

**glmS RIBOSWITCHES, STRUCTURE-BASED COMPOUND DESIGN WITH
glmS RIBOSWITCHES, AND METHODS AND COMPOSITIONS FOR USE OF AND
WITH glmS RIBOSWITCHES**

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims benefit of U.S. Provisional Application No. 60/842,870, filed September 6, 2006 and U.S. Provisional Application No. 60/844,844, filed September 16, 2006. U.S. Provisional Application No. 60/842,870, filed September 6, 2006 and U.S. Provisional Application No. 60/844,844, filed September 16, 2006, are hereby incorporated herein by reference in their entirety.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

This invention was made with government support under Grant Nos. MCB 0544255 and EIA-032351 awarded by the National Science Foundation; Grant No. W911NF-04-1-0416 awarded by DARPA; and Grant NIH R33-DK070270 awarded by the NIH. The government has certain rights in the invention.

FIELD OF THE INVENTION

The disclosed invention is generally in the field of gene expression and specifically in the area of regulation of gene expression.

BACKGROUND OF THE INVENTION

Precision genetic control is an essential feature of living systems, as cells must respond to a multitude of biochemical signals and environmental cues by varying genetic expression patterns. Most known mechanisms of genetic control involve the use of protein factors that sense chemical or physical stimuli and then modulate gene expression by selectively interacting with the relevant DNA or messenger RNA sequence. Proteins can adopt complex shapes and carry out a variety of functions that permit living systems to sense accurately their chemical and physical environments. Protein factors that respond to metabolites typically act by binding DNA to modulate transcription initiation (e.g. the lac repressor protein; Matthews, K.S., and Nichols, J.C., 1998, *Prog. Nucleic Acids Res. Mol. Biol.* 58, 127-164) or by binding RNA to control either transcription termination (e.g. the PyrR protein; Switzer, R.L., et al., 1999, *Prog. Nucleic Acids Res. Mol. Biol.* 62, 329-367) or translation (e.g. the TRAP protein; Babitzke, P., and Gollnick, P., 2001, *J. Bacteriol.* 183, 5795-5802). Protein factors respond to environmental stimuli by various mechanisms such as allosteric modulation or post-translational modification, and are adept at exploiting these mechanisms to serve as highly responsive genetic switches (e.g.

see Ptashne, M., and Gann, A. (2002). *Genes and Signals*. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY).

In addition to the widespread participation of protein factors in genetic control, it is also known that RNA can take an active role in genetic regulation. Recent studies have begun to reveal the substantial role that small non-coding RNAs play in selectively targeting mRNAs for destruction, which results in down-regulation of gene expression (*e.g.* see Hannon, G.J. 2002, *Nature* 418, 244-251 and references therein). This process of RNA interference takes advantage of the ability of short RNAs to recognize the intended mRNA target selectively via Watson-Crick base complementation, after which the bound mRNAs are destroyed by the action of proteins. RNAs are ideal agents for molecular recognition in this system because it is far easier to generate new target-specific RNA factors through evolutionary processes than it would be to generate protein factors with novel but highly specific RNA binding sites.

Although proteins fulfill most requirements that biology has for enzyme, receptor and structural functions, RNA also can serve in these capacities. For example, RNA has sufficient structural plasticity to form numerous ribozyme domains (Cech & Golden, Building a catalytic active site using only RNA. In: *The RNA World* R. F. Gesteland, T. R. Cech, J. F. Atkins, eds., pp.321-350 (1998); Breaker, *In vitro* selection of catalytic polynucleotides. *Chem. Rev.* 97, 371-390 (1997)) and receptor domains (Osborne & Ellington, Nucleic acid selection and the challenge of combinatorial chemistry. *Chem. Rev.* 97, 349-370 (1997); Hermann & Patel, Adaptive recognition by nucleic acid aptamers. *Science* 287, 820-825 (2000)) that exhibit considerable enzymatic power and precise molecular recognition. Furthermore, these activities can be combined to create allosteric ribozymes (Soukup & Breaker, Engineering precision RNA molecular switches. *Proc. Natl. Acad. Sci. USA* 96, 3584-3589 (1999); Seetharaman et al., Immobilized riboswitches for the analysis of complex chemical and biological mixtures. *Nature Biotechnol.* 19, 336-341 (2001)) that are selectively modulated by effector molecules.

Bacterial riboswitch RNAs are genetic control elements that are located primarily within the 5'-untranslated region (5'-UTR) of the main coding region of a particular mRNA. Structural probing studies (discussed further below) reveal that riboswitch elements are generally composed of two domains: a natural aptamer (T. Hermann, D. J. Patel, *Science* 2000, 287, 820; L. Gold, et al., *Annual Review of Biochemistry* 1995, 64, 763) that serves as the ligand-binding domain, and an 'expression platform' that interfaces with RNA elements that are involved in gene expression (*e.g.* Shine-Dalgarno (SD) elements; transcription terminator stems). What is needed in the art are methods and compositions that can be used to regulate glmS riboswitches.

BRIEF SUMMARY OF THE INVENTION

It has been discovered that certain natural mRNAs serve as metabolite-sensitive genetic switches wherein the RNA directly binds a small organic molecule. This binding process changes the conformation of the mRNA, which causes a change in gene expression by a variety of different mechanisms. The natural switches are targets for antibiotics and other small molecule therapies.

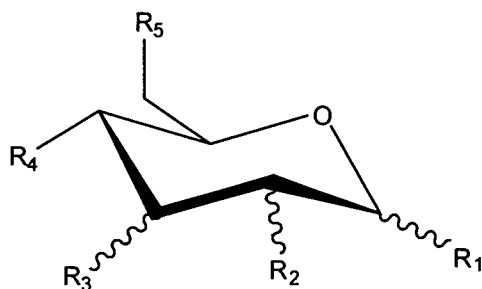
Disclosed are compounds, and compositions containing such compounds, that can activate, deactivate or block the glmS riboswitch. Also disclosed are compositions and methods for activating, deactivating or blocking the glmS riboswitch. Riboswitches function to control gene expression through the binding or removal of a trigger molecule. Compounds can be used to activate, deactivate or block a riboswitch. The trigger molecule for a riboswitch (as well as other activating compounds) can be used to activate a riboswitch. Compounds other than the trigger molecule generally can be used to deactivate or block a riboswitch. Riboswitches can also be deactivated by, for example, removing trigger molecules from the presence of the riboswitch. A riboswitch can be blocked by, for example, binding of an analog of the trigger molecule that does not activate the riboswitch.

Also disclosed are compositions and methods for altering expression of an RNA molecule, or of a gene encoding an RNA molecule, where the RNA molecule includes a glmS riboswitch, by bringing a compound into contact with the RNA molecule. Riboswitches function to control gene expression through the binding or removal of a trigger molecule. Thus, subjecting an RNA molecule of interest that includes a glmS riboswitch to conditions that activate, deactivate or block the riboswitch can be used to alter expression of the RNA. Expression can be altered as a result of, for example, termination of transcription or blocking of ribosome binding to the RNA. Binding of a trigger molecule or an analog thereof can, depending on the nature of the riboswitch, reduce or prevent expression of the RNA molecule or promote or increase expression of the RNA molecule.

Also disclosed are compositions and methods for regulating expression of a naturally occurring gene or RNA that contains a glmS riboswitch by activating, deactivating or blocking the riboswitch. If the gene is essential for survival of a cell or organism that harbors it, activating, deactivating or blocking the glmS riboswitch can result in death, stasis or debilitation of the cell or organism. For example, activating a naturally occurring riboswitch in a naturally occurring gene that is essential to survival of a microorganism can result in death of the microorganism (if activation of the riboswitch turns off or represses expression). This is one

basis for the use of the disclosed compounds and methods for antimicrobial and antibiotic effects.

Disclosed herein is a compound having the structure of Formula I:



or pharmaceutically acceptable salts thereof, physiologically hydrolyzable and acceptable esters thereof, or both, wherein R_1 is H, OH, SH, NH_2 , or CH_3 , wherein R_2 is $NH-R_6$, wherein R_6 is H, CH_3 , C_2H_5 , n-propyl, $C(O)CH_3$, $C(O)C_2H_5$, $C(O)n$ -propyl, $C(O)$ iso-propyl, $C(O)OCH_3$, $C(O)OC_2H_5$, $C(O)NH_2$, or NH_2 , wherein R_3 is H, OH, SH, NH_2 , or CH_3 , wherein R_4 is a hydrogen bond donor, wherein R_5 is a hydrogen bond acceptor, and wherein the compound is not glucosamine-6-phosphate. Also disclosed are compounds in which R_4 is OH, SH, NH_2 , NH_3^+ , CH_2OH , $CH(OH)CH_3$, CH_2CH_2OH , CH_2SH , $CH(SH)CH_3$, CH_2CH_2SH , CH_2NH_2 , $CH(NH_2)CH_3$, $CH_2CH_2NH_3$, CO_2H , $CONH_2$, $CONHalkyl$, $=NH$, $=NOH$, $=NSH$, $=NCO_2H$, $=CH_2$, $CH=NH$, $CH=NOH$, $CH=NSH$, $CH=NCO_2H$, OCH_2OH , OCH_2CH_2OH , $PhOH$, $NHalkyl$, $NHNH_2$, $NHNHalkyl$, $NHCOalkyl$, $NHCO_2alkyl$, $NHCONH_2$, $NHSO_2alkyl$, or $NHOalkyl$. Also disclosed are compounds in which R_4 is not OH when R_1 is H or OH and R_2 is NH_2 or $NHCH_3$. Further disclosed are compounds in which R_5 is $OP(O)(OH)_2$, $OP(S)(OH)_2$, $OP(O)OHSH$, $OS(O)_2OH$, or $OS(O)_2SH$. Also disclosed are compounds in which R_5 is $OS(O)_2OH$ or $OS(O)_2SH$. Furthermore, R_5 can be negatively charged. Further disclosed are compounds in which R_5 is $=O$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$, $CONHSO_2OH$, $CONHSO_2R_9$, SO_2R_9 , SO_3H , SO_2NHR_9 , $SO_2N(R_9)_2$, $PO(R_9)_2$, $PO_2(R_9)_2$, $PO(OR_9)_2$, $PO_2(OH)R_9$, $PO_2R_9N(R_9)_2$, $NHCH(NR_9)_2$, $NHCOR_9$, $NHCO_2R_9$, $NHCONHR_9$, $NHCON(R_9)_2$, $NHCONHR_9$, $N(COR_9)_2$, $N(CO_2R_9)_2$, $NHSO_2R_9$, $NR_9SO_2R_9$, $NHSO_2NHR_9$, $NR_9SO_2NH_2$, $NHPO(R_9)_2$, $NR_9PO(R_9)_2$, $NHPO_2OR_9$, or $B(OH_2)_2$, and wherein R_9 is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, $-C(CH_3)_3$, or $-CF_3$. Also disclosed are compounds in which R_5 is $=O$, OH, OR_9 , COR_9 , CN, NO_2 , tetrazole, SOR_9 , $N(R_9)_2$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$,

CONHSO₂OH, CONHSO₂R₉, SO₂R₉, SO₃H, SO₂NHR₉, SO₂N(R₉)₂, PO(R₉)₂, PO₂(R₉)₂, PO(OR₉)₂, PO₂(OH)R₉, PO₂R₉N(R₉)₂, NHCH(NR₉)₂, NHCOR₉, NHCO₂R₉, NHCONHR₉, NHCON(R₉)₂, NHCONHR₉, N(COR₉)₂, N(CO₂R₉)₂, NHSO₂R₉, NR₉SO₂R₉, NHSO₂NHR₉, NR₉SO₂NH₂, NHPO(R₉)₂, NR₉PO(R₉)₂, NHPO₂OR₉, or B(OH₂)₂, and R₉ is -H, -CH₃, -C₂H₅, -CH₂CH₂CH₃, -CH(CH₃)₂, -(CH₂)₃CH₃, -CH₂CH(CH₃)₂, -CH(CH₃)CH₂(CH₃), -C(CH₃)₃, or -CF₃. Also disclosed are compounds in which R₄ is NH₂, NH₃⁺, OH, SH, NOH, NHNH₂, NHNH₃⁺, CO₂H, SO₂OH, B(OH)₂, or imidazolium. Also disclosed are compounds in which R₄ is NH₂, NH₃⁺, SH, NOH, NHNH₂, NHNH₃⁺, CO₂H, SO₂OH, B(OH)₂, or imidazolium. The compounds disclosed above can activate a glmS-responsive riboswitch.

Also disclosed herein is a method of inhibiting gene expression, the method comprising bringing into contact a compound as disclosed above and a cell, wherein the cell comprises a gene encoding an RNA comprising a glmS-responsive riboswitch, wherein the compound inhibits expression of the gene by binding to the glmS-responsive riboswitch. The cell can be a bacterial cell, for example, and the compound can kill or inhibit the bacterial cell. The cell can contain a glmS riboswitch. The cell can be *Bacillus* or *Staphylococcus*.

Also disclosed is a method of inhibiting gene expression in a cell and/or inhibiting cell growth in a subject containing the cell by bringing into contact a compound and the cell by administering the compound to a subject. In some forms of the method, the compound is not a substrate for enzymes of the subject that have glucosamine-6-phosphate as a substrate. In some forms of the method, the compound is not a substrate for enzymes of the subject that alter glucosamine-6-phosphate. In some forms of the method, the compound is not a substrate for enzymes of the subject that metabolize glucosamine-6-phosphate. In some forms of the method, the compound is not a substrate for enzymes of the subject that catabolize glucosamine-6-phosphate. In some forms of the method, the cell is a bacterial cell in the subject, wherein the compound kills or inhibits the growth of the bacterial cell. In some forms of the method, the subject has a bacterial infection. In some forms of the method, the compound is administered in combination with another antimicrobial compound. In some forms of the method, the compound inhibits bacterial growth in a biofilm.

Further disclosed is a composition comprising the compound described above and a regulatable gene expression construct comprising a nucleic acid molecule encoding an RNA comprising a glmS riboswitch operably linked to a coding region, wherein the glmS riboswitch regulates expression of the RNA, wherein the glmS riboswitch and coding region are heterologous. The glmS riboswitch can produce a signal when activated by the compound. For

example, the riboswitch can change conformation when activated by the compound, and the change in conformation can produce a signal via a conformation dependent label. Furthermore, the riboswitch can change conformation when activated by the compound, wherein the change in conformation causes a change in expression of the coding region linked to the riboswitch, wherein the change in expression produces a signal. The signal can be produced by a reporter protein expressed from the coding region linked to the riboswitch.

Also disclosed is a method comprising: (a) testing the compound as described above for inhibition of gene expression of a gene encoding an RNA comprising a glmS riboswitch, wherein the inhibition is via the glmS riboswitch, and (b) inhibiting gene expression by bringing into contact a cell and a compound that inhibited gene expression in step (a), wherein the cell comprises a gene encoding an RNA comprising the glmS riboswitch, wherein the compound inhibits expression of the gene by binding to the glmS riboswitch.

Also disclosed are the crystalline atomic structures of riboswitches. For example, disclosed is the atomic structure of a natural glmS-responsive riboswitch comprising an atomic structure comprising the atomic coordinates listed in Table 2, the atomic structure of the active site and binding pocket as depicted in Figure 9, and the atomic coordinates of the active site and binding pocket depicted in Figure 9 contained within Table 2. The atomic coordinates of the binding pocket depicted in Figure 9 contained within Table 2 is referred to herein as the binding pocket atomic structure. The atomic coordinates of the active site depicted in Figure 9 contained within Table 2 is referred to herein as the active site atomic structure. These structures are useful in modeling and assessing the interaction of a riboswitch with a binding ligand. They are also useful in methods of identifying compounds that interact with the riboswitch. Any useful portion of the structure can be used for purposed and modeling as described herein. In particular, the active site or binding pocket atomic structure, with or without additional surrounding structure, can be modeled and used in the disclosed methods.

Also disclosed are methods of identifying a compound that interacts with a riboswitch comprising modeling the atomic structure of the riboswitch with a test compound and determining if the test compound interacts with the riboswitch. This can be done by determining the atomic contacts of the riboswitch and test compound. Furthermore, analogs of a compound known to interact with a riboswitch can be generated by analyzing the atomic contacts, then optimizing the atomic structure of the analog to maximize interaction. These methods can be used with a high throughput screen.

Further disclosed is a method of identifying a compound that interacts with a riboswitch comprising: modeling the atomic structure of a glmS riboswitch with a test compound; and determining if the test compound interacts with the riboswitch. Furthermore, determining if the test compound interacts with the riboswitch can comprise determining a predicted minimum interaction energy, a predicted binding constant, a predicted dissociation constant, or a combination, for the test compound in the model of the riboswitch. Determining if the test compound interacts with the riboswitch can comprise determining one or more predicted bonds, one or more predicted interactions, or a combination, of the test compound with the model of the riboswitch. Atomic contacts can be determined, thereby determining the interaction of the test compound with the riboswitch. The method of identifying a compound that interacts with a riboswitch can further comprise the steps of: identifying analogs of the test compound; and determining if the analogs of the test compound interact with the riboswitch.

Further disclosed is a method of killing or inhibiting the growth of bacteria, comprising contacting the bacteria with a compound identified by the method disclosed above. Further disclosed is a method of killing bacteria, comprising contacting the bacteria with a compound identified by the method disclosed above. A gel-based assay or a chip-based assay can be used to determine if the test compound interacts with the riboswitch. The test compound can interact via van der Waals interactions, hydrogen bonds, electrostatic interactions, hydrophobic interactions, or a combination. The riboswitch can comprise an RNA cleaving ribozyme, for example. A fluorescent signal can be generated when a nucleic acid comprising a quenching moiety is cleaved. Molecular beacon technology can be employed to generate the fluorescent signal. The methods disclosed herein can be carried out using a high throughput screen.

Also disclosed are compositions and methods for selecting and identifying compounds that can activate, deactivate or block a riboswitch. Activation of a riboswitch refers to the change in state of the riboswitch upon binding of a trigger molecule. A riboswitch can be activated by compounds other than the trigger molecule and in ways other than binding of a trigger molecule. The term trigger molecule is used herein to refer to molecules and compounds that can activate a riboswitch. This includes the natural or normal trigger molecule for the riboswitch and other compounds that can activate the riboswitch. Natural or normal trigger molecules are the trigger molecule for a given riboswitch in nature or, in the case of some non-natural riboswitches, the trigger molecule for which the riboswitch was designed or with which the riboswitch was selected (as in, for example, *in vitro* selection or *in vitro* evolution techniques). Non-natural trigger molecules can be referred to as non-natural trigger molecules.

Deactivation of a riboswitch refers to the change in state of the riboswitch when the trigger molecule is not bound. A riboswitch can be deactivated by binding of compounds other than the trigger molecule and in ways other than removal of the trigger molecule. Blocking of a riboswitch refers to a condition or state of the riboswitch where the presence of the trigger molecule does not activate the riboswitch. Activation of a riboswitch can be assessed in any suitable manner. For example, the riboswitch can be linked to a reporter RNA and expression, expression level, or change in expression level of the reporter RNA can be measured in the presence and absence of the test compound. As another example, the riboswitch can include a conformation dependent label, the signal from which changes depending on the activation state of the riboswitch. Such a riboswitch preferably uses an aptamer domain from or derived from a naturally occurring riboswitch. As can be seen, assessment of activation of a riboswitch can be performed with the use of a control assay or measurement or without the use of a control assay or measurement. Methods for identifying compounds that deactivate a riboswitch can be performed in analogous ways.

Also disclosed are compounds made by identifying a compound that activates, deactivates or blocks a riboswitch and manufacturing the identified compound. This can be accomplished by, for example, combining compound identification methods as disclosed elsewhere herein with methods for manufacturing the identified compounds. For example, compounds can be made by bringing into contact a test compound and a riboswitch, assessing activation of the riboswitch, and, if the riboswitch is activated by the test compound, manufacturing the test compound that activates the riboswitch as the compound.

Also disclosed are compounds made by checking activation, deactivation or blocking of a riboswitch by a compound and manufacturing the checked compound. This can be accomplished by, for example, combining compound activation, deactivation or blocking assessment methods as disclosed elsewhere herein with methods for manufacturing the checked compounds. For example, compounds can be made by bringing into contact a test compound and a riboswitch, assessing activation of the riboswitch, and, if the riboswitch is activated by the test compound, manufacturing the test compound that activates the riboswitch as the compound. Checking compounds for their ability to activate, deactivate or block a riboswitch refers to both identification of compounds previously unknown to activate, deactivate or block a riboswitch and to assessing the ability of a compound to activate, deactivate or block a riboswitch where the compound was already known to activate, deactivate or block the riboswitch.

Disclosed herein is also a method of inhibiting growth of a cell, such as a bacterial cell, that is in a subject, the method comprising administering an effective amount of a compound as disclosed herein to the subject. This can result in the compound being brought into contact with the cell. The subject can have, for example, a bacterial infection, and the bacterial cells can be the cells to be inhibited by the compound. The bacteria can be any bacteria, such as bacteria from the genus *Bacillus* or *Staphylococcus*, for example. Bacterial growth can also be inhibited in any context in which bacteria are found. For example, bacterial growth in fluids, biofilms, and on surfaces can be inhibited. The compounds disclosed herein can be administered or used in combination with any other compound or composition. For example, the disclosed compounds can be administered or used in combination with another antimicrobial compound.

Additional advantages of the disclosed method and compositions will be set forth in part in the description which follows, and in part will be understood from the description, or can be learned by practice of the disclosed method and compositions. The advantages of the disclosed method and compositions will be realized and attained by means of the elements and combinations particularly pointed out in the appended claims. It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the invention as claimed.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate several embodiments of the disclosed method and compositions and together with the description, serve to explain the principles of the disclosed method and compositions.

Figure 1 shows structural information for the *glmS* ribozyme. a) Secondary structure model of the *glmS* ribozyme from *B. cereus* and b) the equilibrium of β -anomer (1a), acyclic form (1b), and α -anomer (1c) of GlcN6P, the ligand of *glmS* ribozyme. The secondary structure model was adapted from a model for the *glmS* ribozyme from *Thermoanaerobacter tengcongensis* based on x-ray data.

Figure 2 shows GlcN6P analogs and their influence on *glmS* ribozyme self-cleavage. a) Chemical structures of GlcN6P analogs. Differences from GlcN6P can be seen by comparing the structures to GlcN6P. b) Yields of ribozyme cleavage assays using a 200-nucleotide *glmS* RNA construct incubated with GlcN6P (1) or with various compounds as indicated. 5' ³²P-labeled precursor (Pre) RNAs were incubated for 30 minutes in the presence of 1 mM effector as noted

for each lane. Bar designated (–) reveals the extent of RNA cleavage when a reaction containing 1 mM GlcN6P was terminated with loading buffer at time zero. Data for all assays was corrected for the amount of cleaved RNA present in the reaction generating the lowest amount of cleavage (reaction containing 7). Open bars designate active compounds that were further examined to establish ribozyme rate constants. c) Observed rate constants (k_{obs}) for ribozyme cleavage and the ratio of rate constants (k_1/k) measured using GlcN6P (1) versus the most active GlcN6P analogs, each at 100 μM . Rate constants for the remaining compounds are estimated to be less than 0.001 min^{-1} .

Figure 3 shows observed rate constants for ribozyme self-cleavage at different concentrations of 8. Inset depicts three representative assays wherein radiolabeled precursor (Pre) are incubated for various times with different concentrations (c) of 8 as indicated. Cleaved (Clv) RNAs are separated by polyacrylamide gel electrophoresis (PAGE). Aliquots of ribozyme reactions were removed and terminated at 0, 4, 15.3 and 19.5 hours.

Figure 4 shows predicted molecular recognition determinants of *glmS* ribozymes. Confirmation of the precise type or number of molecular contacts for some functional groups requires testing of additional analogs.

Figure 5 shows concentration-dependent activation of the 200-nucleotide *glmS* ribozyme of *B. cereus* by GlcN6P analogs. Data for compounds 13 (filled squares), 9 (open squares), 8 (open triangles), 12 (open circles), and 4 (filled triangles) are depicted. The data for 8 is also presented in Figure 3 of the main text.

Figure 6 shows the three dimensional crystal structure of the *glmS* riboswitch, the control of which is essential to bacterial cell wall biosynthesis and viability. The structure of the riboswitch shown is that of *Bacillus anthracis*. The structure reveals the three dimensional arrangement of the RNA in this ribozyme/riboswitch and shows the small molecular effector, glucosamine-6-phosphate, bound in the RNA's active site.

Figure 7A and 7B show the sequences and structures of two *glmS* ribozymes. **A.** A unimolecular *glmS* ribozyme from *B. subtilis* (from 5' end to 3' end, SEQ ID NOs:1-8). Arrow identifies the site of ribozyme-mediate cleavage stimulated by GlcN6P (Wolfson, Chem Biol 2006; 13: 1-3). **B.** A bimolecular *glmS* ribozyme construct derived from *S. aureus* (from 5' end to 3' end, SEQ ID NOs:9-18). This construct differs from the wild-type *glmS* ribozyme due to truncation of the P1 stem and the use of a 15-nucleotide substrate RNA (shown in grey; SEQ ID NOs:9 and 10). The substrate is labeled with a Cy3TM acceptor at its 5'-terminus and a 5/6-FAM donor at its 3'-terminus.

Figure 8 shows the consensus sequence and structure for glmS ribozymes. Arrowhead identifies the site of cleavage. Circled nucleotides are conserved in at least 97% of glmS ribozyme representatives.

Figure 9A, 9B, and 9C show GlcN6P binding by the *Bacillus anthracis* glmS ribozyme. (A) Phosphate coordination by two magnesium ions in the GlmS ribozyme. Nucleotides in P2.1, A28, and G1 use water-mediated contacts to organize two hydrated magnesium ions and orient the GlcN6P phosphate oxygens in the active site. (B) Recognition of the GlcN6P sugar ring by nucleobase functional groups. The sugar contacts nucleotides A-42, U43 and G57, and the sugar and 3'-phosphate of G1. The quinine base at G1, which stacks on top of GlcN6P (Figure 9A), is not shown to allow the hydrogen bonding contacts to be visualized. (C) Active site interactions expected to stabilize this conformation are depicted as thin dashed lines. The catalytically critical interactions between the ethanolamine moiety of GlcN6P and the reactive phosphate are shown as thicker dashed lines. The scissile phosphate, 5'-O leaving group (which has been methylated), and 2'-O nucleophile are shown as spheres. The nucleotides are identified by numbering used for the glmS riboswitch in Cochrane 2007, which is hereby incorporated by reference for this numbering.

DETAILED DESCRIPTION OF THE INVENTION

The disclosed methods and compositions can be understood more readily by reference to the following detailed description of particular embodiments and the Examples included therein and to the Figures and their previous and following description.

Messenger RNAs are typically thought of as passive carriers of genetic information that are acted upon by protein- or small RNA-regulatory factors and by ribosomes during the process of translation. It was discovered that certain mRNAs carry natural aptamer domains and that binding of specific metabolites directly to these RNA domains leads to modulation of gene expression. Natural riboswitches exhibit two surprising functions that are not typically associated with natural RNAs. First, the mRNA element can adopt distinct structural states wherein one structure serves as a precise binding pocket for its target metabolite. Second, the metabolite-induced allosteric interconversion between structural states causes a change in the level of gene expression by one of several distinct mechanisms. Riboswitches typically can be dissected into two separate domains: one that selectively binds the target (aptamer domain) and another that influences genetic control (expression platform). It is the dynamic interplay

between these two domains that results in metabolite-dependent allosteric control of gene expression.

Distinct classes of riboswitches have been identified and are shown to selectively recognize activating compounds (referred to herein as trigger molecules). For example, coenzyme B₁₂, glycine, thiamine pyrophosphate (TPP), and flavin mononucleotide (FMN) activate riboswitches present in genes encoding key enzymes in metabolic or transport pathways of these compounds. The aptamer domain of each riboswitch class conforms to a highly conserved consensus sequence and structure. Thus, sequence homology searches can be used to identify related riboswitch domains. Riboswitch domains have been discovered in various organisms from bacteria, archaea, and eukarya.

The *glmS* ribozyme is a cis-cleaving catalytic riboswitch located in the 5'-UTR of bacterial mRNA that codes for glucosamine-6-phosphate synthetase (Winkler 2004). The ribozyme can be specifically activated for *glmS*-mRNA cleavage by the metabolite glucosamine-6-phosphate (GlcN6P), that is, the metabolic product of the *glmS*-encoded protein itself. This regulation thus relies on a feedback-inhibition mechanism that senses the presence of metabolites that serve as cell-wall precursors (Mayer and Famulok, *ChemBioChem* 2006, Vol. 7, p. 602-604, hereby incorporated by reference in its entirety for its teaching concerning *glmS* riboswitches).

A. General Organization of Riboswitch RNAs

Bacterial riboswitch RNAs are genetic control elements that are located primarily within the 5'-untranslated region (5'-UTR) of the main coding region of a particular mRNA. Structural probing studies (discussed further below) reveal that riboswitch elements are generally composed of two domains: a natural aptamer (T. Hermann, D. J. Patel, *Science* 2000, 287, 820; L. Gold, et al., *Annual Review of Biochemistry* 1995, 64, 763) that serves as the ligand-binding domain, and an 'expression platform' that interfaces with RNA elements that are involved in gene expression (*e.g.* Shine-Dalgarno (SD) elements; transcription terminator stems). These conclusions are drawn from the observation that aptamer domains synthesized *in vitro* bind the appropriate ligand in the absence of the expression platform (see Examples 2, 3 and 6 of U.S. Application Publication No. 2005-0053951). Moreover, structural probing investigations suggest that the aptamer domain of most riboswitches adopts a particular secondary- and tertiary-structure fold when examined independently, that is essentially identical to the aptamer structure when examined in the context of the entire 5' leader RNA. This indicates that, in many cases, the

aptamer domain is a modular unit that folds independently of the expression platform (see Examples 2, 3 and 6 of U.S. Application Publication No. 2005-0053951).

Ultimately, the ligand-bound or unbound status of the aptamer domain is interpreted through the expression platform, which is responsible for exerting an influence upon gene expression. The view of a riboswitch as a modular element is further supported by the fact that aptamer domains are highly conserved amongst various organisms (and even between kingdoms as is observed for the TPP riboswitch), (N. Sudarsan, et al., *RNA* 2003, 9, 644) whereas the expression platform varies in sequence, structure, and in the mechanism by which expression of the appended open reading frame is controlled. For example, ligand binding to the TPP riboswitch of the *tenA* mRNA of *B. subtilis* causes transcription termination (A. S. Mironov, et al., *Cell* 2002, 111, 747). This expression platform is distinct in sequence and structure compared to the expression platform of the TPP riboswitch in the *thiM* mRNA from *E. coli*, wherein TPP binding causes inhibition of translation by a SD blocking mechanism (see Example 2 of U.S. Application Publication No. 2005-0053951). The TPP aptamer domain is easily recognizable and of near identical functional character between these two transcriptional units, but the genetic control mechanisms and the expression platforms that carry them out are very different.

Aptamer domains for riboswitch RNAs typically range from ~70 to 170 nt in length (Figure 11 of U.S. Application Publication No. 2005-0053951). This observation was somewhat unexpected given that *in vitro* evolution experiments identified a wide variety of small molecule-binding aptamers, which are considerably shorter in length and structural intricacy (T. Hermann, D. J. Patel, *Science* 2000, 287, 820; L. Gold, et al., *Annual Review of Biochemistry* 1995, 64, 763; M. Famulok, *Current Opinion in Structural Biology* 1999, 9, 324). Although the reasons for the substantial increase in complexity and information content of the natural aptamer sequences relative to artificial aptamers remains to be proven, this complexity is believed required to form RNA receptors that function with high affinity and selectivity. Apparent K_D values for the ligand-riboswitch complexes range from low nanomolar to low micromolar. It is also worth noting that some aptamer domains, when isolated from the appended expression platform, exhibit improved affinity for the target ligand over that of the intact riboswitch. (~10 to 100-fold) (see Example 2 of U.S. Application Publication No. 2005-0053951). Presumably, there is an energetic cost in sampling the multiple distinct RNA conformations required by a fully intact riboswitch RNA, which is reflected by a loss in ligand affinity. Since the aptamer domain must

serve as a molecular switch, this might also add to the functional demands on natural aptamers that might help rationalize their more sophisticated structures.

B. Riboswitch Regulation of Transcription Termination in Bacteria

Bacteria primarily make use of two methods for termination of transcription. Certain genes incorporate a termination signal that is dependent upon the Rho protein, (J. P. Richardson, *Biochimica et Biophysica Acta* 2002, 1577, 251). while others make use of Rho-independent terminators (intrinsic terminators) to destabilize the transcription elongation complex (I. Gusarov, E. Nudler, *Molecular Cell* 1999, 3, 495; E. Nudler, M. E. Gottesman, *Genes to Cells* 2002, 7, 755). The latter RNA elements are composed of a GC-rich stem-loop followed by a stretch of 6-9 uridyl residues. Intrinsic terminators are widespread throughout bacterial genomes (F. Lillo, et al., 2002, 18, 971), and are typically located at the 3'-termini of genes or operons. Interestingly, an increasing number of examples are being observed for intrinsic terminators located within 5'-UTRs.

Amongst the wide variety of genetic regulatory strategies employed by bacteria there is a growing class of examples wherein RNA polymerase responds to a termination signal within the 5'-UTR in a regulated fashion (T. M. Henkin, *Current Opinion in Microbiology* 2000, 3, 149). During certain conditions the RNA polymerase complex is directed by external signals either to perceive or to ignore the termination signal. Although transcription initiation might occur without regulation, control over mRNA synthesis (and of gene expression) is ultimately dictated by regulation of the intrinsic terminator. Presumably, one of at least two mutually exclusive mRNA conformations results in the formation or disruption of the RNA structure that signals transcription termination. A trans-acting factor, which in some instances is a RNA (F. J. Grundy, et al., *Proceedings of the National Academy of Sciences of the United States of America* 2002, 99, 11121; T. M. Henkin, C. Yanofsky, *Bioessays* 2002, 24, 700) and in others is a protein (J. Stulke, *Archives of Microbiology* 2002, 177, 433), is generally required for receiving a particular intracellular signal and subsequently stabilizing one of the RNA conformations. Riboswitches offer a direct link between RNA structure modulation and the metabolite signals that are interpreted by the genetic control machinery.

The *glmS* ribozyme (Winkler 2004; Barrick 2004; McCarthy 2005; Wilkinson 2005; Soukup 2006; Roth 2006; Jansen 2006) from *Bacillus cereus* is a representative of a unique riboswitch (Mandal 2004; Winkler 2005) class whose members undergo self-cleavage with accelerated rate constants when bound to glucosamine-6-phosphate (GlcN6P). These metabolite-sensing ribozymes are found in numerous Gram-positive bacteria where they control expression

of the *glmS* gene. The *glmS* gene product (glutamine-fructose-6-phosphate amidotransferase) generates GlcN6P (Badet-Denisot 1993; Milewski 2002) which binds to the ribozyme and triggers self-cleavage by internal phosphoester transfer (Winkler 2004). The ribozyme is embedded within the 5' untranslated region (UTR) of the *glmS* messenger RNA and self-cleavage prevents GlnS protein production, thereby decreasing the concentration of GlcN6P. The combination of molecular sensing, self-cleavage, and gene control functions allows this small RNA to operate both as a ribozyme and as a riboswitch.

It has been shown that the *glmS* ribozyme from *B. cereus*, and the homologous ribozyme from *Bacillus subtilis* respond to GlcN6P with an apparent dissociation constant (K_D) of ~200 μ M (Winkler 2004; McCarthy 2005; Roth 2006). Although this K_D value is greater than those determined for most other natural riboswitches, *glmS* ribozymes exhibit a high level of molecular recognition specificity. For example, glucosamine-6-sulphate can induce ribozyme activation to the same extent as GlcN6P, albeit when present at concentrations that are ~100-fold greater. In contrast, glucose-6-phosphate, wherein the 2-amine group of GlcN6P is replaced with a hydroxyl group, completely fails to trigger ribozyme action (Winkler 2004; McCarthy 2005).

Riboswitches must be capable of discriminating against compounds related to their natural ligands to prevent undesirable regulation of metabolic genes. However, it is possible to generate analogs that trigger riboswitch function and inhibit bacterial growth, as has been demonstrated for riboswitches that normally respond to lysine (Sudarsan 2003) and thiamine pyrophosphate (Sudarsan 2006). Proper expression of the GlnS protein is critical for bacterial viability (Badet-Denisot 1993; Milewski 2002), and analogs of GlcN6P that could interfere with normal gene expression by triggering *glmS* ribozyme activity might serve as new types of antimicrobial agents. Therefore, an increased understanding of the molecular recognition characteristics of *glmS* ribozymes was sought.

It is to be understood that the disclosed method and compositions are not limited to specific synthetic methods, specific analytical techniques, or to particular reagents unless otherwise specified, and, as such, can vary. It is also to be understood that the terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting.

Materials

Disclosed are materials, compositions, and components that can be used for, can be used in conjunction with, can be used in preparation for, or are products of the disclosed methods and

compositions. These and other materials are disclosed herein, and it is understood that when combinations, subsets, interactions, groups, etc. of these materials are disclosed that while specific reference to each of various individual and collective combinations and permutation of these compounds can not be explicitly disclosed, each is specifically contemplated and described herein. For example, if a riboswitch or aptamer domain is disclosed and discussed and a number of modifications that can be made to a number of molecules including the riboswitch or aptamer domain are discussed, each and every combination and permutation of riboswitch or aptamer domain and the modifications that are possible are specifically contemplated unless specifically indicated to the contrary. Thus, if a class of molecules A, B, and C are disclosed as well as a class of molecules D, E, and F and an example of a combination molecule, A-D is disclosed, then even if each is not individually recited, each is individually and collectively contemplated. Thus, in this example, each of the combinations A-E, A-F, B-D, B-E, B-F, C-D, C-E, and C-F are specifically contemplated and should be considered disclosed from disclosure of A, B, and C; D, E, and F; and the example combination A-D. Likewise, any subset or combination of these is also specifically contemplated and disclosed. Thus, for example, the sub-group of A-E, B-F, and C-E are specifically contemplated and should be considered disclosed from disclosure of A, B, and C; D, E, and F; and the example combination A-D. This concept applies to all aspects of this application including, but not limited to, steps in methods of making and using the disclosed compositions. Thus, if there are a variety of additional steps that can be performed it is understood that each of these additional steps can be performed with any specific embodiment or combination of embodiments of the disclosed methods, and that each such combination is specifically contemplated and should be considered disclosed.

