  CB  LYS A 333      41.301  19.592  11.534  1.00  0.00
ATOM   4765  CG  LYS A 333      40.411  18.483  12.081  1.00  0.00
ATOM   4766  CD  LYS A 333      39.625  17.805  10.969  1.00  0.00
ATOM   4767  CE  LYS A 333      38.697  16.733  11.521  1.00  0.00
ATOM   4768  NZ  LYS A 333      37.853  16.126  10.456  1.00  0.00
ATOM   4769  H   LYS A 333      41.239  20.634  14.508  1.00  0.00
ATOM   4770  HA  LYS A 333      42.759  19.582  13.102  1.00  0.00
ATOM   4771 1HB  LYS A 333      40.682  20.344  11.044  1.00  0.00
ATOM   4772 2HB  LYS A 333      42.000  19.171  10.811  1.00  0.00
ATOM   4773 1HG  LYS A 333      41.042  17.748  12.582  1.00  0.00
ATOM   4774 2HG  LYS A 333      39.719  18.918  12.802  1.00  0.00
ATOM   4775 1HD  LYS A 333      39.038  18.562  10.447  1.00  0.00
ATOM   4776 2HD  LYS A 333      40.330  17.350  10.273  1.00  0.00
ATOM   4777 1HE  LYS A 333      39.306  15.959  11.986  1.00  0.00
ATOM   4778 2HE  LYS A 333      38.056  17.191  12.275  1.00  0.00
ATOM   4779 1HZ  LYS A 333      37.253  15.422  10.863  1.00  0.00
ATOM   4780 2HZ  LYS A 333      37.286  16.843  10.026  1.00  0.00
ATOM   4781 3HZ  LYS A 333      38.446  15.701   9.758  1.00  0.00
ATOM   4782  N   LEU A 334      43.638  22.189  12.771  1.00  0.00
ATOM   4783  CA  LEU A 334      44.539  23.214  12.288  1.00  0.00
ATOM   4784  C   LEU A 334      45.793  23.296  13.154  1.00  0.00
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ATOM   4785  O   LEU A 334      46.552  24.258  13.068  1.00  0.00
ATOM   4786  CB  LEU A 334      43.821  24.569  12.249  1.00  0.00
ATOM   4787  CG  LEU A 334      42.786  24.727  11.128  1.00  0.00
ATOM   4788  CD1 LEU A 334      41.980  26.002  11.337  1.00  0.00
ATOM   4789  CD2 LEU A 334      43.494  24.752   9.781  1.00  0.00
ATOM   4790  H   LEU A 334      43.445  22.130  13.761  1.00  0.00
ATOM   4791  HA  LEU A 334      44.874  22.961  11.283  1.00  0.00
ATOM   4792 1HB  LEU A 334      43.322  24.533  13.216  1.00  0.00
ATOM   4793 2HB  LEU A 334      44.527  25.399  12.235  1.00  0.00
ATOM   4794  HG  LEU A 334      42.146  23.845  11.151  1.00  0.00
ATOM   4795 1HD1 LEU A 334      41.248  26.106  10.536  1.00  0.00
ATOM   4796 2HD1 LEU A 334      41.463  25.952  12.296  1.00  0.00
ATOM   4797 3HD1 LEU A 334      42.650  26.861  11.329  1.00  0.00
ATOM   4798 1HD2 LEU A 334      42.758  24.864   8.985  1.00  0.00
ATOM   4799 2HD2 LEU A 334      44.191  25.590   9.752  1.00  0.00
ATOM   4800 3HD2 LEU A 334      44.042  23.820   9.640  1.00  0.00
ATOM   4801  N   GLN A 335      46.009  22.276  13.981  1.00  0.00
ATOM   4802  CA  GLN A 335      47.173  22.226  14.860  1.00  0.00
ATOM   4803  C   GLN A 335      48.496  22.319  14.104  1.00  0.00
ATOM   4804  O   GLN A 335      49.431  23.001  14.534  1.00  0.00
ATOM   4805  CB  GLN A 335      47.151  20.936  15.684  1.00  0.00
ATOM   4806  CG  GLN A 335      48.295  20.810  16.675  1.00  0.00
ATOM   4807  CD  GLN A 335      48.213  19.536  17.495  1.00  0.00
ATOM   4808  OE1 GLN A 335      47.339  18.694  17.273  1.00  0.00
ATOM   4809  NE2 GLN A 335      49.123  19.390  18.451  1.00  0.00
ATOM   4810  H   GLN A 335      45.346  21.514  13.999  1.00  0.00
ATOM   4811  HA  GLN A 335      47.162  23.086  15.530  1.00  0.00
ATOM   4812 1HB  GLN A 335      46.199  20.917  16.215  1.00  0.00
ATOM   4813 2HB  GLN A 335      47.186  20.109  14.974  1.00  0.00
ATOM   4814 1HG  GLN A 335      49.337  20.961  16.395  1.00  0.00
ATOM   4815 2HG  GLN A 335      47.963  21.642  17.296  1.00  0.00
ATOM   4816 1HE2 GLN A 335      49.118  18.570  19.025  1.00  0.00
ATOM   4817 2HE2 GLN A 335      49.813  20.099  18.598  1.00  0.00
ATOM   4818  N   SER A 336      48.561  21.616  12.979  1.00  0.00
ATOM   4819  CA  SER A 336      49.742  21.578  12.131  1.00  0.00
ATOM   4820  C   SER A 336      50.412  22.937  11.878  1.00  0.00
ATOM   4821  O   SER A 336      51.631  23.004  11.704  1.00  0.00
ATOM   4822  CB  SER A 336      49.369  20.940  10.807  1.00  0.00
ATOM   4823  OG  SER A 336      48.938  19.616  10.964  1.00  0.00
ATOM   4824  H   SER A 336      47.745  21.086  12.709  1.00  0.00
ATOM   4825  HA  SER A 336      50.518  20.906  12.500  1.00  0.00
ATOM   4826 1HB  SER A 336      48.567  21.522  10.354  1.00  0.00
ATOM   4827 2HB  SER A 336      50.241  20.954  10.155  1.00  0.00
ATOM   4828  HG  SER A 336      48.712  19.250  10.106  1.00  0.00
ATOM   4829  N   LEU A 337      49.623  24.010  11.857  1.00  0.00
ATOM   4830  CA  LEU A 337      50.146  25.358  11.609  1.00  0.00
ATOM   4831  C   LEU A 337      50.938  25.968  12.772  1.00  0.00
ATOM   4832  O   LEU A 337      51.806  26.816  12.555  1.00  0.00
ATOM   4833  CB  LEU A 337      48.983  26.288  11.240  1.00  0.00
ATOM   4834  CG  LEU A 337      48.184  25.873   9.998  1.00  0.00
ATOM   4835  CD1 LEU A 337      46.986  26.795   9.816  1.00  0.00
ATOM   4836  CD2 LEU A 337      49.088  25.914   8.775  1.00  0.00
ATOM   4837  H   LEU A 337      48.633  23.888  12.017  1.00  0.00
ATOM   4838  HA  LEU A 337      50.861  25.327  10.787  1.00  0.00
ATOM   4839 1HB  LEU A 337      48.372  26.170  12.134  1.00  0.00
ATOM   4840 2HB  LEU A 337      49.307  27.325  11.155  1.00  0.00
ATOM   4841  HG  LEU A 337      47.870  24.839  10.145  1.00  0.00
ATOM   4842 1HD1 LEU A 337      46.425  26.493   8.931  1.00  0.00
ATOM   4843 2HD1 LEU A 337      46.342  26.732  10.692  1.00  0.00
ATOM   4844 3HD1 LEU A 337      47.332  27.820   9.692  1.00  0.00
ATOM   4845 1HD2 LEU A 337      48.519  25.619   7.893  1.00  0.00
ATOM   4846 2HD2 LEU A 337      49.470  26.926   8.638  1.00  0.00
ATOM   4847 3HD2 LEU A 337      49.923  25.227   8.915  1.00  0.00
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ATOM   4848  N   PHE A 338      50.628  25.547  13.997  1.00  0.00
ATOM   4849  CA  PHE A 338      51.308  26.063  15.186  1.00  0.00
ATOM   4850  C   PHE A 338      52.535  25.239  15.518  1.00  0.00
ATOM   4851  O   PHE A 338      53.383  25.650  16.315  1.00  0.00
ATOM   4852  CB  PHE A 338      50.341  26.048  16.376  1.00  0.00
ATOM   4853  CG  PHE A 338      49.023  26.701  16.018  1.00  0.00
ATOM   4854  CD1 PHE A 338      47.981  25.941  15.495  1.00  0.00
ATOM   4855  CD2 PHE A 338      48.846  28.064  16.217  1.00  0.00
ATOM   4856  CE1 PHE A 338      46.771  26.542  15.168  1.00  0.00
ATOM   4857  CE2 PHE A 338      47.635  28.664  15.893  1.00  0.00
ATOM   4858  CZ  PHE A 338      46.596  27.905  15.368  1.00  0.00
ATOM   4859  H   PHE A 338      49.903  24.852  14.107  1.00  0.00
ATOM   4860  HA  PHE A 338      51.657  27.080  15.001  1.00  0.00
ATOM   4861 1HB  PHE A 338      50.136  25.022  16.681  1.00  0.00
ATOM   4862 2HB  PHE A 338      50.770  26.596  17.214  1.00  0.00
ATOM   4863  HD1 PHE A 338      48.125  24.871  15.346  1.00  0.00
ATOM   4864  HD2 PHE A 338      49.659  28.664  16.628  1.00  0.00
ATOM   4865  HE1 PHE A 338      45.960  25.943  14.755  1.00  0.00
ATOM   4866  HE2 PHE A 338      47.501  29.734  16.051  1.00  0.00
ATOM   4867  HZ  PHE A 338      45.648  28.377  15.113  1.00  0.00
ATOM   4868  N   ASP A 339      52.610  24.066  14.904  1.00  0.00
ATOM   4869  CA  ASP A 339      53.713  23.151  15.106  1.00  0.00
ATOM   4870  C   ASP A 339      54.867  23.510  14.168  1.00  0.00
ATOM   4871  O   ASP A 339      55.651  24.407  14.458  1.00  0.00
ATOM   4872  CB  ASP A 339      53.263  21.706  14.880  1.00  0.00
ATOM   4873  CG  ASP A 339      52.374  21.144  15.981  1.00  0.00
ATOM   4874  OD1 ASP A 339      52.284  21.759  17.017  1.00  0.00
ATOM   4875  OD2 ASP A 339      51.673  20.194  15.725  1.00  0.00
ATOM   4876  H   ASP A 339      51.866  23.807  14.272  1.00  0.00
ATOM   4877  HA  ASP A 339      54.087  23.243  16.126  1.00  0.00
ATOM   4878 1HB  ASP A 339      52.787  21.545  13.912  1.00  0.00
ATOM   4879 2HB  ASP A 339      54.228  21.199  14.899  1.00  0.00
ATOM   4880  N   SER A 340      54.964  22.812  13.042  1.00  0.00
ATOM   4881  CA  SER A 340      56.030  23.067  12.076  1.00  0.00
ATOM   4882  C   SER A 340      55.480  23.109  10.653  1.00  0.00
ATOM   4883  O   SER A 340      55.662  22.175   9.870  1.00  0.00
ATOM   4884  CB  SER A 340      57.109  22.008  12.195  1.00  0.00
ATOM   4885  OG  SER A 340      58.234  22.314  11.418  1.00  0.00
ATOM   4886  H   SER A 340      54.287  22.088  12.848  1.00  0.00
ATOM   4887  HA  SER A 340      56.595  23.976  12.285  1.00  0.00
ATOM   4888 1HB  SER A 340      57.409  21.934  13.240  1.00  0.00
ATOM   4889 2HB  SER A 340      56.700  21.054  11.867  1.00  0.00
ATOM   4890  HG  SER A 340      58.891  21.621  11.522  1.00  0.00
ATOM   4891  N   PRO A 341      54.788  24.198  10.304  1.00  0.00
ATOM   4892  CA  PRO A 341      54.222  24.334   8.960  1.00  0.00
ATOM   4893  C   PRO A 341      55.319  24.666   7.957  1.00  0.00
ATOM   4894  O   PRO A 341      56.472  24.864   8.333  1.00  0.00
ATOM   4895  CB  PRO A 341      53.194  25.463   9.089  1.00  0.00
ATOM   4896  CG  PRO A 341      53.742  26.343  10.160  1.00  0.00
ATOM   4897  CD  PRO A 341      54.385  25.411  11.152  1.00  0.00
ATOM   4898  HA  PRO A 341      53.761  23.404   8.596  1.00  0.00
ATOM   4899 1HB  PRO A 341      53.078  26.012   8.143  1.00  0.00
ATOM   4900 2HB  PRO A 341      52.201  25.075   9.361  1.00  0.00
ATOM   4901 1HG  PRO A 341      54.475  27.055   9.754  1.00  0.00
ATOM   4902 2HG  PRO A 341      52.945  26.936  10.633  1.00  0.00
ATOM   4903 1HD  PRO A 341      55.273  25.856  11.626  1.00  0.00
ATOM   4904 2HD  PRO A 341      53.697  25.127  11.963  1.00  0.00
ATOM   4905  N   ASP A 342      54.960  24.725   6.684  1.00  0.00
ATOM   4906  CA  ASP A 342      55.924  25.060   5.651  1.00  0.00
ATOM   4907  C   ASP A 342      55.443  26.303   4.912  1.00  0.00
ATOM   4908  O   ASP A 342      54.498  26.240   4.124  1.00  0.00
ATOM   4909  CB  ASP A 342      56.119  23.893   4.680  1.00  0.00
ATOM   4910  CG  ASP A 342      57.160  24.142   3.597  1.00  0.00
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ATOM   4911  OD1 ASP A 342      57.657  25.241   3.520  1.00  0.00
ATOM   4912  OD2 ASP A 342      57.563  23.199   2.960  1.00  0.00
ATOM   4913  H   ASP A 342      54.003  24.535   6.421  1.00  0.00
ATOM   4914  HA  ASP A 342      56.887  25.292   6.106  1.00  0.00
ATOM   4915 1HB  ASP A 342      56.332  22.946   5.176  1.00  0.00
ATOM   4916 2HB  ASP A 342      55.127  23.852   4.228  1.00  0.00
ATOM   4917  N   PHE A 343      56.091  27.433   5.172  1.00  0.00
ATOM   4918  CA  PHE A 343      55.718  28.685   4.526  1.00  0.00
ATOM   4919  C   PHE A 343      56.872  29.220   3.698  1.00  0.00
ATOM   4920  O   PHE A 343      57.002  30.428   3.507  1.00  0.00
ATOM   4921  CB  PHE A 343      55.287  29.722   5.564  1.00  0.00
ATOM   4922  CG  PHE A 343      53.951  29.435   6.190  1.00  0.00
ATOM   4923  CD1 PHE A 343      53.845  29.187   7.550  1.00  0.00
ATOM   4924  CD2 PHE A 343      52.799  29.411   5.419  1.00  0.00
ATOM   4925  CE1 PHE A 343      52.617  28.922   8.127  1.00  0.00
ATOM   4926  CE2 PHE A 343      51.570  29.147   5.993  1.00  0.00
ATOM   4927  CZ  PHE A 343      51.480  28.902   7.348  1.00  0.00
ATOM   4928  H   PHE A 343      56.858  27.428   5.830  1.00  0.00
ATOM   4929  HA  PHE A 343      54.886  28.515   3.841  1.00  0.00
ATOM   4930 1HB  PHE A 343      56.010  29.762   6.378  1.00  0.00
ATOM   4931 2HB  PHE A 343      55.208  30.705   5.101  1.00  0.00
ATOM   4932  HD1 PHE A 343      54.745  29.203   8.166  1.00  0.00
ATOM   4933  HD2 PHE A 343      52.870  29.604   4.348  1.00  0.00
ATOM   4934  HE1 PHE A 343      52.549  28.729   9.197  1.00  0.00
ATOM   4935  HE2 PHE A 343      50.672  29.132   5.376  1.00  0.00
ATOM   4936  HZ  PHE A 343      50.512  28.693   7.801  1.00  0.00
ATOM   4937  N   SER A 344      57.706  28.312   3.204  1.00  0.00
ATOM   4938  CA  SER A 344      58.867  28.688   2.407  1.00  0.00
ATOM   4939  C   SER A 344      58.552  29.643   1.251  1.00  0.00
ATOM   4940  O   SER A 344      59.459  30.230   0.655  1.00  0.00
ATOM   4941  CB  SER A 344      59.529  27.434   1.871  1.00  0.00
ATOM   4942  OG  SER A 344      58.698  26.740   0.980  1.00  0.00
ATOM   4943  H   SER A 344      57.530  27.334   3.386  1.00  0.00
ATOM   4944  HA  SER A 344      59.670  29.133   2.996  1.00  0.00
ATOM   4945 1HB  SER A 344      60.445  27.717   1.353  1.00  0.00
ATOM   4946 2HB  SER A 344      59.773  26.782   2.709  1.00  0.00
ATOM   4947  HG  SER A 344      57.890  26.483   1.431  1.00  0.00
ATOM   4948  N   LYS A 345      57.272  29.809   0.939  1.00  0.00
ATOM   4949  CA  LYS A 345      56.879  30.727  -0.124  1.00  0.00
ATOM   4950  C   LYS A 345      56.805  32.158   0.406  1.00  0.00
ATOM   4951  O   LYS A 345      56.677  33.109  -0.362  1.00  0.00
ATOM   4952  CB  LYS A 345      55.535  30.312  -0.725  1.00  0.00
ATOM   4953  CG  LYS A 345      55.599  29.080  -1.618  1.00  0.00
ATOM   4954  CD  LYS A 345      54.225  28.721  -2.164  1.00  0.00
ATOM   4955  CE  LYS A 345      54.216  27.324  -2.767  1.00  0.00
ATOM   4956  NZ  LYS A 345      52.833  26.810  -2.962  1.00  0.00
ATOM   4957  H   LYS A 345      56.557  29.299   1.438  1.00  0.00
ATOM   4958  HA  LYS A 345      57.630  30.719  -0.915  1.00  0.00
ATOM   4959 1HB  LYS A 345      54.858  30.122   0.107  1.00  0.00
ATOM   4960 2HB  LYS A 345      55.168  31.160  -1.304  1.00  0.00
ATOM   4961 1HG  LYS A 345      56.277  29.287  -2.447  1.00  0.00
ATOM   4962 2HG  LYS A 345      55.987  28.247  -1.032  1.00  0.00
ATOM   4963 1HD  LYS A 345      53.503  28.769  -1.347  1.00  0.00
ATOM   4964 2HD  LYS A 345      53.954  29.448  -2.930  1.00  0.00
ATOM   4965 1HE  LYS A 345      54.727  27.363  -3.728  1.00  0.00
ATOM   4966 2HE  LYS A 345      54.759  26.659  -2.096  1.00  0.00
ATOM   4967 1HZ  LYS A 345      52.872  25.884  -3.363  1.00  0.00
ATOM   4968 2HZ  LYS A 345      52.359  26.772  -2.071  1.00  0.00
ATOM   4969 3HZ  LYS A 345      52.331  27.426  -3.585  1.00  0.00
ATOM   4970  N   ILE A 346      56.876  32.298   1.724  1.00  0.00
ATOM   4971  CA  ILE A 346      56.831  33.603   2.374  1.00  0.00
ATOM   4972  C   ILE A 346      58.243  34.054   2.725  1.00  0.00
ATOM   4973  O   ILE A 346      58.617  35.211   2.524  1.00  0.00
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ATOM   4974  CB  ILE A 346      56.025  33.583   3.680  1.00  0.00
ATOM   4975  CG1 ILE A 346      54.551  33.311   3.439  1.00  0.00
ATOM   4976  CG2 ILE A 346      56.194  34.888   4.462  1.00  0.00
ATOM   4977  CD1 ILE A 346      53.758  33.258   4.741  1.00  0.00
ATOM   4978  H   ILE A 346      56.964  31.468   2.293  1.00  0.00
ATOM   4979  HA  ILE A 346      56.443  34.359   1.692  1.00  0.00
ATOM   4980  HB  ILE A 346      56.368  32.753   4.297  1.00  0.00
ATOM   4981 1HG1 ILE A 346      54.175  34.108   2.798  1.00  0.00
ATOM   4982 2HG1 ILE A 346      54.479  32.359   2.913  1.00  0.00
ATOM   4983 1HG2 ILE A 346      55.610  34.840   5.381  1.00  0.00
ATOM   4984 2HG2 ILE A 346      57.245  35.031   4.708  1.00  0.00
ATOM   4985 3HG2 ILE A 346      55.847  35.724   3.855  1.00  0.00
ATOM   4986 1HD1 ILE A 346      52.709  33.061   4.521  1.00  0.00
ATOM   4987 2HD1 ILE A 346      54.151  32.463   5.375  1.00  0.00
ATOM   4988 3HD1 ILE A 346      53.845  34.211   5.260  1.00  0.00
ATOM   4989  N   THR A 347      59.021  33.116   3.254  1.00  0.00
ATOM   4990  CA  THR A 347      60.384  33.385   3.678  1.00  0.00
ATOM   4991  C   THR A 347      61.179  32.079   3.796  1.00  0.00
ATOM   4992  O   THR A 347      60.604  30.992   3.915  1.00  0.00
ATOM   4993  CB  THR A 347      60.419  34.130   5.025  1.00  0.00
ATOM   4994  OG1 THR A 347      61.771  34.488   5.341  1.00  0.00
ATOM   4995  CG2 THR A 347      59.858  33.254   6.134  1.00  0.00
ATOM   4996  H   THR A 347      58.647  32.184   3.363  1.00  0.00
ATOM   4997  HA  THR A 347      60.890  33.994   2.928  1.00  0.00
ATOM   4998  HB  THR A 347      59.822  35.038   4.943  1.00  0.00
ATOM   4999  HG1 THR A 347      62.120  35.058   4.651  1.00  0.00
ATOM   5000 1HG2 THR A 347      59.890  33.798   7.078  1.00  0.00
ATOM   5001 2HG2 THR A 347      58.826  32.990   5.902  1.00  0.00
ATOM   5002 3HG2 THR A 347      60.455  32.347   6.217  1.00  0.00
ATOM   5003  N   GLY A 348      62.502  32.188   3.755  1.00  0.00
ATOM   5004  CA  GLY A 348      63.332  31.007   3.869  1.00  0.00