A. Riboswitches

Riboswitches are expression control elements that are part of an RNA molecule to be expressed and that change state when bound by a trigger molecule. Riboswitches typically can be dissected into two separate domains: one that selectively binds the target (aptamer domain) and another that influences genetic control (expression platform domain). It is the dynamic interplay between these two domains that results in metabolite-dependent allosteric control of gene expression. Disclosed are isolated and recombinant riboswitches, recombinant constructs containing such riboswitches, heterologous sequences operably linked to such riboswitches, and cells and transgenic organisms harboring such riboswitches, riboswitch recombinant constructs, and riboswitches operably linked to heterologous sequences. The heterologous sequences can

be, for example, sequences encoding proteins or peptides of interest, including reporter proteins or peptides. Preferred riboswitches are, or are derived from, naturally occurring riboswitches.

The disclosed riboswitches, including the derivatives and recombinant forms thereof, generally can be from any source, including naturally occurring riboswitches and riboswitches designed de novo. Any such riboswitches can be used in or with the disclosed methods. However, different types of riboswitches can be defined and some such sub-types can be useful in or with particular methods (generally as described elsewhere herein). Types of riboswitches include, for example, naturally occurring riboswitches, derivatives and modified forms of naturally occurring riboswitches, chimeric riboswitches, and recombinant riboswitches. A naturally occurring riboswitch is a riboswitch having the sequence of a riboswitch as found in nature. Such a naturally occurring riboswitch can be an isolated or recombinant form of the naturally occurring riboswitch as it occurs in nature. That is, the riboswitch has the same primary structure but has been isolated or engineered in a new genetic or nucleic acid context. Chimeric riboswitches can be made up of, for example, part of a riboswitch of any or of a particular class or type of riboswitch and part of a different riboswitch of the same or of any different class or type of riboswitch; part of a riboswitch of any or of a particular class or type of riboswitch and any non-riboswitch sequence or component. Recombinant riboswitches are riboswitches that have been isolated or engineered in a new genetic or nucleic acid context.

Riboswitches can have single or multiple aptamer domains. Aptamer domains in riboswitches having multiple aptamer domains can exhibit cooperative binding of trigger molecules or can not exhibit cooperative binding of trigger molecules (that is, the aptamers need not exhibit cooperative binding). In the latter case, the aptamer domains can be said to be independent binders. Riboswitches having multiple aptamers can have one or multiple expression platform domains. For example, a riboswitch having two aptamer domains that exhibit cooperative binding of their trigger molecules can be linked to a single expression platform domain that is regulated by both aptamer domains. Riboswitches having multiple aptamers can have one or more of the aptamers joined via a linker. Where such aptamers exhibit cooperative binding of trigger molecules, the linker can be a cooperative linker.

Aptamer domains can be said to exhibit cooperative binding if they have a Hill coefficient n between x and $x-1$, where x is the number of aptamer domains (or the number of binding sites on the aptamer domains) that are being analyzed for cooperative binding. Thus, for example, a riboswitch having two aptamer domains (such as glycine-responsive riboswitches) can be said to exhibit cooperative binding if the riboswitch has Hill coefficient between 2 and 1.

It should be understood that the value of x used depends on the number of aptamer domains being analyzed for cooperative binding, not necessarily the number of aptamer domains present in the riboswitch. This makes sense because a riboswitch can have multiple aptamer domains where only some exhibit cooperative binding.

Disclosed are chimeric riboswitches containing heterologous aptamer domains and expression platform domains. That is, chimeric riboswitches are made up an aptamer domain from one source and an expression platform domain from another source. The heterologous sources can be from, for example, different specific riboswitches, different types of riboswitches, or different classes of riboswitches. The heterologous aptamers can also come from non-riboswitch aptamers. The heterologous expression platform domains can also come from non-riboswitch sources.

Modified or derivative riboswitches can be produced using *in vitro* selection and evolution techniques. In general, *in vitro* evolution techniques as applied to riboswitches involve producing a set of variant riboswitches where part(s) of the riboswitch sequence is varied while other parts of the riboswitch are held constant. Activation, deactivation or blocking (or other functional or structural criteria) of the set of variant riboswitches can then be assessed and those variant riboswitches meeting the criteria of interest are selected for use or further rounds of evolution. Useful base riboswitches for generation of variants are the specific and consensus riboswitches disclosed herein. Consensus riboswitches can be used to inform which part(s) of a riboswitch to vary for *in vitro* selection and evolution.

Also disclosed are modified riboswitches with altered regulation. The regulation of a riboswitch can be altered by operably linking an aptamer domain to the expression platform domain of the riboswitch (which is a chimeric riboswitch). The aptamer domain can then mediate regulation of the riboswitch through the action of, for example, a trigger molecule for the aptamer domain. Aptamer domains can be operably linked to expression platform domains of riboswitches in any suitable manner, including, for example, by replacing the normal or natural aptamer domain of the riboswitch with the new aptamer domain. Generally, any compound or condition that can activate, deactivate or block the riboswitch from which the aptamer domain is derived can be used to activate, deactivate or block the chimeric riboswitch.

Also disclosed are inactivated riboswitches. Riboswitches can be inactivated by covalently altering the riboswitch (by, for example, crosslinking parts of the riboswitch or coupling a compound to the riboswitch). Inactivation of a riboswitch in this manner can result from, for example, an alteration that prevents the trigger molecule for the riboswitch from

binding, that prevents the change in state of the riboswitch upon binding of the trigger molecule, or that prevents the expression platform domain of the riboswitch from affecting expression upon binding of the trigger molecule.

Also disclosed are biosensor riboswitches. Biosensor riboswitches are engineered riboswitches that produce a detectable signal in the presence of their cognate trigger molecule. Useful biosensor riboswitches can be triggered at or above threshold levels of the trigger molecules. Biosensor riboswitches can be designed for use *in vivo* or *in vitro*. For example, biosensor riboswitches operably linked to a reporter RNA that encodes a protein that serves as or is involved in producing a signal can be used *in vivo* by engineering a cell or organism to harbor a nucleic acid construct encoding the riboswitch/reporter RNA. An example of a biosensor riboswitch for use *in vitro* is a riboswitch that includes a conformation dependent label, the signal from which changes depending on the activation state of the riboswitch. Such a biosensor riboswitch preferably uses an aptamer domain from or derived from a naturally occurring riboswitch. Biosensor riboswitches can be used in various situations and platforms. For example, biosensor riboswitches can be used with solid supports, such as plates, chips, strips and wells.

Also disclosed are modified or derivative riboswitches that recognize new trigger molecules. New riboswitches and/or new aptamers that recognize new trigger molecules can be selected for, designed or derived from known riboswitches. This can be accomplished by, for example, producing a set of aptamer variants in a riboswitch, assessing the activation of the variant riboswitches in the presence of a compound of interest, selecting variant riboswitches that were activated (or, for example, the riboswitches that were the most highly or the most selectively activated), and repeating these steps until a variant riboswitch of a desired activity, specificity, combination of activity and specificity, or other combination of properties results.

In general, any aptamer domain can be adapted for use with any expression platform domain by designing or adapting a regulated strand in the expression platform domain to be complementary to the control strand of the aptamer domain. Alternatively, the sequence of the aptamer and control strands of an aptamer domain can be adapted so that the control strand is complementary to a functionally significant sequence in an expression platform. For example, the control strand can be adapted to be complementary to the Shine-Dalgarno sequence of an RNA such that, upon formation of a stem structure between the control strand and the SD sequence, the SD sequence becomes inaccessible to ribosomes, thus reducing or preventing translation initiation. Note that the aptamer strand would have corresponding changes in

sequence to allow formation of a P1 stem in the aptamer domain. In the case of riboswitches having multiple aptamers exhibiting cooperative binding, one the P1 stem of the activating aptamer (the aptamer that interacts with the expression platform domain) need be designed to form a stem structure with the SD sequence.

As another example, a transcription terminator can be added to an RNA molecule (most conveniently in an untranslated region of the RNA) where part of the sequence of the transcription terminator is complementary to the control strand of an aptamer domain (the sequence will be the regulated strand). This will allow the control sequence of the aptamer domain to form alternative stem structures with the aptamer strand and the regulated strand, thus either forming or disrupting a transcription terminator stem upon activation or deactivation of the riboswitch. Any other expression element can be brought under the control of a riboswitch by similar design of alternative stem structures.

For transcription terminators controlled by riboswitches, the speed of transcription and spacing of the riboswitch and expression platform elements can be important for proper control. Transcription speed can be adjusted by, for example, including polymerase pausing elements (e.g., a series of uridine residues) to pause transcription and allow the riboswitch to form and sense trigger molecules.

Disclosed are regulatable gene expression constructs comprising a nucleic acid molecule encoding an RNA comprising a riboswitch operably linked to a coding region, wherein the riboswitch regulates expression of the RNA, wherein the riboswitch and coding region are heterologous. The riboswitch can comprise an aptamer domain and an expression platform domain, wherein the aptamer domain and the expression platform domain are heterologous. The riboswitch can comprise an aptamer domain and an expression platform domain, wherein the aptamer domain comprises a P1 stem, wherein the P1 stem comprises an aptamer strand and a control strand, wherein the expression platform domain comprises a regulated strand, wherein the regulated strand, the control strand, or both have been designed to form a stem structure. The riboswitch can comprise two or more aptamer domains and an expression platform domain, wherein at least one of the aptamer domains and the expression platform domain are heterologous. The riboswitch can comprise two or more aptamer domains and an expression platform domain, wherein at least one of the aptamer domains comprises a P1 stem, wherein the P1 stem comprises an aptamer strand and a control strand, wherein the expression platform domain comprises a regulated strand, wherein the regulated strand, the control strand, or both have been designed to form a stem structure.

1. Aptamer Domains

Aptamers are nucleic acid segments and structures that can bind selectively to particular compounds and classes of compounds. Riboswitches have aptamer domains that, upon binding of a trigger molecule result in a change in the state or structure of the riboswitch. In functional riboswitches, the state or structure of the expression platform domain linked to the aptamer domain changes when the trigger molecule binds to the aptamer domain. Aptamer domains of riboswitches can be derived from any source, including, for example, natural aptamer domains of riboswitches, artificial aptamers, engineered, selected, evolved or derived aptamers or aptamer domains. Aptamers in riboswitches generally have at least one portion that can interact, such as by forming a stem structure, with a portion of the linked expression platform domain. This stem structure will either form or be disrupted upon binding of the trigger molecule.

Consensus aptamer domains of a variety of natural riboswitches are shown in Figure 11 of U.S. Application Publication No. 2005-0053951 and elsewhere herein. The consensus sequence and structure for the glmS ribozyme can be found in Figure 8. These aptamer domains (including all of the direct variants embodied therein) can be used in riboswitches. The consensus sequences and structures indicate variations in sequence and structure. Aptamer domains that are within the indicated variations are referred to herein as direct variants. These aptamer domains can be modified to produce modified or variant aptamer domains. Conservative modifications include any change in base paired nucleotides such that the nucleotides in the pair remain complementary. Moderate modifications include changes in the length of stems or of loops (for which a length or length range is indicated) of less than or equal to 20% of the length range indicated. Loop and stem lengths are considered to be "indicated" where the consensus structure shows a stem or loop of a particular length or where a range of lengths is listed or depicted. Moderate modifications include changes in the length of stems or of loops (for which a length or length range is not indicated) of less than or equal to 40% of the length range indicated. Moderate modifications also include and functional variants of unspecified portions of the aptamer domain.

The P1 stem and its constituent strands can be modified in adapting aptamer domains for use with expression platforms and RNA molecules. Such modifications, which can be extensive, are referred to herein as P1 modifications. P1 modifications include changes to the sequence and/or length of the P1 stem of an aptamer domain. The aptamer domain shown in Figure 8 is particularly useful as initial sequences for producing derived aptamer domains via *in vitro* selection or *in vitro* evolution techniques.

Aptamer domains of the disclosed riboswitches can also be used for any other purpose, and in any other context, as aptamers. For example, aptamers can be used to control ribozymes, other molecular switches, and any RNA molecule where a change in structure can affect function of the RNA.

2. Expression Platform Domains

Expression platform domains are a part of riboswitches that affect expression of the RNA molecule that contains the riboswitch. Expression platform domains generally have at least one portion that can interact, such as by forming a stem structure, with a portion of the linked aptamer domain. This stem structure will either form or be disrupted upon binding of the trigger molecule. The stem structure generally either is, or prevents formation of, an expression regulatory structure. An expression regulatory structure is a structure that allows, prevents, enhances or inhibits expression of an RNA molecule containing the structure. Examples include Shine-Dalgarno sequences, initiation codons, transcription terminators, and stability and processing signals.

B. Trigger Molecules

Trigger molecules are molecules and compounds that can activate a riboswitch. This includes the natural or normal trigger molecule for the riboswitch and other compounds that can activate the riboswitch. Natural or normal trigger molecules are the trigger molecule for a given riboswitch in nature or, in the case of some non-natural riboswitches, the trigger molecule for which the riboswitch was designed or with which the riboswitch was selected (as in, for example, *in vitro* selection or *in vitro* evolution techniques).

C. Compounds

Also disclosed are compounds, and compositions containing such compounds, that can activate, deactivate or block a riboswitch. Riboswitches function to control gene expression through the binding or removal of a trigger molecule. Compounds can be used to activate, deactivate or block a riboswitch. The trigger molecule for a riboswitch (as well as other activating compounds) can be used to activate a riboswitch. Compounds other than the trigger molecule generally can be used to deactivate or block a riboswitch. Riboswitches can also be deactivated by, for example, removing trigger molecules from the presence of the riboswitch. A riboswitch can be blocked by, for example, binding of an analog of the trigger molecule that does not activate the riboswitch.

Also disclosed are compounds for altering expression of an RNA molecule, or of a gene encoding an RNA molecule, where the RNA molecule includes a riboswitch. This can be

accomplished by bringing a compound into contact with the RNA molecule. Riboswitches function to control gene expression through the binding or removal of a trigger molecule. Thus, subjecting an RNA molecule of interest that includes a riboswitch to conditions that activate, deactivate or block the riboswitch can be used to alter expression of the RNA. Expression can be altered as a result of, for example, termination of transcription or blocking of ribosome binding to the RNA. Binding of a trigger molecule can, depending on the nature of the riboswitch, reduce or prevent expression of the RNA molecule or promote or increase expression of the RNA molecule.

Also disclosed are compounds for regulating expression of an RNA molecule, or of a gene encoding an RNA molecule. Also disclosed are compounds for regulating expression of a naturally occurring gene or RNA that contains a riboswitch by activating, deactivating or blocking the riboswitch. If the gene is essential for survival of a cell or organism that harbors it, activating, deactivating or blocking the riboswitch can in death, stasis or debilitation of the cell or organism.

Also disclosed are compounds for regulating expression of an isolated, engineered or recombinant gene or RNA that contains a riboswitch by activating, deactivating or blocking the riboswitch. If the gene encodes a desired expression product, activating or deactivating the riboswitch can be used to induce expression of the gene and thus result in production of the expression product. If the gene encodes an inducer or repressor of gene expression or of another cellular process, activation, deactivation or blocking of the riboswitch can result in induction, repression, or de-repression of other, regulated genes or cellular processes. Many such secondary regulatory effects are known and can be adapted for use with riboswitches. An advantage of riboswitches as the primary control for such regulation is that riboswitch trigger molecules can be small, non-antigenic molecules.

Also disclosed are methods of identifying compounds that activate, deactivate or block a riboswitch. For example, compounds that activate a riboswitch can be identified by bringing into contact a test compound and a riboswitch and assessing activation of the riboswitch. If the riboswitch is activated, the test compound is identified as a compound that activates the riboswitch. Activation of a riboswitch can be assessed in any suitable manner. For example, the riboswitch can be linked to a reporter RNA and expression, expression level, or change in expression level of the reporter RNA can be measured in the presence and absence of the test compound. As another example, the riboswitch can include a conformation dependent label, the signal from which changes depending on the activation state of the riboswitch. Such a

riboswitch preferably uses an aptamer domain from or derived from a naturally occurring riboswitch. As can be seen, assessment of activation of a riboswitch can be performed with the use of a control assay or measurement or without the use of a control assay or measurement. Methods for identifying compounds that deactivate a riboswitch can be performed in analogous ways.

Identification of compounds that block a riboswitch can be accomplished in any suitable manner. For example, an assay can be performed for assessing activation or deactivation of a riboswitch in the presence of a compound known to activate or deactivate the riboswitch and in the presence of a test compound. If activation or deactivation is not observed as would be observed in the absence of the test compound, then the test compound is identified as a compound that blocks activation or deactivation of the riboswitch.

Compounds can also be identified using the atomic crystalline structure of a riboswitch. The atomic coordinates of the atomic structure of the glmS riboswitch are listed in Table 2. The atomic structure of the active site and binding pocket as depicted in Figure 9 and the atomic coordinates of the active site and binding pocket depicted in Figure 9 contained within Table 2 can also be used. Compounds can be identified using the crystalline structure of a riboswitch by, for example, modeling the atomic structure of the riboswitch with a test compound; and determining if the test compound interacts with the riboswitch. This can be done by using a predicted minimum interaction energy, a predicted bind constant, a predicted dissociation constant, or a combination, for the test compound in the model of the riboswitch. Compounds can also be identified by, for example, assessing the fit between the riboswitch and a compound known to bind the riboswitch (such as the trigger molecule), identify sites where the compound can be changed with little or no obvious adverse effects on binding of the compound, and incorporating one or more such alterations to produce a new compound. The method of identifying compounds that interact with a riboswitch can also involve production of the compounds so identified.

Typically the method first utilizes a 3-dimensional structure of the riboswitch with a compound, also referred to as a “known compound” or “known target”. Any of the trigger molecules and compounds disclosed herein can be used as such a known compound. The structure of the riboswitch can be determined using any known means, such as crystallography or solution NMR spectroscopy. That structure can also be obtained through computer molecular modeling simulation programs, such as AutoDock. The methods can involve determining the amount of binding, such as determining the binding energy, between a riboswitch, and a

potential compound for that riboswitch. An active compound is a compound that has some activity against a riboswitch, such as inhibiting the riboswitch's activity or enhancing the riboswitch's activity. In addition, the potential compound can be an analog, which has some structural relationship to a known compound for the molecule. Any of the trigger molecules, known compounds, and compounds disclosed herein can be used as the basis of or to derive a potential compound.

The identity or relationship of the structure, properties, interaction or binding parameters, and the like of the known compound and potential compound can be viewed in number of ways. For example, any of the measures or interaction parameters that can be measured or assessed using the structural model, and such measures and parameters obtained for a known compound and a potential compound can be compared. One can look at the identity between the entire known compound and the potential compound. One can also look at the identity between the potential compound, such as an analog, and the known compound only in the domain where the potential compound interacts with the riboswitch. One can also look at the identity between the potential compound and the known compound at the level of a sub-domain, such as only those moieties or atoms in the potential compound which are within 7Å, 6Å, 5Å, 4Å, 3Å, or 2Å of a moiety or atom which is in contact with the riboswitch in the known compound. Generally, the more specific the sub-domain the higher the identity will be between the moieties of the potential compound and the known compound. For example, there can be 30% or greater, 35% or greater, 40% or greater, 45% or greater, 50% or greater, 55% or greater, 60% or greater, 65% or greater, 70% or greater, 75% or greater, 80% or greater, 85% or greater, 90% or greater, 95% or greater identity between the known compound and potential compound as a whole, 50% or greater, 55% or greater, 60% or greater, 65% or greater, 70% or greater, 75% or greater, 80% or greater, 85% or greater, 90% or greater, 95% or greater identity between the binding domain of the known compound and the potential compound, and 70% or greater, 75% or greater, 80% or greater, 85% or greater, 90% or greater, 95% or greater identity between the moieties or atoms of the potential compound that correspond to the moieties or atoms of the known compound which are within 5Å of a moiety or atom which interacts with the riboswitch. Another sub-domain is a sub-domain of moieties or atoms which actually contact the riboswitch. In this case the identity can be, for example, greater than 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95% or higher.

Typically, the potential compounds exist in a family of potential compounds, i.e. a set of analogs, all of which have some structural relationship to the known compound for the

riboswitch. A family consisting of any number of members can be screened. The maximum number of members in the family is only limited by the amount of computer power available to screen each member in a desired amount of time. The methods can involve at least one template structure of the riboswitch and a target, often this would be with a known target. It is not required that this structure be existent, as it can be generated, in some cases during the disclosed methods, using standard structure determination techniques. It is preferred that a real structure exist at the time the methods are employed.

The methods can also involve modeling the structure of the potential compound, using information from the structure of the known compound. This modeling can be performed in any way, and as described herein.

The conformation and position of the potential compound can be held fixed during the calculations; that is, it can be assumed that the riboswitch binds in exactly the same orientation to the potential compound as it does to a known compound.

Then, a binding energy (or other property or parameter) can be determined between the riboswitch and the potential compound, and if the binding energy (or other property or parameter) meets certain criteria, then the potential compound can be designated as an actual compound, i.e. one that is likely to interact with the riboswitch. Although the following refers to the use of binding energy, it should be understood that any property or parameter involving the interaction or modeling of a compound and a riboswitch can be used. The criterion can be that the computed binding energy of the riboswitch with the potential compound is similar to, or more favorable than, the computed binding energy of the same riboswitch with a known compound. For example, an actual compound can be a compound where the computed binding energy as discussed herein is, for example, at least 60%, 65%, 70%, 75%, 80%, 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, 100%, 101%, 102%, 103%, 104%, 105%, 106%, 107%, 108%, 109%, 110%, 120%, 130%, 140%, 150%, 200%, 250%, 300%, 350%, 400%, 450%, 500%, 600%, 700%, 800%, 900%, 1000%, or greater than that of the known compound binding energy. An actual compound can also be a compound which after ordering all potential compounds in terms of the strength of their binding energies, are the compounds which are in the top 20%, 19%, 18%, 17%, 16%, 15%, 14%, 13%, 12%, 11%, 10%, 9%, 8%, 7%, 6%, 5%, 4%, 3%, 2%, 1% of computed binding strengths, or for example, a set of potential compounds where the set is at least 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75,

80, 85, 90, 95, 100, 125, 150, 175, 200, 225, 250, 275, 300, 350, 400, 500, 700, or a 1000 potential compounds.

It is also understood that once a potential compound is identified, as disclosed herein, traditional testing and analysis can be performed, such as performing a biological assay using the riboswitch and the actual compound to further define the ability of the actual compound to interact with and/or modulate the riboswitch. The disclosed methods can include the step of assaying the activity of the riboswitch and compound, as well as performing, for example, combinatorial chemistry studies using libraries based on the riboswitch, for example.

Energy calculations can be based on, for example, molecular or quantum mechanics. Molecular mechanics approximates the energy of a system by summing a series of empirical functions representing components of the total energy like bond stretching, van der Waals forces, or electrostatic interactions. Quantum mechanics methods use various degrees of approximation to solve the Schrödinger equation. These methods deal with electronic structure, allowing for the characterization of chemical reactions.

Potential compounds of the riboswitch can be identified. This can be accomplished by selecting potential compounds with a given similarity to the known compound. For example, compounds in the same family as the known compound can be selected.

To prepare each riboswitch for calculation, atoms can be built in that were unresolved or absent from the crystal structures of the potential compound. This can be done, for example, using the PRODRG webserver <http://www.davapc1.bioch.dundee.ac.uk./programs/prodrgr>, or standard molecular modeling programs such as InsightII, Quanta (both at www.accelrys.com), CNS (Brunger et al., Crystallography & NMR system: a new software suite for macromolecular structure determination. *Acta Crystallogr. D* 54, 905–921 (1998)), or any other molecular modeling system capable of preparing the riboswitch structure.

The binding energy (or other property or parameter) of the potential compound and riboswitch can then be calculated. There are numerous means for carrying this out. For example, the sampling of sidechain positions and the computation of the binding thermodynamics can be accomplished using an empirical function that models the energy of the potential compound-molecule as a sum of electrostatic and van der Waals interactions between all pairs of atoms within the model. Any other computational method for scoring the binding energy of the potential compound with the riboswitch can be used (H. Gohlke, & G. Klebe. Approaches to the description and prediction of the binding affinity of small-molecule ligands to macromolecular receptors. *Angew. Chem. Int. Ed.* 41, 2644-4676 (2002)). Examples of such

scoring methods include, but are not limited to, those implemented in programs such as AutoDock (G. M. Morris *et al.* Automated docking using a Lamarckian genetic algorithm and an empirical binding free energy function. *J. Comput. Chem.* 19, 1639-1662 (1998)), Gold (G. Jones *et al.* Molecular recognition of receptor sites using a genetic algorithm with a description of desolvation. *J. Mol. Biol.* 245, 43-53 (1995)), Chem-Score (M. D. Eldridge *et al.* *J. Comput.-Aided Mol. Des.* 11, 425-445 (1997)) and Drug-Score (H. Gohlke *et al.* Knowledge-based scoring function to predict protein-ligand interactions. *J. Mol. Biol.* 295, 337-356 (2000)).

Rotamer libraries are known to those of skill in the art and can be obtained from a variety of sources, including the internet. Rotamers are low energy side-chain conformations. The use of a library of rotamers allows for the modeling of a structure to try the most likely side-chain conformations, saving time and producing a structure that is more likely to be correct. The use of a library of rotamers can be restricted to those residues that are within a given region of the potential compound, for example, at the binding site, or within a specified distance of the compound. The latter distance can be set at any desired length, for example, the potential compound can be 2, 3, 4, 5, 6, 7, 8, or 9 Å from any atom of the molecule.

Electrostatic interactions between every pair of atoms can be calculated, for example, using a Coulombic model with the formula:

$E_{elec} = 332.08 \frac{q_1 q_2}{\epsilon r}$, where q_1 and q_2 are partial atomic charges, r is the distance between them, and ϵ is the dielectric constant.

Partial atomic charges can be taken from existing parameter sets that have been developed to describe charge distributions in molecules. Example parameter sets include, but are not limited to, PARSE (D. A. Sitkoff *et al.* Accurate calculation of hydration free-energies using macroscopic solvent models. *J. Phys. Chem.* 98, 1978-1988 (1994)), CHARMM (MacKerell *et al.* All-atom empirical potential for molecular modeling and dynamics studies of proteins. *J. Phys. Chem. B* 102, 3586-3616, 1998) and AMBER (W. D. Cornell *et al.* A 2nd generation force-field for the simulation of proteins, nucleic-acids, and organic-molecules. *J. Am. Chem. Soc.* 117, 5179-5195 (1995)). Partial charges for atoms can be assigned either by analogy with those of similar functional groups, or by empirical assignment methods such as that implemented in the PRODRG server (D. M. F. van Aalten *et al.* PRODRG, a program for generating molecular topologies and unique molecular descriptors from coordinates of small molecules. *J. Comput.-Aided Mol. Design* 10, 255-262 (1996)), or by the use of standard quantum mechanical calculation methods (for example, C. I. Bayly *et al.* A well-behaved electrostatic potential based

method using charge restraints for deriving atomic charges – the RESP model. *J. Phys. Chem.* 97, 10269-10280, (1993)).

The electrostatic interaction can also be calculated by more elaborate methodologies that incorporate electrostatic desolvation effects. These can include explicit solvent and implicit solvent models: in the former, water molecules are directly included in the calculations, whereas in the latter, the effects of water are described by a dielectric continuum approach. Specific examples of implicit solvent methods for calculating electrostatic interactions include but are not limited to: Poisson-Boltzmann based methods and Generalized Born methods (M. Feig & C. L. Brooks. Recent advances in the development and application of implicit solvent models in biomolecule simulations. *Curr. Opin. Struct. Biol.* 14, 217-224 (2004)).

van der Waals and hydrophobic interactions between pairs of atoms (where both atoms are either sulfur or carbon) can be calculated using a simple Lennard-Jones formalism with the following equation:

$E_{vdw} = \epsilon \{ \sigma_{att}^{12}/r^{12} - \sigma_{att}^6/r^6 \}$. where ϵ is an energy, r is the distance between the two atoms and σ_{att} is the distance at which the energy of interaction is zero.

van der Waals interactions between pairs of atoms (where one or both atoms are neither sulfur nor carbon) can be calculated using a simple repulsive energy term:

$E_{vdw} = \epsilon \{ \sigma_{rep}^{12}/r^{12} \}$. where ϵ is an energy, r is the distance between the two atoms and σ_{rep} determines the distance at which the repulsive interaction is equal to ϵ .

Hydrophobic interactions between atoms can also be calculated using a variety of other methods known to those skilled in the art. For example, the energetic contribution can be calculated as being proportional to the amount of solvent accessible surface area of the ligand and receptor that is buried when the complex is formed. Such contributions can be expressed in terms of interactions between pairs of atoms, such as in the method proposed by Street & Mayo (A. G. Street & S. L. Mayo. Pairwise calculation of protein solvent-accessible surface areas. *Folding & Design* 3, 253-258 (1998)). Any other implementation of a formalism for describing hydrophobic or van der Waals or other energetic contributions can be included in the calculations.

Binding energies can be calculated for each potential compound-riboswitch interaction. For example, Monte Carlo sampling can be conducted in the presence and absence of the riboswitch, and the average energy in each simulation calculated. A binding energy for the riboswitch with the potential compound can then be calculated as the difference between the two calculated average energies.

The computed binding energy of a potential compound with the riboswitch can be compared with the computed binding energy of a known compound with the riboswitch to determine if the potential compound is likely to be an actual compound. These results can then be confirmed using experimental data, wherein the actual interaction between the riboswitch and compound can be measured. Examples of methods that can be used to determine an actual interaction between the riboswitch and the compound include but are not limited to: equilibrium dialysis measurements (wherein binding of a radioactive form of the compound to the riboswitch is detected), enzyme inhibition assays (wherein the activity of the riboswitch can be monitored in the presence and absence of the compound), and chemical shift perturbation measurements (wherein binding of the riboswitch to the potential compound is monitored by observing changes in NMR chemical shifts of atoms).

Modeling can be performed on or with the aid of a computer, a computer program, or a computer operating program. The computer can be made to display an image of the structure in 3D or represented as 3D. The image can be of any or all of the structure represented by the atomic coordinates of Table 2, for example, the structure represented by the atomic structure of the active site and binding pocket as depicted in Figure 9 and the atomic coordinates of the active site and binding pocket depicted in Figure 9 contained within Table 2 can be displayed. Any portion of the structure represented by the atomic coordinates of Table 2 that can be used to model and/or assess the ability of a compound to bind or interact specifically with a glmS riboswitch can be used for modeling and related methods as described herein.

After the atomic crystalline structure of the riboswitch has been modeled with a potential compound, further testing can be carried out to determine the actual interaction between the riboswitch and the compound. For example, multiple different approaches can be used to detect binding RNAs, including allosteric ribozyme assays using gel-based and chip-based detection methods, and in-line probing assays. High throughput testing can also be accomplished by using, for example, fluorescent detection methods. For example, the natural catalytic activity of a glucosamine-6-phosphate sensing riboswitch that controls gene expression by activating RNA-cleaving ribozyme can be used. This ribozyme can be reconfigured to cleave separate substrate molecules with multiple turnover kinetics. Therefore, a fluorescent group held in proximity to a quenching group can be uncoupled (and therefore become more fluorescent) if a compound triggers ribozyme function. Second, molecular beacon technology can be employed. This creates a system that suppresses fluorescence if a compound prevents the beacon from docking to

the riboswitch RNA. Either approach can be applied to any of the riboswitch classes by using RNA engineering strategies described herein.

Also disclosed herein are analogs that interact with the glmS riboswitch disclosed herein. Examples of such analogs can be found in Figure 2. Many of the compounds synthesized and tested bind the glmS riboswitch with constants that are equal to or better than that of GlcN6P. The fact that appendages with highly variable chemical composition exhibit function shows that numerous variations of these chemical scaffolds can be generated and tested for function *in vitro* and inside cells. Specifically, further modified versions of these compounds can have improved binding to the glmS riboswitch by making new contacts to other functional groups in the RNA structure. Furthermore, modulation of bioavailability, toxicity, and synthetic ease (among other characteristics) can be tunable by making modifications in these two regions of the scaffold, as the structural model for the riboswitch shows many modifications are possible at these sites.

High-throughput screening can also be used to reveal entirely new chemical scaffolds that also bind to riboswitch RNAs either with standard or non-standard modes of molecular recognition. Since riboswitches are the first major form of natural metabolite-binding RNAs to be discovered, there has been little effort made previously to create binding assays that can be adapted for high-throughput screening. Multiple different approaches can be used to detect metabolite binding RNAs, including allosteric ribozyme assays using gel-based and chip-based detection methods, and in-line probing assays. Also disclosed are compounds made by identifying a compound that activates, deactivates or blocks a riboswitch and manufacturing the identified compound. This can be accomplished by, for example, combining compound identification methods as disclosed elsewhere herein with methods for manufacturing the identified compounds. For example, compounds can be made by bringing into contact a test compound and a riboswitch, assessing activation of the riboswitch, and, if the riboswitch is activated by the test compound, manufacturing the test compound that activates the riboswitch as the compound.

Also disclosed are compounds made by checking activation, deactivation or blocking of a riboswitch by a compound and manufacturing the checked compound. This can be accomplished by, for example, combining compound activation, deactivation or blocking assessment methods as disclosed elsewhere herein with methods for manufacturing the checked compounds. For example, compounds can be made by bringing into contact a test compound and a riboswitch, assessing activation of the riboswitch, and, if the riboswitch is activated by the test compound, manufacturing the test compound that activates the riboswitch as the compound. Checking

compounds for their ability to activate, deactivate or block a riboswitch refers to both identification of compounds previously unknown to activate, deactivate or block a riboswitch and to assessing the ability of a compound to activate, deactivate or block a riboswitch where the compound was already known to activate, deactivate or block the riboswitch.

As used herein, the term “substituted” is contemplated to include all permissible substituents of organic compounds. In a broad aspect, the permissible substituents include acyclic and cyclic, branched and unbranched, carbocyclic and heterocyclic, and aromatic and nonaromatic substituents of organic compounds. Illustrative substituents include, for example, those described below. The permissible substituents can be one or more and the same or different for appropriate organic compounds. For the purposes of this disclosure, the heteroatoms, such as nitrogen, can have hydrogen substituents and/or any permissible substituents of organic compounds described herein which satisfy the valences of the heteroatoms. This disclosure is not intended to be limited in any manner by the permissible substituents of organic compounds. Also, the terms “substitution” or “substituted with” include the implicit proviso that such substitution is in accordance with permitted valence of the substituted atom and the substituent, and that the substitution results in a stable compound, *e.g.*, a compound that does not spontaneously undergo transformation such as by rearrangement, cyclization, elimination, etc.

“A¹,” “A²,” “A³,” and “A⁴” are used herein as generic symbols to represent various specific substituents. These symbols can be any substituent, not limited to those disclosed herein, and when they are defined to be certain substituents in one instance, they can, in another instance, be defined as some other substituents.

The term “alkyl” as used herein is a branched or unbranched saturated hydrocarbon group of 1 to 24 carbon atoms, such as methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, t-butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, dodecyl, tetradecyl, hexadecyl, eicosyl, tetracosyl, and the like. The alkyl group can also be substituted or unsubstituted. The alkyl group can be substituted with one or more groups including, but not limited to, alkyl, halogenated alkyl, alkoxy, alkenyl, alkynyl, aryl, heteroaryl, aldehyde, amino, carboxylic acid, ester, ether, halide, hydroxy, ketone, sulfo-oxo, sulfonyl, sulfone, sulfoxide, or thiol, as described below. The term “lower alkyl” is an alkyl group with 6 or fewer carbon atoms, *e.g.*, methyl, ethyl, propyl, isopropyl, butyl, sec-butyl, iso-butyl, tert-butyl, pentyl, hexyl, and the like.

Throughout the specification “alkyl” is generally used to refer to both unsubstituted alkyl groups and substituted alkyl groups; however, substituted alkyl groups are also specifically

referred to herein by identifying the specific substituent(s) on the alkyl group. For example, the term “halogenated alkyl” specifically refers to an alkyl group that is substituted with one or more halide, *e.g.*, fluorine, chlorine, bromine, or iodine. The term “alkoxyalkyl” specifically refers to an alkyl group that is substituted with one or more alkoxy groups, as described below. The term “alkylamino” specifically refers to an alkyl group that is substituted with one or more amino groups, as described below, and the like. When “alkyl” is used in one instance and a specific term such as “halogenated alkyl” is used in another, it is not meant to imply that the term “alkyl” does not also refer to specific terms such as “halogenated alkyl” and the like.

This practice is also used for other groups described herein. That is, while a term such as “cycloalkyl” refers to both unsubstituted and substituted cycloalkyl moieties, the substituted moieties can, in addition, be specifically identified herein; for example, a particular substituted cycloalkyl can be referred to as, *e.g.*, an “alkylcycloalkyl.” Similarly, a substituted alkoxy can be specifically referred to as, *e.g.*, a “halogenated alkoxy,” a particular substituted alkenyl can be, *e.g.*, an “alkenylalcohol,” and the like. Again, the practice of using a general term, such as “cycloalkyl,” and a specific term, such as “alkylcycloalkyl,” is not meant to imply that the general term does not also include the specific term.

The term “alkoxy” as used herein is an alkyl group bonded through a single, terminal ether linkage; that is, an “alkoxy” group can be defined as —OA^1 where A^2 is alkyl as defined above.

The term “alkenyl” as used herein is a hydrocarbon group of from 2 to 24 carbon atoms with a structural formula containing at least one carbon-carbon double bond. Asymmetric structures such as $(\text{A}^1\text{A}^2)\text{C}=\text{C}(\text{A}^3\text{A}^4)$ are intended to include both the *E* and *Z* isomers. This can be presumed in structural formulae herein wherein an asymmetric alkene is present, or it can be explicitly indicated by the bond symbol $\text{C}=\text{C}$. The alkenyl group can be substituted with one or more groups including, but not limited to, alkyl, halogenated alkyl, alkoxy, alkenyl, alkynyl, aryl, heteroaryl, aldehyde, amino, carboxylic acid, ester, ether, halide, hydroxy, ketone, sulfo-oxo, sulfonyl, sulfone, sulfoxide, or thiol, as described below.

The term “alkynyl” as used herein is a hydrocarbon group of 2 to 24 carbon atoms with a structural formula containing at least one carbon-carbon triple bond. The alkynyl group can be substituted with one or more groups including, but not limited to, alkyl, halogenated alkyl, alkoxy, alkenyl, alkynyl, aryl, heteroaryl, aldehyde, amino, carboxylic acid, ester, ether, halide, hydroxy, ketone, sulfo-oxo, sulfonyl, sulfone, sulfoxide, or thiol, as described below.

The term “aryl” as used herein is a group that contains any carbon-based aromatic group including, but not limited to, benzene, naphthalene, phenyl, biphenyl, phenoxybenzene, and the like. The term “aryl” also includes “heteroaryl,” which is defined as a group that contains an aromatic group that has at least one heteroatom incorporated within the ring of the aromatic group. Examples of heteroatoms include, but are not limited to, nitrogen, oxygen, sulfur, and phosphorus. Likewise, the term “non-heteroaryl,” which is also included in the term “aryl,” defines a group that contains an aromatic group that does not contain a heteroatom. The aryl group can be substituted or unsubstituted. The aryl group can be substituted with one or more groups including, but not limited to, alkyl, halogenated alkyl, alkoxy, alkenyl, alkynyl, aryl, heteroaryl, aldehyde, amino, carboxylic acid, ester, ether, halide, hydroxy, ketone, sulfo-oxo, sulfonyl, sulfone, sulfoxide, or thiol as described herein. The term “biaryl” is a specific type of aryl group and is included in the definition of aryl. Biaryl refers to two aryl groups that are bound together *via* a fused ring structure, as in naphthalene, or are attached *via* one or more carbon-carbon bonds, as in biphenyl.

The term “cycloalkyl” as used herein is a non-aromatic carbon-based ring composed of at least three carbon atoms. Examples of cycloalkyl groups include, but are not limited to, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, etc. The term “heterocycloalkyl” is a cycloalkyl group as defined above where at least one of the carbon atoms of the ring is substituted with a heteroatom such as, but not limited to, nitrogen, oxygen, sulfur, or phosphorus. The cycloalkyl group and heterocycloalkyl group can be substituted or unsubstituted. The cycloalkyl group and heterocycloalkyl group can be substituted with one or more groups including, but not limited to, alkyl, alkoxy, alkenyl, alkynyl, aryl, heteroaryl, aldehyde, amino, carboxylic acid, ester, ether, halide, hydroxy, ketone, sulfo-oxo, sulfonyl, sulfone, sulfoxide, or thiol as described herein.

The term “cycloalkenyl” as used herein is a non-aromatic carbon-based ring composed of at least three carbon atoms and containing at least one double bond, *i.e.*, C=C. Examples of cycloalkenyl groups include, but are not limited to, cyclopropenyl, cyclobutenyl, cyclopentenyl, cyclopentadienyl, cyclohexenyl, cyclohexadienyl, and the like. The term “heterocycloalkenyl” is a type of cycloalkenyl group as defined above, and is included within the meaning of the term “cycloalkenyl,” where at least one of the carbon atoms of the ring is substituted with a heteroatom such as, but not limited to, nitrogen, oxygen, sulfur, or phosphorus. The cycloalkenyl group and heterocycloalkenyl group can be substituted or unsubstituted. The cycloalkenyl group and heterocycloalkenyl group can be substituted with one or more groups

including, but not limited to, alkyl, alkoxy, alkenyl, alkynyl, aryl, heteroaryl, aldehyde, amino, carboxylic acid, ester, ether, halide, hydroxy, ketone, sulfo-oxo, sulfonyl, sulfone, sulfoxide, or thiol as described herein.

The term “cyclic group” is used herein to refer to either aryl groups, non-aryl groups (*i.e.*, cycloalkyl, heterocycloalkyl, cycloalkenyl, and heterocycloalkenyl groups), or both. Cyclic groups have one or more ring systems that can be substituted or unsubstituted. A cyclic group can contain one or more aryl groups, one or more non-aryl groups, or one or more aryl groups and one or more non-aryl groups.

The term “aldehyde” as used herein is represented by the formula —C(O)H . Throughout this specification “C(O)” is a short hand notation for C=O .

The terms “amine” or “amino” as used herein are represented by the formula $\text{NA}^1\text{A}^2\text{A}^3$, where A^1 , A^2 , and A^3 can be, independently, hydrogen, an alkyl, halogenated alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocycloalkyl, or heterocycloalkenyl group described above.

The term “carboxylic acid” as used herein is represented by the formula

—C(O)OH . A “carboxylate” as used herein is represented by the formula —C(O)O^- .

The term “ester” as used herein is represented by the formula —OC(O)A^1 or

—C(O)OA^1 , where A^1 can be an alkyl, halogenated alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocycloalkyl, or heterocycloalkenyl group described above.

The term “ether” as used herein is represented by the formula A^1OA^2 , where A^1 and A^2 can be, independently, an alkyl, halogenated alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocycloalkyl, or heterocycloalkenyl group described above.

The term “ketone” as used herein is represented by the formula $\text{A}^1\text{C(O)A}^2$, where A^1 and A^2 can be, independently, an alkyl, halogenated alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocycloalkyl, or heterocycloalkenyl group described above.

The term “halide” as used herein refers to the halogens fluorine, chlorine, bromine, and iodine.

The term “hydroxyl” as used herein is represented by the formula —OH .

The term “sulfo-oxo” as used herein is represented by the formulas —S(O)A^1 (*i.e.*, “sulfonyl”), $\text{A}^1\text{S(O)A}^2$ (*i.e.*, “sulfoxide”), $\text{—S(O)}_2\text{A}^1$, $\text{A}^1\text{SO}_2\text{A}^2$ (*i.e.*, “sulfone”),

$\text{—OS(O)}_2\text{A}^1$, or $\text{—OS(O)}_2\text{OA}^1$, where A_1 and A^2 can be hydrogen, an alkyl, halogenated alkyl, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocycloalkyl, or

heterocycloalkenyl group described above. Throughout this specification "S(O)" is a short hand notation for S=O.

The term "sulfonylamino" or "sulfonamide" as used herein is represented by the formula $\text{—S(O)}_2\text{NH—}$.

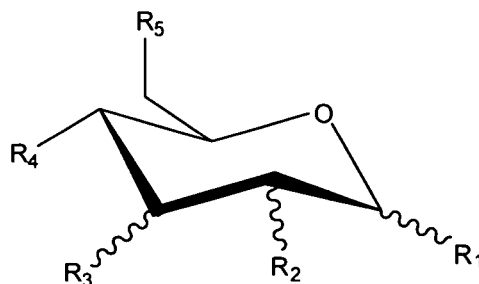
The term "thiol" as used herein is represented by the formula —SH .

As used herein, " R^n " where n is some integer can independently possess one or more of the groups listed above. For example, if R^{10} contains an aryl group, one of the hydrogen atoms of the aryl group can optionally be substituted with a hydroxyl group, an alkoxy group, an amine group, an alkyl group, a halide, and the like. Depending upon the groups that are selected, a first group can be incorporated within second group or, alternatively, the first group can be pendant (*i.e.*, attached) to the second group. For example, with the phrase "an alkyl group comprising an amino group," the amino group can be incorporated within the backbone of the alkyl group. Alternatively, the amino group can be attached to the backbone of the alkyl group. The nature of the group(s) that is (are) selected will determine if the first group is embedded or attached to the second group.

Unless stated to the contrary, a formula with chemical bonds shown only as solid lines and not as wedges or dashed lines contemplates each possible isomer, *e.g.*, each enantiomer and diastereomer, and a mixture of isomers, such as a racemic or scalemic mixture.

Certain materials, compounds, compositions, and components disclosed herein can be obtained commercially or readily synthesized using techniques generally known to those of skill in the art. For example, the starting materials and reagents used in preparing the disclosed compounds and compositions are either available from commercial suppliers such as Aldrich Chemical Co., (Milwaukee, Wis.), Acros Organics (Morris Plains, N.J.), Fisher Scientific (Pittsburgh, Pa.), or Sigma (St. Louis, Mo.) or are prepared by methods known to those skilled in the art following procedures set forth in references such as Fieser and Fieser's Reagents for Organic Synthesis, Volumes 1-17 (John Wiley and Sons, 1991); Rodd's Chemistry of Carbon Compounds, Volumes 1-5 and Supplementals (Elsevier Science Publishers, 1989); Organic Reactions, Volumes 1-40 (John Wiley and Sons, 1991); March's Advanced Organic Chemistry, (John Wiley and Sons, 4th Edition); and Larock's Comprehensive Organic Transformations (VCH Publishers Inc., 1989).

Compounds useful with glmS-responsive riboswitches (and riboswitches derived from glmS-responsive riboswitches) include compounds represented by Formula I:



or pharmaceutically acceptable salts thereof, physiologically hydrolyzable and acceptable esters thereof, or both,

wherein R_1 is H, OH, SH, NH_2 , or CH_3 ,

wherein R_2 is $NH-R_6$, wherein R_6 is H, CH_3 , C_2H_5 , n-propyl, $C(O)CH_3$, $C(O)C_2H_5$, $C(O)n$ -propyl, $C(O)$ iso-propyl, $C(O)OCH_3$, $C(O)OC_2H_5$, $C(O)NH_2$, or NH_2 ,

wherein R_3 is H, OH, SH, NH_2 , or CH_3 ,

wherein R_4 is a hydrogen bond donor,

wherein R_5 is a hydrogen bond acceptor,

wherein the compound is not glucosamine-6-phosphate.

In one example, R_4 is OH, SH, NH_2 , NH_3^+ , CH_2OH , $CH(OH)CH_3$, CH_2CH_2OH , CH_2SH , $CH(SH)CH_3$, CH_2CH_2SH , CH_2NH_2 , $CH(NH_2)CH_3$, $CH_2CH_2NH_3$, CO_2H , $CONH_2$, $CONHalkyl$, $=NH$, $=NOH$, $=NSH$, $=NCO_2H$, $=CH_2$, $CH=NH$, $CH=NOH$, $CH=NSH$, $CH=NCO_2H$, OCH_2OH , OCH_2CH_2OH , $PhOH$, $NHalkyl$, $NHNH_2$, $NHNHalkyl$, $NHCOalkyl$, $NHCO_2alkyl$, $NHCONH_2$, $NHSO_2alkyl$, or $NHOalkyl$.

In another example, R_4 is not OH when R_1 is H or OH and R_2 is NH_2 or $NHCH_3$.

In another example, R_5 can be $OP(O)(OH)_2$, $OP(S)(OH)_2$, $OP(O)OHSH$, $OS(O)_2OH$, or $OS(O)_2SH$. R_5 can also be $OS(O)_2OH$ or $OS(O)_2SH$. R_5 can be negatively charged. R_5 can be $=O$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$, $CONHSO_2OH$, $CONHSO_2R_9$, SO_2R_9 , SO_3H , SO_2NHR_9 , $SO_2N(R_9)_2$, $PO(R_9)_2$, $PO_2(R_9)_2$, $PO(OR_9)_2$, $PO_2(OH)R_9$, $PO_2R_9N(R_9)_2$, $NHCH(NR_9)_2$, $NHCOR_9$, $NHCO_2R_9$, $NHCONHR_9$, $NHCON(R_9)_2$, $NHCONHR_9$, $N(COR_9)_2$, $N(CO_2R_9)_2$, $NHSO_2R_9$, $NR_9SO_2R_9$, $NHSO_2NHR_9$, $NR_9SO_2NH_2$, $NHPO(R_9)_2$, $NR_9PO(R_9)_2$, $NHPO_2OR_9$, or $B(OH)_2$, wherein R_9 is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, $-C(CH_3)_3$, or $-CF_3$.

In another example, R_5 can also be $=O$, OH, OR_9 , COR_9 , CN, NO_2 , tetrazole, SOR_9 , $N(R_9)_2$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$,

CONHR₉, CON(R₉)₂, CONHCH₃OCH₃, CONHSO₂OH, CONHSO₂R₉, SO₂R₉, SO₃H, SO₂NHR₉, SO₂N(R₉)₂, PO(R₉)₂, PO₂(R₉)₂, PO(OR₉)₂, PO₂(OH)R₉, PO₂R₉N(R₉)₂, NHCH(NR₉)₂, NHCOR₉, NHCO₂R₉, NHCONHR₉, NHCON(R₉)₂, NHCONHR₉, N(COR₉)₂, N(CO₂R₉)₂, NHSO₂R₉, NR₉SO₂R₉, NHSO₂NHR₉, NR₉SO₂NH₂, NHPO(R₉)₂, NR₉PO(R₉)₂, NHPO₂OR₉, or B(OH)₂, wherein R₉ is -H, -CH₃, -C₂H₅, -CH₂CH₂CH₃, -CH(CH₃)₂, -(CH₂)₃CH₃, -CH₂CH(CH₃)₂, -CH(CH₃)CH₂(CH₃), -C(CH₃)₃, or -CF₃.

R₄ can be NH₂, NH₃⁺, OH, SH, NOH, NHNH₂, NHNH₃⁺, CO₂H, SO₂OH, B(OH)₂, or imidazolium.

R₄ can also be NH₂, NH₃⁺, SH, NOH, NHNH₂, NHNH₃⁺, CO₂H, SO₂OH, B(OH)₂, or imidazolium.

It is to be understood that while a particular moiety or group can be referred to herein as a hydrogen bond donor or acceptor, this terminology is used to merely categorize the various substituents for ease of reference. Such language should not be interpreted to mean that a particular moiety actually participates in hydrogen bonding with the riboswitch or some other compound. It is possible that, for example, a moiety referred to herein as a hydrogen bond acceptor (or donor) could solely or additionally be involved in hydrophobic, ionic, van de Waals, or other type of interaction with the riboswitch or other compound.

It is also understood that certain groups disclosed herein can be referred to herein as both a hydrogen bond acceptor and a hydrogen bond donor. For example, -OH can be a hydrogen bond donor by donating the hydrogen atom; -OH can also be a hydrogen bond acceptor through one or more of the nonbonded electron pairs on the oxygen atom. Thus, throughout the specification various moieties can be a hydrogen bond donor and acceptor and can be referred to as such.

Every compound within the above definition is intended to be and should be considered to be specifically disclosed herein. Further, every subgroup that can be identified within the above definition is intended to be and should be considered to be specifically disclosed herein. As a result, it is specifically contemplated that any compound, or subgroup of compounds can be either specifically included for or excluded from use or included in or excluded from a list of compounds. As an example, a group of compounds is contemplated where each compound is as defined above and is able to activate a glmS-responsive riboswitch.

It should be understood that particular contacts and interactions (such as hydrogen bond donation or acceptance) described herein for compounds interacting with riboswitches are preferred but are not essential for interaction of a compound with a riboswitch. For example,

compounds can interact with riboswitches with less affinity and/or specificity than compounds having the disclosed contacts and interactions. Further, different or additional functional groups on the compounds can introduce new, different and/or compensating contacts with the riboswitches. For example, for glmS riboswitches, large functional groups can be used. Such functional groups can have, and can be designed to have, contacts and interactions with other part of the riboswitch. Such contacts and interactions can compensate for contacts and interactions of the trigger molecules and core structure.

D. Constructs, Vectors and Expression Systems

The disclosed glmS riboswitches can be used with any suitable expression system. Recombinant expression is usefully accomplished using a vector, such as a plasmid. The vector can include a promoter operably linked to riboswitch-encoding sequence and RNA to be expression (e.g., RNA encoding a protein). The vector can also include other elements required for transcription and translation. As used herein, vector refers to any carrier containing exogenous DNA. Thus, vectors are agents that transport the exogenous nucleic acid into a cell without degradation and include a promoter yielding expression of the nucleic acid in the cells into which it is delivered. Vectors include but are not limited to plasmids, viral nucleic acids, viruses, phage nucleic acids, phages, cosmids, and artificial chromosomes. A variety of prokaryotic and eukaryotic expression vectors suitable for carrying riboswitch-regulated constructs can be produced. Such expression vectors include, for example, pET, pET3d, pCR2.1, pBAD, pUC, and yeast vectors. The vectors can be used, for example, in a variety of *in vivo* and *in vitro* situation.

Viral vectors include adenovirus, adeno-associated virus, herpes virus, vaccinia virus, polio virus, AIDS virus, neuronal trophic virus, Sindbis and other RNA viruses, including these viruses with the HIV backbone. Also useful are any viral families which share the properties of these viruses which make them suitable for use as vectors. Retroviral vectors, which are described in Verma (1985), include Murine Maloney Leukemia virus, MMLV, and retroviruses that express the desirable properties of MMLV as a vector. Typically, viral vectors contain, nonstructural early genes, structural late genes, an RNA polymerase III transcript, inverted terminal repeats necessary for replication and encapsidation, and promoters to control the transcription and replication of the viral genome. When engineered as vectors, viruses typically have one or more of the early genes removed and a gene or gene/promoter cassette is inserted into the viral genome in place of the removed viral DNA.

A “promoter” is generally a sequence or sequences of DNA that function when in a relatively fixed location in regard to the transcription start site. A “promoter” contains core elements required for basic interaction of RNA polymerase and transcription factors and can contain upstream elements and response elements.

“Enhancer” generally refers to a sequence of DNA that functions at no fixed distance from the transcription start site and can be either 5' (Laimins, 1981) or 3' (Lusky et al., 1983) to the transcription unit. Furthermore, enhancers can be within an intron (Banerji et al., 1983) as well as within the coding sequence itself (Osborne et al., 1984). They are usually between 10 and 300 bp in length, and they function in cis. Enhancers function to increase transcription from nearby promoters. Enhancers, like promoters, also often contain response elements that mediate the regulation of transcription. Enhancers often determine the regulation of expression.

Expression vectors used in eukaryotic host cells (yeast, fungi, insect, plant, animal, human or nucleated cells) can also contain sequences necessary for the termination of transcription which can affect mRNA expression. These regions are transcribed as polyadenylated segments in the untranslated portion of the mRNA encoding tissue factor protein. The 3' untranslated regions also include transcription termination sites. It is preferred that the transcription unit also contain a polyadenylation region. One benefit of this region is that it increases the likelihood that the transcribed unit will be processed and transported like mRNA. The identification and use of polyadenylation signals in expression constructs is well established. It is preferred that homologous polyadenylation signals be used in the transgene constructs.

The vector can include nucleic acid sequence encoding a marker product. This marker product is used to determine if the gene has been delivered to the cell and once delivered is being expressed. Preferred marker genes are the *E. Coli* lacZ gene which encodes β -galactosidase and green fluorescent protein.

In some embodiments the marker can be a selectable marker. When such selectable markers are successfully transferred into a host cell, the transformed host cell can survive if placed under selective pressure. There are two widely used distinct categories of selective regimes. The first category is based on a cell's metabolism and the use of a mutant cell line which lacks the ability to grow independent of a supplemented media. The second category is dominant selection which refers to a selection scheme used in any cell type and does not require the use of a mutant cell line. These schemes typically use a drug to arrest growth of a host cell. Those cells which have a novel gene would express a protein conveying drug resistance and would survive the selection. Examples of such dominant selection use the drugs

neomycin, (Southern and Berg, 1982), mycophenolic acid, (Mulligan and Berg, 1980) or hygromycin (Sugden et al., 1985).

Gene transfer can be obtained using direct transfer of genetic material, in but not limited to, plasmids, viral vectors, viral nucleic acids, phage nucleic acids, phages, cosmids, and artificial chromosomes, or via transfer of genetic material in cells or carriers such as cationic liposomes. Such methods are well known in the art and readily adaptable for use in the method described herein. Transfer vectors can be any nucleotide construction used to deliver genes into cells (e.g., a plasmid), or as part of a general strategy to deliver genes, e.g., as part of recombinant retrovirus or adenovirus (Ram et al. *Cancer Res.* 53:83-88, (1993)). Appropriate means for transfection, including viral vectors, chemical transfectants, or physico-mechanical methods such as electroporation and direct diffusion of DNA, are described by, for example, Wolff, J. A., et al., *Science*, 247, 1465-1468, (1990); and Wolff, J. A. *Nature*, 352, 815-818, (1991).

1. Viral Vectors

Preferred viral vectors are Adenovirus, Adeno-associated virus, Herpes virus, Vaccinia virus, Polio virus, AIDS virus, neuronal trophic virus, Sindbis and other RNA viruses, including these viruses with the HIV backbone. Also preferred are any viral families which share the properties of these viruses which make them suitable for use as vectors. Preferred retroviruses include Murine Maloney Leukemia virus, MMLV, and retroviruses that express the desirable properties of MMLV as a vector. Retroviral vectors are able to carry a larger genetic payload, i.e., a transgene or marker gene, than other viral vectors, and for this reason are a commonly used vector. However, they are not useful in non-proliferating cells. Adenovirus vectors are relatively stable and easy to work with, have high titers, and can be delivered in aerosol formulation, and can transfect non-dividing cells. Pox viral vectors are large and have several sites for inserting genes, they are thermostable and can be stored at room temperature. A preferred embodiment is a viral vector which has been engineered so as to suppress the immune response of the host organism, elicited by the viral antigens. Preferred vectors of this type will carry coding regions for Interleukin 8 or 10.

Viral vectors have higher transaction (ability to introduce genes) abilities than do most chemical or physical methods to introduce genes into cells. Typically, viral vectors contain, nonstructural early genes, structural late genes, an RNA polymerase III transcript, inverted terminal repeats necessary for replication and encapsidation, and promoters to control the transcription and replication of the viral genome. When engineered as vectors, viruses typically

have one or more of the early genes removed and a gene or gene/promoter cassette is inserted into the viral genome in place of the removed viral DNA. Constructs of this type can carry up to about 8 kb of foreign genetic material. The necessary functions of the removed early genes are typically supplied by cell lines which have been engineered to express the gene products of the early genes in trans.

i. Retroviral Vectors

A retrovirus is an animal virus belonging to the virus family of Retroviridae, including any types, subfamilies, genus, or tropisms. Retroviral vectors, in general, are described by Verma, I.M., *Retroviral vectors for gene transfer*. In *Microbiology-1985*, American Society for Microbiology, pp. 229-232, Washington, (1985), which is incorporated by reference herein. Examples of methods for using retroviral vectors for gene therapy are described in U.S. Patent Nos. 4,868,116 and 4,980,286; PCT applications WO 90/02806 and WO 89/07136; and Mulligan, (*Science* 260:926-932 (1993)); the teachings of which are incorporated herein by reference.

A retrovirus is essentially a package which has packed into it nucleic acid cargo. The nucleic acid cargo carries with it a packaging signal, which ensures that the replicated daughter molecules will be efficiently packaged within the package coat. In addition to the package signal, there are a number of molecules which are needed in cis, for the replication, and packaging of the replicated virus. Typically a retroviral genome, contains the gag, pol, and env genes which are involved in the making of the protein coat. It is the gag, pol, and env genes which are typically replaced by the foreign DNA that it is to be transferred to the target cell. Retrovirus vectors typically contain a packaging signal for incorporation into the package coat, a sequence which signals the start of the gag transcription unit, elements necessary for reverse transcription, including a primer binding site to bind the tRNA primer of reverse transcription, terminal repeat sequences that guide the switch of RNA strands during DNA synthesis, a purine rich sequence 5' to the 3' LTR that serve as the priming site for the synthesis of the second strand of DNA synthesis, and specific sequences near the ends of the LTRs that enable the insertion of the DNA state of the retrovirus to insert into the host genome. The removal of the gag, pol, and env genes allows for about 8 kb of foreign sequence to be inserted into the viral genome, become reverse transcribed, and upon replication be packaged into a new retroviral particle. This amount of nucleic acid is sufficient for the delivery of a one to many genes depending on the size of each transcript. It is preferable to include either positive or negative selectable markers along with other genes in the insert.

Since the replication machinery and packaging proteins in most retroviral vectors have been removed (gag, pol, and env), the vectors are typically generated by placing them into a packaging cell line. A packaging cell line is a cell line which has been transfected or transformed with a retrovirus that contains the replication and packaging machinery, but lacks any packaging signal. When the vector carrying the DNA of choice is transfected into these cell lines, the vector containing the gene of interest is replicated and packaged into new retroviral particles, by the machinery provided in cis by the helper cell. The genomes for the machinery are not packaged because they lack the necessary signals.

ii. Adenoviral Vectors

The construction of replication-defective adenoviruses has been described (Berkner et al., J. Virology 61:1213-1220 (1987); Massie et al., Mol. Cell. Biol. 6:2872-2883 (1986); Haj-Ahmad et al., J. Virology 57:267-274 (1986); Davidson et al., J. Virology 61:1226-1239 (1987); Zhang "Generation and identification of recombinant adenovirus by liposome-mediated transfection and PCR analysis" BioTechniques 15:868-872 (1993)). The benefit of the use of these viruses as vectors is that they are limited in the extent to which they can spread to other cell types, since they can replicate within an initial infected cell, but are unable to form new infectious viral particles. Recombinant adenoviruses have been shown to achieve high efficiency gene transfer after direct, *in vivo* delivery to airway epithelium, hepatocytes, vascular endothelium, CNS parenchyma and a number of other tissue sites (Morsy, J. Clin. Invest. 92:1580-1586 (1993); Kirshenbaum, J. Clin. Invest. 92:381-387 (1993); Roessler, J. Clin. Invest. 92:1085-1092 (1993); Moullier, Nature Genetics 4:154-159 (1993); La Salle, Science 259:988-990 (1993); Gomez-Foix, J. Biol. Chem. 267:25129-25134 (1992); Rich, Human Gene Therapy 4:461-476 (1993); Zabner, Nature Genetics 6:75-83 (1994); Guzman, Circulation Research 73:1201-1207 (1993); Bout, Human Gene Therapy 5:3-10 (1994); Zabner, Cell 75:207-216 (1993); Caillaud, Eur. J. Neuroscience 5:1287-1291 (1993); and Ragot, J. Gen. Virology 74:501-507 (1993)). Recombinant adenoviruses achieve gene transduction by binding to specific cell surface receptors, after which the virus is internalized by receptor-mediated endocytosis, in the same manner as wild type or replication-defective adenovirus (Chardonnet and Dales, Virology 40:462-477 (1970); Brown and Burlingham, J. Virology 12:386-396 (1973); Svensson and Persson, J. Virology 55:442-449 (1985); Seth, et al., J. Virol. 51:650-655 (1984); Seth, et al., Mol. Cell. Biol. 4:1528-1533 (1984); Varga et al., J. Virology 65:6061-6070 (1991); Wickham et al., Cell 73:309-319 (1993)).

A preferred viral vector is one based on an adenovirus which has had the E1 gene removed and these virions are generated in a cell line such as the human 293 cell line. In another preferred embodiment both the E1 and E3 genes are removed from the adenovirus genome.

Another type of viral vector is based on an adeno-associated virus (AAV). This defective parvovirus is a preferred vector because it can infect many cell types and is nonpathogenic to humans. AAV type vectors can transport about 4 to 5 kb and wild type AAV is known to stably insert into chromosome 19. Vectors which contain this site specific integration property are preferred. An especially preferred embodiment of this type of vector is the P4.1 C vector produced by Avigen, San Francisco, CA, which can contain the herpes simplex virus thymidine kinase gene, HSV-tk, and/or a marker gene, such as the gene encoding the green fluorescent protein, GFP.

The inserted genes in viral and retroviral usually contain promoters, and/or enhancers to help control the expression of the desired gene product. A promoter is generally a sequence or sequences of DNA that function when in a relatively fixed location in regard to the transcription start site. A promoter contains core elements required for basic interaction of RNA polymerase and transcription factors, and can contain upstream elements and response elements.

2. Viral Promoters and Enhancers

Preferred promoters controlling transcription from vectors in mammalian host cells can be obtained from various sources, for example, the genomes of viruses such as: polyoma, Simian Virus 40 (SV40), adenovirus, retroviruses, hepatitis-B virus and most preferably cytomegalovirus, or from heterologous mammalian promoters, e.g. beta actin promoter. The early and late promoters of the SV40 virus are conveniently obtained as an SV40 restriction fragment which also contains the SV40 viral origin of replication (Fiers et al., *Nature*, 273: 113 (1978)). The immediate early promoter of the human cytomegalovirus is conveniently obtained as a HindIII E restriction fragment (Greenway, P.J. et al., *Gene* 18: 355-360 (1982)). Of course, promoters from the host cell or related species also are useful herein.

Enhancer generally refers to a sequence of DNA that functions at no fixed distance from the transcription start site and can be either 5' (Laimins, L. et al., *Proc. Natl. Acad. Sci.* 78: 993 (1981)) or 3' (Lusky, M.L., et al., *Mol. Cell Bio.* 3: 1108 (1983)) to the transcription unit. Furthermore, enhancers can be within an intron (Banerji, J.L. et al., *Cell* 33: 729 (1983)) as well as within the coding sequence itself (Osborne, T.F., et al., *Mol. Cell Bio.* 4: 1293 (1984)). They are usually between 10 and 300 bp in length, and they function in cis. Enhancers function to increase transcription from nearby promoters. Enhancers also often contain response elements

that mediate the regulation of transcription. Promoters can also contain response elements that mediate the regulation of transcription. Enhancers often determine the regulation of expression of a gene. While many enhancer sequences are now known from mammalian genes (globin, elastase, albumin, α -fetoprotein and insulin), typically one will use an enhancer from a eukaryotic cell virus. Preferred examples are the SV40 enhancer on the late side of the replication origin (bp 100-270), the cytomegalovirus early promoter enhancer, the polyoma enhancer on the late side of the replication origin, and adenovirus enhancers.

The promoter and/or enhancer can be specifically activated either by light or specific chemical events which trigger their function. Systems can be regulated by reagents such as tetracycline and dexamethasone. There are also ways to enhance viral vector gene expression by exposure to irradiation, such as gamma irradiation, or alkylating chemotherapy drugs.

It is preferred that the promoter and/or enhancer region be active in all eukaryotic cell types. A preferred promoter of this type is the CMV promoter (650 bases). Other preferred promoters are SV40 promoters, cytomegalovirus (full length promoter), and retroviral vector LTF.

It has been shown that all specific regulatory elements can be cloned and used to construct expression vectors that are selectively expressed in specific cell types such as melanoma cells. The glial fibrillary acetic protein (GFAP) promoter has been used to selectively express genes in cells of glial origin.

Expression vectors used in eukaryotic host cells (yeast, fungi, insect, plant, animal, human or nucleated cells) can also contain sequences necessary for the termination of transcription which can affect mRNA expression. These regions are transcribed as polyadenylated segments in the untranslated portion of the mRNA encoding tissue factor protein. The 3' untranslated regions also include transcription termination sites. It is preferred that the transcription unit also contain a polyadenylation region. One benefit of this region is that it increases the likelihood that the transcribed unit will be processed and transported like mRNA. The identification and use of polyadenylation signals in expression constructs is well established. It is preferred that homologous polyadenylation signals be used in the transgene constructs. In a preferred embodiment of the transcription unit, the polyadenylation region is derived from the SV40 early polyadenylation signal and consists of about 400 bases. It is also preferred that the transcribed units contain other standard sequences alone or in combination with the above sequences improve expression from, or stability of, the construct.

3. Markers

The vectors can include nucleic acid sequence encoding a marker product. This marker product is used to determine if the gene has been delivered to the cell and once delivered is being expressed. Preferred marker genes are the E. Coli lacZ gene which encodes β -galactosidase and green fluorescent protein.

In some embodiments the marker can be a selectable marker. Examples of suitable selectable markers for mammalian cells are dihydrofolate reductase (DHFR), thymidine kinase, neomycin, neomycin analog G418, hydromycin, and puromycin. When such selectable markers are successfully transferred into a mammalian host cell, the transformed mammalian host cell can survive if placed under selective pressure. There are two widely used distinct categories of selective regimes. The first category is based on a cell's metabolism and the use of a mutant cell line which lacks the ability to grow independent of a supplemented media. Two examples are: CHO DHFR⁻ cells and mouse LTK⁻ cells. These cells lack the ability to grow without the addition of such nutrients as thymidine or hypoxanthine. Because these cells lack certain genes necessary for a complete nucleotide synthesis pathway, they cannot survive unless the missing nucleotides are provided in a supplemented media. An alternative to supplementing the media is to introduce an intact DHFR or TK gene into cells lacking the respective genes, thus altering their growth requirements. Individual cells which were not transformed with the DHFR or TK gene will not be capable of survival in non-supplemented media.

The second category is dominant selection which refers to a selection scheme used in any cell type and does not require the use of a mutant cell line. These schemes typically use a drug to arrest growth of a host cell. Those cells which would express a protein conveying drug resistance and would survive the selection. Examples of such dominant selection use the drugs neomycin, (Southern P. and Berg, P., J. Molec. Appl. Genet. 1: 327 (1982)), mycophenolic acid, (Mulligan, R.C. and Berg, P. Science 209: 1422 (1980)) or hygromycin, (Sugden, B. et al., Mol. Cell. Biol. 5: 410-413 (1985)). The three examples employ bacterial genes under eukaryotic control to convey resistance to the appropriate drug G418 or neomycin (geneticin), xgpt (mycophenolic acid) or hygromycin, respectively. Others include the neomycin analog G418 and puramycin.

E. Biosensor Riboswitches

Also disclosed are biosensor riboswitches. Biosensor riboswitches are engineered riboswitches that produce a detectable signal in the presence of their cognate trigger molecule.

Useful biosensor riboswitches can be triggered at or above threshold levels of the trigger molecules. Biosensor riboswitches can be designed for use *in vivo* or *in vitro*. For example, glmS biosensor riboswitches operably linked to a reporter RNA that encodes a protein that serves as or is involved in producing a signal can be used *in vivo* by engineering a cell or organism to harbor a nucleic acid construct encoding the glmS riboswitch/reporter RNA. An example of a biosensor riboswitch for use *in vitro* is a riboswitch that includes a conformation dependent label, the signal from which changes depending on the activation state of the riboswitch. Such a biosensor riboswitch preferably uses an aptamer domain from or derived from a naturally occurring riboswitch, such as glmS.

F. Reporter Proteins and Peptides

For assessing activation of a riboswitch, or for biosensor riboswitches, a reporter protein or peptide can be used. The reporter protein or peptide can be encoded by the RNA the expression of which is regulated by the riboswitch. The examples describe the use of some specific reporter proteins. The use of reporter proteins and peptides is well known and can be adapted easily for use with riboswitches. The reporter proteins can be any protein or peptide that can be detected or that produces a detectable signal. Preferably, the presence of the protein or peptide can be detected using standard techniques (e.g., radioimmunoassay, radio-labeling, immunoassay, assay for enzymatic activity, absorbance, fluorescence, luminescence, and Western blot). More preferably, the level of the reporter protein is easily quantifiable using standard techniques even at low levels. Useful reporter proteins include luciferases, green fluorescent proteins and their derivatives, such as firefly luciferase (FL) from *Photinus pyralis*, and Renilla luciferase (RL) from *Renilla reniformis*.

G. Conformation Dependent Labels

Conformation dependent labels refer to all labels that produce a change in fluorescence intensity or wavelength based on a change in the form or conformation of the molecule or compound (such as a riboswitch) with which the label is associated. Examples of conformation dependent labels used in the context of probes and primers include molecular beacons, Amplifluors, FRET probes, cleavable FRET probes, TaqMan probes, scorpion primers, fluorescent triplex oligos including but not limited to triplex molecular beacons or triplex FRET probes, fluorescent water-soluble conjugated polymers, PNA probes and QPNA probes. Such labels, and, in particular, the principles of their function, can be adapted for use with riboswitches. Several types of conformation dependent labels are reviewed in Schweitzer and Kingsmore, *Curr. Opin. Biotech.* 12:21-27 (2001).

Stem quenched labels, a form of conformation dependent labels, are fluorescent labels positioned on a nucleic acid such that when a stem structure forms a quenching moiety is brought into proximity such that fluorescence from the label is quenched. When the stem is disrupted (such as when a riboswitch containing the label is activated), the quenching moiety is no longer in proximity to the fluorescent label and fluorescence increases. Examples of this effect can be found in molecular beacons, fluorescent triplex oligos, triplex molecular beacons, triplex FRET probes, and QPNA probes, the operational principles of which can be adapted for use with riboswitches.

Stem activated labels, a form of conformation dependent labels, are labels or pairs of labels where fluorescence is increased or altered by formation of a stem structure. Stem activated labels can include an acceptor fluorescent label and a donor moiety such that, when the acceptor and donor are in proximity (when the nucleic acid strands containing the labels form a stem structure), fluorescence resonance energy transfer from the donor to the acceptor causes the acceptor to fluoresce. Stem activated labels are typically pairs of labels positioned on nucleic acid molecules (such as riboswitches) such that the acceptor and donor are brought into proximity when a stem structure is formed in the nucleic acid molecule. If the donor moiety of a stem activated label is itself a fluorescent label, it can release energy as fluorescence (typically at a different wavelength than the fluorescence of the acceptor) when not in proximity to an acceptor (that is, when a stem structure is not formed). When the stem structure forms, the overall effect would then be a reduction of donor fluorescence and an increase in acceptor fluorescence. FRET probes are an example of the use of stem activated labels, the operational principles of which can be adapted for use with riboswitches.

H. Detection Labels

To aid in detection and quantitation of riboswitch activation, deactivation or blocking, or expression of nucleic acids or protein produced upon activation, deactivation or blocking of riboswitches, detection labels can be incorporated into detection probes or detection molecules or directly incorporated into expressed nucleic acids or proteins. As used herein, a detection label is any molecule that can be associated with nucleic acid or protein, directly or indirectly, and which results in a measurable, detectable signal, either directly or indirectly. Many such labels are known to those of skill in the art. Examples of detection labels suitable for use in the disclosed method are radioactive isotopes, fluorescent molecules, phosphorescent molecules, enzymes, antibodies, and ligands.

Examples of suitable fluorescent labels include fluorescein isothiocyanate (FITC), 5,6-carboxymethyl fluorescein, Texas red, nitrobenz-2-oxa-1,3-diazol-4-yl (NBD), coumarin, dansyl chloride, rhodamine, amino-methyl coumarin (AMCA), Eosin, Erythrosin, BODIPY[®], Cascade Blue[®], Oregon Green[®], pyrene, lissamine, xanthenes, acridines, oxazines, phycoerythrin, macrocyclic chelates of lanthanide ions such as quantum dye[™], fluorescent energy transfer dyes, such as thiazole orange-ethidium heterodimer, and the cyanine dyes Cy3, Cy3.5, Cy5, Cy5.5 and Cy7. Examples of other specific fluorescent labels include 3-Hydroxypyrene 5,8,10-Tri Sulfonic acid, 5-Hydroxy Tryptamine (5-HT), Acid Fuchsin, Alizarin Complexon, Alizarin Red, Allophycocyanin, Aminocoumarin, Anthroyl Stearate, Astrazon Brilliant Red 4G, Astrazon Orange R, Astrazon Red 6B, Astrazon Yellow 7 GLL, Atabrine, Auramine, Aurophosphine, Aurophosphine G, BAO 9 (Bisaminophenyloxadiazole), BCECF, Berberine Sulphate, Bisbenzamide, Blancophor FFG Solution, Blancophor SV, Bodipy F1, Brilliant Sulphoflavin FF, Calcien Blue, Calcium Green, Calcofluor RW Solution, Calcofluor White, Calcophor White ABT Solution, Calcophor White Standard Solution, Carbostryl, Cascade Yellow, Catecholamine, Chinacrine, Coriphosphine O, Coumarin-Phalloidin, CY3.1 8, CY5.1 8, CY7, Dans (1-Dimethyl Amino Naphaline 5 Sulphonic Acid), Dansa (Diamino Naphtyl Sulphonic Acid), Dansyl NH-CH₃, Diamino Phenyl Oxydiazole (DAO), Dimethylamino-5-Sulphonic acid, Dipyrrometheneboron Difluoride, Diphenyl Brilliant Flavine 7GFF, Dopamine, Erythrosin ITC, Euchrysin, FIF (Formaldehyde Induced Fluorescence), Flazo Orange, Fluo 3, Fluorescamine, Fura-2, Genacryl Brilliant Red B, Genacryl Brilliant Yellow 10GF, Genacryl Pink 3G, Genacryl Yellow 5GF, Gloxalic Acid, Granular Blue, Haematoporphyrin, Indo-1, Intrawhite Cf Liquid, Leucophor PAF, Leucophor SF, Leucophor WS, Lissamine Rhodamine B200 (RD200), Lucifer Yellow CH, Lucifer Yellow VS, Magdala Red, Marina Blue, Maxilon Brilliant Flavin 10 GFF, Maxilon Brilliant Flavin 8 GFF, MPS (Methyl Green Pyronine Stilbene), Mithramycin, NBD Amine, Nitrobenzoxadidole, Noradrenaline, Nuclear Fast Red, Nuclear Yellow, Nylosan Brilliant Flavin E8G, Oxadiazole, Pacific Blue, Pararosanine (Feulgen), Phorwite AR Solution, Phorwite BKL, Phorwite Rev, Phorwite RPA, Phosphine 3R, Phthalocyanine, Phycoerythrin R, Polyazaindacene Pontochrome Blue Black, Porphyrin, Primuline, Procion Yellow, Pyronine, Pyronine B, Pyrozal Brilliant Flavin 7GF, Quinacrine Mustard, Rhodamine 123, Rhodamine 5 GLD, Rhodamine 6G, Rhodamine B, Rhodamine B 200, Rhodamine B Extra, Rhodamine BB, Rhodamine BG, Rhodamine WT, Serotonin, Sevron Brilliant Red 2B, Sevron Brilliant Red 4G, Sevron Brilliant Red B, Sevron Orange, Sevron Yellow L, SITS (Primuline), SITS (Stilbene Isothiosulphonic acid), Stilbene, Snarf 1, sulpho Rhodamine B Can C, Sulpho Rhodamine G

Extra, Tetracycline, Thiazine Red R, Thioflavin S, Thioflavin TCN, Thioflavin 5, Thiolyte, Thiozol Orange, Tinopol CBS, True Blue, Ultralite, Uranine B, Uvitex SFC, Xylene Orange, and XRITC.