ATOM   5005  C   GLY A 348      63.387  30.528   5.306  1.00  0.00
ATOM   5006  O   GLY A 348      63.482  29.331   5.575  1.00  0.00
ATOM   5007  H   GLY A 348      62.943  33.090   3.645  1.00  0.00
ATOM   5008 1HA  GLY A 348      62.916  30.218   3.242  1.00  0.00
ATOM   5009 2HA  GLY A 348      64.340  31.246   3.530  1.00  0.00
ATOM   5010  N   LYS A 349      63.330  31.469   6.238  1.00  0.00
ATOM   5011  CA  LYS A 349      63.378  31.131   7.652  1.00  0.00
ATOM   5012  C   LYS A 349      62.116  30.379   8.074  1.00  0.00
ATOM   5013  O   LYS A 349      61.031  30.619   7.540  1.00  0.00
ATOM   5014  CB  LYS A 349      63.553  32.393   8.498  1.00  0.00
ATOM   5015  CG  LYS A 349      64.900  33.083   8.328  1.00  0.00
ATOM   5016  CD  LYS A 349      65.012  34.307   9.225  1.00  0.00
ATOM   5017  CE  LYS A 349      66.348  35.010   9.040  1.00  0.00
ATOM   5018  NZ  LYS A 349      66.478  36.201   9.922  1.00  0.00
ATOM   5019  H   LYS A 349      63.252  32.439   5.966  1.00  0.00
ATOM   5020  HA  LYS A 349      64.219  30.464   7.844  1.00  0.00
ATOM   5021 1HB  LYS A 349      62.755  33.080   8.215  1.00  0.00
ATOM   5022 2HB  LYS A 349      63.425  32.100   9.541  1.00  0.00
ATOM   5023 1HG  LYS A 349      65.687  32.373   8.581  1.00  0.00
ATOM   5024 2HG  LYS A 349      65.005  33.385   7.287  1.00  0.00
ATOM   5025 1HD  LYS A 349      64.201  34.994   8.978  1.00  0.00
ATOM   5026 2HD  LYS A 349      64.912  33.987  10.263  1.00  0.00
ATOM   5027 1HE  LYS A 349      67.142  34.300   9.269  1.00  0.00
ATOM   5028 2HE  LYS A 349      66.429  35.319   7.998  1.00  0.00
ATOM   5029 1HZ  LYS A 349      67.376  36.638   9.768  1.00  0.00
ATOM   5030 2HZ  LYS A 349      65.742  36.860   9.709  1.00  0.00
ATOM   5031 3HZ  LYS A 349      66.404  35.915  10.887  1.00  0.00
ATOM   5032  N   PRO A 350      62.243  29.439   9.025  1.00  0.00
ATOM   5033  CA  PRO A 350      61.053  28.696   9.461  1.00  0.00
ATOM   5034  C   PRO A 350      60.187  29.563  10.365  1.00  0.00
ATOM   5035  O   PRO A 350      60.634  30.022  11.421  1.00  0.00
ATOM   5036  CB  PRO A 350      61.611  27.474  10.196  1.00  0.00
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ATOM   5037  CG  PRO A 350      62.936  27.923  10.712  1.00  0.00
ATOM   5038  CD  PRO A 350      63.456  28.892   9.684  1.00  0.00
ATOM   5039  HA  PRO A 350      60.403  28.404   8.623  1.00  0.00
ATOM   5040 1HB  PRO A 350      60.950  27.160  11.018  1.00  0.00
ATOM   5041 2HB  PRO A 350      61.718  26.611   9.522  1.00  0.00
ATOM   5042 1HG  PRO A 350      62.837  28.405  11.696  1.00  0.00
ATOM   5043 2HG  PRO A 350      63.623  27.073  10.837  1.00  0.00
ATOM   5044 1HD  PRO A 350      64.030  29.713  10.139  1.00  0.00
ATOM   5045 2HD  PRO A 350      64.116  28.406   8.950  1.00  0.00
ATOM   5046  N   ILE A 351      58.955  29.801   9.940  1.00  0.00
ATOM   5047  CA  ILE A 351      58.030  30.595  10.727  1.00  0.00
ATOM   5048  C   ILE A 351      56.803  29.730  10.937  1.00  0.00
ATOM   5049  O   ILE A 351      56.507  28.857  10.121  1.00  0.00
ATOM   5050  CB  ILE A 351      57.643  31.918  10.042  1.00  0.00
ATOM   5051  CG1 ILE A 351      57.114  31.654   8.630  1.00  0.00
ATOM   5052  CG2 ILE A 351      58.833  32.864  10.000  1.00  0.00
ATOM   5053  CD1 ILE A 351      56.527  32.875   7.959  1.00  0.00
ATOM   5054  H   ILE A 351      58.650  29.425   9.053  1.00  0.00
ATOM   5055  HA  ILE A 351      58.453  30.819  11.705  1.00  0.00
ATOM   5056  HB  ILE A 351      56.829  32.382  10.600  1.00  0.00
ATOM   5057 1HG1 ILE A 351      57.947  31.279   8.037  1.00  0.00
ATOM   5058 2HG1 ILE A 351      56.349  30.881   8.710  1.00  0.00
ATOM   5059 1HG2 ILE A 351      58.542  33.794   9.513  1.00  0.00
ATOM   5060 2HG2 ILE A 351      59.165  33.076  11.016  1.00  0.00
ATOM   5061 3HG2 ILE A 351      59.646  32.401   9.442  1.00  0.00
ATOM   5062 1HD1 ILE A 351      56.174  32.609   6.963  1.00  0.00
ATOM   5063 2HD1 ILE A 351      55.692  33.251   8.551  1.00  0.00
ATOM   5064 3HD1 ILE A 351      57.290  33.648   7.877  1.00  0.00
ATOM   5065  N   LYS A 352      56.096  29.948  12.035  1.00  0.00
ATOM   5066  CA  LYS A 352      54.907  29.159  12.310  1.00  0.00
ATOM   5067  C   LYS A 352      53.788  30.044  12.819  1.00  0.00
ATOM   5068  O   LYS A 352      54.029  31.130  13.333  1.00  0.00
ATOM   5069  CB  LYS A 352      55.212  28.056  13.325  1.00  0.00
ATOM   5070  CG  LYS A 352      55.680  28.562  14.682  1.00  0.00
ATOM   5071  CD  LYS A 352      55.990  27.409  15.626  1.00  0.00
ATOM   5072  CE  LYS A 352      56.461  27.914  16.982  1.00  0.00
ATOM   5073  NZ  LYS A 352      56.703  26.799  17.937  1.00  0.00
ATOM   5074  H   LYS A 352      56.375  30.663  12.692  1.00  0.00
ATOM   5075  HA  LYS A 352      54.552  28.694  11.390  1.00  0.00
ATOM   5076 1HB  LYS A 352      54.297  27.476  13.450  1.00  0.00
ATOM   5077 2HB  LYS A 352      55.985  27.423  12.887  1.00  0.00
ATOM   5078 1HG  LYS A 352      56.578  29.164  14.536  1.00  0.00
ATOM   5079 2HG  LYS A 352      54.894  29.181  15.112  1.00  0.00
ATOM   5080 1HD  LYS A 352      55.086  26.812  15.753  1.00  0.00
ATOM   5081 2HD  LYS A 352      56.771  26.794  15.178  1.00  0.00
ATOM   5082 1HE  LYS A 352      57.383  28.474  16.837  1.00  0.00
ATOM   5083 2HE  LYS A 352      55.694  28.576  17.384  1.00  0.00
ATOM   5084 1HZ  LYS A 352      57.012  27.175  18.822  1.00  0.00
ATOM   5085 2HZ  LYS A 352      55.847  26.279  18.073  1.00  0.00
ATOM   5086 3HZ  LYS A 352      57.414  26.185  17.565  1.00  0.00
ATOM   5087  N   LEU A 353      52.557  29.579  12.665  1.00  0.00
ATOM   5088  CA  LEU A 353      51.419  30.341  13.141  1.00  0.00
ATOM   5089  C   LEU A 353      51.523  30.365  14.657  1.00  0.00
ATOM   5090  O   LEU A 353      51.483  29.324  15.313  1.00  0.00
ATOM   5091  CB  LEU A 353      50.094  29.724  12.675  1.00  0.00
ATOM   5092  CG  LEU A 353      48.836  30.511  13.063  1.00  0.00
ATOM   5093  CD1 LEU A 353      48.932  31.939  12.542  1.00  0.00
ATOM   5094  CD2 LEU A 353      47.606  29.814  12.500  1.00  0.00
ATOM   5095  H   LEU A 353      52.399  28.689  12.214  1.00  0.00
ATOM   5096  HA  LEU A 353      51.475  31.359  12.757  1.00  0.00
ATOM   5097 1HB  LEU A 353      50.247  29.770  11.598  1.00  0.00
ATOM   5098 2HB  LEU A 353      50.003  28.683  12.984  1.00  0.00
ATOM   5099  HG  LEU A 353      48.763  30.490  14.150  1.00  0.00
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ATOM   5100 1HD1 LEU A 353      48.034  32.490  12.822  1.00  0.00
ATOM   5101 2HD1 LEU A 353      49.805  32.426  12.976  1.00  0.00
ATOM   5102 3HD1 LEU A 353      49.024  31.925  11.457  1.00  0.00
ATOM   5103 1HD2 LEU A 353      46.712  30.373  12.777  1.00  0.00
ATOM   5104 2HD2 LEU A 353      47.681  29.763  11.413  1.00  0.00
ATOM   5105 3HD2 LEU A 353      47.542  28.804  12.907  1.00  0.00
ATOM   5106  N   THR A 354      51.665  31.559  15.216  1.00  0.00
ATOM   5107  CA  THR A 354      51.791  31.683  16.656  1.00  0.00
ATOM   5108  C   THR A 354      50.492  32.083  17.360  1.00  0.00
ATOM   5109  O   THR A 354      50.149  31.503  18.387  1.00  0.00
ATOM   5110  CB  THR A 354      52.881  32.709  17.016  1.00  0.00
ATOM   5111  OG1 THR A 354      54.143  32.274  16.492  1.00  0.00
ATOM   5112  CG2 THR A 354      52.990  32.864  18.526  1.00  0.00
ATOM   5113  H   THR A 354      51.687  32.393  14.647  1.00  0.00
ATOM   5114  HA  THR A 354      52.051  30.717  17.088  1.00  0.00
ATOM   5115  HB  THR A 354      52.625  33.670  16.571  1.00  0.00
ATOM   5116  HG1 THR A 354      54.518  31.609  17.074  1.00  0.00
ATOM   5117 1HG2 THR A 354      53.766  33.593  18.760  1.00  0.00
ATOM   5118 2HG2 THR A 354      52.036  33.205  18.926  1.00  0.00
ATOM   5119 3HG2 THR A 354      53.248  31.904  18.971  1.00  0.00
ATOM   5120  N   GLN A 355      49.775  33.066  16.821  1.00  0.00
ATOM   5121  CA  GLN A 355      48.499  33.489  17.409  1.00  0.00
ATOM   5122  C   GLN A 355      47.556  34.163  16.424  1.00  0.00
ATOM   5123  O   GLN A 355      47.987  34.730  15.418  1.00  0.00
ATOM   5124  CB  GLN A 355      48.756  34.443  18.579  1.00  0.00
ATOM   5125  CG  GLN A 355      47.497  34.917  19.283  1.00  0.00
ATOM   5126  CD  GLN A 355      47.783  35.485  20.661  1.00  0.00
ATOM   5127  OE1 GLN A 355      48.076  34.745  21.604  1.00  0.00
ATOM   5128  NE2 GLN A 355      47.696  36.804  20.786  1.00  0.00
ATOM   5129  H   GLN A 355      50.113  33.532  15.991  1.00  0.00
ATOM   5130  HA  GLN A 355      47.953  32.615  17.764  1.00  0.00
ATOM   5131 1HB  GLN A 355      49.396  33.912  19.283  1.00  0.00
ATOM   5132 2HB  GLN A 355      49.295  35.299  18.173  1.00  0.00
ATOM   5133 1HG  GLN A 355      46.758  35.559  18.804  1.00  0.00
ATOM   5134 2HG  GLN A 355      47.082  33.915  19.403  1.00  0.00
ATOM   5135 1HE2 GLN A 355      47.874  37.236  21.671  1.00  0.00
ATOM   5136 2HE2 GLN A 355      47.453  37.367  19.995  1.00  0.00
ATOM   5137  N   VAL A 356      46.264  34.083  16.732  1.00  0.00
ATOM   5138  CA  VAL A 356      45.210  34.657  15.910  1.00  0.00
ATOM   5139  C   VAL A 356      44.285  35.476  16.804  1.00  0.00
ATOM   5140  O   VAL A 356      43.612  34.924  17.667  1.00  0.00
ATOM   5141  CB  VAL A 356      44.399  33.578  15.169  1.00  0.00
ATOM   5142  CG1 VAL A 356      43.296  34.218  14.338  1.00  0.00
ATOM   5143  CG2 VAL A 356      45.309  32.739  14.286  1.00  0.00
ATOM   5144  H   VAL A 356      46.016  33.597  17.582  1.00  0.00
ATOM   5145  HA  VAL A 356      45.616  35.348  15.170  1.00  0.00
ATOM   5146  HB  VAL A 356      43.957  32.902  15.901  1.00  0.00
ATOM   5147 1HG1 VAL A 356      42.732  33.441  13.821  1.00  0.00
ATOM   5148 2HG1 VAL A 356      42.626  34.777  14.992  1.00  0.00
ATOM   5149 3HG1 VAL A 356      43.737  34.893  13.606  1.00  0.00
ATOM   5150 1HG2 VAL A 356      44.720  31.981  13.770  1.00  0.00
ATOM   5151 2HG2 VAL A 356      45.797  33.382  13.552  1.00  0.00
ATOM   5152 3HG2 VAL A 356      46.066  32.252  14.901  1.00  0.00
ATOM   5153  N   GLU A 357      44.249  36.790  16.598  1.00  0.00
ATOM   5154  CA  GLU A 357      43.406  37.654  17.419  1.00  0.00
ATOM   5155  C   GLU A 357      42.182  38.188  16.677  1.00  0.00
ATOM   5156  O   GLU A 357      42.236  38.490  15.483  1.00  0.00
ATOM   5157  CB  GLU A 357      44.231  38.825  17.957  1.00  0.00
ATOM   5158  CG  GLU A 357      45.466  38.414  18.746  1.00  0.00
ATOM   5159  CD  GLU A 357      46.359  39.593  19.017  1.00  0.00
ATOM   5160  OE1 GLU A 357      46.051  40.665  18.555  1.00  0.00
ATOM   5161  OE2 GLU A 357      47.286  39.448  19.779  1.00  0.00
ATOM   5162  H   GLU A 357      44.810  37.202  15.866  1.00  0.00
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ATOM   5163  HA  GLU A 357      43.004  37.088  18.260  1.00  0.00
ATOM   5164 1HB  GLU A 357      44.533  39.423  17.097  1.00  0.00
ATOM   5165 2HB  GLU A 357      43.572  39.413  18.596  1.00  0.00
ATOM   5166 1HG  GLU A 357      45.234  37.912  19.685  1.00  0.00
ATOM   5167 2HG  GLU A 357      45.976  37.719  18.080  1.00  0.00
ATOM   5168  N   HIS A 358      41.080  38.317  17.404  1.00  0.00
ATOM   5169  CA  HIS A 358      39.835  38.790  16.818  1.00  0.00
ATOM   5170  C   HIS A 358      39.229  39.946  17.613  1.00  0.00
ATOM   5171  O   HIS A 358      39.120  39.898  18.836  1.00  0.00
ATOM   5172  CB  HIS A 358      38.825  37.642  16.716  1.00  0.00
ATOM   5173  CG  HIS A 358      37.514  38.046  16.117  1.00  0.00
ATOM   5174  ND1 HIS A 358      37.410  38.599  14.858  1.00  0.00
ATOM   5175  CD2 HIS A 358      36.253  37.979  16.604  1.00  0.00
ATOM   5176  CE1 HIS A 358      36.140  38.853  14.596  1.00  0.00
ATOM   5177  NE2 HIS A 358      35.418  38.487  15.639  1.00  0.00
ATOM   5178  H   HIS A 358      41.104  38.082  18.386  1.00  0.00
ATOM   5179  HA  HIS A 358      40.026  39.182  15.819  1.00  0.00
ATOM   5180 1HB  HIS A 358      39.223  36.846  16.085  1.00  0.00
ATOM   5181 2HB  HIS A 358      38.607  37.245  17.707  1.00  0.00
ATOM   5182  HD1 HIS A 358      38.155  38.716  14.200  1.00  0.00
ATOM   5183  HD2 HIS A 358      35.842  37.621  17.548  1.00  0.00
ATOM   5184  HE1 HIS A 358      35.847  39.294  13.643  1.00  0.00
ATOM   5185  N   ARG A 359      38.849  40.994  16.900  1.00  0.00
ATOM   5186  CA  ARG A 359      38.234  42.157  17.517  1.00  0.00
ATOM   5187  C   ARG A 359      36.950  42.433  16.745  1.00  0.00
ATOM   5188  O   ARG A 359      36.982  42.674  15.535  1.00  0.00
ATOM   5189  CB  ARG A 359      39.154  43.367  17.582  1.00  0.00
ATOM   5190  CG  ARG A 359      40.402  43.177  18.430  1.00  0.00
ATOM   5191  CD  ARG A 359      41.527  44.079  18.074  1.00  0.00
ATOM   5192  NE  ARG A 359      42.692  43.959  18.937  1.00  0.00
ATOM   5193  CZ  ARG A 359      43.670  43.046  18.778  1.00  0.00
ATOM   5194  NH1 ARG A 359      43.612  42.151  17.818  1.00  0.00
ATOM   5195  NH2 ARG A 359      44.681  43.060  19.630  1.00  0.00
ATOM   5196  H   ARG A 359      38.991  40.985  15.900  1.00  0.00
ATOM   5197  HA  ARG A 359      37.991  41.938  18.557  1.00  0.00
ATOM   5198 1HB  ARG A 359      39.447  43.599  16.559  1.00  0.00
ATOM   5199 2HB  ARG A 359      38.568  44.191  17.987  1.00  0.00
ATOM   5200 1HG  ARG A 359      40.143  43.358  19.473  1.00  0.00
ATOM   5201 2HG  ARG A 359      40.745  42.148  18.314  1.00  0.00
ATOM   5202 1HD  ARG A 359      41.851  43.857  17.057  1.00  0.00
ATOM   5203 2HD  ARG A 359      41.185  45.111  18.130  1.00  0.00
ATOM   5204  HE  ARG A 359      42.951  44.502  19.749  1.00  0.00
ATOM   5205 1HH1 ARG A 359      42.824  42.142  17.186  1.00  0.00
ATOM   5206 2HH1 ARG A 359      44.356  41.475  17.716  1.00  0.00
ATOM   5207 1HH2 ARG A 359      44.701  43.745  20.374  1.00  0.00
ATOM   5208 2HH2 ARG A 359      45.427  42.388  19.535  1.00  0.00
ATOM   5209  N   ALA A 360      35.820  42.378  17.436  1.00  0.00
ATOM   5210  CA  ALA A 360      34.552  42.618  16.782  1.00  0.00
ATOM   5211  C   ALA A 360      33.689  43.574  17.584  1.00  0.00
ATOM   5212  O   ALA A 360      33.793  43.648  18.804  1.00  0.00
ATOM   5213  CB  ALA A 360      33.793  41.304  16.590  1.00  0.00
ATOM   5214  H   ALA A 360      35.832  42.168  18.424  1.00  0.00
ATOM   5215  HA  ALA A 360      34.740  43.087  15.816  1.00  0.00
ATOM   5216 1HB  ALA A 360      32.842  41.503  16.097  1.00  0.00
ATOM   5217 2HB  ALA A 360      34.386  40.627  15.974  1.00  0.00
ATOM   5218 3HB  ALA A 360      33.609  40.845  17.560  1.00  0.00
ATOM   5219  N   GLY A 361      32.843  44.316  16.882  1.00  0.00
ATOM   5220  CA  GLY A 361      31.962  45.257  17.541  1.00  0.00
ATOM   5221  C   GLY A 361      30.632  45.208  16.838  1.00  0.00
ATOM   5222  O   GLY A 361      30.552  45.503  15.644  1.00  0.00
ATOM   5223  H   GLY A 361      32.807  44.230  15.876  1.00  0.00
ATOM   5224 1HA  GLY A 361      31.856  44.973  18.588  1.00  0.00
ATOM   5225 2HA  GLY A 361      32.395  46.254  17.479  1.00  0.00
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ATOM   5226  N   PHE A 362      29.586  44.835  17.566  1.00  0.00
ATOM   5227  CA  PHE A 362      28.258  44.730  16.970  1.00  0.00
ATOM   5228  C   PHE A 362      27.217  45.552  17.727  1.00  0.00
ATOM   5229  O   PHE A 362      27.222  45.588  18.962  1.00  0.00
ATOM   5230  CB  PHE A 362      27.822  43.265  16.912  1.00  0.00
ATOM   5231  CG  PHE A 362      26.521  43.047  16.193  1.00  0.00
ATOM   5232  CD1 PHE A 362      26.472  43.039  14.807  1.00  0.00
ATOM   5233  CD2 PHE A 362      25.345  42.851  16.900  1.00  0.00
ATOM   5234  CE1 PHE A 362      25.275  42.839  14.144  1.00  0.00
ATOM   5235  CE2 PHE A 362      24.148  42.650  16.241  1.00  0.00
ATOM   5236  CZ  PHE A 362      24.114  42.645  14.861  1.00  0.00
ATOM   5237  H   PHE A 362      29.704  44.620  18.546  1.00  0.00
ATOM   5238  HA  PHE A 362      28.275  45.132  15.956  1.00  0.00
ATOM   5239 1HB  PHE A 362      28.571  42.671  16.389  1.00  0.00
ATOM   5240 2HB  PHE A 362      27.690  42.874  17.920  1.00  0.00
ATOM   5241  HD1 PHE A 362      27.390  43.192  14.240  1.00  0.00
ATOM   5242  HD2 PHE A 362      25.372  42.856  17.991  1.00  0.00
ATOM   5243  HE1 PHE A 362      25.250  42.836  13.055  1.00  0.00
ATOM   5244  HE2 PHE A 362      23.231  42.497  16.809  1.00  0.00
ATOM   5245  HZ  PHE A 362      23.170  42.488  14.339  1.00  0.00