Useful fluorescent labels are fluorescein (5-carboxyfluorescein-N-hydroxysuccinimide ester), rhodamine (5,6-tetramethyl rhodamine), and the cyanine dyes Cy3, Cy3.5, Cy5, Cy5.5 and Cy7. The absorption and emission maxima, respectively, for these fluors are: FITC (490 nm; 520 nm), Cy3 (554 nm; 568 nm), Cy3.5 (581 nm; 588 nm), Cy5 (652 nm; 672 nm), Cy5.5 (682 nm; 703 nm) and Cy7 (755 nm; 778 nm), thus allowing their simultaneous detection. Other examples of fluorescein dyes include 6-carboxyfluorescein (6-FAM), 2',4',1,4,-tetrachlorofluorescein (TET), 2',4',5',7',1,4-hexachlorofluorescein (HEX), 2',7'-dimethoxy-4', 5'-dichloro-6-carboxyrhodamine (JOE), 2'-chloro-5'-fluoro-7',8'-fused phenyl-1,4-dichloro-6-carboxyfluorescein (NED), and 2'-chloro-7'-phenyl-1,4-dichloro-6-carboxyfluorescein (VIC). Fluorescent labels can be obtained from a variety of commercial sources, including Amersham Pharmacia Biotech, Piscataway, NJ; Molecular Probes, Eugene, OR; and Research Organics, Cleveland, Ohio.

Additional labels of interest include those that provide for signal only when the probe with which they are associated is specifically bound to a target molecule, where such labels include: "molecular beacons" as described in Tyagi & Kramer, *Nature Biotechnology* (1996) 14:303 and EP 0 070 685 B1. Other labels of interest include those described in U.S. Pat. No. 5,563,037; WO 97/17471 and WO 97/17076.

Labeled nucleotides are a useful form of detection label for direct incorporation into expressed nucleic acids during synthesis. Examples of detection labels that can be incorporated into nucleic acids include nucleotide analogs such as BrdUrd (5-bromodeoxyuridine, Hoy and Schimke, *Mutation Research* 290:217-230 (1993)), aminoallyldeoxyuridine (Henegariu *et al.*, *Nature Biotechnology* 18:345-348 (2000)), 5-methylcytosine (Sano *et al.*, *Biochim. Biophys. Acta* 951:157-165 (1988)), bromouridine (Wansick *et al.*, *J. Cell Biology* 122:283-293 (1993)) and nucleotides modified with biotin (Langer *et al.*, *Proc. Natl. Acad. Sci. USA* 78:6633 (1981)) or with suitable haptens such as digoxigenin (Kerkhof, *Anal. Biochem.* 205:359-364 (1992)). Suitable fluorescence-labeled nucleotides are Fluorescein-isothiocyanate-dUTP, Cyanine-3-dUTP and Cyanine-5-dUTP (Yu *et al.*, *Nucleic Acids Res.*, 22:3226-3232 (1994)). A preferred nucleotide analog detection label for DNA is BrdUrd (bromodeoxyuridine, BrdUrd, BrdU, BUdR, Sigma-Aldrich Co). Other useful nucleotide analogs for incorporation of detection label into DNA are AA-dUTP (aminoallyl-deoxyuridine triphosphate, Sigma-Aldrich Co.), and 5-

methyl-dCTP (Roche Molecular Biochemicals). A useful nucleotide analog for incorporation of detection label into RNA is biotin-16-UTP (biotin-16-uridine-5'-triphosphate, Roche Molecular Biochemicals). Fluorescein, Cy3, and Cy5 can be linked to dUTP for direct labeling. Cy3.5 and Cy7 are available as avidin or anti-digoxigenin conjugates for secondary detection of biotin- or digoxigenin-labeled probes.

Detection labels that are incorporated into nucleic acid, such as biotin, can be subsequently detected using sensitive methods well-known in the art. For example, biotin can be detected using streptavidin-alkaline phosphatase conjugate (Tropix, Inc.), which is bound to the biotin and subsequently detected by chemiluminescence of suitable substrates (for example, chemiluminescent substrate CSPD: disodium, 3-(4-methoxyspiro-[1,2,-dioxetane-3-2'-(5'-chloro)tricyclo [3.3.1.1^{3,7}]decane]-4-yl) phenyl phosphate; Tropix, Inc.). Labels can also be enzymes, such as alkaline phosphatase, soybean peroxidase, horseradish peroxidase and polymerases, that can be detected, for example, with chemical signal amplification or by using a substrate to the enzyme which produces light (for example, a chemiluminescent 1,2-dioxetane substrate) or fluorescent signal.

Molecules that combine two or more of these detection labels are also considered detection labels. Any of the known detection labels can be used with the disclosed probes, tags, molecules and methods to label and detect activated or deactivated riboswitches or nucleic acid or protein produced in the disclosed methods. Methods for detecting and measuring signals generated by detection labels are also known to those of skill in the art. For example, radioactive isotopes can be detected by scintillation counting or direct visualization; fluorescent molecules can be detected with fluorescent spectrophotometers; phosphorescent molecules can be detected with a spectrophotometer or directly visualized with a camera; enzymes can be detected by detection or visualization of the product of a reaction catalyzed by the enzyme; antibodies can be detected by detecting a secondary detection label coupled to the antibody. As used herein, detection molecules are molecules which interact with a compound or composition to be detected and to which one or more detection labels are coupled.

I. Sequence Similarities

It is understood that as discussed herein the use of the terms homology and identity mean the same thing as similarity. Thus, for example, if the use of the word homology is used between two sequences (non-natural sequences, for example) it is understood that this is not necessarily indicating an evolutionary relationship between these two sequences, but rather is looking at the similarity or relatedness between their nucleic acid sequences. Many of the methods for

determining homology between two evolutionarily related molecules are routinely applied to any two or more nucleic acids or proteins for the purpose of measuring sequence similarity regardless of whether they are evolutionarily related or not.

In general, it is understood that one way to define any known variants and derivatives or those that might arise, of the disclosed riboswitches, aptamers, expression platforms, genes and proteins herein, is through defining the variants and derivatives in terms of homology to specific known sequences. This identity of particular sequences disclosed herein is also discussed elsewhere herein. In general, variants of riboswitches, aptamers, expression platforms, genes and proteins herein disclosed typically have at least, about 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, or 99 percent homology to a stated sequence or a native sequence. Those of skill in the art readily understand how to determine the homology of two proteins or nucleic acids, such as genes. For example, the homology can be calculated after aligning the two sequences so that the homology is at its highest level.

Another way of calculating homology can be performed by published algorithms. Optimal alignment of sequences for comparison can be conducted by the local homology algorithm of Smith and Waterman *Adv. Appl. Math.* 2: 482 (1981), by the homology alignment algorithm of Needleman and Wunsch, *J. Mol. Biol.* 48: 443 (1970), by the search for similarity method of Pearson and Lipman, *Proc. Natl. Acad. Sci. U.S.A.* 85: 2444 (1988), by computerized implementations of these algorithms (GAP, BESTFIT, FASTA, and TFASTA in the Wisconsin Genetics Software Package, Genetics Computer Group, 575 Science Dr., Madison, WI), or by inspection.

The same types of homology can be obtained for nucleic acids by for example the algorithms disclosed in Zuker, M. *Science* 244:48-52, 1989, Jaeger et al. *Proc. Natl. Acad. Sci. USA* 86:7706-7710, 1989, Jaeger et al. *Methods Enzymol.* 183:281-306, 1989 which are herein incorporated by reference for at least material related to nucleic acid alignment. It is understood that any of the methods typically can be used and that in certain instances the results of these various methods can differ, but the skilled artisan understands if identity is found with at least one of these methods, the sequences would be said to have the stated identity.

For example, as used herein, a sequence recited as having a particular percent homology to another sequence refers to sequences that have the recited homology as calculated by any one or more of the calculation methods described above. For example, a first sequence has 80 percent homology, as defined herein, to a second sequence if the first sequence is calculated to

have 80 percent homology to the second sequence using the Zuker calculation method even if the first sequence does not have 80 percent homology to the second sequence as calculated by any of the other calculation methods. As another example, a first sequence has 80 percent homology, as defined herein, to a second sequence if the first sequence is calculated to have 80 percent homology to the second sequence using both the Zuker calculation method and the Pearson and Lipman calculation method even if the first sequence does not have 80 percent homology to the second sequence as calculated by the Smith and Waterman calculation method, the Needleman and Wunsch calculation method, the Jaeger calculation methods, or any of the other calculation methods. As yet another example, a first sequence has 80 percent homology, as defined herein, to a second sequence if the first sequence is calculated to have 80 percent homology to the second sequence using each of calculation methods (although, in practice, the different calculation methods will often result in different calculated homology percentages).

J. Hybridization and Selective Hybridization

The term hybridization typically means a sequence driven interaction between at least two nucleic acid molecules, such as a primer or a probe and a riboswitch or a gene. Sequence driven interaction means an interaction that occurs between two nucleotides or nucleotide analogs or nucleotide derivatives in a nucleotide specific manner. For example, G interacting with C or A interacting with T are sequence driven interactions. Typically sequence driven interactions occur on the Watson-Crick face or Hoogsteen face of the nucleotide. The hybridization of two nucleic acids is affected by a number of conditions and parameters known to those of skill in the art. For example, the salt concentrations, pH, and temperature of the reaction all affect whether two nucleic acid molecules will hybridize.

Parameters for selective hybridization between two nucleic acid molecules are well known to those of skill in the art. For example, in some embodiments selective hybridization conditions can be defined as stringent hybridization conditions. For example, stringency of hybridization is controlled by both temperature and salt concentration of either or both of the hybridization and washing steps. For example, the conditions of hybridization to achieve selective hybridization can involve hybridization in high ionic strength solution (6X SSC or 6X SSPE) at a temperature that is about 12-25°C below the T_m (the melting temperature at which half of the molecules dissociate from their hybridization partners) followed by washing at a combination of temperature and salt concentration chosen so that the washing temperature is about 5°C to 20°C below the T_m . The temperature and salt conditions are readily determined empirically in preliminary experiments in which samples of reference DNA immobilized on

filters are hybridized to a labeled nucleic acid of interest and then washed under conditions of different stringencies. Hybridization temperatures are typically higher for DNA-RNA and RNA-RNA hybridizations. The conditions can be used as described above to achieve stringency, or as is known in the art (Sambrook et al., *Molecular Cloning: A Laboratory Manual*, 2nd Ed., Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, 1989; Kunkel et al. *Methods Enzymol.* 1987:154:367, 1987 which is herein incorporated by reference for material at least related to hybridization of nucleic acids). A preferable stringent hybridization condition for a DNA:DNA hybridization can be at about 68°C (in aqueous solution) in 6X SSC or 6X SSPE followed by washing at 68°C. Stringency of hybridization and washing, if desired, can be reduced accordingly as the degree of complementarity desired is decreased, and further, depending upon the G-C or A-T richness of any area wherein variability is searched for. Likewise, stringency of hybridization and washing, if desired, can be increased accordingly as homology desired is increased, and further, depending upon the G-C or A-T richness of any area wherein high homology is desired, all as known in the art.

Another way to define selective hybridization is by looking at the amount (percentage) of one of the nucleic acids bound to the other nucleic acid. For example, in some embodiments selective hybridization conditions would be when at least about, 60, 65, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 percent of the limiting nucleic acid is bound to the non-limiting nucleic acid. Typically, the non-limiting nucleic acid is in for example, 10 or 100 or 1000 fold excess. This type of assay can be performed at under conditions where both the limiting and non-limiting nucleic acids are for example, 10 fold or 100 fold or 1000 fold below their k_d , or where only one of the nucleic acid molecules is 10 fold or 100 fold or 1000 fold or where one or both nucleic acid molecules are above their k_d .

Another way to define selective hybridization is by looking at the percentage of nucleic acid that gets enzymatically manipulated under conditions where hybridization is required to promote the desired enzymatic manipulation. For example, in some embodiments selective hybridization conditions would be when at least about, 60, 65, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 percent of the nucleic acid is enzymatically manipulated under conditions which promote the enzymatic manipulation, for example if the enzymatic manipulation is DNA extension, then selective hybridization conditions would be when at least about 60, 65, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 percent of the

nucleic acid molecules are extended. Preferred conditions also include those suggested by the manufacturer or indicated in the art as being appropriate for the enzyme performing the manipulation.

Just as with homology, it is understood that there are a variety of methods herein disclosed for determining the level of hybridization between two nucleic acid molecules. It is understood that these methods and conditions can provide different percentages of hybridization between two nucleic acid molecules, but unless otherwise indicated meeting the parameters of any of the methods would be sufficient. For example if 80% hybridization was required and as long as hybridization occurs within the required parameters in any one of these methods it is considered disclosed herein.

It is understood that those of skill in the art understand that if a composition or method meets any one of these criteria for determining hybridization either collectively or singly it is a composition or method that is disclosed herein.

K. Nucleic Acids

There are a variety of molecules disclosed herein that are nucleic acid based, including, for example, riboswitches, aptamers, and nucleic acids that encode riboswitches and aptamers. The disclosed nucleic acids can be made up of for example, nucleotides, nucleotide analogs, or nucleotide substitutes. Non-limiting examples of these and other molecules are discussed herein. It is understood that for example, when a vector is expressed in a cell, that the expressed mRNA will typically be made up of A, C, G, and U. Likewise, it is understood that if a nucleic acid molecule is introduced into a cell or cell environment through for example exogenous delivery, it is advantageous that the nucleic acid molecule be made up of nucleotide analogs that reduce the degradation of the nucleic acid molecule in the cellular environment.

So long as their relevant function is maintained, riboswitches, aptamers, expression platforms and any other oligonucleotides and nucleic acids can be made up of or include modified nucleotides (nucleotide analogs). Many modified nucleotides are known and can be used in oligonucleotides and nucleic acids. A nucleotide analog is a nucleotide which contains some type of modification to either the base, sugar, or phosphate moieties. Modifications to the base moiety would include natural and synthetic modifications of A, C, G, and T/U as well as different purine or pyrimidine bases, such as uracil-5-yl, hypoxanthin-9-yl (I), and 2-aminoadenin-9-yl. A modified base includes but is not limited to 5-methylcytosine (5-me-C), 5-hydroxymethyl cytosine, xanthine, hypoxanthine, 2-aminoadenine, 6-methyl and other alkyl derivatives of adenine and guanine, 2-propyl and other alkyl derivatives of adenine and guanine,

2-thiouracil, 2-thiothymine and 2-thiocytosine, 5-halouracil and cytosine, 5-propynyl uracil and cytosine, 6-azo uracil, cytosine and thymine, 5-uracil (pseudouracil), 4-thiouracil, 8-halo, 8-amino, 8-thiol, 8-thioalkyl, 8-hydroxyl and other 8-substituted adenines and guanines, 5-halo particularly 5-bromo, 5-trifluoromethyl and other 5-substituted uracils and cytosines, 7-methylguanine and 7-methyladenine, 8-azaguanine and 8-azaadenine, 7-deazaguanine and 7-deazaadenine and 3-deazaguanine and 3-deazaadenine. Additional base modifications can be found for example in U.S. Pat. No. 3,687,808, Englisch et al., *Angewandte Chemie*, International Edition, 1991, 30, 613, and Sanghvi, Y. S., Chapter 15, *Antisense Research and Applications*, pages 289-302, Crooke, S. T. and Lebleu, B. ed., CRC Press, 1993. Certain nucleotide analogs, such as 5-substituted pyrimidines, 6-azapyrimidines and N-2, N-6 and O-6 substituted purines, including 2-aminopropyladenine, 5-propynyluracil and 5-propynylcytosine. 5-methylcytosine can increase the stability of duplex formation. Other modified bases are those that function as universal bases. Universal bases include 3-nitropyrrole and 5-nitroindole. Universal bases substitute for the normal bases but have no bias in base pairing. That is, universal bases can base pair with any other base. Base modifications often can be combined with for example a sugar modification, such as 2'-O-methoxyethyl, to achieve unique properties such as increased duplex stability. There are numerous United States patents such as 4,845,205; 5,130,302; 5,134,066; 5,175,273; 5,367,066; 5,432,272; 5,457,187; 5,459,255; 5,484,908; 5,502,177; 5,525,711; 5,552,540; 5,587,469; 5,594,121, 5,596,091; 5,614,617; and 5,681,941, which detail and describe a range of base modifications. Each of these patents is herein incorporated by reference in its entirety, and specifically for their description of base modifications, their synthesis, their use, and their incorporation into oligonucleotides and nucleic acids.

Nucleotide analogs can also include modifications of the sugar moiety. Modifications to the sugar moiety would include natural modifications of the ribose and deoxyribose as well as synthetic modifications. Sugar modifications include but are not limited to the following modifications at the 2' position: OH; F; O-, S-, or N-alkyl; O-, S-, or N-alkenyl; O-, S- or N-alkynyl; or O-alkyl-O-alkyl, wherein the alkyl, alkenyl and alkynyl can be substituted or unsubstituted C1 to C10, alkyl or C2 to C10 alkenyl and alkynyl. 2' sugar modifications also include but are not limited to $-O[(CH_2)_n O]_m CH_3$, $-O(CH_2)_n OCH_3$, $-O(CH_2)_n NH_2$, $-O(CH_2)_n CH_3$, $-O(CH_2)_n -ONH_2$, and $-O(CH_2)_n ON[(CH_2)_n CH_3]_2$, where n and m are from 1 to about 10.

Other modifications at the 2' position include but are not limited to: C1 to C10 lower alkyl, substituted lower alkyl, alkaryl, aralkyl, O-alkaryl or O-aralkyl, SH, SCH₃, OCN, Cl, Br,

CN, CF₃, OCF₃, SOCH₃, SO₂ CH₃, ONO₂, NO₂, N₃, NH₂, heterocycloalkyl, heterocycloalkaryl, aminoalkylamino, polyalkylamino, substituted silyl, an RNA cleaving group, a reporter group, an intercalator, a group for improving the pharmacokinetic properties of an oligonucleotide, or a group for improving the pharmacodynamic properties of an oligonucleotide, and other substituents having similar properties. Similar modifications can also be made at other positions on the sugar, particularly the 3' position of the sugar on the 3' terminal nucleotide or in 2'-5' linked oligonucleotides and the 5' position of 5' terminal nucleotide. Modified sugars would also include those that contain modifications at the bridging ring oxygen, such as CH₂ and S. Nucleotide sugar analogs can also have sugar mimetics such as cyclobutyl moieties in place of the pentofuranosyl sugar. There are numerous United States patents that teach the preparation of such modified sugar structures such as 4,981,957; 5,118,800; 5,319,080; 5,359,044; 5,393,878; 5,446,137; 5,466,786; 5,514,785; 5,519,134; 5,567,811; 5,576,427; 5,591,722; 5,597,909; 5,610,300; 5,627,053; 5,639,873; 5,646,265; 5,658,873; 5,670,633; and 5,700,920, each of which is herein incorporated by reference in its entirety, and specifically for their description of modified sugar structures, their synthesis, their use, and their incorporation into nucleotides, oligonucleotides and nucleic acids.

Nucleotide analogs can also be modified at the phosphate moiety. Modified phosphate moieties include but are not limited to those that can be modified so that the linkage between two nucleotides contains a phosphorothioate, chiral phosphorothioate, phosphorodithioate, phosphotriester, aminoalkylphosphotriester, methyl and other alkyl phosphonates including 3'-alkylene phosphonate and chiral phosphonates, phosphinates, phosphoramidates including 3'-amino phosphoramidate and aminoalkylphosphoramidates, thionophosphoramidates, thionoalkylphosphonates, thionoalkylphosphotriesters, and boranophosphates. It is understood that these phosphate or modified phosphate linkages between two nucleotides can be through a 3'-5' linkage or a 2'-5' linkage, and the linkage can contain inverted polarity such as 3'-5' to 5'-3' or 2'-5' to 5'-2'. Various salts, mixed salts and free acid forms are also included. Numerous United States patents teach how to make and use nucleotides containing modified phosphates and include but are not limited to, 3,687,808; 4,469,863; 4,476,301; 5,023,243; 5,177,196; 5,188,897; 5,264,423; 5,276,019; 5,278,302; 5,286,717; 5,321,131; 5,399,676; 5,405,939; 5,453,496; 5,455,233; 5,466,677; 5,476,925; 5,519,126; 5,536,821; 5,541,306; 5,550,111; 5,563,253; 5,571,799; 5,587,361; and 5,625,050, each of which is herein incorporated by reference its entirety, and specifically for their description of modified phosphates, their synthesis, their use, and their incorporation into nucleotides, oligonucleotides and nucleic acids.

It is understood that nucleotide analogs need only contain a single modification, but can also contain multiple modifications within one of the moieties or between different moieties.

Nucleotide substitutes are molecules having similar functional properties to nucleotides, but which do not contain a phosphate moiety, such as peptide nucleic acid (PNA). Nucleotide substitutes are molecules that will recognize and hybridize to (base pair to) complementary nucleic acids in a Watson-Crick or Hoogsteen manner, but which are linked together through a moiety other than a phosphate moiety. Nucleotide substitutes are able to conform to a double helix type structure when interacting with the appropriate target nucleic acid.

Nucleotide substitutes are nucleotides or nucleotide analogs that have had the phosphate moiety and/or sugar moieties replaced. Nucleotide substitutes do not contain a standard phosphorus atom. Substitutes for the phosphate can be for example, short chain alkyl or cycloalkyl internucleoside linkages, mixed heteroatom and alkyl or cycloalkyl internucleoside linkages, or one or more short chain heteroatomic or heterocyclic internucleoside linkages. These include those having morpholino linkages (formed in part from the sugar portion of a nucleoside); siloxane backbones; sulfide, sulfoxide and sulfone backbones; formacetyl and thioformacetyl backbones; methylene formacetyl and thioformacetyl backbones; alkene containing backbones; sulfamate backbones; methyleneimino and methylenehydrazino backbones; sulfonate and sulfonamide backbones; amide backbones; and others having mixed N, O, S and CH₂ component parts. Numerous United States patents disclose how to make and use these types of phosphate replacements and include but are not limited to 5,034,506; 5,166,315; 5,185,444; 5,214,134; 5,216,141; 5,235,033; 5,264,562; 5,264,564; 5,405,938; 5,434,257; 5,466,677; 5,470,967; 5,489,677; 5,541,307; 5,561,225; 5,596,086; 5,602,240; 5,610,289; 5,602,240; 5,608,046; 5,610,289; 5,618,704; 5,623,070; 5,663,312; 5,633,360; 5,677,437; and 5,677,439, each of which is herein incorporated by reference its entirety, and specifically for their description of phosphate replacements, their synthesis, their use, and their incorporation into nucleotides, oligonucleotides and nucleic acids.

It is also understood in a nucleotide substitute that both the sugar and the phosphate moieties of the nucleotide can be replaced, by for example an amide type linkage (aminoethylglycine) (PNA). United States patents 5,539,082; 5,714,331; and 5,719,262 teach how to make and use PNA molecules, each of which is herein incorporated by reference. (See also Nielsen *et al.*, *Science* 254:1497-1500 (1991)).

Oligonucleotides and nucleic acids can be comprised of nucleotides and can be made up of different types of nucleotides or the same type of nucleotides. For example, one or more of

the nucleotides in an oligonucleotide can be ribonucleotides, 2'-O-methyl ribonucleotides, or a mixture of ribonucleotides and 2'-O-methyl ribonucleotides; about 10% to about 50% of the nucleotides can be ribonucleotides, 2'-O-methyl ribonucleotides, or a mixture of ribonucleotides and 2'-O-methyl ribonucleotides; about 50% or more of the nucleotides can be ribonucleotides, 2'-O-methyl ribonucleotides, or a mixture of ribonucleotides and 2'-O-methyl ribonucleotides; or all of the nucleotides are ribonucleotides, 2'-O-methyl ribonucleotides, or a mixture of ribonucleotides and 2'-O-methyl ribonucleotides. Such oligonucleotides and nucleic acids can be referred to as chimeric oligonucleotides and chimeric nucleic acids.

L. Solid Supports

Solid supports are solid-state substrates or supports with which molecules (such as trigger molecules) and riboswitches (or other components used in, or produced by, the disclosed methods) can be associated. Riboswitches and other molecules can be associated with solid supports directly or indirectly. For example, analytes (e.g., trigger molecules, test compounds) can be bound to the surface of a solid support or associated with capture agents (e.g., compounds or molecules that bind an analyte) immobilized on solid supports. As another example, riboswitches can be bound to the surface of a solid support or associated with probes immobilized on solid supports. An array is a solid support to which multiple riboswitches, probes or other molecules have been associated in an array, grid, or other organized pattern.

Solid-state substrates for use in solid supports can include any solid material with which components can be associated, directly or indirectly. This includes materials such as acrylamide, agarose, cellulose, nitrocellulose, glass, gold, polystyrene, polyethylene vinyl acetate, polypropylene, polymethacrylate, polyethylene, polyethylene oxide, polysilicates, polycarbonates, teflon, fluorocarbons, nylon, silicon rubber, polyanhydrides, polyglycolic acid, polylactic acid, polyorthoesters, functionalized silane, polypropylfumerate, collagen, glycosaminoglycans, and polyamino acids. Solid-state substrates can have any useful form including thin film, membrane, bottles, dishes, fibers, woven fibers, shaped polymers, particles, beads, microparticles, or a combination. Solid-state substrates and solid supports can be porous or non-porous. A chip is a rectangular or square small piece of material. Preferred forms for solid-state substrates are thin films, beads, or chips. A useful form for a solid-state substrate is a microtiter dish. In some embodiments, a multiwell glass slide can be employed.

An array can include a plurality of riboswitches, trigger molecules, other molecules, compounds or probes immobilized at identified or predefined locations on the solid support. Each predefined location on the solid support generally has one type of component (that is, all

the components at that location are the same). Alternatively, multiple types of components can be immobilized in the same predefined location on a solid support. Each location will have multiple copies of the given components. The spatial separation of different components on the solid support allows separate detection and identification.

Although useful, it is not required that the solid support be a single unit or structure. A set of riboswitches, trigger molecules, other molecules, compounds and/or probes can be distributed over any number of solid supports. For example, at one extreme, each component can be immobilized in a separate reaction tube or container, or on separate beads or microparticles.

Methods for immobilization of oligonucleotides to solid-state substrates are well established. Oligonucleotides, including address probes and detection probes, can be coupled to substrates using established coupling methods. For example, suitable attachment methods are described by Pease *et al.*, *Proc. Natl. Acad. Sci. USA* 91(11):5022-5026 (1994), and Khrapko *et al.*, *Mol Biol (Mosk) (USSR)* 25:718-730 (1991). A method for immobilization of 3'-amine oligonucleotides on casein-coated slides is described by Stimpson *et al.*, *Proc. Natl. Acad. Sci. USA* 92:6379-6383 (1995). A useful method of attaching oligonucleotides to solid-state substrates is described by Guo *et al.*, *Nucleic Acids Res.* 22:5456-5465 (1994).

Each of the components (for example, riboswitches, trigger molecules, or other molecules) immobilized on the solid support can be located in a different predefined region of the solid support. The different locations can be different reaction chambers. Each of the different predefined regions can be physically separated from each other of the different regions. The distance between the different predefined regions of the solid support can be either fixed or variable. For example, in an array, each of the components can be arranged at fixed distances from each other, while components associated with beads will not be in a fixed spatial relationship. In particular, the use of multiple solid support units (for example, multiple beads) will result in variable distances.

Components can be associated or immobilized on a solid support at any density. Components can be immobilized to the solid support at a density exceeding 400 different components per cubic centimeter. Arrays of components can have any number of components. For example, an array can have at least 1,000 different components immobilized on the solid support, at least 10,000 different components immobilized on the solid support, at least 100,000 different components immobilized on the solid support, or at least 1,000,000 different components immobilized on the solid support.

M. Kits

The materials described above as well as other materials can be packaged together in any suitable combination as a kit useful for performing, or aiding in the performance of, the disclosed method. It is useful if the kit components in a given kit are designed and adapted for use together in the disclosed method. For example disclosed are kits for detecting compounds, the kit comprising one or more biosensor riboswitches. The kits also can contain reagents and labels for detecting activation of the riboswitches.

N. Mixtures

Disclosed are mixtures formed by performing or preparing to perform the disclosed method. For example, disclosed are mixtures comprising riboswitches and trigger molecules.

Whenever the method involves mixing or bringing into contact compositions or components or reagents, performing the method creates a number of different mixtures. For example, if the method includes 3 mixing steps, after each one of these steps a unique mixture is formed if the steps are performed separately. In addition, a mixture is formed at the completion of all of the steps regardless of how the steps were performed. The present disclosure contemplates these mixtures, obtained by the performance of the disclosed methods as well as mixtures containing any disclosed reagent, composition, or component, for example, disclosed herein.

O. Systems

Disclosed are systems useful for performing, or aiding in the performance of, the disclosed method. Systems generally comprise combinations of articles of manufacture such as structures, machines, devices, and the like, and compositions, compounds, materials, and the like. Such combinations that are disclosed or that are apparent from the disclosure are contemplated. For example, disclosed and contemplated are systems comprising biosensor riboswitches, a solid support and a signal-reading device.

P. Data Structures and Computer Control

Disclosed are data structures used in, generated by, or generated from, the disclosed method. Data structures generally are any form of data, information, and/or objects collected, organized, stored, and/or embodied in a composition or medium. Riboswitch structures and activation measurements stored in electronic form, such as in RAM or on a storage disk, is a type of data structure.

The disclosed method, or any part thereof or preparation therefor, can be controlled, managed, or otherwise assisted by computer control. Such computer control can be

accomplished by a computer controlled process or method, can use and/or generate data structures, and can use a computer program. Such computer control, computer controlled processes, data structures, and computer programs are contemplated and should be understood to be disclosed herein.

Methods

Disclosed are methods for activating, deactivating or blocking a riboswitch. Such methods can involve, for example, bringing into contact a riboswitch and a compound or trigger molecule that can activate, deactivate or block the riboswitch. Riboswitches function to control gene expression through the binding or removal of a trigger molecule. Compounds can be used to activate, deactivate or block a riboswitch. The trigger molecule for a riboswitch (as well as other activating compounds) can be used to activate a riboswitch. Compounds other than the trigger molecule generally can be used to deactivate or block a riboswitch. Riboswitches can also be deactivated by, for example, removing trigger molecules from the presence of the riboswitch. Thus, the disclosed method of deactivating a riboswitch can involve, for example, removing a trigger molecule (or other activating compound) from the presence or contact with the riboswitch. A riboswitch can be blocked by, for example, binding of an analog of the trigger molecule that does not activate the riboswitch.

Also disclosed are methods for altering expression of an RNA molecule, or of a gene encoding an RNA molecule, where the RNA molecule includes a riboswitch, by bringing a compound into contact with the RNA molecule. Riboswitches function to control gene expression through the binding or removal of a trigger molecule. Thus, subjecting an RNA molecule of interest that includes a riboswitch to conditions that activate, deactivate or block the riboswitch can be used to alter expression of the RNA. Expression can be altered as a result of, for example, termination of transcription or blocking of ribosome binding to the RNA. Binding of a trigger molecule can, depending on the nature of the riboswitch, reduce or prevent expression of the RNA molecule or promote or increase expression of the RNA molecule.

Also disclosed are methods for regulating expression of a naturally occurring gene or RNA that contains a riboswitch by activating, deactivating or blocking the riboswitch. If the gene is essential for survival of a cell or organism that harbors it, activating, deactivating or blocking the riboswitch can result in death, stasis or debilitation of the cell or organism. For example, activating a naturally occurring riboswitch in a naturally occurring gene that is essential to survival of a microorganism can result in death of the microorganism (if activation of the riboswitch turns off or represses expression). This is one basis for the use of the disclosed

compounds and methods for antimicrobial and antibiotic effects. The compounds that have these antimicrobial effects are considered to be bacteriostatic or bacteriocidal.

Also disclosed are methods for selecting and identifying compounds that can activate, deactivate or block a riboswitch. Activation of a riboswitch refers to the change in state of the riboswitch upon binding of a trigger molecule. A riboswitch can be activated by compounds other than the trigger molecule and in ways other than binding of a trigger molecule. The term trigger molecule is used herein to refer to molecules and compounds that can activate a riboswitch. This includes the natural or normal trigger molecule for the riboswitch and other compounds that can activate the riboswitch. Natural or normal trigger molecules are the trigger molecule for a given riboswitch in nature or, in the case of some non-natural riboswitches, the trigger molecule for which the riboswitch was designed or with which the riboswitch was selected (as in, for example, *in vitro* selection or *in vitro* evolution techniques). Non-natural trigger molecules can be referred to as non-natural trigger molecules.

Also disclosed herein is a method of identifying a compound that interacts with a riboswitch comprising: modeling the atomic structure the riboswitch with a test compound; and determining if the test compound interacts with the riboswitch. Determining if the test compound interacts with the riboswitch can be accomplished by, for example, determining a predicted minimum interaction energy, a predicted bind constant, a predicted dissociation constant, or a combination, for the test compound in the model of the riboswitch, as described elsewhere herein. Determining if the test compound interacts with the riboswitch can be accomplished by, for example, determining one or more predicted bonds, one or more predicted interactions, or a combination, of the test compound with the model of the riboswitch. The predicted interactions can be selected from the group consisting of, for example, van der Waals interactions, hydrogen bonds, electrostatic interactions, hydrophobic interactions, or a combination, as described above. In one example, the riboswitch is a guanine riboswitch.

Atomic contacts can be determined when interaction with the riboswitch is determined, thereby determining the interaction of the test compound with the riboswitch. Analogs of the test compound can be identified, and it can be determined if the analogs of the test compound interact with the riboswitch.

Also disclosed are methods of killing or inhibiting bacteria, comprising contacting the bacteria with a compound disclosed herein or identified by the methods disclosed herein.

Also disclosed are methods of identifying compounds that activate, deactivate or block a riboswitch. For examples, compounds that activate a riboswitch can be identified by bringing

into contact a test compound and a riboswitch and assessing activation of the riboswitch. If the riboswitch is activated, the test compound is identified as a compound that activates the riboswitch. Activation of a riboswitch can be assessed in any suitable manner. For example, the riboswitch can be linked to a reporter RNA and expression, expression level, or change in expression level of the reporter RNA can be measured in the presence and absence of the test compound. As another example, the riboswitch can include a conformation dependent label, the signal from which changes depending on the activation state of the riboswitch. Such a riboswitch preferably uses an aptamer domain from or derived from a naturally occurring riboswitch. As can be seen, assessment of activation of a riboswitch can be performed with the use of a control assay or measurement or without the use of a control assay or measurement. Methods for identifying compounds that deactivate a riboswitch can be performed in analogous ways.

In addition to the methods disclosed elsewhere herein, identification of compounds that block a riboswitch can be accomplished in any suitable manner. For example, an assay can be performed for assessing activation or deactivation of a riboswitch in the presence of a compound known to activate or deactivate the riboswitch and in the presence of a test compound. If activation or deactivation is not observed as would be observed in the absence of the test compound, then the test compound is identified as a compound that blocks activation or deactivation of the riboswitch.

Also disclosed are methods of detecting compounds using biosensor riboswitches. The method can include bringing into contact a test sample and a biosensor riboswitch and assessing the activation of the biosensor riboswitch. Activation of the biosensor riboswitch indicates the presence of the trigger molecule for the biosensor riboswitch in the test sample. Biosensor riboswitches are engineered riboswitches that produce a detectable signal in the presence of their cognate trigger molecule. Useful biosensor riboswitches can be triggered at or above threshold levels of the trigger molecules. Biosensor riboswitches can be designed for use *in vivo* or *in vitro*. For example, glmS biosensor riboswitches operably linked to a reporter RNA that encodes a protein that serves as or is involved in producing a signal can be used *in vivo* by engineering a cell or organism to harbor a nucleic acid construct encoding the riboswitch/reporter RNA. An example of a biosensor riboswitch for use *in vitro* is a glmS riboswitch that includes a conformation dependent label, the signal from which changes depending on the activation state of the riboswitch. Such a biosensor riboswitch preferably uses an aptamer domain from or derived from a naturally occurring glmS riboswitch.

Also disclosed are compounds made by identifying a compound that activates, deactivates or blocks a riboswitch and manufacturing the identified compound. This can be accomplished by, for example, combining compound identification methods as disclosed elsewhere herein with methods for manufacturing the identified compounds. For example, compounds can be made by bringing into contact a test compound and a riboswitch, assessing activation of the riboswitch, and, if the riboswitch is activated by the test compound, manufacturing the test compound that activates the riboswitch as the compound.

Also disclosed are compounds made by checking activation, deactivation or blocking of a riboswitch by a compound and manufacturing the checked compound. This can be accomplished by, for example, combining compound activation, deactivation or blocking assessment methods as disclosed elsewhere herein with methods for manufacturing the checked compounds. For example, compounds can be made by bringing into contact a test compound and a riboswitch, assessing activation of the riboswitch, and, if the riboswitch is activated by the test compound, manufacturing the test compound that activates the riboswitch as the compound. Checking compounds for their ability to activate, deactivate or block a riboswitch refers to both identification of compounds previously unknown to activate, deactivate or block a riboswitch and to assessing the ability of a compound to activate, deactivate or block a riboswitch where the compound was already known to activate, deactivate or block the riboswitch.

Disclosed is a method of detecting a compound of interest, the method comprising bringing into contact a sample and a glmS riboswitch, wherein the riboswitch is activated by the compound of interest, wherein the riboswitch produces a signal when activated by the compound of interest, wherein the riboswitch produces a signal when the sample contains the compound of interest. The riboswitch can change conformation when activated by the compound of interest, wherein the change in conformation produces a signal via a conformation dependent label. The riboswitch can change conformation when activated by the compound of interest, wherein the change in conformation causes a change in expression of an RNA linked to the riboswitch, wherein the change in expression produces a signal. The signal can be produced by a reporter protein expressed from the RNA linked to the riboswitch.

Disclosed is a method comprising (a) testing a compound for inhibition of gene expression of a gene encoding an RNA comprising a riboswitch, wherein the inhibition is via the riboswitch, and (b) inhibiting gene expression by bringing into contact a cell and a compound that inhibited gene expression in step (a), wherein the cell comprises a gene encoding an RNA

comprising a riboswitch, wherein the compound inhibits expression of the gene by binding to the riboswitch.

A. Identification of Antimicrobial Compounds

Riboswitches are a new class of structured RNAs that have evolved for the purpose of binding small organic molecules. The natural binding pocket of riboswitches can be targeted with metabolite analogs or by compounds that mimic the shape-space of the natural metabolite. The small molecule ligands of riboswitches provide useful sites for derivitization to produce drug candidates. Distribution of some riboswitches is shown in Table 1 of U.S. Application Publication No. 2005-0053951. Once a class of riboswitch has been identified and its potential as a drug target assessed, such as the *glmS* riboswitch, candidate molecules can be identified.

The emergence of drug-resistant strains of bacteria highlights the need for the identification of new classes of antibiotics. Anti-riboswitch drugs represent a mode of anti-bacterial action that is of considerable interest for the following reasons. Riboswitches control the expression of genes that are critical for fundamental metabolic processes. Therefore manipulation of these gene control elements with drugs yields new antibiotics. These antimicrobial agents can be considered to be bacteriostatic, or bacteriocidal. Riboswitches also carry RNA structures that have evolved to selectively bind metabolites, and therefore these RNA receptors make good drug targets as do protein enzymes and receptors. Furthermore, it has been shown that two antimicrobial compounds (discussed above) kill bacteria by deactivating the antibiotics resistance to emerge through mutation of the RNA target.

As disclosed herein, the atomic-resolution structure model for a *glmS* riboswitch has been elucidated (Cochrane 2007, herein incorporated by reference in its entirety for its teaching concerning the *glmS* ribozyme structure), which enables the use of structure-based design methods for creating riboswitch-binding compounds. Specifically, the model for the binding site of the *glmS* riboswitch shows that two channels are present that would permit ligand modification (Figure 2). GlcN6P analogs have been generated with chemical modifications at certain sites disclosed herein, and nearly all tested so far bind to the riboswitch with sub-nanomolar dissociation constants. Figure 2 depicts the structures of GlcN6P analogs synthesized with modified chemical structures. Most of these compounds take advantage of the molecular recognition “blind spots” in the binding site model or the aptamer domain form a *glmS* riboswitch. The successful compounds can be used as a scaffold upon which further chemical variation can be introduced to create non-toxic, bioavailable, high affinity, anti-riboswitch compounds.

As seen in Example 1, the molecular recognition characteristics of the *glmS* ribozyme was found by determining the effects of GlcN6P and various GlcN6P analogs on the self-cleavage activity of a 200-nucleotide *glmS* ribozyme construct from *B. cereus* (Figure 1). K_D values for each ligand were determined by plotting ribozyme rate constants versus ligand concentrations. Previous studies using similar methods revealed that the phosphate moiety of GlcN6P (Figure 1b; 1a) is necessary for maximal affinity between ligand and *glmS* ribozyme (Winkler 2004; McCarthy 2005). The amine group of the ligand is also known to be essential for ribozyme function (Winkler 2004; McCarthy 2005). However, linear amine-containing compounds can induce modest ribozyme activity (McCarthy 2005), showing that acyclic (Figure 1b) or alternative anomeric forms (Figure 1c) of GlcN6P can be active. Therefore, a series of analogs were tested (Figure 2) to probe the importance of structural conformation of GlcN6P and of individual functional groups on the pyranose ring.

Under physiological conditions, GlcN6P equilibrates between an acyclic form (Figure 1b) and two cyclic β - (Figure 1a) and α -anomer (Figure 1c) forms (Figure 1b) (Schray 1978). The relative amount of 1a and 1c in solution is 60:40 at 25 °C as determined by ^1H NMR in D_2O , with less than 1% in the acyclic form (Schray 1978). Each conformer could exhibit differences in RNA binding affinity and ribozyme activity similar to that observed for the GlmS protein (Teplyakov 1998).

Previous studies of the molecular recognition characteristics of other riboswitch classes have revealed that a high level of molecular discrimination can be achieved by natural ligand-binding RNAs (Lim 2006). Analogs that efficiently and selectively trigger *glmS* ribozyme cleavage can be used to disrupt the expression of GlmS metabolic enzymes in pathogenic bacteria, which can disrupt their normal cellular function.

In order to assess activity of given compounds, the following example can be used as a standard. Although the natural sequence of the *glmS* element forms a unimolecular cis-cleaving ribozyme, active *glmS* ribozyme can also be constructed as a biomolecular cis-acting ribozyme. In this format, the cleaved strand, termed the substrate, includes the 5' base pairs that form half of the pairing element 1 (P1) and the conserved nucleotides upstream P1. The non-cleaved ribozyme strand includes the 3' half of P1 and the remaining sequence of the *glmS* element. Using this biomolecular format, the 16-nucleotide substrate strand was labeled at the 3' and the 5' ends with the fluorescently probes fluorescein (F1) and cy3, respectively. In an uncleaved substrate RNA, emission of the excited state fluorescein is quenched by the enforced proximity

of the cy3 quencher. Upon cleavage in the presence of the Gln6P system, the binding of Gln6P (or related derivatives) to the glmS riboswitch can be rapidly screened using standard high-throughput techniques.

After a minimum of 10 hours incubation, the fluorescence intensity of fluorescein increased ~4 fold in the presence of ~160 μ M glucosamine-6-phosphate, whereas no observable change was detected in the absence of Gln6P. For example, a compound can be identified as activating a riboswitch or can be determined to have riboswitch activating activity if the signal in a riboswitch assay is increased in the presence of the compound by at least 1 fold, 2 fold, 3 fold, 4 fold, 5 fold, 50%, 75%, 100%, 125%, 150%, 175%, 200%, 250%, 300%, 400%, or 500% compared to the same riboswitch assay in the absence of the compound (that is, compared to a control assay). The riboswitch assay can be performed using any suitable riboswitch construct. Riboswitch constructs that are particularly useful for riboswitch activation assays are described elsewhere herein. The identification of a compound as activating a riboswitch or as having a riboswitch activation activity can be made in terms of one or more particular riboswitches, riboswitch constructs or classes of riboswitches. For convenience, compounds identified as activating a glmS riboswitch or having riboswitch activating activity for a glmS riboswitch can be so identified for particular glmS riboswitches, such as the glmS riboswitches found in *Bacillus anthracis*, *B. cereus*, *B. subtilis*, *Thermoanaerobacter tengcongensis*, or *S. aureus*. When screening with high-throughput methods, the inclusion of 0.01% sodium dodecylsulfate was necessary for full ribozyme activity, consistent with previous demonstrations the utility of this detergent for preventing adhesion of small concentrations of the RNA to plastic tubes and plates. To further explore the discriminatory limits of this detection system, a library of sixteen Gln6P derivatives was also screened. The resulting glmS binding activities correspond well with the binding activities independently determined by gel electrophoresis methods (Table 1).

Table 1. Binding of Gln6P analogs to the <i>glmS</i> ribozyme measured by high-throughput fluorescence screen or in-line probing		
Analog	$Fl_{21\ h}/Fl_{g\ h}$	Activity by electrophoretic in-line probing
Gln6P	3.36	Yes
Ma6P	2.89	Yes

1-dGln6P	2.52	Yes
Glnol6P	0.80	No
Gal6P	1.69	ND
β -MeO-Gln 6P	1.02	No
α -MeO-Gln 6P	1.07	No
MeN-Gln 6P	3.49	Yes
Me ₃ N-Gln 6P	1.27	No
Al6P	3.27	Yes
Gln6PS	1.11	No
1-AmGln 6P	1.00	No
Me ₃ N-Gln	1.17	No
AcNGln 6P	2.28	Weakly
Gln6P com	2.24	Yes
Gln com	1.87	Yes

B. Methods of Using Antimicrobial Compounds

Disclosed herein are *in vivo* and *in vitro* anti-bacterial methods. By “anti-bacterial” is meant inhibiting or preventing bacterial growth, killing bacteria, or reducing the number of bacteria. Thus, disclosed is a method of inhibiting or preventing bacterial growth comprising contacting a bacterium with an effective amount of one or more compounds disclosed herein. Additional structures for the disclosed compounds are provided herein.

Disclosed herein is also a method of inhibiting growth of a cell, such as a bacterial cell, that is in a subject, the method comprising administering an effective amount of a compound as disclosed herein to the subject. This can result in the compound being brought into contact with the cell. The subject can have, for example, a bacterial infection, and the bacterial cells can be inhibited by the compound. The bacteria can be any bacteria, such as bacteria from the genus *Bacillus* or *Staphylococcus*, for example. Bacterial growth can also be inhibited in any context in which bacteria are found. For example, bacterial growth in fluids, biofilms, and on surfaces can be inhibited. The compounds disclosed herein can be administered or used in combination with any other compound or composition. For example, the disclosed compounds can be administered or used in combination with another antimicrobial compound.

"Inhibiting bacterial growth" is defined as reducing the ability of a single bacterium to divide into daughter cells, or reducing the ability of a population of bacteria to form daughter cells. The ability of the bacteria to reproduce can be reduced by about 10%, about 20%, about 30%, about 40%, about 50%, about 60%, about 70%, about 80%, about 90%, or 100% or more.

Also provided is a method of killing a bacterium or population of bacteria comprising contacting the bacterium with one or more of the compounds disclosed and described herein.

"Killing a bacterium" is defined as causing the death of a single bacterium, or reducing the number of a plurality of bacteria, such as those in a colony. When the bacteria are referred to in the plural form, the "killing of bacteria" is defined as cell death of a given population of bacteria at the rate of 10% of the population, 20% of the population, 30% of the population, 40% of the population, 50% of the population, 60% of the population, 70% of the population, 80% of the population, 90% of the population, or less than or equal to 100% of the population.

The compounds and compositions disclosed herein have anti-bacterial activity *in vitro* or *in vivo*, and can be used in conjunction with other compounds or compositions, which can be bacteriocidal as well.

By the term "therapeutically effective amount" of a compound as provided herein is meant a nontoxic but sufficient amount of the compound to provide the desired reduction in one or more symptoms. As will be pointed out below, the exact amount of the compound required will vary from subject to subject, depending on the species, age, and general condition of the subject, the severity of the disease that is being treated, the particular compound used, its mode of administration, and the like. Thus, it is not possible to specify an exact "effective amount." However, an appropriate effective amount may be determined by one of ordinary skill in the art using only routine experimentation.

The compositions and compounds disclosed herein can be administered *in vivo* in a pharmaceutically acceptable carrier. By "pharmaceutically acceptable" is meant a material that is not biologically or otherwise undesirable, i.e., the material may be administered to a subject without causing any undesirable biological effects or interacting in a deleterious manner with any of the other components of the pharmaceutical composition in which it is contained. The carrier would naturally be selected to minimize any degradation of the active ingredient and to minimize any adverse side effects in the subject, as would be well known to one of skill in the art.

The compositions or compounds disclosed herein can be administered orally, parenterally (e.g., intravenously), by intramuscular injection, by intraperitoneal injection, transdermally, extracorporeally, topically or the like, including topical intranasal administration or administration by inhalant. As used herein, "topical intranasal administration" means delivery of the compositions into the nose and nasal passages through one or both of the nares and can comprise delivery by a spraying mechanism or droplet mechanism, or through aerosolization of the nucleic acid or vector. Administration of the compositions by inhalant can be through the nose or mouth via delivery by a spraying or droplet mechanism. Delivery can also be directly to any area of the respiratory system (e.g., lungs) via intubation. The exact amount of the compositions required will vary from subject to subject, depending on the species, age, weight and general condition of the subject, the severity of the allergic disorder being treated, the particular nucleic acid or vector used, its mode of administration and the like. Thus, it is not possible to specify an exact amount for every composition. However, an appropriate amount can be determined by one of ordinary skill in the art using only routine experimentation given the teachings herein.

Parenteral administration of the composition or compounds, if used, is generally characterized by injection. Injectables can be prepared in conventional forms, either as liquid solutions or suspensions, solid forms suitable for solution or suspension in liquid prior to injection, or as emulsions. A more recently revised approach for parenteral administration involves use of a slow release or sustained release system such that a constant dosage is maintained. See, e.g., U.S. Patent No. 3,610,795, which is incorporated by reference herein.

The compositions and compounds disclosed herein can be used therapeutically in combination with a pharmaceutically acceptable carrier. Suitable carriers and their formulations are described in *Remington: The Science and Practice of Pharmacy* (19th ed.) ed. A.R. Gennaro, Mack Publishing Company, Easton, PA 1995. Typically, an appropriate amount of a pharmaceutically-acceptable salt is used in the formulation to render the formulation isotonic. Examples of the pharmaceutically-acceptable carrier include, but are not limited to, saline, Ringer's solution and dextrose solution. The pH of the solution is preferably from about 5 to about 8, and more preferably from about 7 to about 7.5. Further carriers include sustained release preparations such as semipermeable matrices of solid hydrophobic polymers containing the antibody, which matrices are in the form of shaped articles, e.g., films, liposomes or microparticles. It will be apparent to those persons skilled in the art that certain carriers may be

more preferable depending upon, for instance, the route of administration and concentration of composition being administered.

Pharmaceutical carriers are known to those skilled in the art. These most typically would be standard carriers for administration of drugs to humans, including solutions such as sterile water, saline, and buffered solutions at physiological pH. The compositions can be administered intramuscularly or subcutaneously. Other compounds will be administered according to standard procedures used by those skilled in the art.

Pharmaceutical compositions may include carriers, thickeners, diluents, buffers, preservatives, surface active agents and the like in addition to the molecule of choice. Pharmaceutical compositions may also include one or more active ingredients such as antimicrobial agents, antiinflammatory agents, anesthetics, and the like.

The pharmaceutical composition may be administered in a number of ways depending on whether local or systemic treatment is desired, and on the area to be treated. Administration may be topically (including ophthalmically, vaginally, rectally, intranasally), orally, by inhalation, or parenterally, for example by intravenous drip, subcutaneous, intraperitoneal or intramuscular injection. The disclosed antibodies can be administered intravenously, intraperitoneally, intramuscularly, subcutaneously, intracavity, or transdermally.

Preparations for parenteral administration include sterile aqueous or non-aqueous solutions, suspensions, and emulsions. Examples of non-aqueous solvents are propylene glycol, polyethylene glycol, vegetable oils such as olive oil, and injectable organic esters such as ethyl oleate. Aqueous carriers include water, alcoholic/aqueous solutions, emulsions or suspensions, including saline and buffered media. Parenteral vehicles include sodium chloride solution, Ringer's dextrose, dextrose and sodium chloride, lactated Ringer's, or fixed oils. Intravenous vehicles include fluid and nutrient replenishers, electrolyte replenishers (such as those based on Ringer's dextrose), and the like. Preservatives and other additives may also be present such as, for example, antimicrobials, anti-oxidants, chelating agents, and inert gases and the like.

Formulations for topical administration may include ointments, lotions, creams, gels, drops, suppositories, sprays, liquids and powders. Conventional pharmaceutical carriers, aqueous, powder or oily bases, thickeners and the like may be necessary or desirable.

Compositions for oral administration include powders or granules, suspensions or solutions in water or non-aqueous media, capsules, sachets, or tablets. Thickeners, flavorings, diluents, emulsifiers, dispersing aids or binders may be desirable.

Some of the compositions may potentially be administered as a pharmaceutically acceptable acid- or base- addition salt, formed by reaction with inorganic acids such as hydrochloric acid, hydrobromic acid, perchloric acid, nitric acid, thiocyanic acid, sulfuric acid, and phosphoric acid, and organic acids such as formic acid, acetic acid, propionic acid, glycolic acid, lactic acid, pyruvic acid, oxalic acid, malonic acid, succinic acid, maleic acid, and fumaric acid, or by reaction with an inorganic base such as sodium hydroxide, ammonium hydroxide, potassium hydroxide, and organic bases such as mono-, di-, trialkyl and aryl amines and substituted ethanolamines.

Therapeutic compositions as disclosed herein may also be delivered by the use of monoclonal antibodies as individual carriers to which the compound molecules are coupled. The therapeutic compositions of the present disclosure may also be coupled with soluble polymers as targetable drug carriers. Such polymers can include, but are not limited to, polyvinyl-pyrrolidone, pyran copolymer, polyhydroxypropylmethacryl-amidephenol, polyhydroxyethylaspartamidephenol, or polyethyl-eneoxidepolylysine substituted with palmitoyl residues. Furthermore, the therapeutic compositions of the present disclosure may be coupled to a class of biodegradable polymers useful in achieving controlled release of a drug, for example, polylactic acid, polyepsilon caprolactone, polyhydroxy butyric acid, polyorthoesters, polyacetals, polydihydro-pyrans, polycyanoacrylates and cross-linked or amphipathic block copolymers of hydrogels.

Preferably at least about 3%, more preferably about 10%, more preferably about 20%, more preferably about 30%, more preferably about 50%, more preferably 75% and even more preferably about 100% of the bacterial infection is reduced due to the administration of the compound. A reduction in the infection is determined by such parameters as reduced white blood cell count, reduced fever, reduced inflammation, reduced number of bacteria, or reduction in other indicators of bacterial infection. To increase the percentage of bacterial infection reduction, the dosage can increase to the most effective level that remains non-toxic to the subject.

As used throughout, "subject" refers to an individual. Preferably, the subject is a mammal such as a non-human mammal or a primate, and, more preferably, a human. "Subjects" can include domesticated animals (such as cats, dogs, etc.), livestock (e.g., cattle, horses, pigs, sheep, goats, etc.), laboratory animals (e.g., mouse, rabbit, rat, guinea pig, etc.) and fish.

A “bacterial infection” is defined as the presence of bacteria in a subject or sample. Such bacteria can be an outgrowth of naturally occurring bacteria in or on the subject or sample, or can be due to the invasion of a foreign organism.

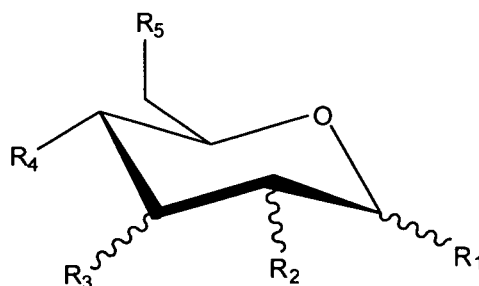
The compounds disclosed herein can be used in the same manner as antibiotics. Uses of antibiotics are well established in the art. One example of their use includes treatment of animals. When needed, the disclosed compounds can be administered to the animal via injection or through feed or water, usually with the professional guidance of a veterinarian or nutritionist. They are delivered to animals either individually or in groups, depending on the circumstances such as disease severity and animal species. Treatment and care of the entire herd or flock may be necessary if all animals are of similar immune status and all are exposed to the same disease-causing microorganism.

Another example of a use for the compounds includes reducing a microbial infection of an aquatic animal, comprising the steps of selecting an aquatic animal having a microbial infection, providing an antimicrobial solution comprising a compound as disclosed, chelating agents such as EDTA, TRIENE, adding a pH buffering agent to the solution and adjusting the pH thereof to a value of between about 7.0 and about 9.0, immersing the aquatic animal in the solution and leaving the aquatic animal therein for a period that is effective to reduce the microbial burden of the animal, removing the aquatic animal from the solution and returning the animal to water not containing the solution. The immersion of the aquatic animal in the solution containing the EDTA, a compound as disclosed, and TRIENE and pH buffering agent may be repeated until the microbial burden of the animal is eliminated. (US Patent 6,518,252).

Other uses of the compounds disclosed herein include, but are not limited to, dental treatments and purification of water (this can include municipal water, sewage treatment systems, potable and non-potable water supplies, and hatcheries, for example).

Specific Embodiments

Disclosed herein is a method of inhibiting gene expression, the method comprising (a) bringing into contact a compound and a cell, (b) wherein the compound has the structure of Formula I:



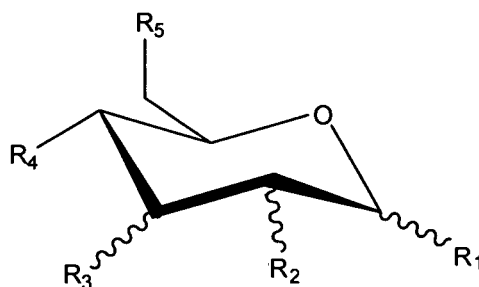
or pharmaceutically acceptable salts thereof, physiologically hydrolyzable and acceptable esters thereof, or both, wherein R_1 is H, OH, SH, NH_2 , or CH_3 , wherein R_2 is $NH-R_6$, wherein R_6 is H, CH_3 , C_2H_5 , n-propyl, $C(O)CH_3$, $C(O)C_2H_5$, $C(O)n$ -propyl, $C(O)$ iso-propyl, $C(O)OCH_3$, $C(O)OC_2H_5$, $C(O)NH_2$, or NH_2 , wherein R_3 is H, OH, SH, NH_2 , or CH_3 , wherein R_4 is a hydrogen bond donor, wherein R_5 is a hydrogen bond acceptor, and wherein the compound is not glucosamine-6-phosphate, wherein the cell comprises a gene encoding an RNA comprising a glmS riboswitch, wherein the compound inhibits expression of the gene by binding to the glmS riboswitch.

Also disclosed herein is a method of inhibiting gene expression, the method comprising bringing into contact a compound as disclosed above and a cell, wherein the cell comprises a gene encoding an RNA comprising a glmS-responsive riboswitch, wherein the compound inhibits expression of the gene by binding to the glmS-responsive riboswitch. The cell can be a bacterial cell, for example, and the compound can kill or inhibit the bacterial cell. The cell can contain a glmS riboswitch. The cell can be *Bacillus* or *Staphylococcus*.

Also disclosed is a method of inhibiting gene expression in a cell and/or inhibiting cell growth in a subject containing the cell by bringing into contact a compound and the cell by administering the compound to a subject. In some forms of the method, the compound is not a substrate for enzymes of the subject that have glucosamine-6-phosphate as a substrate. A compound is not a substrate of an enzyme if less than 1%, 2%, 3%, 4%, or 5% of the compound is altered or metabolized by the enzyme for a length of time and under conditions in which the enzyme alters or metabolizes 80% or more of its primary substrate. A primary substrate for an enzyme is the normal biological substrate for the enzyme upon which the enzyme has the highest enzymatic activity. In some forms of the method, the compound is not a substrate for enzymes of the subject that alter glucosamine-6-phosphate. In some forms of the method, the compound is not a substrate for enzymes of the subject that metabolize glucosamine-6-phosphate. In some

forms of the method, the compound is not a substrate for enzymes of the subject that catabolize glucosamine-6-phosphate. In some forms of the method, the cell is a bacterial cell in the subject, wherein the compound kills or inhibits the growth of the bacterial cell. In some forms of the method, the subject has a bacterial infection. In some forms of the method, the compound is administered in combination with another antimicrobial compound. In some forms of the method, the compound inhibits bacterial growth in a biofilm.

Disclosed herein is a compound having the structure of Formula I:



or pharmaceutically acceptable salts thereof, physiologically hydrolyzable and acceptable esters thereof, or both, wherein R₁ is H, OH, SH, NH₂, or CH₃, wherein R₂ is NH-R₆, wherein R₆ is H, CH₃, C₂H₅, n-propyl, C(O)CH₃, C(O)C₂H₅, C(O)n-propyl, C(O)iso-propyl, C(O)OCH₃, C(O)OC₂H₅, C(O)NH₂, or NH₂, wherein R₃ is H, OH, SH, NH₂, or CH₃, wherein R₄ is a hydrogen bond donor, wherein R₅ is a hydrogen bond acceptor, and wherein the compound is not glucosamine-6-phosphate. Also disclosed are compounds in which R₄ is OH, SH, NH₂, NH₃⁺, CH₂OH, CH(OH)CH₃, CH₂CH₂OH, CH₂SH, CH(SH)CH₃, CH₂CH₂SH, CH₂NH₂, CH(NH₂)CH₃, CH₂CH₂NH₃, CO₂H, CONH₂, CONHalkyl, =NH, =NOH, =NSH, =NCO₂H, =CH₂, CH=NH, CH=NOH, CH=NSH, CH=NCO₂H, OCH₂OH, OCH₂CH₂OH, PhOH, NHalkyl, NHNH₂, NHNHalkyl, NHCOalkyl, NHCO₂alkyl, NHCONH₂, NHSO₂alkyl, or NHOalkyl. Also disclosed are compounds in which R₄ is not OH when R₁ is H or OH and R₂ is NH₂ or NHCH₃. Further disclosed are compounds in which R₅ is OP(O)(OH)₂, OP(S)(OH)₂, OP(O)OHSH, OS(O)₂OH, or OS(O)₂SH. Also disclosed are compounds in which R₅ is OS(O)₂OH or OS(O)₂SH. Furthermore, R₅ can be negatively charged. Further disclosed are compounds in which R₅ is =O, CO₂R₉, OCO₂R₉, OCH₂OR₉, OC₂H₅OR₉, OCH₂CH₂OH, OCONHR₉, OCON(R₉)₂, CONHR₉, CON(R₉)₂, CONHCH₃OCH₃, CONHSO₂OH, CONHSO₂R₉, SO₂R₉, SO₃H, SO₂NHR₉, SO₂N(R₉)₂, PO(R₉)₂, PO₂(R₉)₂, PO(OR₉)₂, PO₂(OH)R₉, PO₂R₉N(R₉)₂, NHCH(NR₉)₂, NHCOR₉, NHCO₂R₉, NHCONHR₉, NHCON(R₉)₂, NHCONHR₉, N(COR₉)₂, N(CO₂R₉)₂, NHSO₂R₉, NR₉SO₂R₉, NHSO₂NHR₉, NR₉SO₂NH₂, NHPO(R₉)₂, NR₉PO(R₉)₂, NHPO₂OR₉, or B(OH)₂, and wherein R₉

is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, or $-C(CH_3)_3$, $-CF_3$. Also disclosed are compounds in which R_5 is $=O$, OH , OR_9 , COR_9 , CN , NO_2 , tetrazole, SOR_9 , $N(R_9)_2$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$, $CONHSO_2OH$, $CONHSO_2R_9$, SO_2R_9 , SO_3H , SO_2NHR_9 , $SO_2N(R_9)_2$, $PO(R_9)_2$, $PO_2(R_9)_2$, $PO(OR_9)_2$, $PO_2(OH)R_9$, $PO_2R_9N(R_9)_2$, $NHCH(NR_9)_2$, $NHCOR_9$, $NHCO_2R_9$, $NHCONHR_9$, $NHCON(R_9)_2$, $NHCONHR_9$, $N(COR_9)_2$, $N(CO_2R_9)_2$, $NHSO_2R_9$, $NR_9SO_2R_9$, $NHSO_2NHR_9$, $NR_9SO_2NH_2$, $NHPO(R_9)_2$, $NR_9PO(R_9)_2$, $NHPO_2OR_9$, or $B(OH)_2$, and R_9 is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, $-C(CH_3)_3$, or $-CF_3$. Also disclosed are compounds in which R_4 is NH_2 , NH_3^+ , OH , SH , NOH , $NHNH_2$, $NHNH_3^+$, CO_2H , SO_2OH , $B(OH)_2$, or imidazolium. Also disclosed are compounds in which R_4 is NH_2 , NH_3^+ , SH , NOH , $NHNH_2$, $NHNH_3^+$, CO_2H , SO_2OH , $B(OH)_2$, or imidazolium. In one example, the cell has been identified as being in need of inhibited gene expression. The cell can be a bacterial cell, and the compound can kill or inhibit the growth of the bacterial cell. The compound can be bound to a glmS riboswitch. The compound can bind to a glmS riboswitch. The compound can activate a glmS riboswitch.

Further disclosed is a composition comprising the compound described above and a regulatable gene expression construct comprising a nucleic acid molecule encoding an RNA comprising a glmS riboswitch operably linked to a coding region, wherein the glmS riboswitch regulates expression of the RNA, wherein the glmS riboswitch and coding region are heterologous. The glmS riboswitch can produce a signal when activated by the compound. For example, the riboswitch can change conformation when activated by the compound, and the change in conformation can produce a signal via a conformation dependent label. Furthermore, the riboswitch can change conformation when activated by the compound, wherein the change in conformation causes a change in expression of the coding region linked to the riboswitch, wherein the change in expression produces a signal. The signal can be produced by a reporter protein expressed from the coding region linked to the riboswitch.

Also disclosed is a method comprising: (a) testing the compound as described above for inhibition of gene expression of a gene encoding an RNA comprising a glmS riboswitch, wherein the inhibition is via the glmS riboswitch, and (b) inhibiting gene expression by bringing into contact a cell and a compound that inhibited gene expression in step (a), wherein the cell comprises a gene encoding an RNA comprising the glmS riboswitch, wherein the compound inhibits expression of the gene by binding to the glmS riboswitch.

Also disclosed is the atomic structure of a natural glmS-responsive riboswitch comprising an atomic structure comprising the atomic coordinates listed in Table 2. Also disclosed are the atomic structure of the active site and binding pocket as depicted in Figure 9 and the atomic coordinates of the active site and binding pocket depicted in Figure 9 contained within Table 2.

Further disclosed is a method of identifying a compound that interacts with a riboswitch comprising: modeling the atomic structure of a glmS riboswitch with a test compound; and determining if the test compound interacts with the riboswitch. Furthermore, determining if the test compound interacts with the riboswitch can comprise determining a predicted minimum interaction energy, a predicted bind constant, a predicted dissociation constant, or a combination, for the test compound in the model of the riboswitch. Determining if the test compound interacts with the riboswitch can comprise determining one or more predicted bonds, one or more predicted interactions, or a combination, of the test compound with the model of the riboswitch. Atomic contacts can be determined, thereby determining the interaction of the test compound with the riboswitch. The method of identifying a compound that interacts with a riboswitch can further comprise the steps of: identifying analogs of the test compound; and determining if the analogs of the test compound interact with the riboswitch.

Further disclosed is a method of killing bacteria, comprising contacting the bacteria with an analog identified by the method disclosed above. Further disclosed is a method of killing bacteria, comprising contacting the bacteria with a compound identified by the method disclosed above. A gel-based assay or a chip-based assay can be used to determine if the test compound interacts with the riboswitch. The test compound can interact via van der Waals interactions, hydrogen bonds, electrostatic interactions, hydrophobic interactions, or a combination. The riboswitch can comprise an RNA cleaving ribozyme, for example. A fluorescent signal can be generated when a nucleic acid comprising a quenching moiety is cleaved. Molecular beacon technology can be employed to generate the fluorescent signal. The methods disclosed herein can be carried out using a high throughput screen.

Disclosed herein is also a method of inhibiting growth of a cell, such as a bacterial cell, that is in a subject, the method comprising administering an effective amount of a compound as disclosed herein to the subject. This can result in the compound being brought into contact with the cell. The subject can have, for example, a bacterial infection, and the bacterial cells can be the cells to be inhibited by the compound. The bacteria can be any bacteria, such as bacteria from the genus *Bacillus* or *Staphylococcus*, for example. Bacterial growth can also be inhibited in any context in which bacteria are found. For example, bacterial growth in fluids, biofilms, and on

surfaces can be inhibited. The compounds disclosed herein can be administered or used in combination with any other compound or composition. For example, the disclosed compounds can be administered or used in combination with another antimicrobial compound.

Examples

A. Example 1: Characteristics of Ligand Recognition by a *glmS* Self-cleaving Ribozyme

The *glmS* ribozyme (Winkler 2004; Barrick 2004; McCarthy 2005; Wilkinson 2005; Soukup 2006; Roth 2006; Jansen 2006) from *Bacillus cereus* is a representative of a unique riboswitch (Mandal 2004; Winkler 2005) class whose members undergo self-cleavage with accelerated rate constants when bound to glucosamine-6-phosphate (GlcN6P). These metabolite-sensing ribozymes are found in numerous Gram-positive bacteria where they control expression of the *glmS* gene. The *glmS* gene product (glutamine-fructose-6-phosphate amidotransferase) generates GlcN6P (Badet-Denisot 1993; Milewski 2002) which binds to the ribozyme and triggers self-cleavage by internal phosphoester transfer (Winkler 2004). The ribozyme is embedded within the 5' untranslated region (UTR) of the *glmS* messenger RNA and self-cleavage prevents GlmS protein production, thereby decreasing the concentration of GlcN6P. The combination of molecular sensing, self-cleavage, and gene control functions allows this small RNA to operate both as a ribozyme and as a riboswitch.

It has been shown that the *glmS* ribozyme from *B. cereus*, and the homologous ribozyme from *Bacillus subtilis* respond to GlcN6P with an apparent dissociation constant (K_D) of ~200 μ M (Winkler 2004; McCarthy 2005; Roth 2006). Although this K_D value is greater than those determined for most other natural riboswitches, *glmS* ribozymes exhibit a high level of molecular recognition specificity. For example, glucosamine-6-sulphate can induce ribozyme activation to the same extent as GlcN6P, albeit when present at concentrations that are ~100-fold greater. In contrast, glucose-6-phosphate, wherein the 2-amine group of GlcN6P is replaced with a hydroxyl group, completely fails to trigger ribozyme action (Winkler 2004; McCarthy 2005).

Riboswitches must be capable of discriminating against compounds related to their natural ligands to prevent undesirable regulation of metabolic genes. However, it is possible to generate analogs that trigger riboswitch function and inhibit bacterial growth, as has been demonstrated for riboswitches that normally respond to lysine (Sudarsan 2003) and thiamine pyrophosphate (Sudarsan 2006). Proper expression of the GlmS protein is critical for bacterial viability (Badet-Denisot 1993; Milewski 2002), and analogs of GlcN6P that interfere with

normal gene expression by triggering *glmS* ribozyme activity can serve as antimicrobial agents. Therefore, an increased understanding of the molecular recognition characteristics of *glmS* ribozymes was sought.

The molecular recognition characteristics of the *glmS* ribozyme was found by determining the effects of GlcN6P and various GlcN6P analogs on the self-cleavage activity of a 200-nucleotide *glmS* ribozyme-construct from *B. cereus* (Figure 1). K_D values for each ligand were determined by plotting ribozyme rate constants versus ligand concentrations (Experimental Section). Previous studies using similar methods revealed that the phosphate moiety of GlcN6P (Figure 1b; **1a**) is necessary for maximal affinity between ligand and *glmS* ribozyme (Winkler 2004; McCarthy 2005). The amine group of the ligand is also known to be essential for ribozyme function (Winkler 2004; McCarthy 2005). However, linear amine-containing compounds can induce modest ribozyme activity (McCarthy 2005), suggesting that acyclic (**1b**) or alternative anomeric forms (**1c**) of GlcN6P might be active. Therefore, a series of analogs were tested (Figure 2) to probe the importance of structural conformation of GlcN6P and of individual functional groups on the pyranose ring.

Under physiological conditions, GlcN6P equilibrates between an acyclic form (**1b**) and two cyclic β - (**1a**) and α -anomer (**1c**) forms (Figure 1b) (Schray 1978). The relative amount of **1a** and **1c** in solution is 60:40 at 25 °C as determined by ^1H NMR in D_2O , with less than 1% in the acyclic form (Schray 1978). Each conformer could exhibit differences in RNA binding affinity and ribozyme activity similar to that observed for the GlmS protein (Teplyakov 1998).

Small molecules such as serinol and ethanolamine promote ribozyme activity, although they are orders of magnitude less effective than GlcN6P (McCarthy 2005). Similarly, the acyclic analog **3** has no detectable activity under the assay conditions used in the current study (Figure 2b, Experimental Section). In contrast, the cyclic analog **8** lacking the hydroxyl group at position 1 activates ribozyme self-cleavage to $\sim 1/70^{\text{th}}$ of the activity exhibited by GlcN6P (Figure 2c, Figure 3). These results demonstrate that alteration of the chemical structure at position 1 of the pyranose ring has only a modest effect on ribozyme activity, but opening of the ring at this position (as in **3** and most likely in **1b**) is far more deleterious.

Because **1b** is unlikely to be relevant for normal function of the ribozyme, one or both of the anomers of GlcN6P must serve as the activator. Analogs of **1a** (**5**) and **1c** (**6**) were tested, wherein the stereochemistry of the analogs are maintained by methylation of the oxygen atoms at the 1 position. The current results show the ribozyme forms a tight binding pocket near the 1

position that precludes analog binding. Since **8** can activate ribozyme cleavage substantially, the modification at position 1 might only modestly disrupt a molecular interaction between ligand and ribozyme. Alternatively, the influence of the 1-hydroxyl group on the pK_a of the 2-amine group can also be the cause of the reduction in activity of **8**. For example, ethylamine ($pK_a = 10.7$) has a higher pK_a than ethanolamine ($pK_a = 9.50$), (Lide 1994) indicating that an adjacent hydroxyl group can reduce the basicity of an amine by more than one unit. Therefore the change in pK_a caused by the absence of the 1-hydroxyl group in **8** could disrupt either ligand binding or ribozyme catalysis.

Compounds **2** and **13** were examined to determine the importance of the 3- and 4-hydroxyl groups for ribozyme activation. While **13** exhibits activity that is similar to GlcN6P, **2** does not induce activity under the assay conditions used (Figure 2b and 2c). These results imply that the 4-hydroxyl group is critical for binding. In contrast, 3-hydroxyl group might have only a modest impact on binding or otherwise might influence reactivity via an inductive effect on the 2-amine group.

Replacement of the phosphate group with sulfate reduces affinity for the ligand by ~100 fold (Winkler 2004). However, removal of the phosphate group (glucosamine) causes an even greater loss of ligand affinity. To further assess the importance of phosphate oxygen atoms, the phosphorothiolate analog **4** was generated. This change also reduces the rate constant of ribozyme cleavage by approximately two orders of magnitude compared to **1**. However, GlcN6P is bound by the ribozyme >1000-fold more tightly than is glucosamine (Winkler 2004; McCarthy 2005; Lide 1994; Mayer 2006). Although the phosphate modifications tested can only partially disrupt a single interaction between ligand and ribozyme, it is likely that more than one binding interaction is made to this part of the ligand.