ATOM   5246  N   GLU A 363      26.325  46.209  16.985  1.00  0.00
ATOM   5247  CA  GLU A 363      25.291  47.040  17.602  1.00  0.00
ATOM   5248  C   GLU A 363      24.043  47.304  16.758  1.00  0.00
ATOM   5249  O   GLU A 363      24.113  47.373  15.526  1.00  0.00
ATOM   5250  CB  GLU A 363      25.906  48.381  18.008  1.00  0.00
ATOM   5251  CG  GLU A 363      24.943  49.328  18.710  1.00  0.00
ATOM   5252  CD  GLU A 363      25.623  50.612  19.096  1.00  0.00
ATOM   5253  OE1 GLU A 363      26.774  50.773  18.771  1.00  0.00
ATOM   5254  OE2 GLU A 363      24.960  51.478  19.617  1.00  0.00
ATOM   5255  H   GLU A 363      26.360  46.134  15.978  1.00  0.00
ATOM   5256  HA  GLU A 363      24.895  46.541  18.487  1.00  0.00
ATOM   5257 1HB  GLU A 363      26.744  48.160  18.669  1.00  0.00
ATOM   5258 2HB  GLU A 363      26.276  48.851  17.096  1.00  0.00
ATOM   5259 1HG  GLU A 363      24.051  49.552  18.125  1.00  0.00
ATOM   5260 2HG  GLU A 363      24.659  48.783  19.609  1.00  0.00
ATOM   5261  N   TRP A 364      22.906  47.456  17.439  1.00  0.00
ATOM   5262  CA  TRP A 364      21.638  47.772  16.786  1.00  0.00
ATOM   5263  C   TRP A 364      20.669  48.477  17.714  1.00  0.00
ATOM   5264  O   TRP A 364      20.765  48.376  18.938  1.00  0.00
ATOM   5265  CB  TRP A 364      20.976  46.523  16.143  1.00  0.00
ATOM   5266  CG  TRP A 364      20.359  45.505  17.100  1.00  0.00
ATOM   5267  CD1 TRP A 364      19.524  45.727  18.209  1.00  0.00
ATOM   5268  CD2 TRP A 364      20.455  44.062  17.034  1.00  0.00
ATOM   5269  NE1 TRP A 364      19.129  44.570  18.795  1.00  0.00
ATOM   5270  CE2 TRP A 364      19.688  43.516  18.090  1.00  0.00
ATOM   5271  CE3 TRP A 364      21.112  43.202  16.168  1.00  0.00
ATOM   5272  CZ2 TRP A 364      19.608  42.139  18.255  1.00  0.00
ATOM   5273  CZ3 TRP A 364      21.023  41.824  16.341  1.00  0.00
ATOM   5274  CH2 TRP A 364      20.276  41.291  17.382  1.00  0.00
ATOM   5275  H   TRP A 364      22.929  47.347  18.443  1.00  0.00
ATOM   5276  HA  TRP A 364      21.810  48.458  15.957  1.00  0.00
ATOM   5277 1HB  TRP A 364      20.159  46.824  15.487  1.00  0.00
ATOM   5278 2HB  TRP A 364      21.713  45.961  15.570  1.00  0.00
ATOM   5279  HD1 TRP A 364      19.301  46.763  18.458  1.00  0.00
ATOM   5280  HE1 TRP A 364      18.531  44.495  19.606  1.00  0.00
ATOM   5281  HE3 TRP A 364      21.707  43.580  15.337  1.00  0.00
ATOM   5282  HZ2 TRP A 364      19.013  41.741  19.077  1.00  0.00
ATOM   5283  HZ3 TRP A 364      21.551  41.173  15.644  1.00  0.00
ATOM   5284  HH2 TRP A 364      20.207  40.212  17.525  1.00  0.00
ATOM   5285  N   ASN A 365      19.728  49.194  17.113  1.00  0.00
ATOM   5286  CA  ASN A 365      18.725  49.926  17.863  1.00  0.00
ATOM   5287  C   ASN A 365      17.511  50.249  17.009  1.00  0.00
ATOM   5288  O   ASN A 365      17.284  49.619  15.979  1.00  0.00
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ATOM   5289  CB  ASN A 365      19.301  51.199  18.456  1.00  0.00
ATOM   5290  CG  ASN A 365      19.760  52.193  17.425  1.00  0.00
ATOM   5291  OD1 ASN A 365      19.462  52.063  16.232  1.00  0.00
ATOM   5292  ND2 ASN A 365      20.551  53.138  17.865  1.00  0.00
ATOM   5293  H   ASN A 365      19.711  49.230  16.104  1.00  0.00
ATOM   5294  HA  ASN A 365      18.360  49.313  18.689  1.00  0.00
ATOM   5295 1HB  ASN A 365      18.781  51.728  19.255  1.00  0.00
ATOM   5296 2HB  ASN A 365      20.173  50.689  18.865  1.00  0.00
ATOM   5297 1HD2 ASN A 365      20.896  53.834  17.235  1.00  0.00
ATOM   5298 2HD2 ASN A 365      20.811  53.163  18.830  1.00  0.00
ATOM   5299  N   GLU A 366      16.739  51.233  17.458  1.00  0.00
ATOM   5300  CA  GLU A 366      15.515  51.662  16.786  1.00  0.00
ATOM   5301  C   GLU A 366      15.671  52.171  15.359  1.00  0.00
ATOM   5302  O   GLU A 366      14.770  52.007  14.544  1.00  0.00
ATOM   5303  CB  GLU A 366      14.839  52.749  17.625  1.00  0.00
ATOM   5304  CG  GLU A 366      14.290  52.263  18.959  1.00  0.00
ATOM   5305  CD  GLU A 366      15.373  52.181  19.998  1.00  0.00
ATOM   5306  OE1 GLU A 366      16.498  52.484  19.682  1.00  0.00
ATOM   5307  OE2 GLU A 366      15.058  51.925  21.136  1.00  0.00
ATOM   5308  H   GLU A 366      17.023  51.700  18.307  1.00  0.00
ATOM   5309  HA  GLU A 366      14.836  50.815  16.678  1.00  0.00
ATOM   5310 1HB  GLU A 366      15.585  53.525  17.801  1.00  0.00
ATOM   5311 2HB  GLU A 366      14.026  53.156  17.024  1.00  0.00
ATOM   5312 1HG  GLU A 366      13.470  52.873  19.337  1.00  0.00
ATOM   5313 2HG  GLU A 366      13.924  51.262  18.736  1.00  0.00
ATOM   5314  N   ASP A 367      16.808  52.782  15.056  1.00  0.00
ATOM   5315  CA  ASP A 367      17.047  53.334  13.727  1.00  0.00
ATOM   5316  C   ASP A 367      16.677  52.424  12.567  1.00  0.00
ATOM   5317  O   ASP A 367      17.120  51.280  12.486  1.00  0.00
ATOM   5318  CB  ASP A 367      18.520  53.729  13.599  1.00  0.00
ATOM   5319  CG  ASP A 367      18.911  54.967  14.394  1.00  0.00
ATOM   5320  OD1 ASP A 367      18.035  55.616  14.915  1.00  0.00
ATOM   5321  OD2 ASP A 367      20.083  55.166  14.607  1.00  0.00
ATOM   5322  H   ASP A 367      17.526  52.868  15.761  1.00  0.00
ATOM   5323  HA  ASP A 367      16.425  54.217  13.576  1.00  0.00
ATOM   5324 1HB  ASP A 367      19.209  52.916  13.831  1.00  0.00
ATOM   5325 2HB  ASP A 367      18.566  53.953  12.533  1.00  0.00
ATOM   5326  N   GLY A 368      15.854  52.955  11.670  1.00  0.00
ATOM   5327  CA  GLY A 368      15.423  52.206  10.510  1.00  0.00
ATOM   5328  C   GLY A 368      15.320  53.130   9.316  1.00  0.00
ATOM   5329  O   GLY A 368      15.651  54.309   9.414  1.00  0.00
ATOM   5330  H   GLY A 368      15.521  53.900  11.797  1.00  0.00
ATOM   5331 1HA  GLY A 368      16.148  51.418  10.305  1.00  0.00
ATOM   5332 2HA  GLY A 368      14.451  51.759  10.715  1.00  0.00
ATOM   5333  N   ALA A 369      14.864  52.597   8.189  1.00  0.00
ATOM   5334  CA  ALA A 369      14.718  53.383   6.968  1.00  0.00
ATOM   5335  C   ALA A 369      13.421  54.197   6.981  1.00  0.00
ATOM   5336  O   ALA A 369      13.449  55.427   7.001  1.00  0.00
ATOM   5337  CB  ALA A 369      14.764  52.484   5.730  1.00  0.00
ATOM   5338  H   ALA A 369      14.611  51.619   8.178  1.00  0.00
ATOM   5339  HA  ALA A 369      15.543  54.092   6.908  1.00  0.00
ATOM   5340 1HB  ALA A 369      14.653  53.095   4.834  1.00  0.00
ATOM   5341 2HB  ALA A 369      15.719  51.960   5.696  1.00  0.00
ATOM   5342 3HB  ALA A 369      13.953  51.759   5.777  1.00  0.00
ATOM   5343  N   GLY A 370      12.286  53.505   6.961  1.00  0.00
ATOM   5344  CA  GLY A 370      11.002  54.179   6.972  1.00  0.00
ATOM   5345  C   GLY A 370      10.038  53.456   7.886  1.00  0.00
ATOM   5346  O   GLY A 370      10.388  53.113   9.012  1.00  0.00
ATOM   5347  H   GLY A 370      12.312  52.496   6.938  1.00  0.00
ATOM   5348 1HA  GLY A 370      11.139  55.201   7.324  1.00  0.00
ATOM   5349 2HA  GLY A 370      10.600  54.196   5.960  1.00  0.00
ATOM   5350  N   THR A 371       8.822  53.221   7.402  1.00  0.00
ATOM   5351  CA  THR A 371       7.804  52.525   8.184  1.00  0.00
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ATOM   5352  C   THR A 371       6.769  51.866   7.263  1.00  0.00
ATOM   5353  O   THR A 371       6.282  52.490   6.317  1.00  0.00
ATOM   5354  CB  THR A 371       7.086  53.480   9.156  1.00  0.00
ATOM   5355  OG1 THR A 371       6.091  52.757   9.892  1.00  0.00
ATOM   5356  CG2 THR A 371       6.422  54.617   8.394  1.00  0.00
ATOM   5357  H   THR A 371       8.597  53.533   6.468  1.00  0.00
ATOM   5358  HA  THR A 371       8.266  51.723   8.760  1.00  0.00
ATOM   5359  HB  THR A 371       7.816  53.889   9.854  1.00  0.00
ATOM   5360  HG1 THR A 371       5.451  52.383   9.282  1.00  0.00
ATOM   5361 1HG2 THR A 371       5.921  55.281   9.098  1.00  0.00
ATOM   5362 2HG2 THR A 371       7.179  55.175   7.842  1.00  0.00
ATOM   5363 3HG2 THR A 371       5.692  54.208   7.697  1.00  0.00
ATOM   5364  N   THR A 372       6.445  50.605   7.546  1.00  0.00
ATOM   5365  CA  THR A 372       5.473  49.842   6.759  1.00  0.00
ATOM   5366  C   THR A 372       5.518  50.184   5.268  1.00  0.00
ATOM   5367  O   THR A 372       6.522  49.946   4.592  1.00  0.00
ATOM   5368  CB  THR A 372       4.040  50.072   7.274  1.00  0.00
ATOM   5369  OG1 THR A 372       3.690  51.454   7.117  1.00  0.00
ATOM   5370  CG2 THR A 372       3.933  49.689   8.742  1.00  0.00
ATOM   5371  H   THR A 372       6.892  50.164   8.337  1.00  0.00
ATOM   5372  HA  THR A 372       5.703  48.778   6.819  1.00  0.00
ATOM   5373  HB  THR A 372       3.351  49.463   6.689  1.00  0.00
ATOM   5374  HG1 THR A 372       3.737  51.692   6.188  1.00  0.00
ATOM   5375 1HG2 THR A 372       2.913  49.859   9.088  1.00  0.00
ATOM   5376 2HG2 THR A 372       4.188  48.637   8.863  1.00  0.00
ATOM   5377 3HG2 THR A 372       4.621  50.299   9.327  1.00  0.00
ATOM   5378  N   HIS A 373      -9.014  42.039   6.802  1.00  0.00
ATOM   5379  CA  HIS A 373      -9.947  41.418   7.740  1.00  0.00
ATOM   5380  C   HIS A 373      -9.490  39.989   8.008  1.00  0.00
ATOM   5381  O   HIS A 373      -9.156  39.260   7.072  1.00  0.00
ATOM   5382  CB  HIS A 373     -11.380  41.433   7.198  1.00  0.00
ATOM   5383  CG  HIS A 373     -12.381  40.819   8.127  1.00  0.00
ATOM   5384  ND1 HIS A 373     -12.744  41.406   9.321  1.00  0.00
ATOM   5385  CD2 HIS A 373     -13.094  39.672   8.038  1.00  0.00
ATOM   5386  CE1 HIS A 373     -13.640  40.645   9.926  1.00  0.00
ATOM   5387  NE2 HIS A 373     -13.868  39.588   9.169  1.00  0.00
ATOM   5388  H   HIS A 373      -9.232  42.035   5.816  1.00  0.00
ATOM   5389  HA  HIS A 373      -9.933  41.961   8.684  1.00  0.00
ATOM   5390 1HB  HIS A 373     -11.706  42.458   7.022  1.00  0.00
ATOM   5391 2HB  HIS A 373     -11.434  40.871   6.265  1.00  0.00
ATOM   5392  HD1 HIS A 373     -12.453  42.304   9.651  1.00  0.00
ATOM   5393  HD2 HIS A 373     -13.142  38.886   7.284  1.00  0.00
ATOM   5394  HE1 HIS A 373     -14.056  40.938  10.890  1.00  0.00
ATOM   5395  N   LEU A 374      -9.501  39.583   9.275  1.00  0.00
ATOM   5396  CA  LEU A 374      -9.041  38.249   9.663  1.00  0.00
ATOM   5397  C   LEU A 374      -7.513  38.224   9.603  1.00  0.00
ATOM   5398  O   LEU A 374      -6.910  38.468   8.562  1.00  0.00
ATOM   5399  CB  LEU A 374      -9.685  37.070   8.916  1.00  0.00
ATOM   5400  CG  LEU A 374     -11.178  36.932   9.213  1.00  0.00
ATOM   5401  CD1 LEU A 374     -11.829  35.842   8.361  1.00  0.00
ATOM   5402  CD2 LEU A 374     -11.442  36.737  10.707  1.00  0.00
ATOM   5403  H   LEU A 374      -9.837  40.214   9.988  1.00  0.00
ATOM   5404  HA  LEU A 374      -9.343  38.043  10.689  1.00  0.00
ATOM   5405 1HB  LEU A 374      -9.520  37.398   7.891  1.00  0.00
ATOM   5406 2HB  LEU A 374      -9.146  36.139   9.090  1.00  0.00
ATOM   5407  HG  LEU A 374     -11.653  37.871   8.928  1.00  0.00
ATOM   5408 1HD1 LEU A 374     -12.890  35.776   8.602  1.00  0.00
ATOM   5409 2HD1 LEU A 374     -11.713  36.087   7.305  1.00  0.00
ATOM   5410 3HD1 LEU A 374     -11.350  34.885   8.567  1.00  0.00
ATOM   5411 1HD2 LEU A 374     -12.515  36.644  10.877  1.00  0.00
ATOM   5412 2HD2 LEU A 374     -10.939  35.833  11.051  1.00  0.00
ATOM   5413 3HD2 LEU A 374     -11.061  37.596  11.259  1.00  0.00
ATOM   5414  N   THR A 375      -6.887  37.924  10.731  1.00  0.00
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ATOM   5415  CA  THR A 375      -5.443  37.884  10.797  1.00  0.00
ATOM   5416  C   THR A 375      -4.995  36.583  11.425  1.00  0.00
ATOM   5417  O   THR A 375      -5.788  35.655  11.586  1.00  0.00
ATOM   5418  CB  THR A 375      -4.872  39.066  11.602  1.00  0.00
ATOM   5419  OG1 THR A 375      -5.288  38.961  12.970  1.00  0.00
ATOM   5420  CG2 THR A 375      -5.359  40.387  11.029  1.00  0.00
ATOM   5421  H   THR A 375      -7.423  37.719  11.562  1.00  0.00
ATOM   5422  HA  THR A 375      -5.027  37.919   9.790  1.00  0.00
ATOM   5423  HB  THR A 375      -3.783  39.031  11.559  1.00  0.00
ATOM   5424  HG1 THR A 375      -4.930  39.698  13.470  1.00  0.00
ATOM   5425 1HG2 THR A 375      -4.944  41.210  11.611  1.00  0.00
ATOM   5426 2HG2 THR A 375      -5.034  40.475   9.992  1.00  0.00
ATOM   5427 3HG2 THR A 375      -6.446  40.423  11.072  1.00  0.00
ATOM   5428  N   PHE A 376      -3.715  36.531  11.778  1.00  0.00
ATOM   5429  CA  PHE A 376      -3.120  35.357  12.392  1.00  0.00
ATOM   5430  C   PHE A 376      -2.317  35.783  13.625  1.00  0.00
ATOM   5431  O   PHE A 376      -1.516  36.714  13.573  1.00  0.00
ATOM   5432  CB  PHE A 376      -2.230  34.614  11.394  1.00  0.00
ATOM   5433  CG  PHE A 376      -1.581  33.383  11.959  1.00  0.00
ATOM   5434  CD1 PHE A 376      -2.303  32.209  12.111  1.00  0.00
ATOM   5435  CD2 PHE A 376      -0.248  33.397  12.342  1.00  0.00
ATOM   5436  CE1 PHE A 376      -1.707  31.075  12.631  1.00  0.00
ATOM   5437  CE2 PHE A 376       0.350  32.266  12.861  1.00  0.00
ATOM   5438  CZ  PHE A 376      -0.381  31.104  13.006  1.00  0.00
ATOM   5439  H   PHE A 376      -3.139  37.343  11.610  1.00  0.00
ATOM   5440  HA  PHE A 376      -3.904  34.677  12.727  1.00  0.00
ATOM   5441 1HB  PHE A 376      -2.817  34.291  10.536  1.00  0.00
ATOM   5442 2HB  PHE A 376      -1.423  35.264  11.056  1.00  0.00
ATOM   5443  HD1 PHE A 376      -3.352  32.186  11.813  1.00  0.00
ATOM   5444  HD2 PHE A 376       0.329  34.315  12.228  1.00  0.00
ATOM   5445  HE1 PHE A 376      -2.286  30.159  12.745  1.00  0.00
ATOM   5446  HE2 PHE A 376       1.399  32.290  13.157  1.00  0.00
ATOM   5447  HZ  PHE A 376       0.089  30.211  13.418  1.00  0.00
ATOM   5448  N   PRO A 377      -2.537  35.107  14.760  1.00  0.00
ATOM   5449  CA  PRO A 377      -1.823  35.428  16.004  1.00  0.00
ATOM   5450  C   PRO A 377      -0.354  35.028  15.916  1.00  0.00
ATOM   5451  O   PRO A 377      -0.028  33.977  15.364  1.00  0.00
ATOM   5452  CB  PRO A 377      -2.569  34.637  17.083  1.00  0.00
ATOM   5453  CG  PRO A 377      -3.186  33.496  16.348  1.00  0.00
ATOM   5454  CD  PRO A 377      -3.521  34.036  14.983  1.00  0.00
ATOM   5455  HA  PRO A 377      -1.812  36.506  16.222  1.00  0.00
ATOM   5456 1HB  PRO A 377      -1.885  34.282  17.868  1.00  0.00
ATOM   5457 2HB  PRO A 377      -3.335  35.253  17.578  1.00  0.00
ATOM   5458 1HG  PRO A 377      -2.491  32.646  16.277  1.00  0.00
ATOM   5459 2HG  PRO A 377      -4.088  33.133  16.862  1.00  0.00
ATOM   5460 1HD  PRO A 377      -3.428  33.271  14.199  1.00  0.00
ATOM   5461 2HD  PRO A 377      -4.549  34.425  14.931  1.00  0.00
ATOM   5462  N   LEU A 378       0.536  35.852  16.458  1.00  0.00
ATOM   5463  CA  LEU A 378       1.949  35.503  16.438  1.00  0.00
ATOM   5464  C   LEU A 378       2.804  36.310  17.402  1.00  0.00
ATOM   5465  O   LEU A 378       2.956  37.522  17.262  1.00  0.00
ATOM   5466  CB  LEU A 378       2.539  35.605  15.032  1.00  0.00
ATOM   5467  CG  LEU A 378       3.923  34.965  14.971  1.00  0.00
ATOM   5468  CD1 LEU A 378       3.882  33.495  15.390  1.00  0.00
ATOM   5469  CD2 LEU A 378       4.573  35.164  13.607  1.00  0.00
ATOM   5470  H   LEU A 378       0.250  36.721  16.886  1.00  0.00
ATOM   5471  HA  LEU A 378       2.074  34.469  16.759  1.00  0.00
ATOM   5472 1HB  LEU A 378       1.802  35.016  14.488  1.00  0.00
ATOM   5473 2HB  LEU A 378       2.529  36.631  14.663  1.00  0.00
ATOM   5474  HG  LEU A 378       4.550  35.480  15.699  1.00  0.00
ATOM   5475 1HD1 LEU A 378       4.885  33.072  15.334  1.00  0.00
ATOM   5476 2HD1 LEU A 378       3.513  33.418  16.413  1.00  0.00
ATOM   5477 3HD1 LEU A 378       3.220  32.945  14.723  1.00  0.00
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ATOM   5478 1HD2 LEU A 378       5.558  34.695  13.602  1.00  0.00
ATOM   5479 2HD2 LEU A 378       3.950  34.709  12.837  1.00  0.00
ATOM   5480 3HD2 LEU A 378       4.678  36.230  13.406  1.00  0.00
ATOM   5481  N   ASP A 379       3.359  35.615  18.387  1.00  0.00
ATOM   5482  CA  ASP A 379       4.218  36.229  19.387  1.00  0.00
ATOM   5483  C   ASP A 379       5.676  35.871  19.160  1.00  0.00
ATOM   5484  O   ASP A 379       6.021  34.697  18.993  1.00  0.00
ATOM   5485  CB  ASP A 379       3.788  35.807  20.794  1.00  0.00