The 2-amine group, or an analogous amine is present in all compounds that induce ribozyme activity (Winkler 2004; McCarthy 2005). Therefore a series of structural and stereochemical isomers of **1** were tested wherein this functional group was altered. The interchange of 1-hydroxyl and 2-amine groups in **7** does not support ribozyme cleavage, suggesting the location of the 2-amine group is critical for activity. The ribozyme is activated by **9** with only a modest reduction in efficiency compared to GlcN6P, despite the steric hindrance that might be caused by the methyl group. In contrast, **10** and **11** are inactive, showing that the ability of the amine to accept or donate protons for bonding or catalysis is essential.

Compound **12** carries an amine group at the 2 position with opposing stereochemical configuration and surprisingly induces cleavage to 1/35th of the natural ligand. **12** can bind using

the same contacts that are used to bind GlcN6P, but the relocation of the amine group in this pocket only slightly detracts from its ability to bind or to participate in proton-transfer-mediated catalysis.

Based on these findings, a series of molecular recognition determinants for GlcN6P binding have been determined (Figure 4). The 6-phosphate and 4-hydroxyl groups can serve as hydrogen-bond donor and acceptor sites. Although the non-bridging oxygen atoms of a phosphate group can interact with metal ions via inner-sphere coordination, this is unlikely for this RNA because the ribozyme can attain full activity when Mg^{2+} ions are replaced with cobalt hexamine (Roth 2006). Cobalt hexamine simulates fully-hydrated Mg^{2+} ions, and can only form hydrogen bonds with an adjacent phosphate.

The reduced activity for **8** can be due to the expected increase in the pK_a of the amine, which can influence its ability to function in proton transfer reactions. The loss of activity observed with **8** is can be due to a shift in amine pK_a or due at least in part to disruption of a molecular recognition contact. GlcN6P can function as a cofactor for RNA cleavage (Winkler 2004) and nucleic acid enzymes that use small molecules presumably to assist in proton transfer have been identified previously. Both the absence of ligand-induced shape change in the RNA (Roth 1998) and pH profile changes brought about by the use of various ligand analogs (McCarthy 2005) show that GlcN6P directly participates in the chemical step of the reaction.

If the amine group of GlcN6P is a key moiety in the ribozyme active site, then the simplest explanation for the data is that the ligand serves as a general base catalyst. The logarithm of k_{obs} for ribozyme activity with increasing pH increases linear with a slope of 1. Furthermore, GlcN6P analogs that exhibit higher pK_a values for the amine group are less effective inducers of ribozyme activity (**8**) or exhibit an increase in the pH required to reach half-maximal ribozyme activity (McCarthy 2005). Although other more complex mechanisms are possible, the ribozyme can use GlcN6P to assist in deprotonation of the 2'-hydroxyl group at the labile internucleotide linkage (Roth 2006).

Previous studies of the molecular recognition characteristics of other riboswitch classes have revealed that a high level of molecular discrimination can be achieved by natural ligand-binding RNAs (Lim 2006). Analogs that efficiently and selectively trigger *glmS* ribozyme cleavage can be used to disrupt the expression of GlmS metabolic enzymes in pathogenic bacteria, which can disrupt their normal cellular function.

Experimental Section

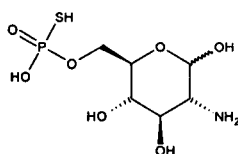
The *glmS* ribozyme from *B. cereus* (Figure 1a) was generated by *in vitro* transcription as described previously, (Roth 2006) 5'-³²P-radiolabeled, (Lim 2006) and purified by PAGE. Rate constants were established using methods and reaction conditions similar to those described previously (Roth 2006) with the exception that reaction mixtures contained 50 mM HEPES buffer (pH 7.5 at 23 °C) in place of Tris-HCl buffer. Ligand concentrations and incubation times used are defined for each assay. Ribozyme activity was established by quantitating the amounts of cleaved and uncleaved RNAs using a Typhoon imager (Amersham Biosciences).

General Methods: Reagents obtained from commercial suppliers were used without further purification unless otherwise noted. Melting points were determined with an Electrothermal capillary melting point apparatus and the values reported are uncorrected. NMR (¹H, ¹³C and ³¹P) spectra were recorded (Bruker AMX-400 MHz or Bruker Advance DRX-500 MHz) as noted, referenced to D₂O (4.79 ppm for ¹H) or CDCl₃ (7.27 ppm for ¹H and 77.0 ppm for ¹³C). Analytical thin-layer chromatography was performed using E. Merck silica gel 60 F₂₅₄ plates. UV-inactive compounds were visualizing by dipping the plates in ninhydrin solution and heating. Synthetic DNAs were purchased from the HHMI Keck Foundation Biotechnology Resource Center at Yale University (New Haven, Connecticut, USA).

Materials: The following compounds or reagents were commercially available from the indicated sources: D-(+)-glucosamine hydrochloride, D-glucose 6-phosphate, hexokinase from *Sacchromyces cerevisiae* (Sigma); *N*-acetyl-D-glucosamine 6-phosphate, D-mannosamine hydrochloride, D-galactosamine hydrochloride, 2-acetamido-2-deoxy-β-D-glucopyranose 1,3,4,6-tetraacetate, 2-acetamido-2-deoxy-α-D-glucopyranosyl chloride, phosphoryl chloride, thiophosphoryl chloride, adenosine 5'-triphosphate (Aldrich); 1,3,4,6-tetra-*O*-acetyl-2-amino-2-desoxy-β-D-glucopyranose hydrochloride (Oakwood); 2-deoxy-2-(trimethylammonio)-D-glucose (Timtec). Compounds synthesized for this study as described below include 2-amino-2-deoxy-D-glucitol-6-phosphate (Bearne 1996) 2-amino-2-deoxy-D-mannose 6-phosphate (Liu 2001) 2-deoxy-2-amino-D-allose (Jeanioz 1957), 2-deoxy-2-methylamino-D-glucose, (Gorin 1971), 2-amino-1,5-anhydro-2-deoxyglucitol hydrochloride (Schaefer 1998), methyl 2-amino-2-deoxy-α-D-glucose 6-phosphate (Ohno 1981), methyl 2-amino-2-deoxy-β-D-glucose 6-phosphate (Ohno 1981) and 2-amino-2-deoxy-D-galactose 6-phosphate (Distler 1958).

2-amino-2-deoxy-1,3,4,6-tetra-*O*-(trimethylsilyl)-α-D-glucopyranose. 2-amino-2-deoxy-1,3,4,6-tetra-*O*-(trimethylsilyl)-α-D-glucopyranose was prepared by a modification of the procedure of Gautheron (Auge 1998), D-glucosamine hydrochloride (1.0 g, 4.64 mmol) was

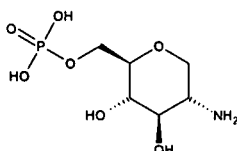
dissolved in 45 mL of pyridine and treated with 7.0 mL (33.39 mmol) of hexamethyldisilazane and 3.5 mL (27.82 mmol) of chlorotrimethylsilane. The mixture was heated at 60°C for 3 h and filtered. The filtrate was partitioned between *n*-hexane and water, and the organic phase was separated. The aqueous phase was extracted with *n*-hexane, and the combined organic phase was washed with 1 *N* HCl, dried over MgSO₄, and concentrated *in vacuo* to give the desired product as yellowish white solid. 100% yield; ¹H NMR (CDCl₃, 400 MHz) δ 5.10 (d, 1 H, *J* = 3.2 Hz, 1-H), 3.68 (m, 3H, 3-, 4-, and 5-H), 3.49 (m, 2H, 6-H), 2.51 (dd, 1H, 2-H), 0.0 – 0.2 (s, 36H, 4 (CH₃)₃Si); ¹³C NMR (CDCl₃, 100 MHz) δ 95.0, 77.9, 73.3, 72.4, 62.4, 57.8, 1.7, 1.2, 0.3, 0.1; IR (neat, cm⁻¹); MS (ESI) *m/e* 468.0 ([M+H]⁺, C₁₈H₄₅NO₅Si₄ requires 467.9).



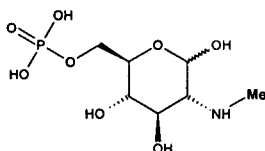
2-amino-2-deoxy-D-glucose 6-thiophosphate. To a mixture of 2-amino-2-deoxy-1,3,4,6-tetra-*O*-(trimethylsilyl)- α -D-glucopyranose (357 mg, 0.76 mmol) in 2 mL of toluene and 140 μ L (1.68 mmol) of pyridine was added thiophosphoryl chloride (158 μ L, 1.53 mmol), and the reaction mixture was heated at 30°C for 16 h. The mixture was concentrated, dissolved in ethanol, and then coevaporated *in vacuo*. The crude mixture was treated with water and heated at 60°C for 16 h, prior to being concentrated. The residue was coevaporated with water three times. Crystallization with ethanol and diethylether give the desired product as a white solid. mp 185–187 °C dec; ¹H NMR (D₂O, 500 MHz) δ ; ¹³C NMR (D₂O, 125 MHz) δ ; ³¹P NMR (D₂O, 162 MHz) δ 41.9; IR (neat, cm⁻¹) 3363, 1028, 722; MS (ESI) *m/e* 275.1 ([M+H]⁺, C₆H₁₄NO₇PS requires 275.2).

General procedure for enzymatic phosphorylations by *Saccharomyces cerevisiae* hexokinase. The procedure was essentially based on that of Liu and Lee (2001) hexosamine hydrochloride (2.00 mmol), magnesium chloride hexahydrate (1.40 mmol), and adenosine 5'-triphosphate (2.20 mmol) were dissolved in 54 mL of distilled water. The solution was adjusted to pH 7.5 with 0.5 *N* KOH, and hexokinase (1320 U) dissolved in 1.0 mL water was added. The reaction mixture was continuously stirred for 2–3 h at ambient temperature. During the reaction, the pH of the solution was maintained at 7.5 by addition of 0.5 *N* KOH each half-hour until the pH became stable. TLC (2:1:1 *n*-BuOH-HOAc-H₂O) showed that the starting material completely disappeared, and a new compound appeared as a ninhydrin-positive and UV-negative

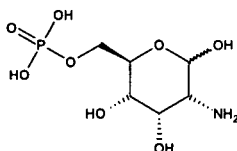
spot. The mixture was then adjusted to pH 2.0 by addition of concentrated hydrochloric acid and a one third portion was loaded onto a column of Dowex 50W $\times$ 8 (H^+ from, 200-400 mesh) cation exchange resin (2.5×25 cm). The column was eluted with water, and the major anions were immediately eluted followed by hexosamine 6-phosphate. The fractions containing the desired product were pooled and concentrated with a rotary evaporator below 45°C and then lyophilized to give the product.



2-amino-1,5-anhydro-2-deoxyglucitol 6-phosphate. 2-deoxy-1,5-anhydro-2-deoxyglucitol 6-phosphate was prepared by the procedure of Liu and Lee (2001) mp $185-187^\circ\text{C}$ dec; ^1H NMR (D_2O , 500 MHz) δ 4.07 (dd, 1H, *H-1*), 3.72 (dd, 1H, *H-6*), 3.64 (dd, 1H, *H-6*), 3.50 (dd, 1H, *H-3*), 3.41 (dd, 1H, *H-1*), 3.29 (m, 2H, *H4* & *H-5*), 3.15 (m, 1H, *H-2*); ^{13}C NMR (D_2O , 125 MHz) δ 81.0, 74.6, 70.2, 66.4, 61.1, 51.9; ^{31}P NMR (D_2O , 162 MHz) δ 4.10; MS (ESI) m/e 243.4 ($[\text{M}+\text{H}]^+$, $\text{C}_6\text{H}_{14}\text{NO}_7\text{P}$ requires 243.2).

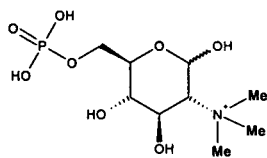


2-methylamino-2-deoxyglucose 6-phosphate. 2-methylamino-2-deoxyglucose 6-phosphate was prepared by the procedure of Liu and Lee (2001) mp $185-187^\circ\text{C}$ dec; ^1H NMR (D_2O , 500 MHz) δ 5.21 (d, 1H, *H-1*), 4.05 (d, 3H, CH_3), 3.67 (m, 3H, 3-*H*, 4-*H* & 5-*H*) 3.34 (m, 2H, 6-*H*), 3.09 (m, 1H, *H-2*); ^{13}C NMR (D_2O , 125 MHz) δ 93.2, 89.6, 72.2, 71.1, 69.5, 64.1, 54.6; ^{31}P NMR (D_2O , 162 MHz) δ 4.59; MS (ESI) m/e 273.4 ($[\text{M}+\text{H}]^+$, $\text{C}_7\text{H}_{16}\text{NO}_8\text{P}$ requires 273.2).

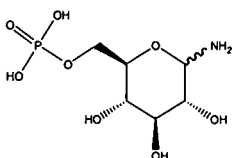


2-amino-2-deoxyallose 6-phosphate. 2-amino-2-deoxyallose 6-phosphate was prepared by the procedure of Liu and Lee.^[2] mp $185-187^\circ\text{C}$ dec; ^1H NMR (D_2O , 500 MHz) δ 5.27 (d, 1H,

H-1 β), 4.85 (d, 1H, *H*-1 α), 4.04 (m, 3H, *H*-3, *H*-4 & *H*-5), 3.50 (m, 2H, *H*-6), 3.23 (dd, 1H, *H*-2); ^{13}C NMR (D_2O , 125 MHz) δ 91.2, 88.6, 70.5, 68.5, 63.4, 58.1; ^{31}P NMR (D_2O , 162 MHz) δ 4.38; MS (ESI) m/e 259.1 ($[\text{M}+\text{H}]^+$, $\text{C}_6\text{H}_{14}\text{NO}_8\text{P}$ requires 259.2).



2-(trimethylammonio)-2-deoxyglucose 6-phosphate. 2-(trimethylammonio)-2-deoxyglucose 6-phosphate was prepared by the procedure of Distler (1958) mp 185-187 °C dec; ^1H NMR (D_2O , 500 MHz) δ 5.24 (s, 1H, *H*-1), 3.55 (m, 3H, *H*-3, *H*-4 & *H*-5), 3.50 (s, 9H, $\text{N}(\text{CH}_3)_3$), 3.14 (s, 2H, *H*-6); ^{13}C NMR (D_2O , 125 MHz) δ 95.6, 91.8, 75.5, 74.0, 71.2, 69.4; ^{31}P NMR (D_2O , 162 MHz) δ 3.40; MS (ESI) m/e 303.1 ($[\text{M}+\text{H}]^+$, $\text{C}_9\text{H}_{21}\text{NO}_8\text{P}$ requires 302.2).



1-amino-1-deoxy 6-phosphate. 1-amino-1-deoxyglucose 6-phosphate was prepared by the modification of the procedure of Gallop (Vetter 1995). To a solution of D-glucose 6-phosphate in saturated aqueous ammonium carbonate was stirred at room temperature for 5 days. Solid ammonium carbonate was added in fractions during the course of the reaction to ensure saturation. The mixture was loaded onto a column of Dowex 50W $\times$ 8 (H^+ form, 200-400 mesh) cation exchange resin (2.5×25 cm). The column was eluted with water, and the major anions were immediately eluted, followed by hexosamine 6-phosphate. The fractions containing the desired product were pooled and concentrated with a rotary evaporator below 45 °C and then lyophilized to give the product. mp 185-187 °C dec; ^1H NMR (D_2O , 500 MHz) δ 5.27 (d, 1H, *H*-1 β), 4.85 (d, 1H, *H*-1 α), 4.04 (m, 3H, *H*-3, *H*-4 & *H*-5), 3.50 (m, 2H, *H*-6), 3.23 (dd, 1H, *H*-2); ^{13}C NMR (D_2O , 125 MHz) δ 95.6, 91.8, 75.5, 74.0, 71.2, 69.4; ^{31}P NMR (D_2O , 162 MHz) δ 3.40; MS (ESI) m/e 259.1 ($[\text{M}+\text{H}]^+$, $\text{C}_6\text{H}_{14}\text{NO}_8\text{P}$ requires 259.2).

Table 2. Atomic Coordinates of glmS Riboswitch

HEADER	STRUCTURAL PROTEIN/RNA	22-NOV-06	2NZ4
TITLE	STRUCTURAL INVESTIGATION OF THE GLMS RIBOZYME BOUND TO ITS		
TITLE	2 CATALYTIC COFACTOR		

COMPND MOL_ID: 1;
 COMPND 2 MOLECULE: U1 SMALL NUCLEAR RIBONUCLEOPROTEIN A;
 COMPND 3 CHAIN: A, B, C, D;
 COMPND 4 FRAGMENT: RNA BINDING DOMAIN;
 COMPND 5 SYNONYM: U1 SNRNP PROTEIN A; U1A PROTEIN; U1-A;
 COMPND 6 ENGINEERED: YES;
 COMPND 7 MUTATION: YES;
 COMPND 8 MOL_ID: 2;
 COMPND 9 MOLECULE: SUBSTRATE STRAND RNA 13-MER;
 COMPND 10 CHAIN: E, F, G, H;
 COMPND 11 ENGINEERED: YES;
 COMPND 12 MOL_ID: 3;
 COMPND 13 MOLECULE: GLMS RIBOZYME;
 COMPND 14 CHAIN: P, Q, R, S;
 COMPND 15 ENGINEERED: YES
 SOURCE MOL_ID: 1;
 SOURCE 2 ORGANISM_SCIENTIFIC: HOMO SAPIENS;
 SOURCE 3 ORGANISM_COMMON: HUMAN;
 SOURCE 4 GENE: SNRPA;
 SOURCE 5 EXPRESSION_SYSTEM: ESCHERICHIA COLI;
 SOURCE 6 EXPRESSION_SYSTEM_COMMON: BACTERIA;
 SOURCE 7 EXPRESSION_SYSTEM_STRAIN: BL21;
 SOURCE 8 EXPRESSION_SYSTEM_VECTOR_TYPE: PLASMID;
 SOURCE 9 EXPRESSION_SYSTEM_PLASMID: PET11;
 SOURCE 10 MOL_ID: 2;
 SOURCE 11 SYNTHETIC: YES;
 SOURCE 12 MOL_ID: 3;
 SOURCE 13 SYNTHETIC: YES;
 SOURCE 14 OTHER_DETAILS: IN VITRO SYNTHESIS FROM A PLASMID DNA
 SOURCE 15 TEMPLATE OF NATURAL SEQUENCE FROM BACILLUS ANTHRACIS
 KEYWDS STRUCTURAL PROTEIN/RNA
 EXPDTA X-RAY DIFFRACTION
 AUTHOR J.C.COCHRANE
 REVDAT 1 16-JAN-07 2NZ4 0
 JRNL AUTH J.C.COCHRANE,S.V.LIPCHOCK,S.A.STROBEL
 JRNL TITL STRUCTURAL INVESTIGATION OF THE GLMS RIBOZYME
 JRNL TITL 2 BOUND TO ITS CATALYTIC COFACTOR
 JRNL REF CHEM.BIOL. 2006
 JRNL REFN ASTM CBOLE2 UK ISSN 1074-5521
 REMARK 1
 REMARK 2
 REMARK 2 RESOLUTION. 2.50 ANGSTROMS.
 REMARK 3
 REMARK 3 REFINEMENT.
 REMARK 3 PROGRAM : REFMAC 5.2
 REMARK 3 AUTHORS : MURSHUDOV,VAGIN,DODSON
 REMARK 3
 REMARK 3 REFINEMENT TARGET : MAXIMUM LIKELIHOOD WITH PHASES
 REMARK 3
 REMARK 3 DATA USED IN REFINEMENT.
 REMARK 3 RESOLUTION RANGE HIGH (ANGSTROMS) : 2.50
 REMARK 3 RESOLUTION RANGE LOW (ANGSTROMS) : 34.94
 REMARK 3 DATA CUTOFF (SIGMA(F)) : 2.200
 REMARK 3 COMPLETENESS FOR RANGE (%) : 99.3
 REMARK 3 NUMBER OF REFLECTIONS : 75624
 REMARK 3
 REMARK 3 FIT TO DATA USED IN REFINEMENT.
 REMARK 3 CROSS-VALIDATION METHOD : THROUGHOUT
 REMARK 3 FREE R VALUE TEST SET SELECTION : RANDOM

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REMARK 3 R VALUE (WORKING + TEST SET) : 0.224
REMARK 3 R VALUE (WORKING SET) : 0.222
REMARK 3 FREE R VALUE : 0.269
REMARK 3 FREE R VALUE TEST SET SIZE (%) : 5.000
REMARK 3 FREE R VALUE TEST SET COUNT : 3987
REMARK 3
REMARK 3 FIT IN THE HIGHEST RESOLUTION BIN.
REMARK 3 TOTAL NUMBER OF BINS USED : 20
REMARK 3 BIN RESOLUTION RANGE HIGH : 2.50
REMARK 3 BIN RESOLUTION RANGE LOW : 2.56
REMARK 3 REFLECTION IN BIN (WORKING SET) : 5338
REMARK 3 BIN COMPLETENESS (WORKING+TEST) (%) : 94.41
REMARK 3 BIN R VALUE (WORKING SET) : 0.4040
REMARK 3 BIN FREE R VALUE SET COUNT : 254
REMARK 3 BIN FREE R VALUE : 0.4800
REMARK 3
REMARK 3 NUMBER OF NON-HYDROGEN ATOMS USED IN REFINEMENT.
REMARK 3 ALL ATOMS : 16274
REMARK 3
REMARK 3 B VALUES.
REMARK 3 FROM WILSON PLOT (A**2) : 87.00
REMARK 3 MEAN B VALUE (OVERALL, A**2) : 50.64
REMARK 3 OVERALL ANISOTROPIC B VALUE.
REMARK 3 B11 (A**2) : 0.20000
REMARK 3 B22 (A**2) : -0.02000
REMARK 3 B33 (A**2) : -0.18000
REMARK 3 B12 (A**2) : 0.00000
REMARK 3 B13 (A**2) : -0.26000
REMARK 3 B23 (A**2) : 0.00000
REMARK 3
REMARK 3 ESTIMATED OVERALL COORDINATE ERROR.
REMARK 3 ESU BASED ON R VALUE (A) : 0.701
REMARK 3 ESU BASED ON FREE R VALUE (A) : 0.318
REMARK 3 ESU BASED ON MAXIMUM LIKELIHOOD (A) : 0.281
REMARK 3 ESU FOR B VALUES BASED ON MAXIMUM LIKELIHOOD (A**2) : 25.698
REMARK 3
REMARK 3 CORRELATION COEFFICIENTS.
REMARK 3 CORRELATION COEFFICIENT FO-FC : 0.948
REMARK 3 CORRELATION COEFFICIENT FO-FC FREE : 0.926
REMARK 3
REMARK 3 RMS DEVIATIONS FROM IDEAL VALUES COUNT RMS WEIGHT
REMARK 3 BOND LENGTHS REFINED ATOMS (A) : 17645 ; 0.008 ; 0.021
REMARK 3 BOND LENGTHS OTHERS (A) : 7188 ; 0.002 ; 0.020
REMARK 3 BOND ANGLES REFINED ATOMS (DEGREES) : 26835 ; 1.507 ; 2.846
REMARK 3 BOND ANGLES OTHERS (DEGREES) : 18359 ; 0.972 ; 3.000
REMARK 3 TORSION ANGLES, PERIOD 1 (DEGREES) : 360 ; 6.947 ; 5.000
REMARK 3 TORSION ANGLES, PERIOD 2 (DEGREES) : 132 ; 34.130 ; 23.636
REMARK 3 TORSION ANGLES, PERIOD 3 (DEGREES) : 564 ; 16.817 ; 15.000
REMARK 3 TORSION ANGLES, PERIOD 4 (DEGREES) : 20 ; 15.145 ; 15.000
REMARK 3 CHIRAL-CENTER RESTRAINTS (A**3) : 3519 ; 0.074 ; 0.200
REMARK 3 GENERAL PLANES REFINED ATOMS (A) : 9481 ; 0.004 ; 0.020
REMARK 3 GENERAL PLANES OTHERS (A) : 1974 ; 0.001 ; 0.020
REMARK 3 NON-BONDED CONTACTS REFINED ATOMS (A) : 2937 ; 0.154 ; 0.200
REMARK 3 NON-BONDED CONTACTS OTHERS (A) : 8663 ; 0.219 ; 0.200
REMARK 3 NON-BONDED TORSION REFINED ATOMS (A) : 6809 ; 0.224 ; 0.200
REMARK 3 NON-BONDED TORSION OTHERS (A) : 4920 ; 0.082 ; 0.200
REMARK 3 H-BOND (X...Y) REFINED ATOMS (A) : 513 ; 0.196 ; 0.200
REMARK 3 H-BOND (X...Y) OTHERS (A) : NULL ; NULL ; NULL
REMARK 3 POTENTIAL METAL-ION REFINED ATOMS (A) : 16 ; 0.120 ; 0.200

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REMARK 3 POTENTIAL METAL-ION OTHERS (A): NULL ; NULL ; NULL
REMARK 3 SYMMETRY VDW REFINED ATOMS (A): 31 ; 0.144 ; 0.200
REMARK 3 SYMMETRY VDW OTHERS (A): 47 ; 0.189 ; 0.200
REMARK 3 SYMMETRY H-BOND REFINED ATOMS (A): 10 ; 0.242 ; 0.200
REMARK 3 SYMMETRY H-BOND OTHERS (A): NULL ; NULL ; NULL
REMARK 3 SYMMETRY METAL-ION REFINED ATOMS (A): NULL ; NULL ; NULL
REMARK 3 SYMMETRY METAL-ION OTHERS (A): NULL ; NULL ; NULL
REMARK 3
REMARK 3 ISOTROPIC THERMAL FACTOR RESTRAINTS. COUNT RMS WEIGHT
REMARK 3 MAIN-CHAIN BOND REFINED ATOMS (A**2): 1986 ; 1.201 ; 4.000
REMARK 3 MAIN-CHAIN BOND OTHER ATOMS (A**2): 727 ; 0.326 ; 4.000
REMARK 3 MAIN-CHAIN ANGLE REFINED ATOMS (A**2): 2930 ; 1.837 ; 6.000
REMARK 3 SIDE-CHAIN BOND REFINED ATOMS (A**2): 21946 ; 0.816 ; 4.000
REMARK 3 SIDE-CHAIN ANGLE REFINED ATOMS (A**2): 23905 ; 1.233 ; 4.000
REMARK 3
REMARK 3 ANISOTROPIC THERMAL FACTOR RESTRAINTS. COUNT RMS WEIGHT
REMARK 3 RIGID-BOND RESTRAINTS (A**2): NULL ; NULL ; NULL
REMARK 3 SPHERICITY; FREE ATOMS (A**2): NULL ; NULL ; NULL
REMARK 3 SPHERICITY; BONDED ATOMS (A**2): NULL ; NULL ; NULL
REMARK 3
REMARK 3 NCS RESTRAINTS STATISTICS
REMARK 3 NUMBER OF DIFFERENT NCS GROUPS : 6
REMARK 3
REMARK 3 NCS GROUP NUMBER : 1
REMARK 3 CHAIN NAMES : A D
REMARK 3 NUMBER OF COMPONENTS NCS GROUP : 1
REMARK 3 COMPONENT C SSSEQI TO C SSSEQI CODE
REMARK 3 1 A 7 A 94 4
REMARK 3 1 D 7 D 94 4
REMARK 3 GROUP CHAIN COUNT RMS WEIGHT
REMARK 3 MEDIUM POSITIONAL 1 A (A): 1213 ; 0.41 ; 0.50
REMARK 3 MEDIUM THERMAL 1 A (A**2): 1213 ; 0.30 ; 2.00
REMARK 3
REMARK 3 NCS GROUP NUMBER : 2
REMARK 3 CHAIN NAMES : E H
REMARK 3 NUMBER OF COMPONENTS NCS GROUP : 1
REMARK 3 COMPONENT C SSSEQI TO C SSSEQI CODE
REMARK 3 1 E -1 E 11 4
REMARK 3 1 H -1 H 11 4
REMARK 3 GROUP CHAIN COUNT RMS WEIGHT
REMARK 3 MEDIUM POSITIONAL 2 E (A): 367 ; 0.18 ; 0.50
REMARK 3 MEDIUM THERMAL 2 E (A**2): 367 ; 0.41 ; 2.00
REMARK 3
REMARK 3 NCS GROUP NUMBER : 3
REMARK 3 CHAIN NAMES : P S
REMARK 3 NUMBER OF COMPONENTS NCS GROUP : 1
REMARK 3 COMPONENT C SSSEQI TO C SSSEQI CODE
REMARK 3 1 P 12 P 141 4
REMARK 3 1 S 12 S 141 4
REMARK 3 GROUP CHAIN COUNT RMS WEIGHT
REMARK 3 MEDIUM POSITIONAL 3 P (A): 4122 ; 0.32 ; 0.50
REMARK 3 MEDIUM THERMAL 3 P (A**2): 4122 ; 0.24 ; 2.00
REMARK 3
REMARK 3 NCS GROUP NUMBER : 4
REMARK 3 CHAIN NAMES : B C
REMARK 3 NUMBER OF COMPONENTS NCS GROUP : 1
REMARK 3 COMPONENT C SSSEQI TO C SSSEQI CODE
REMARK 3 1 B 5 B 94 4
REMARK 3 1 C 8 C 94 4

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REMARK 3          GROUP CHAIN          COUNT  RMS      WEIGHT
REMARK 3 MEDIUM POSITIONAL  4    B    (A):  1217 ;  0.33 ;  0.50
REMARK 3 MEDIUM THERMAL    4    B (A**2):  1217 ;  0.39 ;  2.00
REMARK 3
REMARK 3 NCS GROUP NUMBER              : 5
REMARK 3 CHAIN NAMES                    : F G
REMARK 3 NUMBER OF COMPONENTS NCS GROUP : 1
REMARK 3 COMPONENT C  SSSEQI  TO  C  SSSEQI  CODE
REMARK 3          1    F    -1    F    11      4
REMARK 3          1    G    -1    G    11      4
REMARK 3          GROUP CHAIN          COUNT  RMS      WEIGHT
REMARK 3 MEDIUM POSITIONAL  5    F    (A):   386 ;  0.47 ;  0.50
REMARK 3 MEDIUM THERMAL    5    F (A**2):  386 ;  0.38 ;  2.00
REMARK 3
REMARK 3 NCS GROUP NUMBER              : 6
REMARK 3 CHAIN NAMES                    : Q R
REMARK 3 NUMBER OF COMPONENTS NCS GROUP : 1
REMARK 3 COMPONENT C  SSSEQI  TO  C  SSSEQI  CODE
REMARK 3          1    Q    12    Q    141     4
REMARK 3          1    R    12    R    141     4
REMARK 3          GROUP CHAIN          COUNT  RMS      WEIGHT
REMARK 3 MEDIUM POSITIONAL  6    Q    (A):  4147 ;  0.31 ;  0.50
REMARK 3 MEDIUM THERMAL    6    Q (A**2):  4147 ;  0.35 ;  2.00
REMARK 3
REMARK 3 TLS DETAILS
REMARK 3 NUMBER OF TLS GROUPS   : 0
REMARK 3
REMARK 3 BULK SOLVENT MODELLING.
REMARK 3 METHOD USED : BABINET MODEL WITH MASK
REMARK 3 PARAMETERS FOR MASK CALCULATION
REMARK 3 VDW PROBE RADIUS   : 1.40
REMARK 3 ION PROBE RADIUS   : 0.80
REMARK 3 SHRINKAGE RADIUS   : 0.80
REMARK 3
REMARK 3 OTHER REFINEMENT REMARKS: HYDROGENS HAVE BEEN ADDED IN THE
REMARK 3 RIDING POSITIONS
REMARK 4
REMARK 4 2NZ4 COMPLIES WITH FORMAT V. 2.3, 09-JULY-1998
REMARK 100
REMARK 100 THIS ENTRY HAS BEEN PROCESSED BY THE NUCLEIC ACID DATABASE
REMARK 100 ON 02-DEC-2006.
REMARK 100 THE NDB ID CODE IS PR0249.
REMARK 105
REMARK 105 THE PROTEIN DATA BANK HAS ADOPTED THE SACCHARIDE CHEMISTS
REMARK 105 NOMENCLATURE FOR ATOMS OF THE DEOXYRIBOSE/RIBOSE MOIETY
REMARK 105 RATHER THAN THAT OF THE NUCLEOSIDE CHEMISTS. THE RING
REMARK 105 OXYGEN ATOM IS LABELLED O4* INSTEAD OF O1*.
REMARK 200
REMARK 200 EXPERIMENTAL DETAILS
REMARK 200 EXPERIMENT TYPE              : X-RAY DIFFRACTION
REMARK 200 DATE OF DATA COLLECTION    : 29-JUN-2006
REMARK 200 TEMPERATURE                 (KELVIN) : 100.0
REMARK 200 PH                         : 6.80
REMARK 200 NUMBER OF CRYSTALS USED     : 1
REMARK 200
REMARK 200 SYNCHROTRON                (Y/N) : Y
REMARK 200 RADIATION SOURCE             : NSLS
REMARK 200 BEAMLINE                     : X25
REMARK 200 X-RAY GENERATOR MODEL       : NULL

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REMARK 200 MONOCHROMATIC OR LAUE (M/L) : M
 REMARK 200 WAVELENGTH OR RANGE (A) : 1.1
 REMARK 200 MONOCHROMATOR : NULL
 REMARK 200 OPTICS : NULL
 REMARK 200
 REMARK 200 DETECTOR TYPE : CCD
 REMARK 200 DETECTOR MANUFACTURER : ADSC QUANTUM 315
 REMARK 200 INTENSITY-INTEGRATION SOFTWARE : HKL-2000
 REMARK 200 DATA SCALING SOFTWARE : HKL-2000
 REMARK 200
 REMARK 200 NUMBER OF UNIQUE REFLECTIONS : 79785
 REMARK 200 RESOLUTION RANGE HIGH (A) : 2.498
 REMARK 200 RESOLUTION RANGE LOW (A) : 34.940
 REMARK 200 REJECTION CRITERIA (SIGMA(I)) : 1.100
 REMARK 200
 REMARK 200 OVERALL.
 REMARK 200 COMPLETENESS FOR RANGE (%) : 99.8
 REMARK 200 DATA REDUNDANCY : 6.100
 REMARK 200 R MERGE (I) : 0.06200
 REMARK 200 R SYM (I) : 0.04600
 REMARK 200 <I/SIGMA(I)> FOR THE DATA SET : 23.2000
 REMARK 200
 REMARK 200 IN THE HIGHEST RESOLUTION SHELL.
 REMARK 200 HIGHEST RESOLUTION SHELL, RANGE HIGH (A) : 2.50
 REMARK 200 HIGHEST RESOLUTION SHELL, RANGE LOW (A) : 2.59
 REMARK 200 COMPLETENESS FOR SHELL (%) : 100.0
 REMARK 200 DATA REDUNDANCY IN SHELL : 5.90
 REMARK 200 R MERGE FOR SHELL (I) : NULL
 REMARK 200 R SYM FOR SHELL (I) : NULL
 REMARK 200 <I/SIGMA(I)> FOR SHELL : 1.100
 REMARK 200
 REMARK 200 DIFFRACTION PROTOCOL: SINGLE WAVELENGTH
 REMARK 200 METHOD USED TO DETERMINE THE STRUCTURE: MIR
 REMARK 200 SOFTWARE USED: SHARP
 REMARK 200 STARTING MODEL: NULL
 REMARK 200
 REMARK 200 REMARK: NULL
 REMARK 280
 REMARK 280 CRYSTAL
 REMARK 280 SOLVENT CONTENT, VS (%): 49.78
 REMARK 280 MATTHEWS COEFFICIENT, VM (ANGSTROMS**3/DA): 2.45
 REMARK 280
 REMARK 280 CRYSTALLIZATION CONDITIONS: 11% PEG 8000, 9% DMSO, 0.02M SODIUM
 REMARK 280 CACODYLATE PH 6.8, 0.02M MAGNESIUM CHLORIDE, 0.15M POTASSIUM
 REMARK 280 CHLORIDE, 0.002M GLUCOSAMINE 6 PHOSPHATE, VAPOR DIFFUSION,
 REMARK 280 SITTING DROP, TEMPERATURE 298K
 REMARK 290
 REMARK 290 CRYSTALLOGRAPHIC SYMMETRY
 REMARK 290 SYMMETRY OPERATORS FOR SPACE GROUP: P 1 21 1
 REMARK 290
 REMARK 290 SYMOP SYMMETRY
 REMARK 290 NNNMMM OPERATOR
 REMARK 290 1555 X,Y,Z
 REMARK 290 2555 -X,1/2+Y,-Z
 REMARK 290
 REMARK 290 WHERE NNN -> OPERATOR NUMBER
 REMARK 290 MMM -> TRANSLATION VECTOR
 REMARK 290
 REMARK 290 CRYSTALLOGRAPHIC SYMMETRY TRANSFORMATIONS

REMARK 290 THE FOLLOWING TRANSFORMATIONS OPERATE ON THE ATOM/HETATM
 REMARK 290 RECORDS IN THIS ENTRY TO PRODUCE CRYSTALLOGRAPHICALLY
 REMARK 290 RELATED MOLECULES.