ATOM   5486  CG  ASP A 379       2.413  36.314  21.210  1.00  0.00
ATOM   5487  OD1 ASP A 379       2.178  37.494  21.097  1.00  0.00
ATOM   5488  OD2 ASP A 379       1.562  35.503  21.487  1.00  0.00
ATOM   5489  H   ASP A 379       3.174  34.623  18.439  1.00  0.00
ATOM   5490  HA  ASP A 379       4.153  37.315  19.313  1.00  0.00
ATOM   5491 1HB  ASP A 379       3.843  34.731  20.961  1.00  0.00
ATOM   5492 2HB  ASP A 379       4.554  36.308  21.387  1.00  0.00
ATOM   5493  N   TYR A 380       6.534  36.881  19.138  1.00  0.00
ATOM   5494  CA  TYR A 380       7.955  36.631  18.987  1.00  0.00
ATOM   5495  C   TYR A 380       8.684  37.574  19.927  1.00  0.00
ATOM   5496  O   TYR A 380       9.085  38.678  19.548  1.00  0.00
ATOM   5497  CB  TYR A 380       8.381  36.824  17.533  1.00  0.00
ATOM   5498  CG  TYR A 380       9.714  36.148  17.354  1.00  0.00
ATOM   5499  CD1 TYR A 380       9.765  34.772  17.170  1.00  0.00
ATOM   5500  CD2 TYR A 380      10.884  36.893  17.399  1.00  0.00
ATOM   5501  CE1 TYR A 380      10.994  34.133  17.073  1.00  0.00
ATOM   5502  CE2 TYR A 380      12.110  36.254  17.306  1.00  0.00
ATOM   5503  CZ  TYR A 380      12.164  34.875  17.165  1.00  0.00
ATOM   5504  OH  TYR A 380      13.386  34.244  17.126  1.00  0.00
ATOM   5505  H   TYR A 380       6.209  37.833  19.226  1.00  0.00
ATOM   5506  HA  TYR A 380       8.182  35.603  19.270  1.00  0.00
ATOM   5507 1HB  TYR A 380       7.603  36.384  16.907  1.00  0.00
ATOM   5508 2HB  TYR A 380       8.430  37.897  17.351  1.00  0.00
ATOM   5509  HD1 TYR A 380       8.830  34.215  17.106  1.00  0.00
ATOM   5510  HD2 TYR A 380      10.815  37.975  17.509  1.00  0.00
ATOM   5511  HE1 TYR A 380      11.044  33.054  16.929  1.00  0.00
ATOM   5512  HE2 TYR A 380      13.032  36.835  17.344  1.00  0.00
ATOM   5513  HH  TYR A 380      14.125  34.852  17.204  1.00  0.00
ATOM   5514  N   HIS A 381       8.825  37.126  21.170  1.00  0.00
ATOM   5515  CA  HIS A 381       9.494  37.900  22.197  1.00  0.00
ATOM   5516  C   HIS A 381      10.855  37.311  22.539  1.00  0.00
ATOM   5517  O   HIS A 381      10.957  36.202  23.067  1.00  0.00
ATOM   5518  CB  HIS A 381       8.627  37.983  23.457  1.00  0.00
ATOM   5519  CG  HIS A 381       7.223  38.433  23.193  1.00  0.00
ATOM   5520  ND1 HIS A 381       6.894  39.753  22.971  1.00  0.00
ATOM   5521  CD2 HIS A 381       6.064  37.738  23.115  1.00  0.00
ATOM   5522  CE1 HIS A 381       5.592  39.851  22.767  1.00  0.00
ATOM   5523  NE2 HIS A 381       5.066  38.643  22.850  1.00  0.00
ATOM   5524  H   HIS A 381       8.453  36.217  21.403  1.00  0.00
ATOM   5525  HA  HIS A 381       9.680  38.910  21.832  1.00  0.00
ATOM   5526 1HB  HIS A 381       8.556  37.004  23.931  1.00  0.00
ATOM   5527 2HB  HIS A 381       9.055  38.696  24.161  1.00  0.00
ATOM   5528  HD2 HIS A 381       5.827  36.679  23.222  1.00  0.00
ATOM   5529  HE1 HIS A 381       5.132  40.819  22.571  1.00  0.00
ATOM   5530  HE2 HIS A 381       4.089  38.412  22.738  1.00  0.00
ATOM   5531  N   LEU A 382      11.894  38.075  22.221  1.00  0.00
ATOM   5532  CA  LEU A 382      13.266  37.698  22.488  1.00  0.00
ATOM   5533  C   LEU A 382      13.628  38.173  23.887  1.00  0.00
ATOM   5534  O   LEU A 382      14.425  39.100  24.053  1.00  0.00
ATOM   5535  CB  LEU A 382      14.212  38.293  21.438  1.00  0.00
ATOM   5536  CG  LEU A 382      14.042  37.740  20.017  1.00  0.00
ATOM   5537  CD1 LEU A 382      14.887  38.544  19.039  1.00  0.00
ATOM   5538  CD2 LEU A 382      14.438  36.272  19.992  1.00  0.00
ATOM   5539  H   LEU A 382      11.705  38.960  21.772  1.00  0.00
ATOM   5540  HA  LEU A 382      13.358  36.613  22.462  1.00  0.00
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ATOM   5541 1HB  LEU A 382      13.888  39.332  21.476  1.00  0.00
ATOM   5542 2HB  LEU A 382      15.254  38.227  21.749  1.00  0.00
ATOM   5543  HG  LEU A 382      12.982  37.803  19.770  1.00  0.00
ATOM   5544 1HD1 LEU A 382      14.759  38.144  18.033  1.00  0.00
ATOM   5545 2HD1 LEU A 382      14.570  39.587  19.056  1.00  0.00
ATOM   5546 3HD1 LEU A 382      15.936  38.478  19.325  1.00  0.00
ATOM   5547 1HD2 LEU A 382      14.316  35.879  18.982  1.00  0.00
ATOM   5548 2HD2 LEU A 382      15.480  36.170  20.298  1.00  0.00
ATOM   5549 3HD2 LEU A 382      13.803  35.711  20.678  1.00  0.00
ATOM   5550  N   ASN A 383      13.031  37.539  24.889  1.00  0.00
ATOM   5551  CA  ASN A 383      13.279  37.893  26.278  1.00  0.00
ATOM   5552  C   ASN A 383      13.921  36.731  27.023  1.00  0.00
ATOM   5553  O   ASN A 383      13.705  36.533  28.218  1.00  0.00
ATOM   5554  CB  ASN A 383      12.006  38.331  26.978  1.00  0.00
ATOM   5555  CG  ASN A 383      10.958  37.255  27.057  1.00  0.00
ATOM   5556  OD1 ASN A 383      11.105  36.173  26.478  1.00  0.00
ATOM   5557  ND2 ASN A 383       9.866  37.577  27.704  1.00  0.00
ATOM   5558  H   ASN A 383      12.387  36.790  24.680  1.00  0.00
ATOM   5559  HA  ASN A 383      13.982  38.726  26.328  1.00  0.00
ATOM   5560 1HB  ASN A 383      12.046  38.862  27.930  1.00  0.00
ATOM   5561 2HB  ASN A 383      11.734  39.028  26.185  1.00  0.00
ATOM   5562 1HD2 ASN A 383       9.126  36.910  27.797  1.00  0.00
ATOM   5563 2HD2 ASN A 383       9.772  38.488  28.104  1.00  0.00
ATOM   5564  N   GLN A 384      14.702  35.952  26.289  1.00  0.00
ATOM   5565  CA  GLN A 384      15.405  34.813  26.853  1.00  0.00
ATOM   5566  C   GLN A 384      16.569  34.508  25.914  1.00  0.00
ATOM   5567  O   GLN A 384      16.579  34.954  24.757  1.00  0.00
ATOM   5568  CB  GLN A 384      14.486  33.597  26.998  1.00  0.00
ATOM   5569  CG  GLN A 384      13.798  33.180  25.710  1.00  0.00
ATOM   5570  CD  GLN A 384      12.906  31.967  25.897  1.00  0.00
ATOM   5571  OE1 GLN A 384      11.771  32.080  26.368  1.00  0.00
ATOM   5572  NE2 GLN A 384      13.416  30.796  25.533  1.00  0.00
ATOM   5573  H   GLN A 384      14.810  36.159  25.306  1.00  0.00
ATOM   5574  HA  GLN A 384      15.795  35.075  27.836  1.00  0.00
ATOM   5575 1HB  GLN A 384      15.102  32.779  27.370  1.00  0.00
ATOM   5576 2HB  GLN A 384      13.737  33.857  27.748  1.00  0.00
ATOM   5577 1HG  GLN A 384      13.273  33.885  25.066  1.00  0.00
ATOM   5578 2HG  GLN A 384      14.718  32.859  25.221  1.00  0.00
ATOM   5579 1HE2 GLN A 384      12.875  29.961  25.633  1.00  0.00
ATOM   5580 2HE2 GLN A 384      14.342  30.749  25.158  1.00  0.00
ATOM   5581  N   PRO A 385      17.567  33.752  26.399  1.00  0.00
ATOM   5582  CA  PRO A 385      18.743  33.393  25.595  1.00  0.00
ATOM   5583  C   PRO A 385      18.402  32.978  24.161  1.00  0.00
ATOM   5584  O   PRO A 385      17.545  32.120  23.942  1.00  0.00
ATOM   5585  CB  PRO A 385      19.409  32.290  26.418  1.00  0.00
ATOM   5586  CG  PRO A 385      19.110  32.690  27.857  1.00  0.00
ATOM   5587  CD  PRO A 385      17.683  33.210  27.752  1.00  0.00
ATOM   5588  HA  PRO A 385      19.439  34.234  25.459  1.00  0.00
ATOM   5589 1HB  PRO A 385      18.994  31.300  26.176  1.00  0.00
ATOM   5590 2HB  PRO A 385      20.491  32.241  26.226  1.00  0.00
ATOM   5591 1HG  PRO A 385      19.200  31.829  28.536  1.00  0.00
ATOM   5592 2HG  PRO A 385      19.816  33.455  28.212  1.00  0.00
ATOM   5593 1HD  PRO A 385      16.938  32.415  27.905  1.00  0.00
ATOM   5594 2HD  PRO A 385      17.471  33.995  28.492  1.00  0.00
ATOM   5595  N   PHE A 386      19.075  33.599  23.194  1.00  0.00
ATOM   5596  CA  PHE A 386      18.859  33.300  21.780  1.00  0.00
ATOM   5597  C   PHE A 386      20.135  33.447  20.965  1.00  0.00
ATOM   5598  O   PHE A 386      21.165  33.892  21.459  1.00  0.00
ATOM   5599  CB  PHE A 386      17.769  34.207  21.206  1.00  0.00
ATOM   5600  CG  PHE A 386      18.121  35.668  21.232  1.00  0.00
ATOM   5601  CD1 PHE A 386      18.892  36.228  20.225  1.00  0.00
ATOM   5602  CD2 PHE A 386      17.682  36.483  22.264  1.00  0.00
ATOM   5603  CE1 PHE A 386      19.216  37.572  20.248  1.00  0.00
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ATOM   5604  CE2 PHE A 386      18.003  37.827  22.290  1.00  0.00
ATOM   5605  CZ  PHE A 386      18.771  38.371  21.280  1.00  0.00
ATOM   5606  H   PHE A 386      19.756  34.299  23.450  1.00  0.00
ATOM   5607  HA  PHE A 386      18.546  32.261  21.665  1.00  0.00
ATOM   5608 1HB  PHE A 386      17.578  33.952  20.165  1.00  0.00
ATOM   5609 2HB  PHE A 386      16.850  34.098  21.781  1.00  0.00
ATOM   5610  HD1 PHE A 386      19.242  35.597  19.409  1.00  0.00
ATOM   5611  HD2 PHE A 386      17.075  36.053  23.062  1.00  0.00
ATOM   5612  HE1 PHE A 386      19.823  37.999  19.451  1.00  0.00
ATOM   5613  HE2 PHE A 386      17.651  38.457  23.106  1.00  0.00
ATOM   5614  HZ  PHE A 386      19.027  39.429  21.300  1.00  0.00
ATOM   5615  N   ILE A 387      20.041  33.072  19.698  1.00  0.00
ATOM   5616  CA  ILE A 387      21.156  33.139  18.762  1.00  0.00
ATOM   5617  C   ILE A 387      20.689  33.926  17.529  1.00  0.00
ATOM   5618  O   ILE A 387      19.579  33.718  17.034  1.00  0.00
ATOM   5619  CB  ILE A 387      21.652  31.743  18.343  1.00  0.00
ATOM   5620  CG1 ILE A 387      22.147  30.964  19.565  1.00  0.00
ATOM   5621  CG2 ILE A 387      22.753  31.860  17.301  1.00  0.00
ATOM   5622  CD1 ILE A 387      22.442  29.508  19.282  1.00  0.00
ATOM   5623  H   ILE A 387      19.149  32.725  19.376  1.00  0.00
ATOM   5624  HA  ILE A 387      21.987  33.696  19.194  1.00  0.00
ATOM   5625  HB  ILE A 387      20.817  31.179  17.929  1.00  0.00
ATOM   5626 1HG1 ILE A 387      23.053  31.456  19.918  1.00  0.00
ATOM   5627 2HG1 ILE A 387      21.374  31.035  20.330  1.00  0.00
ATOM   5628 1HG2 ILE A 387      23.092  30.864  17.016  1.00  0.00
ATOM   5629 2HG2 ILE A 387      22.368  32.376  16.422  1.00  0.00
ATOM   5630 3HG2 ILE A 387      23.589  32.423  17.715  1.00  0.00
ATOM   5631 1HD1 ILE A 387      22.788  29.023  20.195  1.00  0.00
ATOM   5632 2HD1 ILE A 387      21.536  29.014  18.930  1.00  0.00
ATOM   5633 3HD1 ILE A 387      23.216  29.435  18.519  1.00  0.00
ATOM   5634  N   PHE A 388      21.506  34.853  17.048  1.00  0.00
ATOM   5635  CA  PHE A 388      21.121  35.592  15.852  1.00  0.00
ATOM   5636  C   PHE A 388      22.241  35.452  14.844  1.00  0.00
ATOM   5637  O   PHE A 388      23.402  35.300  15.211  1.00  0.00
ATOM   5638  CB  PHE A 388      20.850  37.065  16.164  1.00  0.00
ATOM   5639  CG  PHE A 388      22.091  37.865  16.438  1.00  0.00
ATOM   5640  CD1 PHE A 388      22.761  38.509  15.408  1.00  0.00
ATOM   5641  CD2 PHE A 388      22.593  37.975  17.727  1.00  0.00
ATOM   5642  CE1 PHE A 388      23.903  39.245  15.660  1.00  0.00
ATOM   5643  CE2 PHE A 388      23.734  38.711  17.981  1.00  0.00
ATOM   5644  CZ  PHE A 388      24.390  39.346  16.946  1.00  0.00
ATOM   5645  H   PHE A 388      22.390  35.060  17.491  1.00  0.00
ATOM   5646  HA  PHE A 388      20.212  35.163  15.429  1.00  0.00
ATOM   5647 1HB  PHE A 388      20.352  37.542  15.321  1.00  0.00
ATOM   5648 2HB  PHE A 388      20.222  37.150  17.050  1.00  0.00
ATOM   5649  HD1 PHE A 388      22.375  38.429  14.391  1.00  0.00
ATOM   5650  HD2 PHE A 388      22.075  37.472  18.544  1.00  0.00
ATOM   5651  HE1 PHE A 388      24.419  39.745  14.841  1.00  0.00
ATOM   5652  HE2 PHE A 388      24.117  38.790  18.998  1.00  0.00
ATOM   5653  HZ  PHE A 388      25.290  39.925  17.144  1.00  0.00
ATOM   5654  N   VAL A 389      21.887  35.492  13.570  1.00  0.00
ATOM   5655  CA  VAL A 389      22.865  35.351  12.516  1.00  0.00
ATOM   5656  C   VAL A 389      22.667  36.460  11.515  1.00  0.00
ATOM   5657  O   VAL A 389      21.639  36.505  10.845  1.00  0.00
ATOM   5658  CB  VAL A 389      22.763  33.988  11.806  1.00  0.00
ATOM   5659  CG1 VAL A 389      23.796  33.889  10.693  1.00  0.00
ATOM   5660  CG2 VAL A 389      22.945  32.853  12.802  1.00  0.00
ATOM   5661  H   VAL A 389      20.916  35.623  13.326  1.00  0.00
ATOM   5662  HA  VAL A 389      23.880  35.461  12.900  1.00  0.00
ATOM   5663  HB  VAL A 389      21.763  33.882  11.384  1.00  0.00
ATOM   5664 1HG1 VAL A 389      23.709  32.920  10.201  1.00  0.00
ATOM   5665 2HG1 VAL A 389      23.623  34.681   9.964  1.00  0.00
ATOM   5666 3HG1 VAL A 389      24.795  33.993  11.114  1.00  0.00
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ATOM   5667 1HG2 VAL A 389      22.869  31.898  12.283  1.00  0.00
ATOM   5668 2HG2 VAL A 389      23.925  32.935  13.271  1.00  0.00
ATOM   5669 3HG2 VAL A 389      22.170  32.912  13.567  1.00  0.00
ATOM   5670  N   LEU A 390      23.645  37.363  11.436  1.00  0.00
ATOM   5671  CA  LEU A 390      23.608  38.487  10.502  1.00  0.00
ATOM   5672  C   LEU A 390      24.131  37.931   9.186  1.00  0.00
ATOM   5673  O   LEU A 390      25.302  37.592   9.080  1.00  0.00
ATOM   5674  CB  LEU A 390      24.450  39.671  10.994  1.00  0.00
ATOM   5675  CG  LEU A 390      24.626  40.812   9.985  1.00  0.00
ATOM   5676  CD1 LEU A 390      23.306  41.547   9.793  1.00  0.00
ATOM   5677  CD2 LEU A 390      25.706  41.764  10.475  1.00  0.00
ATOM   5678  H   LEU A 390      24.440  37.259  12.050  1.00  0.00
ATOM   5679  HA  LEU A 390      22.581  38.830  10.384  1.00  0.00
ATOM   5680 1HB  LEU A 390      23.827  39.998  11.825  1.00  0.00
ATOM   5681 2HB  LEU A 390      25.419  39.346  11.374  1.00  0.00
ATOM   5682  HG  LEU A 390      24.971  40.368   9.051  1.00  0.00
ATOM   5683 1HD1 LEU A 390      23.440  42.355   9.075  1.00  0.00
ATOM   5684 2HD1 LEU A 390      22.553  40.852   9.420  1.00  0.00
ATOM   5685 3HD1 LEU A 390      22.978  41.960  10.746  1.00  0.00
ATOM   5686 1HD2 LEU A 390      25.830  42.574   9.756  1.00  0.00
ATOM   5687 2HD2 LEU A 390      25.417  42.176  11.442  1.00  0.00
ATOM   5688 3HD2 LEU A 390      26.648  41.224  10.578  1.00  0.00
ATOM   5689  N   ARG A 391      23.268  37.836   8.184  1.00  0.00
ATOM   5690  CA  ARG A 391      23.677  37.275   6.904  1.00  0.00
ATOM   5691  C   ARG A 391      23.539  38.258   5.748  1.00  0.00
ATOM   5692  O   ARG A 391      22.683  39.146   5.778  1.00  0.00
ATOM   5693  CB  ARG A 391      22.944  35.976   6.605  1.00  0.00
ATOM   5694  CG  ARG A 391      21.432  36.100   6.516  1.00  0.00
ATOM   5695  CD  ARG A 391      20.746  34.885   6.006  1.00  0.00
ATOM   5696  NE  ARG A 391      20.912  34.653   4.580  1.00  0.00
ATOM   5697  CZ  ARG A 391      20.129  35.187   3.622  1.00  0.00
ATOM   5698  NH1 ARG A 391      19.105  35.950   3.932  1.00  0.00
ATOM   5699  NH2 ARG A 391      20.403  34.902   2.361  1.00  0.00
ATOM   5700  H   ARG A 391      22.316  38.153   8.301  1.00  0.00
ATOM   5701  HA  ARG A 391      24.736  37.016   6.936  1.00  0.00
ATOM   5702 1HB  ARG A 391      23.331  35.604   5.657  1.00  0.00
ATOM   5703 2HB  ARG A 391      23.200  35.276   7.400  1.00  0.00
ATOM   5704 1HG  ARG A 391      21.042  36.312   7.511  1.00  0.00
ATOM   5705 2HG  ARG A 391      21.191  36.928   5.847  1.00  0.00
ATOM   5706 1HD  ARG A 391      21.139  34.012   6.526  1.00  0.00
ATOM   5707 2HD  ARG A 391      19.678  34.973   6.201  1.00  0.00
ATOM   5708  HE  ARG A 391      21.597  34.090   4.094  1.00  0.00
ATOM   5709 1HH1 ARG A 391      18.897  36.144   4.901  1.00  0.00
ATOM   5710 2HH1 ARG A 391      18.530  36.340   3.199  1.00  0.00
ATOM   5711 1HH2 ARG A 391      21.184  34.298   2.141  1.00  0.00
ATOM   5712 2HH2 ARG A 391      19.832  35.288   1.624  1.00  0.00
ATOM   5713  N   ASP A 392      24.396  38.108   4.738  1.00  0.00
ATOM   5714  CA  ASP A 392      24.325  38.956   3.549  1.00  0.00
ATOM   5715  C   ASP A 392      23.362  38.256   2.601  1.00  0.00
ATOM   5716  O   ASP A 392      23.558  37.085   2.276  1.00  0.00
ATOM   5717  CB  ASP A 392      25.657  39.061   2.837  1.00  0.00
ATOM   5718  CG  ASP A 392      25.305  39.854   1.616  1.00  0.00
ATOM   5719  OD1 ASP A 392      25.690  39.484   0.516  1.00  0.00
ATOM   5720  OD2 ASP A 392      24.571  40.816   1.779  1.00  0.00
ATOM   5721  H   ASP A 392      25.110  37.395   4.792  1.00  0.00
ATOM   5722  HA  ASP A 392      23.936  39.938   3.819  1.00  0.00
ATOM   5723 1HB  ASP A 392      26.455  39.458   3.465  1.00  0.00
ATOM   5724 2HB  ASP A 392      25.847  38.007   2.630  1.00  0.00
ATOM   5725  N   THR A 393      22.325  38.969   2.170  1.00  0.00
ATOM   5726  CA  THR A 393      21.308  38.403   1.280  1.00  0.00
ATOM   5727  C   THR A 393      21.779  38.003  -0.117  1.00  0.00
ATOM   5728  O   THR A 393      21.348  36.978  -0.647  1.00  0.00
ATOM   5729  CB  THR A 393      20.139  39.392   1.115  1.00  0.00
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ATOM   5730  OG1 THR A 393      19.525  39.626   2.389  1.00  0.00
ATOM   5731  CG2 THR A 393      19.102  38.835   0.151  1.00  0.00
ATOM   5732  H   THR A 393      22.239  39.930   2.467  1.00  0.00
ATOM   5733  HA  THR A 393      20.935  37.467   1.695  1.00  0.00
ATOM   5734  HB  THR A 393      20.524  40.335   0.728  1.00  0.00
ATOM   5735  HG1 THR A 393      18.796  40.243   2.283  1.00  0.00
ATOM   5736 1HG2 THR A 393      18.284  39.548   0.047  1.00  0.00
ATOM   5737 2HG2 THR A 393      19.564  38.667  -0.822  1.00  0.00
ATOM   5738 3HG2 THR A 393      18.716  37.893   0.538  1.00  0.00
ATOM   5739  N   ASP A 394      22.648  38.815  -0.714  1.00  0.00
ATOM   5740  CA  ASP A 394      23.143  38.555  -2.063  1.00  0.00
ATOM   5741  C   ASP A 394      24.010  37.310  -2.188  1.00  0.00
ATOM   5742  O   ASP A 394      23.723  36.420  -2.994  1.00  0.00
ATOM   5743  CB  ASP A 394      23.930  39.769  -2.565  1.00  0.00
ATOM   5744  CG  ASP A 394      23.072  40.985  -2.885  1.00  0.00
ATOM   5745  OD1 ASP A 394      21.873  40.846  -2.933  1.00  0.00
ATOM   5746  OD2 ASP A 394      23.605  42.069  -2.924  1.00  0.00
ATOM   5747  H   ASP A 394      22.974  39.633  -0.220  1.00  0.00
ATOM   5748  HA  ASP A 394      22.304  38.372  -2.735  1.00  0.00
ATOM   5749 1HB  ASP A 394      24.743  40.063  -1.902  1.00  0.00
ATOM   5750 2HB  ASP A 394      24.341  39.361  -3.488  1.00  0.00
ATOM   5751  N   THR A 395      25.078  37.263  -1.397  1.00  0.00
ATOM   5752  CA  THR A 395      26.011  36.146  -1.411  1.00  0.00
ATOM   5753  C   THR A 395      25.610  35.069  -0.412  1.00  0.00
ATOM   5754  O   THR A 395      25.933  33.901  -0.590  1.00  0.00
ATOM   5755  CB  THR A 395      27.446  36.609  -1.100  1.00  0.00
ATOM   5756  OG1 THR A 395      27.489  37.195   0.208  1.00  0.00
ATOM   5757  CG2 THR A 395      27.911  37.632  -2.125  1.00  0.00
ATOM   5758  H   THR A 395      25.243  38.034  -0.765  1.00  0.00
ATOM   5759  HA  THR A 395      26.001  35.669  -2.392  1.00  0.00
ATOM   5760  HB  THR A 395      28.110  35.745  -1.123  1.00  0.00
ATOM   5761  HG1 THR A 395      26.896  37.950   0.239  1.00  0.00
ATOM   5762 1HG2 THR A 395      28.927  37.947  -1.889  1.00  0.00
ATOM   5763 2HG2 THR A 395      27.890  37.185  -3.119  1.00  0.00
ATOM   5764 3HG2 THR A 395      27.248  38.496  -2.102  1.00  0.00
ATOM   5765  N   GLY A 396      24.907  35.472   0.641  1.00  0.00
ATOM   5766  CA  GLY A 396      24.486  34.532   1.661  1.00  0.00
ATOM   5767  C   GLY A 396      25.570  34.338   2.701  1.00  0.00
ATOM   5768  O   GLY A 396      25.484  33.449   3.539  1.00  0.00
ATOM   5769  H   GLY A 396      24.659  36.446   0.738  1.00  0.00
ATOM   5770 1HA  GLY A 396      23.588  34.913   2.148  1.00  0.00
ATOM   5771 2HA  GLY A 396      24.265  33.574   1.193  1.00  0.00
ATOM   5772  N   ALA A 397      26.592  35.184   2.649  1.00  0.00
ATOM   5773  CA  ALA A 397      27.723  35.114   3.571  1.00  0.00
ATOM   5774  C   ALA A 397      27.394  35.471   5.020  1.00  0.00
ATOM   5775  O   ALA A 397      26.643  36.408   5.297  1.00  0.00
ATOM   5776  CB  ALA A 397      28.859  36.020   3.094  1.00  0.00
ATOM   5777  H   ALA A 397      26.579  35.903   1.940  1.00  0.00
ATOM   5778  HA  ALA A 397      28.081  34.085   3.607  1.00  0.00
ATOM   5779 1HB  ALA A 397      29.693  35.955   3.793  1.00  0.00
ATOM   5780 2HB  ALA A 397      29.189  35.701   2.105  1.00  0.00
ATOM   5781 3HB  ALA A 397      28.507  37.049   3.045  1.00  0.00
ATOM   5782  N   LEU A 398      27.974  34.706   5.938  1.00  0.00
ATOM   5783  CA  LEU A 398      27.795  34.906   7.375  1.00  0.00
ATOM   5784  C   LEU A 398      28.645  36.112   7.760  1.00  0.00
ATOM   5785  O   LEU A 398      29.867  36.038   7.735  1.00  0.00
ATOM   5786  CB  LEU A 398      28.328  33.666   8.099  1.00  0.00
ATOM   5787  CG  LEU A 398      27.811  33.305   9.497  1.00  0.00
ATOM   5788  CD1 LEU A 398      28.725  32.257  10.133  1.00  0.00
ATOM   5789  CD2 LEU A 398      27.626  34.492  10.436  1.00  0.00
ATOM   5790  H   LEU A 398      28.565  33.953   5.616  1.00  0.00
ATOM   5791  HA  LEU A 398      26.748  35.122   7.586  1.00  0.00
ATOM   5792 1HB  LEU A 398      27.993  32.898   7.404  1.00  0.00
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ATOM   5793 2HB  LEU A 398      29.417  33.663   8.146  1.00  0.00
ATOM   5794  HG  LEU A 398      26.817  32.875   9.374  1.00  0.00
ATOM   5795 1HD1 LEU A 398      28.353  32.004  11.126  1.00  0.00
ATOM   5796 2HD1 LEU A 398      28.738  31.361   9.512  1.00  0.00
ATOM   5797 3HD1 LEU A 398      29.735  32.657  10.215  1.00  0.00
ATOM   5798 1HD2 LEU A 398      27.257  34.139  11.399  1.00  0.00
ATOM   5799 2HD2 LEU A 398      28.581  34.998  10.576  1.00  0.00
ATOM   5800 3HD2 LEU A 398      26.906  35.188  10.006  1.00  0.00
ATOM   5801  N   LEU A 399      28.015  37.221   8.120  1.00  0.00
ATOM   5802  CA  LEU A 399      28.775  38.415   8.481  1.00  0.00
ATOM   5803  C   LEU A 399      28.966  38.567   9.982  1.00  0.00
ATOM   5804  O   LEU A 399      29.938  39.184  10.431  1.00  0.00
ATOM   5805  CB  LEU A 399      28.071  39.658   7.943  1.00  0.00
ATOM   5806  CG  LEU A 399      27.660  39.570   6.473  1.00  0.00
ATOM   5807  CD1 LEU A 399      26.884  40.818   6.050  1.00  0.00
ATOM   5808  CD2 LEU A 399      28.841  39.286   5.543  1.00  0.00
ATOM   5809  H   LEU A 399      27.006  37.253   8.149  1.00  0.00
ATOM   5810  HA  LEU A 399      29.780  38.347   8.067  1.00  0.00
ATOM   5811 1HB  LEU A 399      27.190  39.653   8.582  1.00  0.00
ATOM   5812 2HB  LEU A 399      28.650  40.562   8.130  1.00  0.00
ATOM   5813  HG  LEU A 399      26.983  38.721   6.376  1.00  0.00
ATOM   5814 1HD1 LEU A 399      26.602  40.733   5.001  1.00  0.00
ATOM   5815 2HD1 LEU A 399      25.985  40.912   6.660  1.00  0.00
ATOM   5816 3HD1 LEU A 399      27.510  41.699   6.187  1.00  0.00
ATOM   5817 1HD2 LEU A 399      28.488  39.234   4.513  1.00  0.00
ATOM   5818 2HD2 LEU A 399      29.577  40.085   5.635  1.00  0.00
ATOM   5819 3HD2 LEU A 399      29.300  38.336   5.817  1.00  0.00
ATOM   5820  N   PHE A 400      28.052  38.006  10.762  1.00  0.00
ATOM   5821  CA  PHE A 400      28.149  38.124  12.206  1.00  0.00
ATOM   5822  C   PHE A 400      27.285  37.075  12.867  1.00  0.00
ATOM   5823  O   PHE A 400      26.209  36.744  12.380  1.00  0.00
ATOM   5824  CB  PHE A 400      27.673  39.498  12.685  1.00  0.00
ATOM   5825  CG  PHE A 400      28.785  40.321  13.290  1.00  0.00
ATOM   5826  CD1 PHE A 400      29.285  40.003  14.547  1.00  0.00
ATOM   5827  CD2 PHE A 400      29.286  41.420  12.602  1.00  0.00
ATOM   5828  CE1 PHE A 400      30.257  40.808  15.129  1.00  0.00
ATOM   5829  CE2 PHE A 400      30.258  42.225  13.185  1.00  0.00
ATOM   5830  CZ  PHE A 400      30.730  41.930  14.458  1.00  0.00
ATOM   5831  H   PHE A 400      27.281  37.492  10.361  1.00  0.00
ATOM   5832  HA  PHE A 400      29.177  37.947  12.524  1.00  0.00
ATOM   5833 1HB  PHE A 400      27.269  40.068  11.849  1.00  0.00
ATOM   5834 2HB  PHE A 400      26.906  39.383  13.449  1.00  0.00
ATOM   5835  HD1 PHE A 400      28.906  39.120  15.063  1.00  0.00
ATOM   5836  HD2 PHE A 400      28.915  41.651  11.603  1.00  0.00
ATOM   5837  HE1 PHE A 400      30.651  40.560  16.114  1.00  0.00
ATOM   5838  HE2 PHE A 400      30.650  43.087  12.646  1.00  0.00
ATOM   5839  HZ  PHE A 400      31.468  42.577  14.930  1.00  0.00
ATOM   5840  N   ILE A 401      27.755  36.535  13.975  1.00  0.00
ATOM   5841  CA  ILE A 401      26.963  35.556  14.685  1.00  0.00
ATOM   5842  C   ILE A 401      27.111  35.789  16.177  1.00  0.00
ATOM   5843  O   ILE A 401      28.173  36.198  16.656  1.00  0.00
ATOM   5844  CB  ILE A 401      27.379  34.115  14.339  1.00  0.00
ATOM   5845  CG1 ILE A 401      26.415  33.112  14.979  1.00  0.00
ATOM   5846  CG2 ILE A 401      28.806  33.850  14.793  1.00  0.00
ATOM   5847  CD1 ILE A 401      26.565  31.702  14.456  1.00  0.00
ATOM   5848  H   ILE A 401      28.661  36.793  14.339  1.00  0.00
ATOM   5849  HA  ILE A 401      25.904  35.685  14.464  1.00  0.00
ATOM   5850  HB  ILE A 401      27.309  33.974  13.261  1.00  0.00
ATOM   5851 1HG1 ILE A 401      26.600  33.124  16.052  1.00  0.00
ATOM   5852 2HG1 ILE A 401      25.403  33.466  14.782  1.00  0.00
ATOM   5853 1HG2 ILE A 401      29.084  32.826  14.542  1.00  0.00
ATOM   5854 2HG2 ILE A 401      29.482  34.542  14.293  1.00  0.00
ATOM   5855 3HG2 ILE A 401      28.877  33.989  15.872  1.00  0.00
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ATOM   5856 1HD1 ILE A 401      25.849  31.049  14.956  1.00  0.00
ATOM   5857 2HD1 ILE A 401      26.379  31.689  13.382  1.00  0.00
ATOM   5858 3HD1 ILE A 401      27.576  31.346  14.653  1.00  0.00
ATOM   5859  N   GLY A 402      26.035  35.551  16.915  1.00  0.00
ATOM   5860  CA  GLY A 402      26.102  35.747  18.344  1.00  0.00
ATOM   5861  C   GLY A 402      25.144  34.907  19.166  1.00  0.00
ATOM   5862  O   GLY A 402      24.014  34.642  18.747  1.00  0.00
ATOM   5863  H   GLY A 402      25.169  35.236  16.502  1.00  0.00
ATOM   5864 1HA  GLY A 402      27.107  35.506  18.690  1.00  0.00
ATOM   5865 2HA  GLY A 402      25.881  36.789  18.571  1.00  0.00
ATOM   5866  N   LYS A 403      25.616  34.474  20.334  1.00  0.00
ATOM   5867  CA  LYS A 403      24.816  33.703  21.279  1.00  0.00
ATOM   5868  C   LYS A 403      24.583  34.713  22.395  1.00  0.00
ATOM   5869  O   LYS A 403      25.517  35.075  23.091  1.00  0.00
ATOM   5870  CB  LYS A 403      25.524  32.441  21.774  1.00  0.00
ATOM   5871  CG  LYS A 403      24.693  31.583  22.718  1.00  0.00
ATOM   5872  CD  LYS A 403      25.324  30.213  22.922  1.00  0.00
ATOM   5873  CE  LYS A 403      24.509  29.366  23.888  1.00  0.00
ATOM   5874  NZ  LYS A 403      25.133  28.035  24.122  1.00  0.00
ATOM   5875  H   LYS A 403      26.574  34.695  20.566  1.00  0.00
ATOM   5876  HA  LYS A 403      23.886  33.388  20.804  1.00  0.00
ATOM   5877 1HB  LYS A 403      25.789  31.857  20.892  1.00  0.00
ATOM   5878 2HB  LYS A 403      26.433  32.762  22.283  1.00  0.00
ATOM   5879 1HG  LYS A 403      24.619  32.096  23.678  1.00  0.00
ATOM   5880 2HG  LYS A 403      23.697  31.464  22.293  1.00  0.00
ATOM   5881 1HD  LYS A 403      25.382  29.711  21.956  1.00  0.00
ATOM   5882 2HD  LYS A 403      26.329  30.350  23.320  1.00  0.00
ATOM   5883 1HE  LYS A 403      24.432  29.902  24.832  1.00  0.00
ATOM   5884 2HE  LYS A 403      23.513  29.230  23.466  1.00  0.00
ATOM   5885 1HZ  LYS A 403      24.562  27.505  24.766  1.00  0.00
ATOM   5886 2HZ  LYS A 403      25.203  27.536  23.246  1.00  0.00
ATOM   5887 3HZ  LYS A 403      26.055  28.160  24.514  1.00  0.00
ATOM   5888  N   ILE A 404      23.360  35.194  22.552  1.00  0.00
ATOM   5889  CA  ILE A 404      23.080  36.191  23.586  1.00  0.00
ATOM   5890  C   ILE A 404      22.460  35.577  24.845  1.00  0.00
ATOM   5891  O   ILE A 404      21.269  35.253  24.870  1.00  0.00
ATOM   5892  CB  ILE A 404      22.141  37.290  23.056  1.00  0.00
ATOM   5893  CG1 ILE A 404      22.714  37.912  21.780  1.00  0.00
ATOM   5894  CG2 ILE A 404      21.916  38.355  24.118  1.00  0.00
ATOM   5895  CD1 ILE A 404      24.077  38.539  21.966  1.00  0.00
ATOM   5896  H   ILE A 404      22.607  34.876  21.958  1.00  0.00
ATOM   5897  HA  ILE A 404      24.004  36.641  23.946  1.00  0.00
ATOM   5898  HB  ILE A 404      21.186  36.840  22.784  1.00  0.00
ATOM   5899 1HG1 ILE A 404      22.776  37.122  21.033  1.00  0.00
ATOM   5900 2HG1 ILE A 404      22.007  38.673  21.445  1.00  0.00
ATOM   5901 1HG2 ILE A 404      21.250  39.124  23.726  1.00  0.00
ATOM   5902 2HG2 ILE A 404      21.466  37.901  24.999  1.00  0.00
ATOM   5903 3HG2 ILE A 404      22.870  38.806  24.389  1.00  0.00
ATOM   5904 1HD1 ILE A 404      24.417  38.960  21.019  1.00  0.00
ATOM   5905 2HD1 ILE A 404      24.015  39.331  22.713  1.00  0.00
ATOM   5906 3HD1 ILE A 404      24.784  37.781  22.299  1.00  0.00
ATOM   5907  N   LEU A 405      23.281  35.414  25.882  1.00  0.00
ATOM   5908  CA  LEU A 405      22.831  34.862  27.161  1.00  0.00
ATOM   5909  C   LEU A 405      22.400  36.004  28.085  1.00  0.00
ATOM   5910  O   LEU A 405      21.588  35.808  28.985  1.00  0.00
ATOM   5911  CB  LEU A 405      23.940  34.024  27.810  1.00  0.00
ATOM   5912  CG  LEU A 405      24.381  32.792  27.010  1.00  0.00
ATOM   5913  CD1 LEU A 405      25.542  32.102  27.711  1.00  0.00
ATOM   5914  CD2 LEU A 405      23.204  31.841  26.851  1.00  0.00
ATOM   5915  H   LEU A 405      24.249  35.683  25.776  1.00  0.00
ATOM   5916  HA  LEU A 405      21.962  34.225  26.998  1.00  0.00
ATOM   5917 1HB  LEU A 405      24.737  34.766  27.824  1.00  0.00
ATOM   5918 2HB  LEU A 405      23.687  33.743  28.833  1.00  0.00
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ATOM   5919  HG  LEU A 405      24.666  33.137  26.016  1.00  0.00
ATOM   5920 1HD1 LEU A 405      25.849  31.228  27.135  1.00  0.00
ATOM   5921 2HD1 LEU A 405      26.381  32.793  27.793  1.00  0.00
ATOM   5922 3HD1 LEU A 405      25.231  31.788  28.707  1.00  0.00
ATOM   5923 1HD2 LEU A 405      23.518  30.966  26.281  1.00  0.00
ATOM   5924 2HD2 LEU A 405      22.854  31.527  27.835  1.00  0.00
ATOM   5925 3HD2 LEU A 405      22.395  32.346  26.323  1.00  0.00
ATOM   5926  N   ASP A 406      22.947  37.193  27.839  1.00  0.00
ATOM   5927  CA  ASP A 406      22.647  38.385  28.630  1.00  0.00
ATOM   5928  C   ASP A 406      22.751  39.636  27.748  1.00  0.00
ATOM   5929  O   ASP A 406      23.845  40.028  27.344  1.00  0.00
ATOM   5930  CB  ASP A 406      23.592  38.494  29.829  1.00  0.00
ATOM   5931  CG  ASP A 406      23.298  39.664  30.758  1.00  0.00
ATOM   5932  OD1 ASP A 406      22.454  40.462  30.427  1.00  0.00
ATOM   5933  OD2 ASP A 406      23.801  39.665  31.856  1.00  0.00
ATOM   5934  H   ASP A 406      23.597  37.264  27.069  1.00  0.00
ATOM   5935  HA  ASP A 406      21.623  38.334  29.001  1.00  0.00
ATOM   5936 1HB  ASP A 406      23.661  37.575  30.413  1.00  0.00
ATOM   5937 2HB  ASP A 406      24.537  38.669  29.313  1.00  0.00
ATOM   5938  N   PRO A 407      21.613  40.286  27.457  1.00  0.00
ATOM   5939  CA  PRO A 407      21.581  41.492  26.623  1.00  0.00
ATOM   5940  C   PRO A 407      22.489  42.590  27.168  1.00  0.00
ATOM   5941  O   PRO A 407      23.082  43.355  26.407  1.00  0.00
ATOM   5942  CB  PRO A 407      20.108  41.912  26.635  1.00  0.00
ATOM   5943  CG  PRO A 407      19.361  40.641  26.851  1.00  0.00
ATOM   5944  CD  PRO A 407      20.197  39.846  27.819  1.00  0.00
ATOM   5945  HA  PRO A 407      21.949  41.313  25.602  1.00  0.00
ATOM   5946 1HB  PRO A 407      19.902  42.636  27.437  1.00  0.00
ATOM   5947 2HB  PRO A 407      19.817  42.389  25.688  1.00  0.00
ATOM   5948 1HG  PRO A 407      18.358  40.833  27.261  1.00  0.00
ATOM   5949 2HG  PRO A 407      19.223  40.095  25.906  1.00  0.00
ATOM   5950 1HD  PRO A 407      19.947  40.070  28.866  1.00  0.00
ATOM   5951 2HD  PRO A 407      20.071  38.761  27.683  1.00  0.00
ATOM   5952  N   ARG A 408      22.578  42.659  28.494  1.00  0.00
ATOM   5953  CA  ARG A 408      23.377  43.669  29.171  1.00  0.00
ATOM   5954  C   ARG A 408      24.826  43.673  28.721  1.00  0.00
ATOM   5955  O   ARG A 408      25.599  44.549  29.091  1.00  0.00
ATOM   5956  CB  ARG A 408      23.277  43.544  30.684  1.00  0.00
ATOM   5957  CG  ARG A 408      21.909  43.869  31.264  1.00  0.00
ATOM   5958  CD  ARG A 408      21.813  43.703  32.737  1.00  0.00
ATOM   5959  NE  ARG A 408      22.619  44.641  33.503  1.00  0.00
ATOM   5960  CZ  ARG A 408      22.881  44.527  34.819  1.00  0.00
ATOM   5961  NH1 ARG A 408      22.376  43.541  35.527  1.00  0.00
ATOM   5962  NH2 ARG A 408      23.642  45.446  35.386  1.00  0.00
ATOM   5963  H   ARG A 408      22.070  41.983  29.046  1.00  0.00
ATOM   5964  HA  ARG A 408      22.995  44.662  28.933  1.00  0.00
ATOM   5965 1HB  ARG A 408      23.540  42.518  30.937  1.00  0.00
ATOM   5966 2HB  ARG A 408      24.017  44.223  31.109  1.00  0.00
ATOM   5967 1HG  ARG A 408      21.669  44.906  31.026  1.00  0.00
ATOM   5968 2HG  ARG A 408      21.173  43.211  30.802  1.00  0.00