REMARK 290	SMTRY1	1	1.000000	0.000000	0.000000	0.000000
REMARK 290	SMTRY2	1	0.000000	1.000000	0.000000	0.000000
REMARK 290	SMTRY3	1	0.000000	0.000000	1.000000	0.000000
REMARK 290	SMTRY1	2	-1.000000	0.000000	0.000000	0.000000
REMARK 290	SMTRY2	2	0.000000	1.000000	0.000000	117.07850
REMARK 290	SMTRY3	2	0.000000	0.000000	-1.000000	0.000000

REMARK 290
 REMARK 290 REMARK: NULL
 REMARK 300
 REMARK 300 BIOMOLECULE: 1, 2, 3, 4
 REMARK 300 THIS ENTRY CONTAINS THE CRYSTALLOGRAPHIC ASYMMETRIC UNIT
 REMARK 300 WHICH CONSISTS OF 12CHAIN(S). SEE REMARK 350 FOR
 REMARK 300 INFORMATION ON GENERATING THE BIOLOGICAL MOLECULE(S).
 REMARK 350
 REMARK 350 GENERATING THE BIOMOLECULE
 REMARK 350 COORDINATES FOR A COMPLETE MULTIMER REPRESENTING THE KNOWN
 REMARK 350 BIOLOGICALLY SIGNIFICANT OLIGOMERIZATION STATE OF THE
 REMARK 350 MOLECULE CAN BE GENERATED BY APPLYING BIOMT TRANSFORMATIONS
 REMARK 350 GIVEN BELOW. BOTH NON-CRYSTALLOGRAPHIC AND
 REMARK 350 CRYSTALLOGRAPHIC OPERATIONS ARE GIVEN.
 REMARK 350
 REMARK 350 BIOMOLECULE: 1
 REMARK 350 APPLY THE FOLLOWING TO CHAINS: E, P, A

REMARK 350	BIOMT1	1	1.000000	0.000000	0.000000	0.000000
REMARK 350	BIOMT2	1	0.000000	1.000000	0.000000	0.000000
REMARK 350	BIOMT3	1	0.000000	0.000000	1.000000	0.000000

REMARK 350 BIOMOLECULE: 2
 REMARK 350 APPLY THE FOLLOWING TO CHAINS: F, Q, B

REMARK 350	BIOMT1	2	1.000000	0.000000	0.000000	0.000000
REMARK 350	BIOMT2	2	0.000000	1.000000	0.000000	0.000000
REMARK 350	BIOMT3	2	0.000000	0.000000	1.000000	0.000000

REMARK 350 BIOMOLECULE: 3
 REMARK 350 APPLY THE FOLLOWING TO CHAINS: G, R, C

REMARK 350	BIOMT1	3	1.000000	0.000000	0.000000	0.000000
REMARK 350	BIOMT2	3	0.000000	1.000000	0.000000	0.000000
REMARK 350	BIOMT3	3	0.000000	0.000000	1.000000	0.000000

REMARK 350 BIOMOLECULE: 4
 REMARK 350 APPLY THE FOLLOWING TO CHAINS: H, S, D

REMARK 350	BIOMT1	4	1.000000	0.000000	0.000000	0.000000
REMARK 350	BIOMT2	4	0.000000	1.000000	0.000000	0.000000
REMARK 350	BIOMT3	4	0.000000	0.000000	1.000000	0.000000

REMARK 465
 REMARK 465 MISSING RESIDUES
 REMARK 465 THE FOLLOWING RESIDUES WERE NOT LOCATED IN THE
 REMARK 465 EXPERIMENT. (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
 REMARK 465 IDENTIFIER; SSSEQ=SEQUENCE NUMBER; I=INSERTION CODE.)
 REMARK 465

REMARK 465	M	RES	C	SSSEQI
REMARK 465		GLU	A	5
REMARK 465		THR	A	6
REMARK 465		MET	A	97
REMARK 465		LYS	A	98
REMARK 465		GLU	C	5
REMARK 465		THR	C	6
REMARK 465		ARG	C	7
REMARK 465		LYS	C	98


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REMARK 465      GLU D      5
REMARK 465      THR D      6
REMARK 465      MET D     97
REMARK 465      LYS D     98
REMARK 470
REMARK 470 MISSING ATOM
REMARK 470 THE FOLLOWING RESIDUES HAVE MISSING ATOMS (M=MODEL NUMBER;
REMARK 470 RES=RESIDUE NAME; C=CHAIN IDENTIFIER; SSEQ=SEQUENCE NUMBER;
REMARK 470 I=INSERTION CODE):
REMARK 470      M RES CSSEQI  ATOMS
REMARK 470      A E  -1    O5*   C5*
REMARK 470      G E   1     N3
REMARK 470      C E   2     N4
REMARK 470      A E   6     N9     C8     N7     C5     C6     N6     N1
REMARK 470      A E   6     C2     N3     C4
REMARK 470      U P 17I    N1     C2     O2     N3     C4     O4     C5
REMARK 470      U P 17I    C6
REMARK 470      C P 17J    N1     C2     O2     N3     C4     N4     C5
REMARK 470      C P 17J    C6
REMARK 470      C P 85     N1     C2     O2     N3     C4     N4     C5
REMARK 470      C P 85     C6
REMARK 470      U P 91     N1     C2     O2     N3     C4     O4     C5
REMARK 470      U P 91     C6
REMARK 470      U P 134    N1     C2     O2     N3     C4     O4     C5
REMARK 470      U P 134    C6
REMARK 470      U Q 49     N1     C2     O2     N3     C4     O4     C5
REMARK 470      U Q 49     C6
REMARK 470      C Q 85     N1     C2     O2     N3     C4     N4     C5
REMARK 470      C Q 85     C6
REMARK 470      C R 85     N1     C2     O2     N3     C4     N4     C5
REMARK 470      C R 85     C6
REMARK 470      A H   6     N9     C8     N7     C5     C6     N6     N1
REMARK 470      A H   6     C2     N3     C4
REMARK 470      U S 17I    N1     C2     O2     N3     C4     O4     C5
REMARK 470      U S 17I    C6
REMARK 470      U S 49     N1     C2     O2     N3     C4     O4     C5
REMARK 470      U S 49     C6
REMARK 470      ARG A   7     CG     CD     NE     CZ     NH1     NH2
REMARK 470      LYS A  88     CG     CD     CE     NZ
REMARK 470      LYS A  96     CG     CD     CE     NZ
REMARK 470      GLU B   5     CG     CD     OE1    OE2
REMARK 470      ARG B   7     CG     CD     NE     CZ     NH1     NH2
REMARK 470      LYS B  96     CG     CD     CE     NZ
REMARK 470      LYS B  98     CG     CD     CE     NZ
REMARK 470      LYS C  88     CG     CD     CE     NZ
REMARK 470      LYS C  96     CG     CD     CE     NZ
REMARK 470      ARG D   7     CB     CG     CD     NE     CZ     NH1     NH2
REMARK 470      LYS D  20     CD     CE     NZ
REMARK 470      LYS D  88     CG     CD     CE     NZ
REMARK 470      LYS D  96     CG     CD     CE     NZ
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: CLOSE CONTACTS IN SAME ASYMMETRIC UNIT
REMARK 500
REMARK 500 THE FOLLOWING ATOMS ARE IN CLOSE CONTACT.
REMARK 500
REMARK 500  ATM1  RES  C  SSEQI  ATM2  RES  C  SSEQI
REMARK 500  O2*  A   Q   48    O2P  U   Q   49              1.96
REMARK 500  O2P  A   Q   46     O   HOH      78              2.06

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REMARK 500  O4  U  S   17C  O   HOH   202           2.13
REMARK 500  O   HOH   26   O   HOH   27           2.13
REMARK 500  O   HOH   26   O   HOH   28           2.17
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND LENGTHS
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 500 IDENTIFIER; SSEQ=SEQUENCE NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,2(A3,1X,A1,I4,A1,1X,A4,3X),F6.3)
REMARK 500
REMARK 500 EXPECTED VALUES: ENGH AND HUBER, 1991
REMARK 500
REMARK 500 M RES CSSEQI ATM1 RES CSSEQI ATM2 DEVIATION
REMARK 500   ASP A  92  C   ILE A  93  N   -0.423
REMARK 500
REMARK 500 GEOMETRY AND STEREOCHEMISTRY
REMARK 500 SUBTOPIC: COVALENT BOND ANGLES
REMARK 500
REMARK 500 THE STEREOCHEMICAL PARAMETERS OF THE FOLLOWING RESIDUES
REMARK 500 HAVE VALUES WHICH DEVIATE FROM EXPECTED VALUES BY MORE
REMARK 500 THAN 6*RMSD (M=MODEL NUMBER; RES=RESIDUE NAME; C=CHAIN
REMARK 500 IDENTIFIER; SSEQ=SEQUENCE NUMBER; I=INSERTION CODE).
REMARK 500
REMARK 500 STANDARD TABLE:
REMARK 500 FORMAT: (10X,I3,1X,A3,1X,A1,I4,A1,3(1X,A4,2X),12X,F5.1)
REMARK 500
REMARK 500 EXPECTED VALUES: ENGH AND HUBER, 1991
REMARK 500
REMARK 500 M RES CSSEQI ATM1 ATM2 ATM3
REMARK 500   GTP P  12  C3* - O3* - P ANGL. DEV. = 14.5 DEGREES
REMARK 500   GTP Q  12  C3* - O3* - P ANGL. DEV. =-16.9 DEGREES
REMARK 500   A2M H   0  C3* - O3* - P ANGL. DEV. = 10.2 DEGREES
DBREF  2NZ4 A   5   98 UNP P09012 SNRPA_HUMAN 4 97
DBREF  2NZ4 B   5   98 UNP P09012 SNRPA_HUMAN 4 97
DBREF  2NZ4 C   5   98 UNP P09012 SNRPA_HUMAN 4 97
DBREF  2NZ4 D   5   98 UNP P09012 SNRPA_HUMAN 4 97
SEQADV 2NZ4 HIS A  31 UNP P09012 TYR 30 ENGINEERED
SEQADV 2NZ4 ARG A  36 UNP P09012 GLN 35 ENGINEERED
SEQADV 2NZ4 HIS B  31 UNP P09012 TYR 30 ENGINEERED
SEQADV 2NZ4 ARG B  36 UNP P09012 GLN 35 ENGINEERED
SEQADV 2NZ4 HIS C  31 UNP P09012 TYR 30 ENGINEERED
SEQADV 2NZ4 ARG C  36 UNP P09012 GLN 35 ENGINEERED
SEQADV 2NZ4 HIS D  31 UNP P09012 TYR 30 ENGINEERED
SEQADV 2NZ4 ARG D  36 UNP P09012 GLN 35 ENGINEERED
SEQRES 1 A  94 GLU THR ARG PRO ASN HIS THR ILE TYR ILE ASN ASN LEU
SEQRES 2 A  94 ASN GLU LYS ILE LYS LYS ASP GLU LEU LYS LYS SER LEU
SEQRES 3 A  94 HIS ALA ILE PHE SER ARG PHE GLY GLN ILE LEU ASP ILE
SEQRES 4 A  94 LEU VAL SER ARG SER LEU LYS MET ARG GLY GLN ALA PHE
SEQRES 5 A  94 VAL ILE PHE LYS GLU VAL SER SER ALA THR ASN ALA LEU
SEQRES 6 A  94 ARG SER MET GLN GLY PHE PRO PHE TYR ASP LYS PRO MET
SEQRES 7 A  94 ARG ILE GLN TYR ALA LYS THR ASP SER ASP ILE ILE ALA
SEQRES 8 A  94 LYS MET LYS
SEQRES 1 E  13 A A2M G C G C C A G A A C U
SEQRES 1 P 141 GTP G C A C C A U U G C A C

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SEQRES	2 P	141	U	C	C	G	G	U	G	C	C	A	G	U	U
SEQRES	3 P	141	G	A	C	G	A	G	G	U	G	G	G	G	U
SEQRES	4 P	141	U	U	A	U	C	G	A	G	A	U	U	U	C
SEQRES	5 P	141	G	G	C	G	G	A	U	G	A	C	U	C	C
SEQRES	6 P	141	C	G	G	U	U	G	U	C	A	U	C	C	A
SEQRES	7 P	141	C	A	A	C	C	G	C	A	A	G	C	U	U
SEQRES	8 P	141	U	U	A	C	U	U	A	A	A	U	C	A	U
SEQRES	9 P	141	U	A	A	G	G	U	G	A	C	U	U	A	G
SEQRES	10 P	141	U	G	G	A	C	A	A	A	G	G	U	G	A
SEQRES	11 P	141	A	A	G	U	G	U	G	A	U	G	A		
SEQRES	1 B	94	GLU	THR	ARG	PRO	ASN	HIS	THR	ILE	TYR	ILE	ASN	ASN	LEU
SEQRES	2 B	94	ASN	GLU	LYS	ILE	LYS	LYS	ASP	GLU	LEU	LYS	LYS	SER	LEU
SEQRES	3 B	94	HIS	ALA	ILE	PHE	SER	ARG	PHE	GLY	GLN	ILE	LEU	ASP	ILE
SEQRES	4 B	94	LEU	VAL	SER	ARG	SER	LEU	LYS	MET	ARG	GLY	GLN	ALA	PHE
SEQRES	5 B	94	VAL	ILE	PHE	LYS	GLU	VAL	SER	SER	ALA	THR	ASN	ALA	LEU
SEQRES	6 B	94	ARG	SER	MET	GLN	GLY	PHE	PRO	PHE	TYR	ASP	LYS	PRO	MET
SEQRES	7 B	94	ARG	ILE	GLN	TYR	ALA	LYS	THR	ASP	SER	ASP	ILE	ILE	ALA
SEQRES	8 B	94	LYS	MET	LYS										
SEQRES	1 F	13	A	A2M	G	C	G	C	C	A	G	A	A	C	U
SEQRES	1 Q	141	GTP	G	C	A	C	C	A	U	U	G	C	A	C
SEQRES	2 Q	141	U	C	C	G	G	U	G	C	C	A	G	U	U
SEQRES	3 Q	141	G	A	C	G	A	G	G	U	G	G	G	G	U
SEQRES	4 Q	141	U	U	A	U	C	G	A	G	A	U	U	U	C
SEQRES	5 Q	141	G	G	C	G	G	A	U	G	A	C	U	C	C
SEQRES	6 Q	141	C	G	G	U	U	G	U	U	C	A	U	C	A
SEQRES	7 Q	141	C	A	A	C	C	G	C	A	A	G	C	U	U
SEQRES	8 Q	141	U	U	A	C	U	U	A	A	A	U	C	A	U
SEQRES	9 Q	141	U	A	A	G	G	U	G	A	C	U	U	A	G
SEQRES	10 Q	141	U	G	G	A	C	A	A	A	G	G	U	G	A
SEQRES	11 Q	141	A	A	G	U	G	U	G	A	U	G	A		
SEQRES	1 C	94	GLU	THR	ARG	PRO	ASN	HIS	THR	ILE	TYR	ILE	ASN	ASN	LEU
SEQRES	2 C	94	ASN	GLU	LYS	ILE	LYS	LYS	ASP	GLU	LEU	LYS	LYS	SER	LEU
SEQRES	3 C	94	HIS	ALA	ILE	PHE	SER	ARG	PHE	GLY	GLN	ILE	LEU	ASP	ILE
SEQRES	4 C	94	LEU	VAL	SER	ARG	SER	LEU	LYS	MET	ARG	GLY	GLN	ALA	PHE
SEQRES	5 C	94	VAL	ILE	PHE	LYS	GLU	VAL	SER	SER	ALA	THR	ASN	ALA	LEU
SEQRES	6 C	94	ARG	SER	MET	GLN	GLY	PHE	PRO	PHE	TYR	ASP	LYS	PRO	MET
SEQRES	7 C	94	ARG	ILE	GLN	TYR	ALA	LYS	THR	ASP	SER	ASP	ILE	ILE	ALA
SEQRES	8 C	94	LYS	MET	LYS										
SEQRES	1 G	13	A	A2M	G	C	G	C	C	A	G	A	A	C	U
SEQRES	1 R	141	GTP	G	C	A	C	C	A	U	U	G	C	A	C
SEQRES	2 R	141	U	C	C	G	G	U	G	C	C	A	G	U	U
SEQRES	3 R	141	G	A	C	G	A	G	G	U	G	G	G	G	U
SEQRES	4 R	141	U	U	A	U	C	G	A	G	A	U	U	U	C
SEQRES	5 R	141	G	G	C	G	G	A	U	G	A	C	U	C	C
SEQRES	6 R	141	C	G	G	U	U	G	U	U	C	A	U	C	A
SEQRES	7 R	141	C	A	A	C	C	G	C	A	A	G	C	U	U
SEQRES	8 R	141	U	U	A	C	U	U	A	A	A	U	C	A	U
SEQRES	9 R	141	U	A	A	G	G	U	G	A	C	U	U	A	G
SEQRES	10 R	141	U	G	G	A	C	A	A	A	G	G	U	G	A
SEQRES	11 R	141	A	A	G	U	G	U	G	A	U	G	A		
SEQRES	1 D	94	GLU	THR	ARG	PRO	ASN	HIS	THR	ILE	TYR	ILE	ASN	ASN	LEU
SEQRES	2 D	94	ASN	GLU	LYS	ILE	LYS	LYS	ASP	GLU	LEU	LYS	LYS	SER	LEU
SEQRES	3 D	94	HIS	ALA	ILE	PHE	SER	ARG	PHE	GLY	GLN	ILE	LEU	ASP	ILE
SEQRES	4 D	94	LEU	VAL	SER	ARG	SER	LEU	LYS	MET	ARG	GLY	GLN	ALA	PHE
SEQRES	5 D	94	VAL	ILE	PHE	LYS	GLU	VAL	SER	SER	ALA	THR	ASN	ALA	LEU
SEQRES	6 D	94	ARG	SER	MET	GLN	GLY	PHE	PRO	PHE	TYR	ASP	LYS	PRO	MET
SEQRES	7 D	94	ARG	ILE	GLN	TYR	ALA	LYS	THR	ASP	SER	ASP	ILE	ILE	ALA
SEQRES	8 D	94	LYS	MET	LYS										
SEQRES	1 H	13	A	A2M	G	C	G	C	C	A	G	A	A	C	U

SEQRES	1	S	141	GTP	G	C	A	C	C	A	U	U	G	C	A	C
SEQRES	2	S	141	U	C	C	G	G	U	G	C	C	A	G	U	U
SEQRES	3	S	141	G	A	C	G	A	G	G	U	G	G	G	G	U
SEQRES	4	S	141	U	U	A	U	C	G	A	G	A	U	U	U	C
SEQRES	5	S	141	G	G	C	G	G	A	U	G	A	C	U	C	C
SEQRES	6	S	141	C	G	G	U	U	G	U	U	C	A	U	C	A
SEQRES	7	S	141	C	A	A	C	C	G	C	A	A	G	C	U	U
SEQRES	8	S	141	U	U	A	C	U	U	A	A	A	U	C	A	U
SEQRES	9	S	141	U	A	A	G	G	U	G	A	C	U	U	A	G
SEQRES	10	S	141	U	G	G	A	C	A	A	A	G	G	U	G	A
SEQRES	11	S	141	A	A	G	U	G	U	G	A	U	G	A		
MODRES	2NZ4	GTP	P	12	G	GUANOSINE-5'-TRIPHOSPHATE										
MODRES	2NZ4	GTP	Q	12	G	GUANOSINE-5'-TRIPHOSPHATE										
MODRES	2NZ4	GTP	R	12	G	GUANOSINE-5'-TRIPHOSPHATE										
MODRES	2NZ4	GTP	S	12	G	GUANOSINE-5'-TRIPHOSPHATE										
MODRES	2NZ4	A2M	E	0	A	2'-O-METHYL-ADENOSINE-5'-MONOPHOSPHATE										
MODRES	2NZ4	A2M	F	0	A	2'-O-METHYL-ADENOSINE-5'-MONOPHOSPHATE										
MODRES	2NZ4	A2M	G	0	A	2'-O-METHYL-ADENOSINE-5'-MONOPHOSPHATE										
MODRES	2NZ4	A2M	H	0	A	2'-O-METHYL-ADENOSINE-5'-MONOPHOSPHATE										
HET	A2M	E	0	23												
HET	GTP	P	12	32												
HET	A2M	F	0	23												
HET	GTP	Q	12	32												
HET	A2M	G	0	23												
HET	GTP	R	12	32												
HET	A2M	H	0	23												
HET	GTP	S	12	32												
HET	GLP	5001		16												
HET	GLP	5002		16												
HET	GLP	5003		16												
HET	GLP	5004		16												
HET	MG	9001		1												
HET	MG	9002		1												
HET	MG	9003		1												
HET	MG	9004		1												
HET	MG	9005		1												
HET	MG	9006		1												
HET	MG	9007		1												
HET	MG	9008		1												
HET	MG	9009		1												
HET	MG	9010		1												
HET	MG	9011		1												
HET	MG	9012		1												
HET	MG	9013		1												
HET	MG	9014		1												
HET	MG	9015		1												
HET	MG	9016		1												
HETNAM	A2M 2'-O-METHYL-ADENOSINE-5'-MONOPHOSPHATE															
HETNAM	GTP GUANOSINE-5'-TRIPHOSPHATE															
HETNAM	GLP GLUCOSAMINE 6-PHOSPHATE															
HETNAM	MG MAGNESIUM ION															
FORMUL	1	A2M	4(C11 H16 N5 O7 P1)													
FORMUL	2	GTP	4(C10 H16 N5 O14 P3)													
FORMUL	13	GLP	4(C6 H14 N1 O8 P1)													
FORMUL	17	MG	16(MG1 2+)													
FORMUL	33	HOH	*206(H2 O1)													
HELIX	1	1	LYS	A	22	SER	A	35	1							
HELIX	2	2	GLU	A	61	GLN	A	73	1							
HELIX	3	3	LYS	B	22	SER	B	35	1							

[illegible]

ATOM	6	N	PRO	A	8	43.101	-28.085	16.731	1.00	68.65	N
ATOM	7	CA	PRO	A	8	42.877	-27.103	17.810	1.00	67.47	C
ATOM	8	C	PRO	A	8	43.471	-25.719	17.546	1.00	65.83	C
ATOM	9	O	PRO	A	8	44.450	-25.593	16.808	1.00	65.36	O
ATOM	10	CB	PRO	A	8	43.573	-27.740	19.019	1.00	67.82	C
ATOM	11	CG	PRO	A	8	43.574	-29.186	18.747	1.00	68.10	C
ATOM	12	CD	PRO	A	8	43.680	-29.339	17.256	1.00	68.69	C
ATOM	13	N	ASN	A	9	42.886	-24.695	18.160	1.00	63.86	N
ATOM	14	CA	ASN	A	9	43.347	-23.323	17.969	1.00	62.40	C
ATOM	15	C	ASN	A	9	43.125	-22.443	19.195	1.00	61.87	C
ATOM	16	O	ASN	A	9	42.322	-22.765	20.067	1.00	61.52	O
ATOM	17	CB	ASN	A	9	42.644	-22.704	16.762	1.00	62.02	C
ATOM	18	CG	ASN	A	9	43.478	-21.642	16.086	1.00	61.72	C
ATOM	19	OD1	ASN	A	9	43.339	-20.455	16.367	1.00	61.66	O
ATOM	20	ND2	ASN	A	9	44.367	-22.069	15.197	1.00	62.03	N
ATOM	21	N	HIS	A	10	43.852	-21.331	19.248	1.00	61.78	N
ATOM	22	CA	HIS	A	10	43.695	-20.335	20.305	1.00	61.13	C
ATOM	23	C	HIS	A	10	42.321	-19.695	20.243	1.00	60.55	C
ATOM	24	O	HIS	A	10	41.707	-19.415	21.276	1.00	61.39	O
ATOM	25	CB	HIS	A	10	44.748	-19.238	20.169	1.00	61.74	C
ATOM	26	CG	HIS	A	10	46.142	-19.705	20.431	1.00	62.32	C
ATOM	27	ND1	HIS	A	10	47.003	-20.074	19.420	1.00	63.44	N
ATOM	28	CD2	HIS	A	10	46.828	-19.858	21.587	1.00	62.44	C
ATOM	29	CE1	HIS	A	10	48.160	-20.440	19.944	1.00	63.38	C
ATOM	30	NE2	HIS	A	10	48.078	-20.321	21.257	1.00	63.13	N
ATOM	31	N	THR	A	11	41.851	-19.451	19.024	1.00	59.68	N
ATOM	32	CA	THR	A	11	40.532	-18.878	18.808	1.00	59.71	C
ATOM	33	C	THR	A	11	39.501	-19.985	18.595	1.00	59.22	C
ATOM	34	O	THR	A	11	39.719	-20.879	17.782	1.00	59.83	O
ATOM	35	CB	THR	A	11	40.520	-17.947	17.576	1.00	59.15	C
ATOM	36	OG1	THR	A	11	41.714	-17.152	17.553	1.00	58.42	O
ATOM	37	CG2	THR	A	11	39.291	-17.039	17.599	1.00	58.66	C
ATOM	38	N	ILE	A	12	38.392	-19.935	19.332	1.00	58.84	N
ATOM	39	CA	ILE	A	12	37.222	-20.763	19.007	1.00	59.11	C
ATOM	40	C	ILE	A	12	36.177	-19.935	18.249	1.00	59.65	C
ATOM	41	O	ILE	A	12	35.922	-18.770	18.574	1.00	58.64	O
ATOM	42	CB	ILE	A	12	36.573	-21.432	20.246	1.00	58.68	C
ATOM	43	CG1	ILE	A	12	35.923	-20.387	21.162	1.00	58.57	C
ATOM	44	CG2	ILE	A	12	37.600	-22.292	20.985	1.00	58.37	C
ATOM	45	CD1	ILE	A	12	35.653	-20.889	22.560	1.00	59.23	C
ATOM	46	N	TYR	A	13	35.599	-20.551	17.223	1.00	60.19	N
ATOM	47	CA	TYR	A	13	34.585	-19.925	16.392	1.00	60.65	C
ATOM	48	C	TYR	A	13	33.228	-20.327	16.932	1.00	61.18	C
ATOM	49	O	TYR	A	13	32.918	-21.520	17.015	1.00	61.02	O
ATOM	50	CB	TYR	A	13	34.739	-20.393	14.940	1.00	61.49	C
ATOM	51	CG	TYR	A	13	33.629	-19.971	13.997	1.00	61.57	C
ATOM	52	CD1	TYR	A	13	33.498	-18.646	13.596	1.00	61.66	C
ATOM	53	CD2	TYR	A	13	32.724	-20.902	13.487	1.00	61.63	C
ATOM	54	CE1	TYR	A	13	32.490	-18.253	12.723	1.00	61.84	C
ATOM	55	CE2	TYR	A	13	31.713	-20.520	12.608	1.00	61.74	C
ATOM	56	CZ	TYR	A	13	31.602	-19.191	12.231	1.00	61.89	C
ATOM	57	OH	TYR	A	13	30.605	-18.789	11.370	1.00	61.71	O
ATOM	58	N	ILE	A	14	32.427	-19.333	17.313	1.00	61.08	N
ATOM	59	CA	ILE	A	14	31.068	-19.582	17.783	1.00	61.07	C
ATOM	60	C	ILE	A	14	30.084	-19.032	16.777	1.00	60.99	C
ATOM	61	O	ILE	A	14	30.218	-17.884	16.353	1.00	60.74	O
ATOM	62	CB	ILE	A	14	30.774	-18.904	19.127	1.00	60.50	C
ATOM	63	CG1	ILE	A	14	31.849	-19.251	20.162	1.00	61.12	C
ATOM	64	CG2	ILE	A	14	29.408	-19.322	19.618	1.00	60.67	C

ATOM	65	CD1	ILE	A	14	31.660	-18.554	21.502	1.00	61.25	C
ATOM	66	N	ASN	A	15	29.108	-19.855	16.394	1.00	60.77	N
ATOM	67	CA	ASN	A	15	27.975	-19.387	15.603	1.00	60.43	C
ATOM	68	C	ASN	A	15	26.652	-19.883	16.196	1.00	59.94	C
ATOM	69	O	ASN	A	15	26.626	-20.366	17.327	1.00	62.64	O
ATOM	70	CB	ASN	A	15	28.152	-19.711	14.099	1.00	61.41	C
ATOM	71	CG	ASN	A	15	28.142	-21.203	13.793	1.00	61.95	C
ATOM	72	OD1	ASN	A	15	28.726	-22.014	14.518	1.00	62.93	O
ATOM	73	ND2	ASN	A	15	27.496	-21.565	12.690	1.00	61.61	N
ATOM	74	N	ASN	A	16	25.565	-19.729	15.444	1.00	58.90	N
ATOM	75	CA	ASN	A	16	24.196	-19.905	15.939	1.00	57.53	C
ATOM	76	C	ASN	A	16	23.841	-18.948	17.069	1.00	56.82	C
ATOM	77	O	ASN	A	16	22.920	-19.213	17.839	1.00	58.19	O
ATOM	78	CB	ASN	A	16	23.904	-21.349	16.377	1.00	56.50	C
ATOM	79	CG	ASN	A	16	22.397	-21.650	16.422	1.00	55.83	C
ATOM	80	OD1	ASN	A	16	21.685	-21.399	15.460	1.00	55.11	O
ATOM	81	ND2	ASN	A	16	21.915	-22.163	17.545	1.00	55.21	N
ATOM	82	N	LEU	A	17	24.545	-17.829	17.159	1.00	55.96	N
ATOM	83	CA	LEU	A	17	24.270	-16.861	18.212	1.00	57.21	C
ATOM	84	C	LEU	A	17	23.080	-16.014	17.810	1.00	56.17	C
ATOM	85	O	LEU	A	17	22.843	-15.785	16.631	1.00	57.25	O
ATOM	86	CB	LEU	A	17	25.494	-15.983	18.487	1.00	56.98	C
ATOM	87	CG	LEU	A	17	26.694	-16.765	19.023	1.00	57.23	C
ATOM	88	CD1	LEU	A	17	27.938	-15.882	19.049	1.00	57.48	C
ATOM	89	CD2	LEU	A	17	26.391	-17.359	20.403	1.00	56.90	C
ATOM	90	N	ASN	A	18	22.321	-15.562	18.796	1.00	56.05	N
ATOM	91	CA	ASN	A	18	21.161	-14.733	18.528	1.00	55.92	C
ATOM	92	C	ASN	A	18	21.594	-13.401	17.917	1.00	57.41	C
ATOM	93	O	ASN	A	18	22.280	-12.603	18.548	1.00	59.17	O
ATOM	94	CB	ASN	A	18	20.372	-14.518	19.811	1.00	55.23	C
ATOM	95	CG	ASN	A	18	19.150	-13.670	19.611	1.00	54.64	C
ATOM	96	OD1	ASN	A	18	19.023	-12.960	18.615	1.00	54.30	O
ATOM	97	ND2	ASN	A	18	18.243	-13.724	20.571	1.00	53.61	N
ATOM	98	N	GLU	A	19	21.175	-13.172	16.682	1.00	58.51	N
ATOM	99	CA	GLU	A	19	21.607	-12.014	15.911	1.00	58.65	C
ATOM	100	C	GLU	A	19	20.943	-10.705	16.344	1.00	59.66	C
ATOM	101	O	GLU	A	19	21.314	-9.640	15.850	1.00	60.24	O
ATOM	102	CB	GLU	A	19	21.320	-12.253	14.430	1.00	58.51	C
ATOM	103	CG	GLU	A	19	21.992	-13.497	13.865	1.00	58.72	C
ATOM	104	CD	GLU	A	19	21.501	-13.861	12.476	1.00	59.07	C
ATOM	105	OE1	GLU	A	19	21.646	-15.046	12.084	1.00	58.33	O
ATOM	106	OE2	GLU	A	19	20.975	-12.961	11.780	1.00	59.53	O
ATOM	107	N	LYS	A	20	19.963	-10.769	17.246	1.00	60.31	N
ATOM	108	CA	LYS	A	20	19.307	-9.551	17.749	1.00	60.73	C
ATOM	109	C	LYS	A	20	20.110	-8.877	18.862	1.00	59.27	C
ATOM	110	O	LYS	A	20	19.810	-7.757	19.249	1.00	59.23	O
ATOM	111	CB	LYS	A	20	17.877	-9.845	18.225	1.00	61.50	C
ATOM	112	CG	LYS	A	20	16.916	-10.221	17.099	1.00	62.68	C
ATOM	113	CD	LYS	A	20	15.468	-10.266	17.582	1.00	63.45	C
ATOM	114	CE	LYS	A	20	14.534	-10.737	16.476	1.00	64.05	C
ATOM	115	NZ	LYS	A	20	14.547	-9.830	15.289	1.00	65.30	N
ATOM	116	N	ILE	A	21	21.133	-9.558	19.368	1.00	60.07	N
ATOM	117	CA	ILE	A	21	21.977	-9.014	20.430	1.00	59.91	C
ATOM	118	C	ILE	A	21	23.037	-8.098	19.814	1.00	61.20	C
ATOM	119	O	ILE	A	21	23.669	-8.465	18.811	1.00	59.90	O
ATOM	120	CB	ILE	A	21	22.667	-10.135	21.246	1.00	58.38	C
ATOM	121	CG1	ILE	A	21	21.667	-11.228	21.623	1.00	58.08	C
ATOM	122	CG2	ILE	A	21	23.308	-9.567	22.496	1.00	57.25	C
ATOM	123	CD1	ILE	A	21	20.368	-10.702	22.198	1.00	58.25	C

ATOM	124	N	LYS	A	22	23.229	-6.919	20.420	1.00	62.93	N
ATOM	125	CA	LYS	A	22	24.164	-5.910	19.885	1.00	63.80	C
ATOM	126	C	LYS	A	22	25.603	-6.216	20.274	1.00	63.35	C
ATOM	127	O	LYS	A	22	25.845	-7.002	21.187	1.00	63.64	O
ATOM	128	CB	LYS	A	22	23.787	-4.469	20.266	1.00	64.25	C
ATOM	129	CG	LYS	A	22	22.829	-4.288	21.416	1.00	64.78	C
ATOM	130	CD	LYS	A	22	22.719	-2.806	21.787	1.00	65.49	C
ATOM	131	CE	LYS	A	22	21.461	-2.495	22.608	1.00	65.87	C
ATOM	132	NZ	LYS	A	22	20.192	-2.762	21.856	1.00	66.07	N
ATOM	133	N	LYS	A	23	26.543	-5.585	19.571	1.00	63.48	N
ATOM	134	CA	LYS	A	23	27.966	-5.931	19.656	1.00	63.98	C
ATOM	135	C	LYS	A	23	28.487	-5.892	21.092	1.00	64.32	C
ATOM	136	O	LYS	A	23	29.047	-6.876	21.583	1.00	61.94	O
ATOM	137	CB	LYS	A	23	28.803	-4.996	18.767	1.00	64.39	C
ATOM	138	CG	LYS	A	23	30.214	-5.517	18.431	1.00	64.69	C
ATOM	139	CD	LYS	A	23	31.190	-4.371	18.132	1.00	65.05	C
ATOM	140	CE	LYS	A	23	32.619	-4.850	17.829	1.00	64.83	C
ATOM	141	NZ	LYS	A	23	33.632	-3.800	18.147	1.00	63.95	N
ATOM	142	N	ASP	A	24	28.287	-4.753	21.754	1.00	65.25	N
ATOM	143	CA	ASP	A	24	28.774	-4.538	23.115	1.00	65.87	C
ATOM	144	C	ASP	A	24	28.267	-5.609	24.065	1.00	64.85	C
ATOM	145	O	ASP	A	24	29.045	-6.200	24.805	1.00	64.46	O
ATOM	146	CB	ASP	A	24	28.333	-3.168	23.643	1.00	68.06	C
ATOM	147	CG	ASP	A	24	29.046	-2.018	22.965	1.00	69.54	C
ATOM	148	OD1	ASP	A	24	29.725	-2.256	21.938	1.00	70.78	O
ATOM	149	OD2	ASP	A	24	28.918	-0.870	23.459	1.00	70.35	O
ATOM	150	N	GLU	A	25	26.957	-5.843	24.044	1.00	63.17	N
ATOM	151	CA	GLU	A	25	26.332	-6.779	24.971	1.00	61.39	C
ATOM	152	C	GLU	A	25	26.793	-8.203	24.719	1.00	59.12	C
ATOM	153	O	GLU	A	25	27.195	-8.893	25.643	1.00	60.49	O
ATOM	154	CB	GLU	A	25	24.805	-6.706	24.885	1.00	61.45	C
ATOM	155	CG	GLU	A	25	24.103	-7.513	25.963	1.00	61.30	C
ATOM	156	CD	GLU	A	25	22.587	-7.507	25.844	1.00	62.33	C
ATOM	157	OE1	GLU	A	25	22.005	-6.512	25.329	1.00	61.33	O
ATOM	158	OE2	GLU	A	25	21.980	-8.512	26.290	1.00	62.56	O
ATOM	159	N	LEU	A	26	26.730	-8.646	23.471	1.00	57.60	N
ATOM	160	CA	LEU	A	26	27.100	-10.014	23.150	1.00	57.31	C
ATOM	161	C	LEU	A	26	28.539	-10.262	23.569	1.00	57.70	C
ATOM	162	O	LEU	A	26	28.830	-11.278	24.180	1.00	59.21	O
ATOM	163	CB	LEU	A	26	26.911	-10.294	21.668	1.00	57.77	C
ATOM	164	CG	LEU	A	26	27.075	-11.744	21.208	1.00	57.76	C
ATOM	165	CD1	LEU	A	26	26.013	-12.624	21.822	1.00	57.90	C
ATOM	166	CD2	LEU	A	26	27.009	-11.803	19.688	1.00	57.73	C
ATOM	167	N	LYS	A	27	29.428	-9.318	23.266	1.00	58.13	N
ATOM	168	CA	LYS	A	27	30.810	-9.352	23.771	1.00	56.92	C
ATOM	169	C	LYS	A	27	30.859	-9.676	25.261	1.00	54.63	C
ATOM	170	O	LYS	A	27	31.390	-10.707	25.651	1.00	56.19	O
ATOM	171	CB	LYS	A	27	31.534	-8.017	23.530	1.00	57.51	C
ATOM	172	CG	LYS	A	27	32.271	-7.894	22.198	1.00	58.18	C
ATOM	173	CD	LYS	A	27	33.363	-6.830	22.281	1.00	58.08	C
ATOM	174	CE	LYS	A	27	34.031	-6.578	20.935	1.00	58.80	C
ATOM	175	NZ	LYS	A	27	35.431	-6.001	21.052	1.00	59.09	N
ATOM	176	N	LYS	A	28	30.302	-8.801	26.088	1.00	53.26	N
ATOM	177	CA	LYS	A	28	30.406	-8.949	27.541	1.00	53.64	C
ATOM	178	C	LYS	A	28	29.807	-10.267	28.016	1.00	54.47	C
ATOM	179	O	LYS	A	28	30.437	-11.007	28.766	1.00	55.42	O
ATOM	180	CB	LYS	A	28	29.729	-7.783	28.255	1.00	54.75	C
ATOM	181	CG	LYS	A	28	30.503	-6.481	28.164	1.00	55.31	C
ATOM	182	CD	LYS	A	28	29.562	-5.282	28.178	1.00	55.61	C