ATOM   5969 1HD  ARG A 408      20.776  43.839  33.041  1.00  0.00
ATOM   5970 2HD  ARG A 408      22.141  42.699  33.002  1.00  0.00
ATOM   5971  HE  ARG A 408      23.089  45.483  33.200  1.00  0.00
ATOM   5972 1HH1 ARG A 408      21.781  42.856  35.083  1.00  0.00
ATOM   5973 2HH1 ARG A 408      22.584  43.473  36.513  1.00  0.00
ATOM   5974 1HH2 ARG A 408      24.008  46.208  34.830  1.00  0.00
ATOM   5975 2HH2 ARG A 408      23.854  45.385  36.371  1.00  0.00
ATOM   5976  N   GLY A 409      25.201  42.694  27.915  1.00  0.00
ATOM   5977  CA  GLY A 409      26.567  42.655  27.442  1.00  0.00
ATOM   5978  C   GLY A 409      27.508  42.124  28.498  1.00  0.00
ATOM   5979  O   GLY A 409      27.117  41.960  29.654  1.00  0.00
ATOM   5980  H   GLY A 409      24.558  41.973  27.621  1.00  0.00
ATOM   5981 1HA  GLY A 409      26.622  42.009  26.566  1.00  0.00
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ATOM   5982 2HA  GLY A 409      26.878  43.663  27.169  1.00  0.00
ATOM   5983  N   PRO A 410      28.766  41.846  28.121  1.00  0.00
ATOM   5984  CA  PRO A 410      29.793  41.324  29.025  1.00  0.00
ATOM   5985  C   PRO A 410      29.915  42.122  30.327  1.00  0.00
ATOM   5986  O   PRO A 410      29.736  43.342  30.348  1.00  0.00
ATOM   5987  OXT PRO A 410      30.189  41.560  31.351  1.00  0.00
ATOM   5988  CB  PRO A 410      31.058  41.371  28.160  1.00  0.00
ATOM   5989  CG  PRO A 410      30.557  41.243  26.723  1.00  0.00
ATOM   5990  CD  PRO A 410      29.253  42.029  26.760  1.00  0.00
ATOM   5991  HA  PRO A 410      29.579  40.301  29.367  1.00  0.00
ATOM   5992 1HB  PRO A 410      31.609  42.312  28.303  1.00  0.00
ATOM   5993 2HB  PRO A 410      31.748  40.552  28.411  1.00  0.00
ATOM   5994 1HG  PRO A 410      31.282  41.662  26.010  1.00  0.00
ATOM   5995 2HG  PRO A 410      30.407  40.189  26.447  1.00  0.00
ATOM   5996 1HD  PRO A 410      29.404  43.096  26.542  1.00  0.00
ATOM   5997 2HD  PRO A 410      28.520  41.653  26.031  1.00  0.00
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ATOM   5998  N   THR B 210      37.066   7.904  -5.395  1.00  0.00
ATOM   5999  CA  THR B 210      38.372   8.458  -5.740  1.00  0.00
ATOM   6000  C   THR B 210      38.705   9.732  -4.983  1.00  0.00
ATOM   6001  O   THR B 210      39.297  10.669  -5.509  1.00  0.00
ATOM   6002  CB  THR B 210      38.466   8.750  -7.250  1.00  0.00
ATOM   6003  OG1 THR B 210      37.390   9.613  -7.639  1.00  0.00
ATOM   6004  CG2 THR B 210      38.389   7.458  -8.048  1.00  0.00
ATOM   6005 1H   THR B 210      36.366   7.796  -6.101  1.00  0.00
ATOM   6006 2H   THR B 210      37.000   6.983  -5.011  1.00  0.00
ATOM   6007 3H   THR B 210      36.491   8.363  -4.718  1.00  0.00
ATOM   6008  HA  THR B 210      39.156   7.752  -5.467  1.00  0.00
ATOM   6009  HB  THR B 210      39.413   9.248  -7.456  1.00  0.00
ATOM   6010  HG1 THR B 210      36.551   9.186  -7.448  1.00  0.00
ATOM   6011 1HG2 THR B 210      38.457   7.685  -9.112  1.00  0.00
ATOM   6012 2HG2 THR B 210      39.212   6.805  -7.762  1.00  0.00
ATOM   6013 3HG2 THR B 210      37.442   6.960  -7.843  1.00  0.00
ATOM   6014  N   SER B 211      38.298   9.712  -3.703  1.00  0.00
ATOM   6015  CA  SER B 211      38.449  10.863  -2.805  1.00  0.00
ATOM   6016  C   SER B 211      39.736  11.655  -2.974  1.00  0.00
ATOM   6017  O   SER B 211      39.727  12.807  -3.381  1.00  0.00
ATOM   6018  CB  SER B 211      38.341  10.389  -1.368  1.00  0.00
ATOM   6019  OG  SER B 211      39.302   9.418  -1.060  1.00  0.00
ATOM   6020  H   SER B 211      37.862   8.879  -3.362  1.00  0.00
ATOM   6021  HA  SER B 211      37.624  11.574  -2.871  1.00  0.00
ATOM   6022 1HB  SER B 211      38.478  11.246  -0.708  1.00  0.00
ATOM   6023 2HB  SER B 211      37.349   9.968  -1.213  1.00  0.00
ATOM   6024  HG  SER B 211      39.200   9.146  -0.145  1.00  0.00
ATOM   6025  N   ILE B 212      40.854  10.949  -2.722  1.00  0.00
ATOM   6026  CA  ILE B 212      42.173  11.581  -2.865  1.00  0.00
ATOM   6027  C   ILE B 212      42.367  12.321  -4.187  1.00  0.00
ATOM   6028  O   ILE B 212      42.798  13.466  -4.247  1.00  0.00
ATOM   6029  CB  ILE B 212      43.299  10.539  -2.726  1.00  0.00
ATOM   6030  CG1 ILE B 212      43.359  10.007  -1.292  1.00  0.00
ATOM   6031  CG2 ILE B 212      44.635  11.142  -3.130  1.00  0.00
ATOM   6032  CD1 ILE B 212      44.248   8.796  -1.126  1.00  0.00
ATOM   6033  H   ILE B 212      40.721  10.029  -2.350  1.00  0.00
ATOM   6034  HA  ILE B 212      42.305  12.367  -2.122  1.00  0.00
ATOM   6035  HB  ILE B 212      43.075   9.687  -3.367  1.00  0.00
ATOM   6036 1HG1 ILE B 212      43.726  10.816  -0.660  1.00  0.00
ATOM   6037 2HG1 ILE B 212      42.340   9.752  -0.997  1.00  0.00
ATOM   6038 1HG2 ILE B 212      45.419  10.392  -3.025  1.00  0.00
ATOM   6039 2HG2 ILE B 212      44.586  11.472  -4.166  1.00  0.00
ATOM   6040 3HG2 ILE B 212      44.859  11.994  -2.488  1.00  0.00
ATOM   6041 1HD1 ILE B 212      44.240   8.476  -0.083  1.00  0.00
ATOM   6042 2HD1 ILE B 212      43.880   7.984  -1.756  1.00  0.00
ATOM   6043 3HD1 ILE B 212      45.266   9.048  -1.418  1.00  0.00
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ATOM   6044  N   GLN B 213      41.977  11.614  -5.260  1.00  0.00
ATOM   6045  CA  GLN B 213      42.072  12.227  -6.584  1.00  0.00
ATOM   6046  C   GLN B 213      41.233  13.491  -6.728  1.00  0.00
ATOM   6047  O   GLN B 213      41.630  14.471  -7.348  1.00  0.00
ATOM   6048  CB  GLN B 213      41.649  11.220  -7.656  1.00  0.00
ATOM   6049  CG  GLN B 213      41.772  11.737  -9.080  1.00  0.00
ATOM   6050  CD  GLN B 213      41.399  10.688 -10.111  1.00  0.00
ATOM   6051  OE1 GLN B 213      40.988   9.577  -9.766  1.00  0.00
ATOM   6052  NE2 GLN B 213      41.545  11.034 -11.385  1.00  0.00
ATOM   6053  H   GLN B 213      41.513  10.741  -5.123  1.00  0.00
ATOM   6054  HA  GLN B 213      43.099  12.544  -6.767  1.00  0.00
ATOM   6055 1HB  GLN B 213      42.280  10.339  -7.529  1.00  0.00
ATOM   6056 2HB  GLN B 213      40.612  10.955  -7.449  1.00  0.00
ATOM   6057 1HG  GLN B 213      41.345  12.687  -9.401  1.00  0.00
ATOM   6058 2HG  GLN B 213      42.859  11.819  -9.048  1.00  0.00
ATOM   6059 1HE2 GLN B 213      41.317  10.383 -12.110  1.00  0.00
ATOM   6060 2HE2 GLN B 213      41.885  11.945 -11.621  1.00  0.00
ATOM   6061  N   PHE B 214      40.040  13.431  -6.116  1.00  0.00
ATOM   6062  CA  PHE B 214      39.204  14.632  -6.092  1.00  0.00
ATOM   6063  C   PHE B 214      39.843  15.791  -5.355  1.00  0.00
ATOM   6064  O   PHE B 214      39.881  16.913  -5.842  1.00  0.00
ATOM   6065  CB  PHE B 214      37.847  14.315  -5.462  1.00  0.00
ATOM   6066  CG  PHE B 214      36.897  13.612  -6.390  1.00  0.00
ATOM   6067  CD1 PHE B 214      37.140  13.572  -7.755  1.00  0.00
ATOM   6068  CD2 PHE B 214      35.759  12.990  -5.900  1.00  0.00
ATOM   6069  CE1 PHE B 214      36.267  12.926  -8.609  1.00  0.00
ATOM   6070  CE2 PHE B 214      34.885  12.342  -6.752  1.00  0.00
ATOM   6071  CZ  PHE B 214      35.140  12.311  -8.108  1.00  0.00
ATOM   6072  H   PHE B 214      39.791  12.620  -5.581  1.00  0.00
ATOM   6073  HA  PHE B 214      39.044  14.991  -7.110  1.00  0.00
ATOM   6074 1HB  PHE B 214      37.977  13.664  -4.598  1.00  0.00
ATOM   6075 2HB  PHE B 214      37.354  15.235  -5.151  1.00  0.00
ATOM   6076  HD1 PHE B 214      38.032  14.058  -8.151  1.00  0.00
ATOM   6077  HD2 PHE B 214      35.557  13.015  -4.829  1.00  0.00
ATOM   6078  HE1 PHE B 214      36.470  12.903  -9.680  1.00  0.00
ATOM   6079  HE2 PHE B 214      33.994  11.856  -6.354  1.00  0.00
ATOM   6080  HZ  PHE B 214      34.451  11.802  -8.781  1.00  0.00
ATOM   6081  N   ASN B 215      40.382  15.464  -4.170  1.00  0.00
ATOM   6082  CA  ASN B 215      41.040  16.500  -3.371  1.00  0.00
ATOM   6083  C   ASN B 215      42.180  17.169  -4.111  1.00  0.00
ATOM   6084  O   ASN B 215      42.268  18.386  -4.183  1.00  0.00
ATOM   6085  CB  ASN B 215      41.546  15.941  -2.054  1.00  0.00
ATOM   6086  CG  ASN B 215      40.455  15.645  -1.062  1.00  0.00
ATOM   6087  OD1 ASN B 215      39.333  16.153  -1.173  1.00  0.00
ATOM   6088  ND2 ASN B 215      40.800  14.891  -0.050  1.00  0.00
ATOM   6089  H   ASN B 215      40.313  14.524  -3.836  1.00  0.00
ATOM   6090  HA  ASN B 215      40.330  17.296  -3.140  1.00  0.00
ATOM   6091 1HB  ASN B 215      42.275  15.130  -2.035  1.00  0.00
ATOM   6092 2HB  ASN B 215      42.033  16.874  -1.771  1.00  0.00
ATOM   6093 1HD2 ASN B 215      40.125  14.653   0.649  1.00  0.00
ATOM   6094 2HD2 ASN B 215      41.738  14.554   0.024  1.00  0.00
ATOM   6095  N   LEU B 216      43.022  16.318  -4.716  1.00  0.00
ATOM   6096  CA  LEU B 216      44.134  16.848  -5.508  1.00  0.00
ATOM   6097  C   LEU B 216      43.713  17.667  -6.715  1.00  0.00
ATOM   6098  O   LEU B 216      44.300  18.689  -7.052  1.00  0.00
ATOM   6099  CB  LEU B 216      45.033  15.692  -5.965  1.00  0.00
ATOM   6100  CG  LEU B 216      45.687  14.887  -4.836  1.00  0.00
ATOM   6101  CD1 LEU B 216      46.402  13.671  -5.408  1.00  0.00
ATOM   6102  CD2 LEU B 216      46.661  15.776  -4.076  1.00  0.00
ATOM   6103  H   LEU B 216      42.894  15.333  -4.592  1.00  0.00
ATOM   6104  HA  LEU B 216      44.718  17.539  -4.900  1.00  0.00
ATOM   6105 1HB  LEU B 216      44.289  15.082  -6.476  1.00  0.00
ATOM   6106 2HB  LEU B 216      45.784  16.024  -6.682  1.00  0.00
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ATOM   6107  HG  LEU B 216      44.895  14.594  -4.146  1.00  0.00
ATOM   6108 1HD1 LEU B 216      46.863  13.105  -4.598  1.00  0.00
ATOM   6109 2HD1 LEU B 216      45.681  13.037  -5.927  1.00  0.00
ATOM   6110 3HD1 LEU B 216      47.170  13.995  -6.107  1.00  0.00
ATOM   6111 1HD2 LEU B 216      47.125  15.203  -3.273  1.00  0.00
ATOM   6112 2HD2 LEU B 216      47.431  16.138  -4.757  1.00  0.00
ATOM   6113 3HD2 LEU B 216      46.125  16.625  -3.652  1.00  0.00
ATOM   6114  N   ARG B 217      42.631  17.182  -7.349  1.00  0.00
ATOM   6115  CA  ARG B 217      42.059  17.955  -8.451  1.00  0.00
ATOM   6116  C   ARG B 217      41.611  19.338  -8.027  1.00  0.00
ATOM   6117  O   ARG B 217      41.837  20.339  -8.696  1.00  0.00
ATOM   6118  CB  ARG B 217      40.926  17.208  -9.140  1.00  0.00
ATOM   6119  CG  ARG B 217      40.360  17.898 -10.370  1.00  0.00
ATOM   6120  CD  ARG B 217      39.237  17.173 -11.017  1.00  0.00
ATOM   6121  NE  ARG B 217      39.594  15.873 -11.563  1.00  0.00
ATOM   6122  CZ  ARG B 217      38.714  14.892 -11.843  1.00  0.00
ATOM   6123  NH1 ARG B 217      37.432  15.042 -11.595  1.00  0.00
ATOM   6124  NH2 ARG B 217      39.178  13.764 -12.351  1.00  0.00
ATOM   6125  H   ARG B 217      42.216  16.324  -7.043  1.00  0.00
ATOM   6126  HA  ARG B 217      42.814  18.114  -9.221  1.00  0.00
ATOM   6127 1HB  ARG B 217      41.316  16.231  -9.423  1.00  0.00
ATOM   6128 2HB  ARG B 217      40.134  17.082  -8.402  1.00  0.00
ATOM   6129 1HG  ARG B 217      39.998  18.885 -10.078  1.00  0.00
ATOM   6130 2HG  ARG B 217      41.158  18.007 -11.105  1.00  0.00
ATOM   6131 1HD  ARG B 217      38.449  17.011 -10.282  1.00  0.00
ATOM   6132 2HD  ARG B 217      38.850  17.777 -11.837  1.00  0.00
ATOM   6133  HE  ARG B 217      40.504  15.507 -11.812  1.00  0.00
ATOM   6134 1HH1 ARG B 217      37.096  15.904 -11.189  1.00  0.00
ATOM   6135 2HH1 ARG B 217      36.789  14.295 -11.811  1.00  0.00
ATOM   6136 1HH2 ARG B 217      40.169  13.659 -12.519  1.00  0.00
ATOM   6137 2HH2 ARG B 217      38.540  13.013 -12.569  1.00  0.00
ATOM   6138  N   ASN B 218      40.990  19.333  -6.841  1.00  0.00
ATOM   6139  CA  ASN B 218      40.566  20.608  -6.281  1.00  0.00
ATOM   6140  C   ASN B 218      41.725  21.518  -5.980  1.00  0.00
ATOM   6141  O   ASN B 218      41.751  22.631  -6.470  1.00  0.00
ATOM   6142  CB  ASN B 218      39.734  20.411  -5.028  1.00  0.00
ATOM   6143  CG  ASN B 218      38.336  19.929  -5.299  1.00  0.00
ATOM   6144  OD1 ASN B 218      37.528  20.625  -5.925  1.00  0.00
ATOM   6145  ND2 ASN B 218      38.021  18.778  -4.762  1.00  0.00
ATOM   6146  H   ASN B 218      40.849  18.476  -6.346  1.00  0.00
ATOM   6147  HA  ASN B 218      39.950  21.143  -7.005  1.00  0.00
ATOM   6148 1HB  ASN B 218      40.137  19.874  -4.168  1.00  0.00
ATOM   6149 2HB  ASN B 218      39.700  21.478  -4.806  1.00  0.00
ATOM   6150 1HD2 ASN B 218      37.107  18.395  -4.901  1.00  0.00
ATOM   6151 2HD2 ASN B 218      38.693  18.282  -4.213  1.00  0.00
ATOM   6152  N   LEU B 219      42.712  20.998  -5.230  1.00  0.00
ATOM   6153  CA  LEU B 219      43.920  21.786  -4.952  1.00  0.00
ATOM   6154  C   LEU B 219      44.533  22.438  -6.180  1.00  0.00
ATOM   6155  O   LEU B 219      44.677  23.650  -6.270  1.00  0.00
ATOM   6156  CB  LEU B 219      44.969  20.898  -4.270  1.00  0.00
ATOM   6157  CG  LEU B 219      44.659  20.522  -2.816  1.00  0.00
ATOM   6158  CD1 LEU B 219      45.646  19.470  -2.327  1.00  0.00
ATOM   6159  CD2 LEU B 219      44.722  21.767  -1.944  1.00  0.00
ATOM   6160  H   LEU B 219      42.604  20.084  -4.842  1.00  0.00
ATOM   6161  HA  LEU B 219      43.670  22.617  -4.292  1.00  0.00
ATOM   6162 1HB  LEU B 219      44.896  20.018  -4.908  1.00  0.00
ATOM   6163 2HB  LEU B 219      45.970  21.322  -4.349  1.00  0.00
ATOM   6164  HG  LEU B 219      43.636  20.147  -2.789  1.00  0.00
ATOM   6165 1HD1 LEU B 219      45.419  19.209  -1.294  1.00  0.00
ATOM   6166 2HD1 LEU B 219      45.568  18.580  -2.951  1.00  0.00
ATOM   6167 3HD1 LEU B 219      46.659  19.868  -2.386  1.00  0.00
ATOM   6168 1HD2 LEU B 219      44.501  21.498  -0.910  1.00  0.00
ATOM   6169 2HD2 LEU B 219      45.719  22.202  -2.001  1.00  0.00
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ATOM   6170 3HD2 LEU B 219      43.988  22.494  -2.293  1.00  0.00
ATOM   6171  N   TYR B 220      44.813  21.580  -7.179  1.00  0.00
ATOM   6172  CA  TYR B 220      45.346  22.134  -8.426  1.00  0.00
ATOM   6173  C   TYR B 220      44.519  23.263  -9.029  1.00  0.00
ATOM   6174  O   TYR B 220      45.047  24.219  -9.582  1.00  0.00
ATOM   6175  CB  TYR B 220      45.608  21.033  -9.465  1.00  0.00
ATOM   6176  CG  TYR B 220      46.284  21.624 -10.687  1.00  0.00
ATOM   6177  CD1 TYR B 220      47.672  21.864 -10.659  1.00  0.00
ATOM   6178  CD2 TYR B 220      45.499  21.947 -11.814  1.00  0.00
ATOM   6179  CE1 TYR B 220      48.291  22.439 -11.781  1.00  0.00
ATOM   6180  CE2 TYR B 220      46.115  22.533 -12.930  1.00  0.00
ATOM   6181  CZ  TYR B 220      47.507  22.749 -12.910  1.00  0.00
ATOM   6182  OH  TYR B 220      48.116  23.264 -14.041  1.00  0.00
ATOM   6183  H   TYR B 220      44.675  20.597  -7.043  1.00  0.00
ATOM   6184  HA  TYR B 220      46.323  22.582  -8.244  1.00  0.00
ATOM   6185 1HB  TYR B 220      46.238  20.282  -8.987  1.00  0.00
ATOM   6186 2HB  TYR B 220      44.644  20.592  -9.717  1.00  0.00
ATOM   6187  HD1 TYR B 220      48.234  21.597  -9.764  1.00  0.00
ATOM   6188  HD2 TYR B 220      44.431  21.734 -11.789  1.00  0.00
ATOM   6189  HE1 TYR B 220      49.363  22.633 -11.780  1.00  0.00
ATOM   6190  HE2 TYR B 220      45.517  22.816 -13.796  1.00  0.00
ATOM   6191  HH  TYR B 220      48.885  22.714 -14.234  1.00  0.00
ATOM   6192  N   ARG B 221      43.194  23.112  -8.895  1.00  0.00
ATOM   6193  CA  ARG B 221      42.354  24.240  -9.283  1.00  0.00
ATOM   6194  C   ARG B 221      42.564  25.474  -8.404  1.00  0.00
ATOM   6195  O   ARG B 221      42.808  26.578  -8.882  1.00  0.00
ATOM   6196  CB  ARG B 221      40.885  23.848  -9.334  1.00  0.00
ATOM   6197  CG  ARG B 221      40.508  22.929 -10.485  1.00  0.00
ATOM   6198  CD  ARG B 221      39.075  22.537 -10.511  1.00  0.00
ATOM   6199  NE  ARG B 221      38.726  21.599 -11.566  1.00  0.00
ATOM   6200  CZ  ARG B 221      38.503  21.941 -12.850  1.00  0.00
ATOM   6201  NH1 ARG B 221      38.554  23.197 -13.236  1.00  0.00
ATOM   6202  NH2 ARG B 221      38.208  20.981 -13.710  1.00  0.00
ATOM   6203  H   ARG B 221      42.816  22.322  -8.408  1.00  0.00
ATOM   6204  HA  ARG B 221      42.610  24.560 -10.294  1.00  0.00
ATOM   6205 1HB  ARG B 221      40.654  23.357  -8.391  1.00  0.00
ATOM   6206 2HB  ARG B 221      40.313  24.773  -9.412  1.00  0.00
ATOM   6207 1HG  ARG B 221      40.734  23.436 -11.423  1.00  0.00
ATOM   6208 2HG  ARG B 221      41.105  22.019 -10.411  1.00  0.00
ATOM   6209 1HD  ARG B 221      38.819  22.069  -9.561  1.00  0.00
ATOM   6210 2HD  ARG B 221      38.466  23.429 -10.652  1.00  0.00
ATOM   6211  HE  ARG B 221      38.600  20.597 -11.522  1.00  0.00
ATOM   6212 1HH1 ARG B 221      38.763  23.921 -12.563  1.00  0.00
ATOM   6213 2HH1 ARG B 221      38.383  23.432 -14.203  1.00  0.00
ATOM   6214 1HH2 ARG B 221      38.155  20.023 -13.393  1.00  0.00
ATOM   6215 2HH2 ARG B 221      38.035  21.210 -14.677  1.00  0.00
ATOM   6216  N   LEU B 222      42.445  25.233  -7.093  1.00  0.00
ATOM   6217  CA  LEU B 222      42.431  26.308  -6.104  1.00  0.00
ATOM   6218  C   LEU B 222      43.663  27.184  -6.174  1.00  0.00
ATOM   6219  O   LEU B 222      43.599  28.364  -6.504  1.00  0.00
ATOM   6220  CB  LEU B 222      42.292  25.721  -4.694  1.00  0.00
ATOM   6221  CG  LEU B 222      41.001  24.932  -4.440  1.00  0.00
ATOM   6222  CD1 LEU B 222      41.160  24.053  -3.207  1.00  0.00
ATOM   6223  CD2 LEU B 222      39.839  25.899  -4.266  1.00  0.00
ATOM   6224  H   LEU B 222      42.450  24.284  -6.788  1.00  0.00
ATOM   6225  HA  LEU B 222      41.589  26.971  -6.298  1.00  0.00
ATOM   6226 1HB  LEU B 222      43.147  25.047  -4.697  1.00  0.00
ATOM   6227 2HB  LEU B 222      42.431  26.480  -3.924  1.00  0.00
ATOM   6228  HG  LEU B 222      40.806  24.334  -5.330  1.00  0.00
ATOM   6229 1HD1 LEU B 222      40.239  23.496  -3.035  1.00  0.00
ATOM   6230 2HD1 LEU B 222      41.982  23.353  -3.362  1.00  0.00
ATOM   6231 3HD1 LEU B 222      41.374  24.677  -2.340  1.00  0.00
ATOM   6232 1HD2 LEU B 222      38.922  25.336  -4.087  1.00  0.00
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ATOM   6233 2HD2 LEU B 222      40.035  26.555  -3.418  1.00  0.00
ATOM   6234 3HD2 LEU B 222      39.725  26.498  -5.170  1.00  0.00
ATOM   6235  N   SER B 223      44.795  26.536  -5.873  1.00  0.00
ATOM   6236  CA  SER B 223      46.054  27.263  -5.757  1.00  0.00
ATOM   6237  C   SER B 223      46.495  27.947  -7.037  1.00  0.00
ATOM   6238  O   SER B 223      47.058  29.038  -7.032  1.00  0.00
ATOM   6239  CB  SER B 223      47.141  26.315  -5.288  1.00  0.00
ATOM   6240  OG  SER B 223      48.303  26.996  -4.901  1.00  0.00
ATOM   6241  H   SER B 223      44.822  25.561  -5.627  1.00  0.00
ATOM   6242  HA  SER B 223      46.051  28.010  -4.962  1.00  0.00
ATOM   6243 1HB  SER B 223      46.764  25.746  -4.438  1.00  0.00
ATOM   6244 2HB  SER B 223      47.384  25.633  -6.101  1.00  0.00
ATOM   6245  HG  SER B 223      48.188  27.345  -4.014  1.00  0.00
ATOM   6246  N   LYS B 224      46.150  27.288  -8.168  1.00  0.00
ATOM   6247  CA  LYS B 224      46.515  27.844  -9.476  1.00  0.00
ATOM   6248  C   LYS B 224      46.110  29.286  -9.728  1.00  0.00
ATOM   6249  O   LYS B 224      46.729  30.001 -10.504  1.00  0.00
ATOM   6250  CB  LYS B 224      45.920  26.969 -10.580  1.00  0.00
ATOM   6251  CG  LYS B 224      46.270  27.416 -11.994  1.00  0.00
ATOM   6252  CD  LYS B 224      45.711  26.455 -13.032  1.00  0.00
ATOM   6253  CE  LYS B 224      46.070  26.895 -14.445  1.00  0.00
ATOM   6254  NZ  LYS B 224      45.567  25.939 -15.469  1.00  0.00
ATOM   6255  H   LYS B 224      45.672  26.411  -8.087  1.00  0.00
ATOM   6256  HA  LYS B 224      47.601  27.862  -9.578  1.00  0.00
ATOM   6257 1HB  LYS B 224      46.289  25.956 -10.419  1.00  0.00
ATOM   6258 2HB  LYS B 224      44.838  26.985 -10.453  1.00  0.00
ATOM   6259 1HG  LYS B 224      45.852  28.410 -12.156  1.00  0.00
ATOM   6260 2HG  LYS B 224      47.356  27.459 -12.085  1.00  0.00
ATOM   6261 1HD  LYS B 224      46.124  25.463 -12.844  1.00  0.00
ATOM   6262 2HD  LYS B 224      44.627  26.422 -12.927  1.00  0.00
ATOM   6263 1HE  LYS B 224      45.631  27.876 -14.618  1.00  0.00
ATOM   6264 2HE  LYS B 224      47.155  26.964 -14.515  1.00  0.00
ATOM   6265 1HZ  LYS B 224      45.825  26.267 -16.389  1.00  0.00
ATOM   6266 2HZ  LYS B 224      45.974  25.029 -15.310  1.00  0.00
ATOM   6267 3HZ  LYS B 224      44.561  25.875 -15.404  1.00  0.00
ATOM   6268  N   ALA B 225      45.068  29.686  -8.981  1.00  0.00
ATOM   6269  CA  ALA B 225      44.694  31.093  -8.835  1.00  0.00
ATOM   6270  C   ALA B 225      45.833  32.103  -8.855  1.00  0.00
ATOM   6271  O   ALA B 225      45.790  33.148  -9.495  1.00  0.00
ATOM   6272  CB  ALA B 225      44.006  31.263  -7.489  1.00  0.00
ATOM   6273  H   ALA B 225      44.583  28.997  -8.437  1.00  0.00
ATOM   6274  HA  ALA B 225      44.070  31.378  -9.683  1.00  0.00
ATOM   6275 1HB  ALA B 225      43.718  32.307  -7.358  1.00  0.00
ATOM   6276 2HB  ALA B 225      43.117  30.634  -7.452  1.00  0.00
ATOM   6277 3HB  ALA B 225      44.689  30.973  -6.693  1.00  0.00
ATOM   6278  N   LEU B 226      46.844  31.743  -8.051  1.00  0.00
ATOM   6279  CA  LEU B 226      47.964  32.648  -7.824  1.00  0.00
ATOM   6280  C   LEU B 226      49.295  31.938  -7.695  1.00  0.00
ATOM   6281  O   LEU B 226      50.314  32.389  -8.196  1.00  0.00
ATOM   6282  CB  LEU B 226      47.703  33.488  -6.567  1.00  0.00
ATOM   6283  CG  LEU B 226      46.633  34.577  -6.719  1.00  0.00
ATOM   6284  CD1 LEU B 226      46.328  35.202  -5.364  1.00  0.00
ATOM   6285  CD2 LEU B 226      47.118  35.632  -7.702  1.00  0.00
ATOM   6286  H   LEU B 226      46.796  30.847  -7.611  1.00  0.00
ATOM   6287  HA  LEU B 226      48.076  33.312  -8.680  1.00  0.00
ATOM   6288 1HB  LEU B 226      47.346  32.704  -5.901  1.00  0.00
ATOM   6289 2HB  LEU B 226      48.624  33.913  -6.167  1.00  0.00
ATOM   6290  HG  LEU B 226      45.748  34.104  -7.146  1.00  0.00
ATOM   6291 1HD1 LEU B 226      45.567  35.973  -5.482  1.00  0.00
ATOM   6292 2HD1 LEU B 226      45.961  34.433  -4.684  1.00  0.00
ATOM   6293 3HD1 LEU B 226      47.234  35.646  -4.956  1.00  0.00
ATOM   6294 1HD2 LEU B 226      46.356  36.405  -7.810  1.00  0.00
ATOM   6295 2HD2 LEU B 226      48.040  36.079  -7.332  1.00  0.00
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ATOM   6296 3HD2 LEU B 226      47.303  35.168  -8.672  1.00  0.00
ATOM   6297  N   PHE B 227      49.234  30.788  -7.012  1.00  0.00
ATOM   6298  CA  PHE B 227      50.407  29.919  -6.992  1.00  0.00
ATOM   6299  C   PHE B 227      50.088  28.602  -7.676  1.00  0.00
ATOM   6300  O   PHE B 227      49.590  27.664  -7.066  1.00  0.00
ATOM   6301  CB  PHE B 227      50.880  29.673  -5.558  1.00  0.00
ATOM   6302  CG  PHE B 227      51.483  30.883  -4.903  1.00  0.00
ATOM   6303  CD1 PHE B 227      50.676  31.894  -4.404  1.00  0.00
ATOM   6304  CD2 PHE B 227      52.859  31.013  -4.784  1.00  0.00
ATOM   6305  CE1 PHE B 227      51.229  33.008  -3.801  1.00  0.00
ATOM   6306  CE2 PHE B 227      53.415  32.124  -4.181  1.00  0.00
ATOM   6307  CZ  PHE B 227      52.599  33.123  -3.689  1.00  0.00
ATOM   6308  H   PHE B 227      48.382  30.443  -6.618  1.00  0.00
ATOM   6309  HA  PHE B 227      51.222  30.386  -7.548  1.00  0.00
ATOM   6310 1HB  PHE B 227      50.043  29.366  -4.934  1.00  0.00
ATOM   6311 2HB  PHE B 227      51.646  28.898  -5.544  1.00  0.00
ATOM   6312  HD1 PHE B 227      49.593  31.803  -4.491  1.00  0.00
ATOM   6313  HD2 PHE B 227      53.504  30.224  -5.173  1.00  0.00
ATOM   6314  HE1 PHE B 227      50.583  33.795  -3.414  1.00  0.00
ATOM   6315  HE2 PHE B 227      54.497  32.214  -4.094  1.00  0.00
ATOM   6316  HZ  PHE B 227      53.036  34.001  -3.215  1.00  0.00
ATOM   6317  N   PRO B 228      50.373  28.545  -8.997  1.00  0.00
ATOM   6318  CA  PRO B 228      50.155  27.287  -9.722  1.00  0.00
ATOM   6319  C   PRO B 228      50.991  26.157  -9.146  1.00  0.00
ATOM   6320  O   PRO B 228      52.212  26.235  -9.165  1.00  0.00
ATOM   6321  CB  PRO B 228      50.582  27.645 -11.152  1.00  0.00
ATOM   6322  CG  PRO B 228      50.486  29.166 -11.247  1.00  0.00
ATOM   6323  CD  PRO B 228      50.890  29.608  -9.849  1.00  0.00
ATOM   6324  HA  PRO B 228      49.117  26.931  -9.654  1.00  0.00
ATOM   6325 1HB  PRO B 228      51.609  27.310 -11.362  1.00  0.00
ATOM   6326 2HB  PRO B 228      49.928  27.170 -11.899  1.00  0.00
ATOM   6327 1HG  PRO B 228      51.159  29.560 -12.025  1.00  0.00
ATOM   6328 2HG  PRO B 228      49.468  29.485 -11.512  1.00  0.00
ATOM   6329 1HD  PRO B 228      51.981  29.706  -9.742  1.00  0.00
ATOM   6330 2HD  PRO B 228      50.453  30.581  -9.577  1.00  0.00
ATOM   6331  N   PRO B 229      50.296  25.105  -8.637  1.00  0.00
ATOM   6332  CA  PRO B 229      50.997  24.004  -7.967  1.00  0.00
ATOM   6333  C   PRO B 229      52.205  23.504  -8.730  1.00  0.00
ATOM   6334  O   PRO B 229      52.114  23.016  -9.853  1.00  0.00
ATOM   6335  CB  PRO B 229      49.928  22.914  -7.838  1.00  0.00
ATOM   6336  CG  PRO B 229      48.645  23.665  -7.731  1.00  0.00
ATOM   6337  CD  PRO B 229      48.838  24.906  -8.560  1.00  0.00
ATOM   6338  HA  PRO B 229      51.411  24.295  -6.990  1.00  0.00
ATOM   6339 1HB  PRO B 229      49.927  22.245  -8.712  1.00  0.00
ATOM   6340 2HB  PRO B 229      50.098  22.286  -6.951  1.00  0.00
ATOM   6341 1HG  PRO B 229      47.801  23.066  -8.106  1.00  0.00
ATOM   6342 2HG  PRO B 229      48.419  23.918  -6.684  1.00  0.00
ATOM   6343 1HD  PRO B 229      48.407  24.806  -9.566  1.00  0.00
ATOM   6344 2HD  PRO B 229      48.373  25.791  -8.099  1.00  0.00
ATOM   6345  N   GLU B 230      53.344  23.708  -8.063  1.00  0.00
ATOM   6346  CA  GLU B 230      54.648  23.631  -8.712  1.00  0.00
ATOM   6347  C   GLU B 230      54.851  22.421  -9.609  1.00  0.00
ATOM   6348  O   GLU B 230      54.489  21.297  -9.277  1.00  0.00
ATOM   6349  CB  GLU B 230      55.748  23.656  -7.648  1.00  0.00
ATOM   6350  CG  GLU B 230      57.163  23.600  -8.206  1.00  0.00
ATOM   6351  CD  GLU B 230      58.186  23.645  -7.105  1.00  0.00
ATOM   6352  OE1 GLU B 230      57.800  23.744  -5.965  1.00  0.00
ATOM   6353  OE2 GLU B 230      59.347  23.469  -7.392  1.00  0.00
ATOM   6354  H   GLU B 230      53.286  24.106  -7.144  1.00  0.00
ATOM   6355  HA  GLU B 230      54.778  24.482  -9.381  1.00  0.00
ATOM   6356 1HB  GLU B 230      55.618  24.575  -7.078  1.00  0.00
ATOM   6357 2HB  GLU B 230      55.580  22.797  -6.997  1.00  0.00
ATOM   6358 1HG  GLU B 230      57.347  22.730  -8.835  1.00  0.00
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ATOM   6359 2HG  GLU B 230      57.237  24.505  -8.807  1.00  0.00
ATOM   6360  N   PRO B 231      55.499  22.677 -10.771  1.00  0.00
ATOM   6361  CA  PRO B 231      55.824  21.606 -11.727  1.00  0.00
ATOM   6362  C   PRO B 231      56.574  20.369 -11.225  1.00  0.00
ATOM   6363  O   PRO B 231      56.813  19.441 -11.993  1.00  0.00
ATOM   6364  CB  PRO B 231      56.597  22.345 -12.824  1.00  0.00
ATOM   6365  CG  PRO B 231      56.089  23.782 -12.763  1.00  0.00
ATOM   6366  CD  PRO B 231      55.886  23.995 -11.269  1.00  0.00
ATOM   6367  HA  PRO B 231      54.928  21.130 -12.153  1.00  0.00
ATOM   6368 1HB  PRO B 231      57.683  22.303 -12.651  1.00  0.00
ATOM   6369 2HB  PRO B 231      56.411  21.904 -13.815  1.00  0.00
ATOM   6370 1HG  PRO B 231      56.822  24.482 -13.192  1.00  0.00
ATOM   6371 2HG  PRO B 231      55.158  23.900 -13.336  1.00  0.00
ATOM   6372 1HD  PRO B 231      56.801  24.347 -10.771  1.00  0.00
ATOM   6373 2HD  PRO B 231      55.101  24.736 -11.058  1.00  0.00
ATOM   6374  N   LEU B 232      56.953  20.377  -9.936  1.00  0.00
ATOM   6375  CA  LEU B 232      57.319  19.112  -9.303  1.00  0.00
ATOM   6376  C   LEU B 232      56.135  18.468  -8.599  1.00  0.00
ATOM   6377  O   LEU B 232      55.761  17.338  -8.885  1.00  0.00
ATOM   6378  CB  LEU B 232      58.490  19.306  -8.338  1.00  0.00
ATOM   6379  CG  LEU B 232      59.769  19.768  -9.038  1.00  0.00
ATOM   6380  CD1 LEU B 232      60.872  20.094  -8.032  1.00  0.00
ATOM   6381  CD2 LEU B 232      60.238  18.771 -10.101  1.00  0.00
ATOM   6382  H   LEU B 232      56.786  21.183  -9.377  1.00  0.00
ATOM   6383  HA  LEU B 232      57.641  18.402 -10.064  1.00  0.00
ATOM   6384 1HB  LEU B 232      58.078  20.100  -7.717  1.00  0.00
ATOM   6385 2HB  LEU B 232      58.660  18.419  -7.727  1.00  0.00
ATOM   6386  HG  LEU B 232      59.534  20.695  -9.562  1.00  0.00
ATOM   6387 1HD1 LEU B 232      61.766  20.419  -8.564  1.00  0.00
ATOM   6388 2HD1 LEU B 232      60.536  20.892  -7.369  1.00  0.00
ATOM   6389 3HD1 LEU B 232      61.103  19.206  -7.445  1.00  0.00
ATOM   6390 1HD2 LEU B 232      61.149  19.143 -10.571  1.00  0.00
ATOM   6391 2HD2 LEU B 232      60.439  17.807  -9.633  1.00  0.00
ATOM   6392 3HD2 LEU B 232      59.462  18.653 -10.857  1.00  0.00
ATOM   6393  N   VAL B 233      55.526  19.271  -7.704  1.00  0.00
ATOM   6394  CA  VAL B 233      54.328  18.857  -6.958  1.00  0.00
ATOM   6395  C   VAL B 233      53.286  18.141  -7.812  1.00  0.00
ATOM   6396  O   VAL B 233      52.778  17.081  -7.471  1.00  0.00
ATOM   6397  CB  VAL B 233      53.652  20.068  -6.288  1.00  0.00
ATOM   6398  CG1 VAL B 233      52.323  19.661  -5.669  1.00  0.00
ATOM   6399  CG2 VAL B 233      54.565  20.674  -5.233  1.00  0.00
ATOM   6400  H   VAL B 233      55.873  20.197  -7.573  1.00  0.00
ATOM   6401  HA  VAL B 233      54.572  18.120  -6.192  1.00  0.00
ATOM   6402  HB  VAL B 233      53.481  20.839  -7.039  1.00  0.00
ATOM   6403 1HG1 VAL B 233      51.858  20.528  -5.200  1.00  0.00
ATOM   6404 2HG1 VAL B 233      51.664  19.272  -6.445  1.00  0.00
ATOM   6405 3HG1 VAL B 233      52.493  18.890  -4.917  1.00  0.00
ATOM   6406 1HG2 VAL B 233      54.072  21.528  -4.769  1.00  0.00
ATOM   6407 2HG2 VAL B 233      54.786  19.925  -4.471  1.00  0.00
ATOM   6408 3HG2 VAL B 233      55.494  21.000  -5.701  1.00  0.00
ATOM   6409  N   LEU B 234      53.039  18.740  -8.987  1.00  0.00
ATOM   6410  CA  LEU B 234      52.160  18.119  -9.983  1.00  0.00
ATOM   6411  C   LEU B 234      52.319  16.619 -10.212  1.00  0.00
ATOM   6412  O   LEU B 234      51.361  15.861 -10.301  1.00  0.00
ATOM   6413  CB  LEU B 234      52.314  18.869 -11.301  1.00  0.00
ATOM   6414  CG  LEU B 234      51.249  19.947 -11.444  1.00  0.00
ATOM   6415  CD1 LEU B 234      51.628  21.003 -12.480  1.00  0.00
ATOM   6416  CD2 LEU B 234      49.889  19.309 -11.718  1.00  0.00
ATOM   6417  H   LEU B 234      53.419  19.655  -9.127  1.00  0.00
ATOM   6418  HA  LEU B 234      51.123  18.206  -9.659  1.00  0.00
ATOM   6419 1HB  LEU B 234      53.301  19.301 -11.145  1.00  0.00
ATOM   6420 2HB  LEU B 234      52.346  18.188 -12.151  1.00  0.00
ATOM   6421  HG  LEU B 234      51.182  20.466 -10.488  1.00  0.00
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ATOM   6422 1HD1 LEU B 234      50.837  21.751 -12.545  1.00  0.00
ATOM   6423 2HD1 LEU B 234      52.558  21.488 -12.182  1.00  0.00
ATOM   6424 3HD1 LEU B 234      51.760  20.530 -13.451  1.00  0.00
ATOM   6425 1HD2 LEU B 234      49.135  20.090 -11.819  1.00  0.00
ATOM   6426 2HD2 LEU B 234      49.937  18.730 -12.641  1.00  0.00
ATOM   6427 3HD2 LEU B 234      49.621  18.651 -10.891  1.00  0.00
ATOM   6428  N   ARG B 235      53.595  16.221 -10.304  1.00  0.00
ATOM   6429  CA  ARG B 235      53.880  14.804 -10.531  1.00  0.00
ATOM   6430  C   ARG B 235      53.551  13.946  -9.329  1.00  0.00
ATOM   6431  O   ARG B 235      52.990  12.861  -9.436  1.00  0.00
ATOM   6432  CB  ARG B 235      55.315  14.577 -10.982  1.00  0.00
ATOM   6433  CG  ARG B 235      55.624  15.049 -12.395  1.00  0.00
ATOM   6434  CD  ARG B 235      57.045  14.890 -12.796  1.00  0.00
ATOM   6435  NE  ARG B 235      57.345  15.344 -14.144  1.00  0.00
ATOM   6436  CZ  ARG B 235      58.577  15.366 -14.688  1.00  0.00
ATOM   6437  NH1 ARG B 235      59.631  14.995 -13.994  1.00  0.00
ATOM   6438  NH2 ARG B 235      58.704  15.792 -15.933  1.00  0.00
ATOM   6439  H   ARG B 235      54.318  16.867 -10.062  1.00  0.00
ATOM   6440  HA  ARG B 235      53.257  14.428 -11.343  1.00  0.00
ATOM   6441 1HB  ARG B 235      55.957  15.106 -10.278  1.00  0.00
ATOM   6442 2HB  ARG B 235      55.505  13.507 -10.912  1.00  0.00
ATOM   6443 1HG  ARG B 235      55.012  14.478 -13.093  1.00  0.00
ATOM   6444 2HG  ARG B 235      55.371  16.107 -12.470  1.00  0.00
ATOM   6445 1HD  ARG B 235      57.673  15.459 -12.112  1.00  0.00
ATOM   6446 2HD  ARG B 235      57.312  13.834 -12.740  1.00  0.00
ATOM   6447  HE  ARG B 235      56.723  15.700 -14.858  1.00  0.00
ATOM   6448 1HH1 ARG B 235      59.520  14.688 -13.038  1.00  0.00
ATOM   6449 2HH1 ARG B 235      60.546  15.018 -14.420  1.00  0.00
ATOM   6450 1HH2 ARG B 235      57.886  16.090 -16.446  1.00  0.00
ATOM   6451 2HH2 ARG B 235      59.616  15.818 -16.364  1.00  0.00
ATOM   6452  N   GLU B 236      53.895  14.509  -8.166  1.00  0.00
ATOM   6453  CA  GLU B 236      53.626  13.784  -6.926  1.00  0.00
ATOM   6454  C   GLU B 236      52.146  13.550  -6.687  1.00  0.00
ATOM   6455  O   GLU B 236      51.703  12.463  -6.328  1.00  0.00
ATOM   6456  CB  GLU B 236      54.224  14.538  -5.736  1.00  0.00
ATOM   6457  CG  GLU B 236      55.744  14.507  -5.671  1.00  0.00
ATOM   6458  CD  GLU B 236      56.259  13.097  -5.591  1.00  0.00
ATOM   6459  OE1 GLU B 236      55.813  12.369  -4.737  1.00  0.00
ATOM   6460  OE2 GLU B 236      57.013  12.711  -6.453  1.00  0.00
ATOM   6461  H   GLU B 236      54.347  15.402  -8.154  1.00  0.00
ATOM   6462  HA  GLU B 236      54.074  12.791  -6.974  1.00  0.00
ATOM   6463 1HB  GLU B 236      53.885  15.572  -5.812  1.00  0.00
ATOM   6464 2HB  GLU B 236      53.813  14.086  -4.833  1.00  0.00
ATOM   6465 1HG  GLU B 236      56.224  15.022  -6.503  1.00  0.00
ATOM   6466 2HG  GLU B 236      55.972  15.029  -4.743  1.00  0.00
ATOM   6467  N   MET B 237      51.386  14.614  -6.996  1.00  0.00
ATOM   6468  CA  MET B 237      49.931  14.490  -7.066  1.00  0.00
ATOM   6469  C   MET B 237      49.481  13.399  -8.023  1.00  0.00
ATOM   6470  O   MET B 237      48.723  12.502  -7.678  1.00  0.00
ATOM   6471  CB  MET B 237      49.315  15.825  -7.480  1.00  0.00
ATOM   6472  CG  MET B 237      49.500  16.945  -6.466  1.00  0.00
ATOM   6473  SD  MET B 237      48.384  18.333  -6.752  1.00  0.00
ATOM   6474  CE  MET B 237      49.087  19.031  -8.243  1.00  0.00
ATOM   6475  H   MET B 237      51.848  15.477  -7.197  1.00  0.00
ATOM   6476  HA  MET B 237      49.535  14.208  -6.091  1.00  0.00
ATOM   6477 1HB  MET B 237      49.778  16.109  -8.424  1.00  0.00
ATOM   6478 2HB  MET B 237      48.250  15.649  -7.635  1.00  0.00
ATOM   6479 1HG  MET B 237      49.317  16.538  -5.472  1.00  0.00
ATOM   6480 2HG  MET B 237      50.530  17.295  -6.531  1.00  0.00
ATOM   6481 1HE  MET B 237      48.505  19.902  -8.548  1.00  0.00
ATOM   6482 2HE  MET B 237      50.118  19.332  -8.053  1.00  0.00
ATOM   6483 3HE  MET B 237      49.067  18.285  -9.038  1.00  0.00
ATOM   6484  N   CYS B 238      50.018  13.499  -9.252  1.00  0.00
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ATOM   6485  CA  CYS B 238      49.657  12.534 -10.293  1.00  0.00
ATOM   6486  C   CYS B 238      49.773  11.074  -9.879  1.00  0.00
ATOM   6487  O   CYS B 238      48.901  10.250 -10.134  1.00  0.00
ATOM   6488  CB  CYS B 238      50.445  12.818 -11.574  1.00  0.00
ATOM   6489  SG  CYS B 238      49.823  11.958 -13.043  1.00  0.00
ATOM   6490  H   CYS B 238      50.618  14.273  -9.459  1.00  0.00
ATOM   6491  HA  CYS B 238      48.653  12.683 -10.692  1.00  0.00
ATOM   6492 1HB  CYS B 238      50.412  13.882 -11.810  1.00  0.00
ATOM   6493 2HB  CYS B 238      51.482  12.504 -11.456  1.00  0.00
ATOM   6494  HG  CYS B 238      50.730  12.447 -13.884  1.00  0.00
ATOM   6495  N   LYS B 239      50.878  10.810  -9.158  1.00  0.00
ATOM   6496  CA  LYS B 239      51.114   9.468  -8.622  1.00  0.00
ATOM   6497  C   LYS B 239      49.977   8.878  -7.803  1.00  0.00
ATOM   6498  O   LYS B 239      49.727   7.680  -7.829  1.00  0.00
ATOM   6499  CB  LYS B 239      52.383   9.478  -7.769  1.00  0.00
ATOM   6500  CG  LYS B 239      53.674   9.635  -8.563  1.00  0.00
ATOM   6501  CD  LYS B 239      54.890   9.628  -7.649  1.00  0.00
ATOM   6502  CE  LYS B 239      56.178   9.809  -8.439  1.00  0.00
ATOM   6503  NZ  LYS B 239      57.374   9.829  -7.555  1.00  0.00
ATOM   6504  H   LYS B 239      51.537  11.550  -9.008  1.00  0.00
ATOM   6505  HA  LYS B 239      51.239   8.760  -9.442  1.00  0.00
ATOM   6506 1HB  LYS B 239      52.288  10.304  -7.064  1.00  0.00
ATOM   6507 2HB  LYS B 239      52.408   8.535  -7.222  1.00  0.00
ATOM   6508 1HG  LYS B 239      53.747   8.810  -9.273  1.00  0.00
ATOM   6509 2HG  LYS B 239      53.633  10.579  -9.106  1.00  0.00
ATOM   6510 1HD  LYS B 239      54.787  10.441  -6.928  1.00  0.00
ATOM   6511 2HD  LYS B 239      54.920   8.676  -7.119  1.00  0.00
ATOM   6512 1HE  LYS B 239      56.263   8.986  -9.147  1.00  0.00
ATOM   6513 2HE  LYS B 239      56.115  10.751  -8.984  1.00  0.00
ATOM   6514 1HZ  LYS B 239      58.206   9.950  -8.116  1.00  0.00
ATOM   6515 2HZ  LYS B 239      57.296  10.592  -6.898  1.00  0.00
ATOM   6516 3HZ  LYS B 239      57.435   8.956  -7.049  1.00  0.00
ATOM   6517  N   GLN B 240      49.275   9.769  -7.086  1.00  0.00
ATOM   6518  CA  GLN B 240      48.170   9.286  -6.257  1.00  0.00
ATOM   6519  C   GLN B 240      46.864   9.102  -7.024  1.00  0.00
ATOM   6520  O   GLN B 240      45.806   9.608  -6.667  1.00  0.00
ATOM   6521  CB  GLN B 240      47.934  10.251  -5.092  1.00  0.00
ATOM   6522  CG  GLN B 240      49.108  10.373  -4.136  1.00  0.00
ATOM   6523  CD  GLN B 240      49.423   9.064  -3.436  1.00  0.00
ATOM   6524  OE1 GLN B 240      48.522   8.365  -2.963  1.00  0.00
ATOM   6525  NE2 GLN B 240      50.705   8.726  -3.363  1.00  0.00
ATOM   6526  H   GLN B 240      49.450  10.749  -7.190  1.00  0.00
ATOM   6527  HA  GLN B 240      48.411   8.296  -5.868  1.00  0.00
ATOM   6528 1HB  GLN B 240      47.712  11.224  -5.530  1.00  0.00
ATOM   6529 2HB  GLN B 240      47.058   9.887  -4.554  1.00  0.00
ATOM   6530 1HG  GLN B 240      50.053  10.836  -4.418  1.00  0.00
ATOM   6531 2HG  GLN B 240      48.582  11.021  -3.435  1.00  0.00
ATOM   6532 1HE2 GLN B 240      50.973   7.874  -2.913  1.00  0.00
ATOM   6533 2HE2 GLN B 240      51.403   9.323  -3.759  1.00  0.00
ATOM   6534  N   GLY B 241      46.990   8.376  -8.147  1.00  0.00
ATOM   6535  CA  GLY B 241      45.834   8.187  -9.021  1.00  0.00
ATOM   6536  C   GLY B 241      45.357   9.431  -9.760  1.00  0.00
ATOM   6537  O   GLY B 241      44.353   9.418 -10.468  1.00  0.00
ATOM   6538  H   GLY B 241      47.881   7.970  -8.355  1.00  0.00
ATOM   6539 1HA  GLY B 241      46.081   7.445  -9.782  1.00  0.00
ATOM   6540 2HA  GLY B 241      44.993   7.831  -8.428  1.00  0.00
ATOM   6541  N   TYR B 242      46.108  10.521  -9.576  1.00  0.00
ATOM   6542  CA  TYR B 242      45.644  11.785 -10.125  1.00  0.00
ATOM   6543  C   TYR B 242      46.216  12.043 -11.506  1.00  0.00
ATOM   6544  O   TYR B 242      46.949  12.990 -11.757  1.00  0.00
ATOM   6545  CB  TYR B 242      45.928  12.897  -9.107  1.00  0.00
ATOM   6546  CG  TYR B 242      45.460  14.260  -9.566  1.00  0.00
ATOM   6547  CD1 TYR B 242      44.140  14.429 -10.025  1.00  0.00
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ATOM   6548  CD2 TYR B 242      46.378  15.328  -9.518  1.00  0.00
ATOM   6549  CE1 TYR B 242      43.737  15.695 -10.466  1.00  0.00
ATOM   6550  CE2 TYR B 242      45.971  16.600  -9.952  1.00  0.00
ATOM   6551  CZ  TYR B 242      44.655  16.763 -10.428  1.00  0.00
ATOM   6552  OH  TYR B 242      44.244  18.002 -10.872  1.00  0.00
ATOM   6553  H   TYR B 242      47.016  10.449  -9.160  1.00  0.00
ATOM   6554  HA  TYR B 242      44.561  11.761 -10.245  1.00  0.00
ATOM   6555 1HB  TYR B 242      45.419  12.625  -8.182  1.00  0.00
ATOM   6556 2HB  TYR B 242      47.004  12.914  -8.939  1.00  0.00
ATOM   6557  HD1 TYR B 242      43.469  13.570 -10.024  1.00  0.00
ATOM   6558  HD2 TYR B 242      47.384  15.141  -9.146  1.00  0.00
ATOM   6559  HE1 TYR B 242      42.722  15.856 -10.828  1.00  0.00
ATOM   6560  HE2 TYR B 242      46.669  17.437  -9.917  1.00  0.00
ATOM   6561  HH  TYR B 242      44.801  18.669 -10.489  1.00  0.00
ATOM   6562  N   ARG B 243      45.814  11.142 -12.416  1.00  0.00
ATOM   6563  CA  ARG B 243      46.341  11.183 -13.787  1.00  0.00
ATOM   6564  C   ARG B 243      46.229  12.533 -14.487  1.00  0.00
ATOM   6565  O   ARG B 243      47.068  12.943 -15.279  1.00  0.00
ATOM   6566  CB  ARG B 243      45.716  10.094 -14.645  1.00  0.00
ATOM   6567  CG  ARG B 243      46.148   8.678 -14.297  1.00  0.00
ATOM   6568  CD  ARG B 243      45.509   7.622 -15.123  1.00  0.00
ATOM   6569  NE  ARG B 243      45.882   6.264 -14.760  1.00  0.00
ATOM   6570  CZ  ARG B 243      45.338   5.152 -15.293  1.00  0.00
ATOM   6571  NH1 ARG B 243      44.374   5.230 -16.183  1.00  0.00
ATOM   6572  NH2 ARG B 243      45.785   3.980 -14.880  1.00  0.00
ATOM   6573  H   ARG B 243      45.206  10.419 -12.088  1.00  0.00
ATOM   6574  HA  ARG B 243      47.412  10.978 -13.777  1.00  0.00
ATOM   6575 1HB  ARG B 243      44.636  10.178 -14.532  1.00  0.00
ATOM   6576 2HB  ARG B 243      45.990  10.308 -15.679  1.00  0.00
ATOM   6577 1HG  ARG B 243      47.228   8.602 -14.431  1.00  0.00
ATOM   6578 2HG  ARG B 243      45.897   8.487 -13.254  1.00  0.00
ATOM   6579 1HD  ARG B 243      44.427   7.701 -15.022  1.00  0.00
ATOM   6580 2HD  ARG B 243      45.788   7.770 -16.165  1.00  0.00
ATOM   6581  HE  ARG B 243      46.568   5.942 -14.090  1.00  0.00
ATOM   6582 1HH1 ARG B 243      44.031   6.135 -16.476  1.00  0.00
ATOM   6583 2HH1 ARG B 243      43.979   4.385 -16.570  1.00  0.00
ATOM   6584 1HH2 ARG B 243      46.515   3.938 -14.182  1.00  0.00
ATOM   6585 2HH2 ARG B 243      45.395   3.131 -15.262  1.00  0.00
ATOM   6586  N   ASP B 244      45.149  13.233 -14.113  1.00  0.00
ATOM   6587  CA  ASP B 244      44.933  14.612 -14.552  1.00  0.00
ATOM   6588  C   ASP B 244      46.146  15.523 -14.456  1.00  0.00
ATOM   6589  O   ASP B 244      46.419  16.325 -15.343  1.00  0.00
ATOM   6590  CB  ASP B 244      43.785  15.230 -13.751  1.00  0.00
ATOM   6591  CG  ASP B 244      42.404  14.708 -14.124  1.00  0.00
ATOM   6592  OD1 ASP B 244      42.294  14.046 -15.129  1.00  0.00
ATOM   6593  OD2 ASP B 244      41.506  14.839 -13.328  1.00  0.00
ATOM   6594  H   ASP B 244      44.427  12.794 -13.579  1.00  0.00
ATOM   6595  HA  ASP B 244      44.678  14.626 -15.612  1.00  0.00
ATOM   6596 1HB  ASP B 244      43.921  15.157 -12.672  1.00  0.00
ATOM   6597 2HB  ASP B 244      43.875  16.272 -14.060  1.00  0.00
ATOM   6598  N   GLY B 245      46.881  15.329 -13.348  1.00  0.00
ATOM   6599  CA  GLY B 245      48.115  16.075 -13.108  1.00  0.00
ATOM   6600  C   GLY B 245      49.090  16.093 -14.271  1.00  0.00
ATOM   6601  O   GLY B 245      49.712  17.103 -14.568  1.00  0.00
ATOM   6602  H   GLY B 245      46.595  14.630 -12.693  1.00  0.00
ATOM   6603 1HA  GLY B 245      47.866  17.112 -12.883  1.00  0.00
ATOM   6604 2HA  GLY B 245      48.637  15.636 -12.259  1.00  0.00
ATOM   6605  N   LEU B 246      49.171  14.937 -14.953  1.00  0.00
ATOM   6606  CA  LEU B 246      50.042  14.889 -16.125  1.00  0.00
ATOM   6607  C   LEU B 246      49.668  15.878 -17.223  1.00  0.00
ATOM   6608  O   LEU B 246      50.510  16.552 -17.798  1.00  0.00
ATOM   6609  CB  LEU B 246      50.049  13.466 -16.697  1.00  0.00
ATOM   6610  CG  LEU B 246      50.936  13.263 -17.933  1.00  0.00
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ATOM   6611  CD1 LEU B 246      52.389  13.560 -17.588  1.00  0.00
ATOM   6612  CD2 LEU B 246      50.782  11.836 -18.440  1.00  0.00
ATOM   6613  H   LEU B 246      48.610  14.148 -14.694  1.00  0.00
ATOM   6614  HA  LEU B 246      51.056  15.167 -15.838  1.00  0.00
ATOM   6615 1HB  LEU B 246      50.469  12.934 -15.845  1.00  0.00
ATOM   6616 2HB  LEU B 246      49.039  13.104 -16.890  1.00  0.00
ATOM   6617  HG  LEU B 246      50.567  13.934 -18.710  1.00  0.00
ATOM   6618 1HD1 LEU B 246      53.010  13.413 -18.471  1.00  0.00
ATOM   6619 2HD1 LEU B 246      52.479  14.592 -17.249  1.00  0.00
ATOM   6620 3HD1 LEU B 246      52.719  12.888 -16.797  1.00  0.00
ATOM   6621 1HD2 LEU B 246      51.411  11.694 -19.319  1.00  0.00
ATOM   6622 2HD2 LEU B 246      51.083  11.137 -17.659  1.00  0.00
ATOM   6623 3HD2 LEU B 246      49.741  11.655 -18.707  1.00  0.00
ATOM   6624  N   ARG B 247      48.346  15.974 -17.460  1.00  0.00
ATOM   6625  CA  ARG B 247      47.914  16.998 -18.420  1.00  0.00
ATOM   6626  C   ARG B 247      48.157  18.407 -17.901  1.00  0.00
ATOM   6627  O   ARG B 247      48.502  19.343 -18.607  1.00  0.00
ATOM   6628  CB  ARG B 247      46.464  16.815 -18.840  1.00  0.00
ATOM   6629  CG  ARG B 247      46.205  15.613 -19.734  1.00  0.00
ATOM   6630  CD  ARG B 247      44.775  15.401 -20.076  1.00  0.00
ATOM   6631  NE  ARG B 247      44.521  14.246 -20.922  1.00  0.00
ATOM   6632  CZ  ARG B 247      43.297  13.812 -21.278  1.00  0.00
ATOM   6633  NH1 ARG B 247      42.211  14.409 -20.836  1.00  0.00
ATOM   6634  NH2 ARG B 247      43.214  12.754 -22.066  1.00  0.00
ATOM   6635  H   ARG B 247      47.711  15.475 -16.871  1.00  0.00
ATOM   6636  HA  ARG B 247      48.495  16.911 -19.339  1.00  0.00
ATOM   6637 1HB  ARG B 247      45.879  16.717 -17.927  1.00  0.00
ATOM   6638 2HB  ARG B 247      46.167  17.723 -19.365  1.00  0.00
ATOM   6639 1HG  ARG B 247      46.755  15.748 -20.666  1.00  0.00
ATOM   6640 2HG  ARG B 247      46.565  14.719 -19.226  1.00  0.00
ATOM   6641 1HD  ARG B 247      44.208  15.262 -19.155  1.00  0.00
ATOM   6642 2HD  ARG B 247      44.402  16.279 -20.602  1.00  0.00
ATOM   6643  HE  ARG B 247      45.176  13.611 -21.359  1.00  0.00
ATOM   6644 1HH1 ARG B 247      42.292  15.206 -20.220  1.00  0.00
ATOM   6645 2HH1 ARG B 247      41.303  14.068 -21.116  1.00  0.00
ATOM   6646 1HH2 ARG B 247      44.058  12.297 -22.382  1.00  0.00
ATOM   6647 2HH2 ARG B 247      42.309  12.408 -22.347  1.00  0.00
ATOM   6648  N   PHE B 248      47.935  18.501 -16.585  1.00  0.00
ATOM   6649  CA  PHE B 248      48.068  19.793 -15.927  1.00  0.00
ATOM   6650  C   PHE B 248      49.489  20.296 -15.729  1.00  0.00
ATOM   6651  O   PHE B 248      49.704  21.454 -15.379  1.00  0.00
ATOM   6652  CB  PHE B 248      47.369  19.736 -14.568  1.00  0.00
ATOM   6653  CG  PHE B 248      45.876  19.598 -14.660  1.00  0.00
ATOM   6654  CD1 PHE B 248      45.215  19.839 -15.856  1.00  0.00
ATOM   6655  CD2 PHE B 248      45.129  19.228 -13.552  1.00  0.00
ATOM   6656  CE1 PHE B 248      43.842  19.713 -15.942  1.00  0.00
ATOM   6657  CE2 PHE B 248      43.756  19.100 -13.635  1.00  0.00
ATOM   6658  CZ  PHE B 248      43.112  19.343 -14.832  1.00  0.00
ATOM   6659  H   PHE B 248      47.685  17.685 -16.064  1.00  0.00
ATOM   6660  HA  PHE B 248      47.606  20.569 -16.539  1.00  0.00
ATOM   6661 1HB  PHE B 248      47.727  18.880 -13.998  1.00  0.00
ATOM   6662 2HB  PHE B 248      47.563  20.650 -14.009  1.00  0.00
ATOM   6663  HD1 PHE B 248      45.792  20.130 -16.734  1.00  0.00
ATOM   6664  HD2 PHE B 248      45.638  19.038 -12.606  1.00  0.00
ATOM   6665  HE1 PHE B 248      43.335  19.904 -16.887  1.00  0.00
ATOM   6666  HE2 PHE B 248      43.180  18.808 -12.757  1.00  0.00
ATOM   6667  HZ  PHE B 248      42.029  19.244 -14.898  1.00  0.00
ATOM   6668  N   LEU B 249      50.442  19.384 -15.979  1.00  0.00
ATOM   6669  CA  LEU B 249      51.861  19.725 -15.921  1.00  0.00
ATOM   6670  C   LEU B 249      52.275  20.828 -16.884  1.00  0.00
ATOM   6671  O   LEU B 249      53.056  21.718 -16.561  1.00  0.00
ATOM   6672  OXT LEU B 249      51.834  20.847 -18.000  1.00  0.00
ATOM   6673  CB  LEU B 249      52.700  18.468 -16.190  1.00  0.00
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ATOM   6674  CG  LEU B 249      54.217  18.660 -16.074  1.00  0.00
ATOM   6675  CD1 LEU B 249      54.594  18.990 -14.636  1.00  0.00
ATOM   6676  CD2 LEU B 249      54.926  17.396 -16.541  1.00  0.00
ATOM   6677  H   LEU B 249      50.172  18.436 -16.153  1.00  0.00
ATOM   6678  HA  LEU B 249      52.103  20.115 -14.933  1.00  0.00
ATOM   6679 1HB  LEU B 249      52.339  17.839 -15.378  1.00  0.00
ATOM   6680 2HB  LEU B 249      52.446  18.010 -17.145  1.00  0.00
ATOM   6681  HG  LEU B 249      54.495  19.468 -16.753  1.00  0.00
ATOM   6682 1HD1 LEU B 249      55.674  19.124 -14.565  1.00  0.00
ATOM   6683 2HD1 LEU B 249      54.094  19.909 -14.331  1.00  0.00
ATOM   6684 3HD1 LEU B 249      54.287  18.173 -13.983  1.00  0.00
ATOM   6685 1HD2 LEU B 249      56.005  17.534 -16.460  1.00  0.00
ATOM   6686 2HD2 LEU B 249      54.619  16.556 -15.920  1.00  0.00
ATOM   6687 3HD2 LEU B 249      54.664  17.195 -17.580  1.00  0.00
TER
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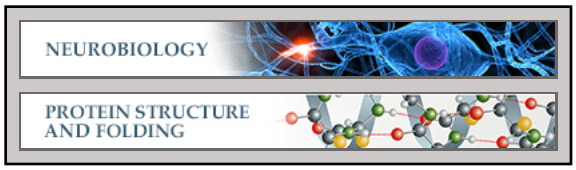

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