ATOM	183	CE	LYS	A	28	30.309	-3.961	28.114	1.00	55.72	C
ATOM	184	NZ	LYS	A	28	29.348	-2.827	28.147	1.00	56.13	N
ATOM	185	N	SER	A	29	28.598	-10.569	27.560	1.00	55.32	N
ATOM	186	CA	SER	A	29	27.952	-11.835	27.885	1.00	54.50	C
ATOM	187	C	SER	A	29	28.852	-13.029	27.552	1.00	55.20	C
ATOM	188	O	SER	A	29	28.990	-13.952	28.353	1.00	55.34	O
ATOM	189	CB	SER	A	29	26.625	-11.944	27.147	1.00	53.74	C
ATOM	190	OG	SER	A	29	25.731	-10.964	27.623	1.00	55.37	O
ATOM	191	N	LEU	A	30	29.467	-13.004	26.376	1.00	55.50	N
ATOM	192	CA	LEU	A	30	30.404	-14.050	25.996	1.00	57.05	C
ATOM	193	C	LEU	A	30	31.570	-14.117	26.982	1.00	57.32	C
ATOM	194	O	LEU	A	30	31.998	-15.194	27.374	1.00	56.92	O
ATOM	195	CB	LEU	A	30	30.923	-13.832	24.573	1.00	57.90	C
ATOM	196	CG	LEU	A	30	30.019	-14.312	23.436	1.00	57.67	C
ATOM	197	CD1	LEU	A	30	30.580	-13.848	22.103	1.00	57.90	C
ATOM	198	CD2	LEU	A	30	29.866	-15.822	23.454	1.00	57.80	C
ATOM	199	N	HIS	A	31	32.065	-12.957	27.389	1.00	58.48	N
ATOM	200	CA	HIS	A	31	33.181	-12.863	28.335	1.00	58.67	C
ATOM	201	C	HIS	A	31	32.796	-13.418	29.704	1.00	57.87	C
ATOM	202	O	HIS	A	31	33.590	-14.105	30.362	1.00	56.49	O
ATOM	203	CB	HIS	A	31	33.625	-11.402	28.477	1.00	59.98	C
ATOM	204	CG	HIS	A	31	35.105	-11.232	28.521	1.00	61.22	C
ATOM	205	ND1	HIS	A	31	35.841	-11.408	29.675	1.00	62.51	N
ATOM	206	CD2	HIS	A	31	35.993	-10.915	27.550	1.00	61.20	C
ATOM	207	CE1	HIS	A	31	37.120	-11.205	29.413	1.00	62.51	C
ATOM	208	NE2	HIS	A	31	37.238	-10.901	28.132	1.00	63.12	N
ATOM	209	N	ALA	A	32	31.569	-13.100	30.116	1.00	57.20	N
ATOM	210	CA	ALA	A	32	30.980	-13.577	31.372	1.00	56.56	C
ATOM	211	C	ALA	A	32	30.974	-15.093	31.458	1.00	56.23	C
ATOM	212	O	ALA	A	32	31.206	-15.681	32.514	1.00	55.59	O
ATOM	213	CB	ALA	A	32	29.557	-13.069	31.480	1.00	54.70	C
ATOM	214	N	ILE	A	33	30.710	-15.700	30.311	1.00	58.84	N
ATOM	215	CA	ILE	A	33	30.429	-17.119	30.172	1.00	59.35	C
ATOM	216	C	ILE	A	33	31.734	-17.914	29.968	1.00	58.51	C
ATOM	217	O	ILE	A	33	31.849	-19.042	30.436	1.00	60.33	O
ATOM	218	CB	ILE	A	33	29.468	-17.297	28.960	1.00	60.98	C
ATOM	219	CG1	ILE	A	33	28.339	-18.275	29.228	1.00	61.92	C
ATOM	220	CG2	ILE	A	33	30.203	-17.736	27.722	1.00	61.99	C
ATOM	221	CD1	ILE	A	33	27.636	-18.672	27.900	1.00	60.47	C
ATOM	222	N	PHE	A	34	32.722	-17.303	29.310	1.00	57.49	N
ATOM	223	CA	PHE	A	34	33.923	-18.005	28.842	1.00	58.02	C
ATOM	224	C	PHE	A	34	35.248	-17.685	29.553	1.00	56.77	C
ATOM	225	O	PHE	A	34	36.251	-18.344	29.290	1.00	56.68	O
ATOM	226	CB	PHE	A	34	34.117	-17.757	27.334	1.00	59.27	C
ATOM	227	CG	PHE	A	34	33.355	-18.707	26.461	1.00	59.55	C
ATOM	228	CD1	PHE	A	34	33.770	-20.023	26.327	1.00	59.51	C
ATOM	229	CD2	PHE	A	34	32.228	-18.286	25.764	1.00	60.28	C
ATOM	230	CE1	PHE	A	34	33.069	-20.905	25.530	1.00	59.76	C
ATOM	231	CE2	PHE	A	34	31.514	-19.167	24.961	1.00	59.69	C
ATOM	232	CZ	PHE	A	34	31.936	-20.477	24.841	1.00	59.79	C
ATOM	233	N	SER	A	35	35.276	-16.692	30.435	1.00	57.07	N
ATOM	234	CA	SER	A	35	36.529	-16.323	31.107	1.00	57.29	C
ATOM	235	C	SER	A	35	36.998	-17.326	32.177	1.00	57.94	C
ATOM	236	O	SER	A	35	38.128	-17.225	32.655	1.00	60.41	O
ATOM	237	CB	SER	A	35	36.422	-14.924	31.719	1.00	56.30	C
ATOM	238	OG	SER	A	35	35.328	-14.862	32.611	1.00	57.27	O
ATOM	239	N	ARG	A	36	36.153	-18.284	32.560	1.00	58.20	N
ATOM	240	CA	ARG	A	36	36.554	-19.301	33.538	1.00	58.04	C
ATOM	241	C	ARG	A	36	37.533	-20.327	32.945	1.00	58.39	C

ATOM	242	O	ARG	A	36	38.220	-21.038	33.680	1.00	58.82	O
ATOM	243	CB	ARG	A	36	35.340	-20.039	34.107	1.00	58.61	C
ATOM	244	CG	ARG	A	36	34.497	-20.804	33.074	1.00	59.00	C
ATOM	245	CD	ARG	A	36	34.184	-22.258	33.492	1.00	58.82	C
ATOM	246	NE	ARG	A	36	32.869	-22.681	33.007	1.00	59.23	N
ATOM	247	CZ	ARG	A	36	32.436	-23.942	32.918	1.00	59.32	C
ATOM	248	NH1	ARG	A	36	33.205	-24.964	33.270	1.00	58.72	N
ATOM	249	NH2	ARG	A	36	31.205	-24.179	32.464	1.00	60.05	N
ATOM	250	N	PHE	A	37	37.582	-20.411	31.623	1.00	57.19	N
ATOM	251	CA	PHE	A	37	38.443	-21.374	30.956	1.00	58.40	C
ATOM	252	C	PHE	A	37	39.895	-20.902	30.861	1.00	59.68	C
ATOM	253	O	PHE	A	37	40.805	-21.720	30.755	1.00	60.43	O
ATOM	254	CB	PHE	A	37	37.884	-21.700	29.571	1.00	56.97	C
ATOM	255	CG	PHE	A	37	36.558	-22.385	29.620	1.00	56.49	C
ATOM	256	CD1	PHE	A	37	36.470	-23.717	29.987	1.00	55.94	C
ATOM	257	CD2	PHE	A	37	35.394	-21.697	29.330	1.00	57.10	C
ATOM	258	CE1	PHE	A	37	35.252	-24.355	30.051	1.00	55.71	C
ATOM	259	CE2	PHE	A	37	34.162	-22.333	29.389	1.00	56.86	C
ATOM	260	CZ	PHE	A	37	34.096	-23.666	29.749	1.00	56.38	C
ATOM	261	N	GLY	A	38	40.098	-19.588	30.911	1.00	60.30	N
ATOM	262	CA	GLY	A	38	41.423	-19.003	30.841	1.00	60.52	C
ATOM	263	C	GLY	A	38	41.370	-17.539	30.454	1.00	61.91	C
ATOM	264	O	GLY	A	38	40.301	-16.932	30.412	1.00	61.82	O
ATOM	265	N	GLN	A	39	42.540	-16.973	30.177	1.00	63.20	N
ATOM	266	CA	GLN	A	39	42.650	-15.585	29.741	1.00	63.50	C
ATOM	267	C	GLN	A	39	42.128	-15.388	28.305	1.00	62.72	C
ATOM	268	O	GLN	A	39	42.624	-16.002	27.361	1.00	61.60	O
ATOM	269	CB	GLN	A	39	44.110	-15.134	29.833	1.00	63.61	C
ATOM	270	CG	GLN	A	39	44.322	-13.644	29.635	1.00	63.84	C
ATOM	271	CD	GLN	A	39	45.775	-13.294	29.374	1.00	64.48	C
ATOM	272	OE1	GLN	A	39	46.690	-14.057	29.715	1.00	65.04	O
ATOM	273	NE2	GLN	A	39	45.998	-12.134	28.765	1.00	64.67	N
ATOM	274	N	ILE	A	40	41.131	-14.521	28.163	1.00	61.92	N
ATOM	275	CA	ILE	A	40	40.617	-14.108	26.860	1.00	62.25	C
ATOM	276	C	ILE	A	40	41.315	-12.820	26.421	1.00	62.88	C
ATOM	277	O	ILE	A	40	41.194	-11.786	27.081	1.00	64.02	O
ATOM	278	CB	ILE	A	40	39.096	-13.841	26.920	1.00	62.11	C
ATOM	279	CG1	ILE	A	40	38.337	-15.124	27.247	1.00	61.57	C
ATOM	280	CG2	ILE	A	40	38.595	-13.273	25.601	1.00	62.35	C
ATOM	281	CD1	ILE	A	40	36.894	-14.888	27.610	1.00	62.37	C
ATOM	282	N	LEU	A	41	42.037	-12.883	25.305	1.00	63.66	N
ATOM	283	CA	LEU	A	41	42.794	-11.732	24.806	1.00	63.56	C
ATOM	284	C	LEU	A	41	41.868	-10.703	24.158	1.00	64.20	C
ATOM	285	O	LEU	A	41	41.974	-9.502	24.415	1.00	64.21	O
ATOM	286	CB	LEU	A	41	43.874	-12.186	23.817	1.00	62.70	C
ATOM	287	CG	LEU	A	41	45.010	-13.007	24.431	1.00	62.29	C
ATOM	288	CD1	LEU	A	41	45.842	-13.690	23.357	1.00	62.00	C
ATOM	289	CD2	LEU	A	41	45.880	-12.127	25.310	1.00	62.22	C
ATOM	290	N	ASP	A	42	40.962	-11.180	23.316	1.00	64.69	N
ATOM	291	CA	ASP	A	42	39.961	-10.320	22.706	1.00	64.99	C
ATOM	292	C	ASP	A	42	38.802	-11.208	22.310	1.00	63.47	C
ATOM	293	O	ASP	A	42	38.973	-12.416	22.153	1.00	62.01	O
ATOM	294	CB	ASP	A	42	40.550	-9.594	21.478	1.00	66.53	C
ATOM	295	CG	ASP	A	42	39.773	-8.322	21.089	1.00	67.16	C
ATOM	296	OD1	ASP	A	42	38.681	-8.059	21.637	1.00	67.81	O
ATOM	297	OD2	ASP	A	42	40.262	-7.577	20.212	1.00	67.05	O
ATOM	298	N	ILE	A	43	37.620	-10.617	22.202	1.00	63.71	N
ATOM	299	CA	ILE	A	43	36.485	-11.264	21.560	1.00	63.77	C
ATOM	300	C	ILE	A	43	36.094	-10.385	20.383	1.00	65.14	C

ATOM	301	O	ILE	A	43	35.917	-9.178	20.551	1.00	66.59	O
ATOM	302	CB	ILE	A	43	35.292	-11.409	22.497	1.00	63.25	C
ATOM	303	CG1	ILE	A	43	35.593	-12.441	23.584	1.00	63.75	C
ATOM	304	CG2	ILE	A	43	34.073	-11.836	21.715	1.00	63.84	C
ATOM	305	CD1	ILE	A	43	34.436	-12.682	24.542	1.00	63.54	C
ATOM	306	N	LEU	A	44	35.980	-10.983	19.198	1.00	64.32	N
ATOM	307	CA	LEU	A	44	35.673	-10.241	17.979	1.00	63.03	C
ATOM	308	C	LEU	A	44	34.270	-10.577	17.510	1.00	62.62	C
ATOM	309	O	LEU	A	44	33.905	-11.747	17.405	1.00	62.07	O
ATOM	310	CB	LEU	A	44	36.705	-10.543	16.894	1.00	62.58	C
ATOM	311	CG	LEU	A	44	37.956	-9.656	16.918	1.00	62.80	C
ATOM	312	CD1	LEU	A	44	38.364	-9.237	18.327	1.00	62.93	C
ATOM	313	CD2	LEU	A	44	39.117	-10.362	16.240	1.00	63.48	C
ATOM	314	N	VAL	A	45	33.494	-9.531	17.237	1.00	62.96	N
ATOM	315	CA	VAL	A	45	32.069	-9.649	16.929	1.00	62.22	C
ATOM	316	C	VAL	A	45	31.655	-8.541	15.969	1.00	61.93	C
ATOM	317	O	VAL	A	45	32.026	-7.380	16.164	1.00	63.67	O
ATOM	318	CB	VAL	A	45	31.220	-9.552	18.220	1.00	61.61	C
ATOM	319	CG1	VAL	A	45	29.863	-8.926	17.940	1.00	61.81	C
ATOM	320	CG2	VAL	A	45	31.059	-10.921	18.849	1.00	61.53	C
ATOM	321	N	SER	A	46	30.898	-8.903	14.936	1.00	61.23	N
ATOM	322	CA	SER	A	46	30.376	-7.932	13.972	1.00	61.41	C
ATOM	323	C	SER	A	46	28.993	-8.363	13.490	1.00	61.95	C
ATOM	324	O	SER	A	46	28.730	-9.554	13.311	1.00	61.78	O
ATOM	325	CB	SER	A	46	31.332	-7.780	12.784	1.00	61.33	C
ATOM	326	OG	SER	A	46	30.734	-7.061	11.717	1.00	60.87	O
ATOM	327	N	ARG	A	47	28.123	-7.382	13.272	1.00	63.06	N
ATOM	328	CA	ARG	A	47	26.731	-7.640	12.910	1.00	63.80	C
ATOM	329	C	ARG	A	47	26.449	-7.378	11.427	1.00	63.52	C
ATOM	330	O	ARG	A	47	25.362	-6.921	11.065	1.00	63.76	O
ATOM	331	CB	ARG	A	47	25.802	-6.812	13.806	1.00	64.08	C
ATOM	332	CG	ARG	A	47	25.643	-7.399	15.193	1.00	64.85	C
ATOM	333	CD	ARG	A	47	24.754	-6.539	16.070	1.00	65.02	C
ATOM	334	NE	ARG	A	47	23.333	-6.688	15.753	1.00	65.05	N
ATOM	335	CZ	ARG	A	47	22.363	-5.883	16.192	1.00	65.63	C
ATOM	336	NH1	ARG	A	47	22.634	-4.846	16.973	1.00	66.23	N
ATOM	337	NH2	ARG	A	47	21.103	-6.106	15.840	1.00	65.97	N
ATOM	338	N	SER	A	48	27.420	-7.690	10.570	1.00	63.65	N
ATOM	339	CA	SER	A	48	27.252	-7.538	9.124	1.00	63.31	C
ATOM	340	C	SER	A	48	26.523	-8.742	8.537	1.00	63.37	C
ATOM	341	O	SER	A	48	26.313	-9.743	9.218	1.00	62.11	O
ATOM	342	CB	SER	A	48	28.608	-7.351	8.433	1.00	63.48	C
ATOM	343	OG	SER	A	48	29.434	-8.496	8.573	1.00	63.63	O
ATOM	344	N	LEU	A	49	26.150	-8.630	7.264	1.00	64.57	N
ATOM	345	CA	LEU	A	49	25.425	-9.689	6.557	1.00	64.67	C
ATOM	346	C	LEU	A	49	26.206	-10.998	6.577	1.00	65.45	C
ATOM	347	O	LEU	A	49	25.643	-12.058	6.867	1.00	65.86	O
ATOM	348	CB	LEU	A	49	25.131	-9.267	5.109	1.00	63.81	C
ATOM	349	CG	LEU	A	49	24.240	-10.194	4.281	1.00	63.49	C
ATOM	350	CD1	LEU	A	49	22.934	-10.483	5.007	1.00	62.73	C
ATOM	351	CD2	LEU	A	49	23.977	-9.589	2.916	1.00	63.00	C
ATOM	352	N	LYS	A	50	27.503	-10.920	6.283	1.00	65.88	N
ATOM	353	CA	LYS	A	50	28.365	-12.098	6.347	1.00	66.57	C
ATOM	354	C	LYS	A	50	28.466	-12.600	7.787	1.00	65.81	C
ATOM	355	O	LYS	A	50	28.065	-13.721	8.081	1.00	65.25	O
ATOM	356	CB	LYS	A	50	29.776	-11.802	5.825	1.00	67.60	C
ATOM	357	CG	LYS	A	50	29.872	-11.260	4.397	1.00	68.72	C
ATOM	358	CD	LYS	A	50	29.618	-12.317	3.303	1.00	69.19	C
ATOM	359	CE	LYS	A	50	28.214	-12.226	2.686	1.00	69.28	C

ATOM	360	NZ	LYS	A	50	28.252	-12.376	1.209	1.00	68.64	N
ATOM	361	N	MET	A	51	28.959	-11.738	8.678	1.00	65.99	N
ATOM	362	CA	MET	A	51	29.474	-12.150	9.998	1.00	66.13	C
ATOM	363	C	MET	A	51	28.477	-12.217	11.171	1.00	66.04	C
ATOM	364	O	MET	A	51	28.845	-12.679	12.251	1.00	65.58	O
ATOM	365	CB	MET	A	51	30.628	-11.222	10.402	1.00	66.40	C
ATOM	366	CG	MET	A	51	31.789	-11.235	9.432	1.00	66.54	C
ATOM	367	SD	MET	A	51	32.690	-12.781	9.510	1.00	66.38	S
ATOM	368	CE	MET	A	51	32.990	-13.064	7.774	1.00	66.19	C
ATOM	369	N	ARG	A	52	27.237	-11.770	10.982	1.00	65.14	N
ATOM	370	CA	ARG	A	52	26.274	-11.763	12.095	1.00	64.54	C
ATOM	371	C	ARG	A	52	25.962	-13.168	12.624	1.00	63.14	C
ATOM	372	O	ARG	A	52	26.006	-14.152	11.879	1.00	63.34	O
ATOM	373	CB	ARG	A	52	24.975	-11.032	11.716	1.00	64.23	C
ATOM	374	CG	ARG	A	52	24.178	-11.656	10.575	1.00	63.97	C
ATOM	375	CD	ARG	A	52	22.975	-10.807	10.187	1.00	63.79	C
ATOM	376	NE	ARG	A	52	23.341	-9.460	9.750	1.00	63.85	N
ATOM	377	CZ	ARG	A	52	22.517	-8.612	9.138	1.00	63.11	C
ATOM	378	NH1	ARG	A	52	21.263	-8.953	8.879	1.00	62.92	N
ATOM	379	NH2	ARG	A	52	22.953	-7.410	8.787	1.00	62.82	N
ATOM	380	N	GLY	A	53	25.655	-13.239	13.919	1.00	61.82	N
ATOM	381	CA	GLY	A	53	25.369	-14.505	14.597	1.00	60.99	C
ATOM	382	C	GLY	A	53	26.595	-15.355	14.884	1.00	60.43	C
ATOM	383	O	GLY	A	53	26.469	-16.541	15.174	1.00	60.52	O
ATOM	384	N	GLN	A	54	27.778	-14.741	14.821	1.00	60.09	N
ATOM	385	CA	GLN	A	54	29.057	-15.449	14.911	1.00	58.57	C
ATOM	386	C	GLN	A	54	30.040	-14.666	15.778	1.00	58.73	C
ATOM	387	O	GLN	A	54	30.003	-13.434	15.801	1.00	60.13	O
ATOM	388	CB	GLN	A	54	29.667	-15.614	13.517	1.00	58.06	C
ATOM	389	CG	GLN	A	54	28.691	-16.059	12.443	1.00	58.08	C
ATOM	390	CD	GLN	A	54	29.141	-15.676	11.054	1.00	57.25	C
ATOM	391	OE1	GLN	A	54	30.294	-15.874	10.686	1.00	56.27	O
ATOM	392	NE2	GLN	A	54	28.228	-15.127	10.275	1.00	55.96	N
ATOM	393	N	ALA	A	55	30.934	-15.368	16.468	1.00	58.14	N
ATOM	394	CA	ALA	A	55	31.927	-14.701	17.311	1.00	58.20	C
ATOM	395	C	ALA	A	55	33.230	-15.476	17.392	1.00	59.14	C
ATOM	396	O	ALA	A	55	33.254	-16.702	17.265	1.00	59.86	O
ATOM	397	CB	ALA	A	55	31.374	-14.480	18.699	1.00	59.34	C
ATOM	398	N	PHE	A	56	34.313	-14.735	17.608	1.00	60.11	N
ATOM	399	CA	PHE	A	56	35.647	-15.297	17.751	1.00	60.05	C
ATOM	400	C	PHE	A	56	36.165	-14.976	19.144	1.00	59.73	C
ATOM	401	O	PHE	A	56	36.354	-13.808	19.471	1.00	59.29	O
ATOM	402	CB	PHE	A	56	36.584	-14.675	16.721	1.00	59.73	C
ATOM	403	CG	PHE	A	56	36.272	-15.052	15.311	1.00	59.79	C
ATOM	404	CD1	PHE	A	56	35.278	-14.382	14.603	1.00	60.45	C
ATOM	405	CD2	PHE	A	56	36.991	-16.059	14.670	1.00	60.02	C
ATOM	406	CE1	PHE	A	56	34.991	-14.721	13.277	1.00	59.80	C
ATOM	407	CE2	PHE	A	56	36.715	-16.409	13.347	1.00	59.53	C
ATOM	408	CZ	PHE	A	56	35.714	-15.740	12.649	1.00	59.85	C
ATOM	409	N	VAL	A	57	36.380	-16.008	19.959	1.00	60.45	N
ATOM	410	CA	VAL	A	57	36.943	-15.841	21.299	1.00	61.08	C
ATOM	411	C	VAL	A	57	38.395	-16.310	21.257	1.00	61.51	C
ATOM	412	O	VAL	A	57	38.664	-17.469	20.935	1.00	61.25	O
ATOM	413	CB	VAL	A	57	36.154	-16.637	22.381	1.00	60.68	C
ATOM	414	CG1	VAL	A	57	36.743	-16.392	23.759	1.00	59.96	C
ATOM	415	CG2	VAL	A	57	34.687	-16.259	22.372	1.00	59.66	C
ATOM	416	N	ILE	A	58	39.316	-15.402	21.584	1.00	62.37	N
ATOM	417	CA	ILE	A	58	40.758	-15.635	21.433	1.00	62.13	C
ATOM	418	C	ILE	A	58	41.399	-15.917	22.791	1.00	63.26	C

ATOM	419	O	ILE	A	58	41.672	-14.992	23.568	1.00	63.52	O
ATOM	420	CB	ILE	A	58	41.485	-14.406	20.823	1.00	61.28	C
ATOM	421	CG1	ILE	A	58	40.741	-13.857	19.607	1.00	61.28	C
ATOM	422	CG2	ILE	A	58	42.904	-14.778	20.447	1.00	61.67	C
ATOM	423	CD1	ILE	A	58	41.123	-12.431	19.270	1.00	61.37	C
ATOM	424	N	PHE	A	59	41.651	-17.191	23.073	1.00	63.57	N
ATOM	425	CA	PHE	A	59	42.293	-17.571	24.324	1.00	63.58	C
ATOM	426	C	PHE	A	59	43.808	-17.433	24.228	1.00	64.55	C
ATOM	427	O	PHE	A	59	44.392	-17.599	23.152	1.00	64.68	O
ATOM	428	CB	PHE	A	59	41.887	-18.988	24.722	1.00	62.90	C
ATOM	429	CG	PHE	A	59	40.462	-19.086	25.176	1.00	63.10	C
ATOM	430	CD1	PHE	A	59	40.129	-18.852	26.504	1.00	62.95	C
ATOM	431	CD2	PHE	A	59	39.449	-19.381	24.275	1.00	62.83	C
ATOM	432	CE1	PHE	A	59	38.820	-18.929	26.930	1.00	62.41	C
ATOM	433	CE2	PHE	A	59	38.133	-19.458	24.696	1.00	62.57	C
ATOM	434	CZ	PHE	A	59	37.820	-19.229	26.025	1.00	62.86	C
ATOM	435	N	LYS	A	60	44.435	-17.109	25.355	1.00	64.87	N
ATOM	436	CA	LYS	A	60	45.890	-17.034	25.427	1.00	64.94	C
ATOM	437	C	LYS	A	60	46.468	-18.435	25.272	1.00	64.24	C
ATOM	438	O	LYS	A	60	47.457	-18.635	24.565	1.00	64.07	O
ATOM	439	CB	LYS	A	60	46.341	-16.406	26.753	1.00	66.11	C
ATOM	440	CG	LYS	A	60	47.676	-15.666	26.680	1.00	66.71	C
ATOM	441	CD	LYS	A	60	48.878	-16.582	26.904	1.00	66.79	C
ATOM	442	CE	LYS	A	60	50.144	-15.999	26.289	1.00	66.64	C
ATOM	443	NZ	LYS	A	60	50.215	-14.525	26.463	1.00	66.50	N
ATOM	444	N	GLU	A	61	45.833	-19.401	25.927	1.00	63.21	N
ATOM	445	CA	GLU	A	61	46.265	-20.786	25.863	1.00	63.14	C
ATOM	446	C	GLU	A	61	45.251	-21.622	25.092	1.00	61.40	C
ATOM	447	O	GLU	A	61	44.045	-21.502	25.311	1.00	59.59	O
ATOM	448	CB	GLU	A	61	46.457	-21.344	27.276	1.00	64.02	C
ATOM	449	CG	GLU	A	61	47.488	-20.581	28.117	1.00	64.74	C
ATOM	450	CD	GLU	A	61	48.867	-20.515	27.467	1.00	65.53	C
ATOM	451	OE1	GLU	A	61	49.246	-21.474	26.757	1.00	66.17	O
ATOM	452	OE2	GLU	A	61	49.574	-19.504	27.671	1.00	65.64	O
ATOM	453	N	VAL	A	62	45.756	-22.462	24.187	1.00	60.25	N
ATOM	454	CA	VAL	A	62	44.915	-23.369	23.405	1.00	59.14	C
ATOM	455	C	VAL	A	62	44.194	-24.350	24.333	1.00	58.44	C
ATOM	456	O	VAL	A	62	43.031	-24.688	24.106	1.00	58.93	O
ATOM	457	CB	VAL	A	62	45.717	-24.192	22.350	1.00	59.52	C
ATOM	458	CG1	VAL	A	62	44.761	-24.830	21.351	1.00	59.28	C
ATOM	459	CG2	VAL	A	62	46.743	-23.328	21.613	1.00	59.16	C
ATOM	460	N	SER	A	63	44.881	-24.804	25.377	1.00	57.09	N
ATOM	461	CA	SER	A	63	44.282	-25.730	26.331	1.00	57.25	C
ATOM	462	C	SER	A	63	42.948	-25.187	26.850	1.00	57.68	C
ATOM	463	O	SER	A	63	41.997	-25.943	27.046	1.00	57.08	O
ATOM	464	CB	SER	A	63	45.230	-25.973	27.501	1.00	56.66	C
ATOM	465	OG	SER	A	63	45.308	-24.821	28.316	1.00	56.77	O
ATOM	466	N	SER	A	64	42.900	-23.872	27.069	1.00	58.56	N
ATOM	467	CA	SER	A	64	41.689	-23.172	27.515	1.00	59.61	C
ATOM	468	C	SER	A	64	40.579	-23.200	26.446	1.00	59.27	C
ATOM	469	O	SER	A	64	39.409	-23.468	26.749	1.00	58.29	O
ATOM	470	CB	SER	A	64	42.020	-21.714	27.879	1.00	59.87	C
ATOM	471	OG	SER	A	64	43.120	-21.623	28.778	1.00	59.44	O
ATOM	472	N	ALA	A	65	40.959	-22.906	25.204	1.00	58.10	N
ATOM	473	CA	ALA	A	65	40.050	-22.997	24.068	1.00	57.71	C
ATOM	474	C	ALA	A	65	39.415	-24.384	23.961	1.00	57.53	C
ATOM	475	O	ALA	A	65	38.222	-24.496	23.671	1.00	58.12	O
ATOM	476	CB	ALA	A	65	40.783	-22.654	22.773	1.00	56.74	C
ATOM	477	N	THR	A	66	40.214	-25.427	24.190	1.00	56.51	N

ATOM	478	CA	THR	A	66	39.754	-26.814	24.073	1.00	56.05	C
ATOM	479	C	THR	A	66	38.693	-27.119	25.116	1.00	56.21	C
ATOM	480	O	THR	A	66	37.637	-27.669	24.796	1.00	57.04	O
ATOM	481	CB	THR	A	66	40.929	-27.824	24.204	1.00	56.54	C
ATOM	482	OG1	THR	A	66	41.753	-27.751	23.031	1.00	57.25	O
ATOM	483	CG2	THR	A	66	40.429	-29.262	24.374	1.00	55.54	C
ATOM	484	N	ASN	A	67	38.962	-26.752	26.361	1.00	56.29	N
ATOM	485	CA	ASN	A	67	37.976	-26.940	27.411	1.00	57.10	C
ATOM	486	C	ASN	A	67	36.727	-26.084	27.182	1.00	55.67	C
ATOM	487	O	ASN	A	67	35.623	-26.513	27.504	1.00	55.05	O
ATOM	488	CB	ASN	A	67	38.595	-26.707	28.790	1.00	57.92	C
ATOM	489	CG	ASN	A	67	39.611	-27.782	29.159	1.00	59.33	C
ATOM	490	OD1	ASN	A	67	39.578	-28.896	28.626	1.00	60.54	O
ATOM	491	ND2	ASN	A	67	40.518	-27.456	30.077	1.00	59.68	N
ATOM	492	N	ALA	A	68	36.898	-24.900	26.597	1.00	55.41	N
ATOM	493	CA	ALA	A	68	35.764	-24.044	26.240	1.00	56.29	C
ATOM	494	C	ALA	A	68	34.832	-24.761	25.266	1.00	56.26	C
ATOM	495	O	ALA	A	68	33.669	-25.009	25.582	1.00	55.41	O
ATOM	496	CB	ALA	A	68	36.248	-22.726	25.632	1.00	55.66	C
ATOM	497	N	LEU	A	69	35.368	-25.103	24.095	1.00	57.10	N
ATOM	498	CA	LEU	A	69	34.621	-25.811	23.049	1.00	57.32	C
ATOM	499	C	LEU	A	69	33.960	-27.061	23.610	1.00	56.47	C
ATOM	500	O	LEU	A	69	32.775	-27.287	23.410	1.00	56.86	O
ATOM	501	CB	LEU	A	69	35.551	-26.191	21.888	1.00	57.89	C
ATOM	502	CG	LEU	A	69	34.926	-26.749	20.600	1.00	58.19	C
ATOM	503	CD1	LEU	A	69	35.980	-26.819	19.488	1.00	58.22	C
ATOM	504	CD2	LEU	A	69	34.281	-28.116	20.818	1.00	58.32	C
ATOM	505	N	ARG	A	70	34.738	-27.853	24.331	1.00	55.71	N
ATOM	506	CA	ARG	A	70	34.245	-29.072	24.949	1.00	56.33	C
ATOM	507	C	ARG	A	70	33.051	-28.812	25.870	1.00	55.47	C
ATOM	508	O	ARG	A	70	31.991	-29.410	25.699	1.00	55.22	O
ATOM	509	CB	ARG	A	70	35.383	-29.727	25.738	1.00	56.97	C
ATOM	510	CG	ARG	A	70	35.200	-31.194	26.055	1.00	57.75	C
ATOM	511	CD	ARG	A	70	36.548	-31.814	26.436	1.00	58.54	C
ATOM	512	NE	ARG	A	70	37.379	-32.095	25.257	1.00	59.39	N
ATOM	513	CZ	ARG	A	70	38.675	-32.411	25.285	1.00	59.37	C
ATOM	514	NH1	ARG	A	70	39.342	-32.485	26.437	1.00	59.63	N
ATOM	515	NH2	ARG	A	70	39.315	-32.651	24.144	1.00	59.57	N
ATOM	516	N	SER	A	71	33.226	-27.901	26.826	1.00	55.94	N
ATOM	517	CA	SER	A	71	32.273	-27.722	27.934	1.00	55.47	C
ATOM	518	C	SER	A	71	31.040	-26.896	27.588	1.00	55.13	C
ATOM	519	O	SER	A	71	29.979	-27.111	28.164	1.00	56.49	O
ATOM	520	CB	SER	A	71	32.971	-27.068	29.126	1.00	55.31	C
ATOM	521	OG	SER	A	71	34.197	-27.720	29.417	1.00	55.42	O
ATOM	522	N	MET	A	72	31.181	-25.948	26.668	1.00	54.90	N
ATOM	523	CA	MET	A	72	30.080	-25.060	26.311	1.00	54.90	C
ATOM	524	C	MET	A	72	29.397	-25.438	24.997	1.00	55.05	C
ATOM	525	O	MET	A	72	28.502	-24.726	24.551	1.00	56.79	O
ATOM	526	CB	MET	A	72	30.576	-23.615	26.222	1.00	54.96	C
ATOM	527	CG	MET	A	72	31.304	-23.097	27.455	1.00	55.19	C
ATOM	528	SD	MET	A	72	30.401	-23.208	29.017	1.00	55.39	S
ATOM	529	CE	MET	A	72	28.933	-22.254	28.603	1.00	55.04	C
ATOM	530	N	GLN	A	73	29.794	-26.549	24.380	1.00	53.74	N
ATOM	531	CA	GLN	A	73	29.164	-26.993	23.139	1.00	52.66	C
ATOM	532	C	GLN	A	73	27.651	-27.156	23.342	1.00	53.36	C
ATOM	533	O	GLN	A	73	27.206	-27.808	24.292	1.00	52.53	O
ATOM	534	CB	GLN	A	73	29.781	-28.315	22.660	1.00	52.74	C
ATOM	535	CG	GLN	A	73	29.369	-28.751	21.260	1.00	52.20	C
ATOM	536	CD	GLN	A	73	29.909	-27.824	20.185	1.00	52.66	C

ATOM	537	OE1	GLN	A	73	29.158	-27.073	19.562	1.00	52.39	O
ATOM	538	NE2	GLN	A	73	31.221	-27.854	19.980	1.00	51.93	N
ATOM	539	N	GLY	A	74	26.874	-26.525	22.462	1.00	53.75	N
ATOM	540	CA	GLY	A	74	25.415	-26.617	22.486	1.00	52.82	C
ATOM	541	C	GLY	A	74	24.725	-25.906	23.637	1.00	53.17	C
ATOM	542	O	GLY	A	74	23.540	-26.137	23.862	1.00	54.52	O
ATOM	543	N	PHE	A	75	25.445	-25.033	24.350	1.00	51.87	N
ATOM	544	CA	PHE	A	75	24.925	-24.390	25.556	1.00	51.81	C
ATOM	545	C	PHE	A	75	23.933	-23.290	25.223	1.00	52.89	C
ATOM	546	O	PHE	A	75	24.265	-22.387	24.468	1.00	56.69	O
ATOM	547	CB	PHE	A	75	26.070	-23.765	26.340	1.00	52.70	C
ATOM	548	CG	PHE	A	75	25.638	-23.067	27.600	1.00	52.49	C
ATOM	549	CD1	PHE	A	75	25.339	-23.791	28.741	1.00	52.77	C
ATOM	550	CD2	PHE	A	75	25.546	-21.682	27.648	1.00	52.95	C
ATOM	551	CE1	PHE	A	75	24.941	-23.145	29.901	1.00	53.28	C
ATOM	552	CE2	PHE	A	75	25.159	-21.030	28.807	1.00	52.13	C
ATOM	553	CZ	PHE	A	75	24.858	-21.757	29.930	1.00	52.53	C
ATOM	554	N	PRO	A	76	22.720	-23.338	25.794	1.00	52.26	N
ATOM	555	CA	PRO	A	76	21.758	-22.269	25.498	1.00	51.90	C
ATOM	556	C	PRO	A	76	22.190	-20.891	25.996	1.00	51.13	C
ATOM	557	O	PRO	A	76	22.493	-20.696	27.171	1.00	53.46	O
ATOM	558	CB	PRO	A	76	20.467	-22.732	26.196	1.00	52.19	C
ATOM	559	CG	PRO	A	76	20.657	-24.187	26.436	1.00	52.78	C
ATOM	560	CD	PRO	A	76	22.138	-24.358	26.677	1.00	52.72	C
ATOM	561	N	PHE	A	77	22.184	-19.946	25.074	1.00	51.01	N
ATOM	562	CA	PHE	A	77	22.717	-18.632	25.275	1.00	51.18	C
ATOM	563	C	PHE	A	77	21.804	-17.739	24.462	1.00	53.49	C
ATOM	564	O	PHE	A	77	21.672	-17.933	23.257	1.00	54.96	O
ATOM	565	CB	PHE	A	77	24.137	-18.604	24.727	1.00	51.65	C
ATOM	566	CG	PHE	A	77	24.894	-17.333	25.012	1.00	51.80	C
ATOM	567	CD1	PHE	A	77	25.125	-16.919	26.310	1.00	51.50	C
ATOM	568	CD2	PHE	A	77	25.427	-16.583	23.974	1.00	52.17	C
ATOM	569	CE1	PHE	A	77	25.849	-15.763	26.570	1.00	51.72	C
ATOM	570	CE2	PHE	A	77	26.152	-15.425	24.227	1.00	52.39	C
ATOM	571	CZ	PHE	A	77	26.363	-15.015	25.522	1.00	51.69	C
ATOM	572	N	TYR	A	78	21.144	-16.787	25.115	1.00	53.50	N
ATOM	573	CA	TYR	A	78	20.167	-15.953	24.444	1.00	52.51	C
ATOM	574	C	TYR	A	78	19.187	-16.829	23.675	1.00	53.49	C
ATOM	575	O	TYR	A	78	18.912	-16.585	22.502	1.00	54.16	O
ATOM	576	CB	TYR	A	78	20.848	-14.963	23.498	1.00	52.27	C
ATOM	577	CG	TYR	A	78	21.628	-13.852	24.181	1.00	52.62	C
ATOM	578	CD1	TYR	A	78	20.971	-12.759	24.752	1.00	52.23	C
ATOM	579	CD2	TYR	A	78	23.020	-13.872	24.214	1.00	52.17	C
ATOM	580	CE1	TYR	A	78	21.670	-11.735	25.356	1.00	52.65	C
ATOM	581	CE2	TYR	A	78	23.736	-12.849	24.813	1.00	53.07	C
ATOM	582	CZ	TYR	A	78	23.060	-11.778	25.385	1.00	53.43	C
ATOM	583	OH	TYR	A	78	23.772	-10.760	25.985	1.00	51.97	O
ATOM	584	N	ASP	A	79	18.693	-17.866	24.346	1.00	55.19	N
ATOM	585	CA	ASP	A	79	17.641	-18.761	23.827	1.00	56.11	C
ATOM	586	C	ASP	A	79	18.081	-19.755	22.731	1.00	56.04	C
ATOM	587	O	ASP	A	79	17.298	-20.616	22.342	1.00	54.85	O
ATOM	588	CB	ASP	A	79	16.436	-17.954	23.322	1.00	57.48	C
ATOM	589	CG	ASP	A	79	15.859	-17.022	24.375	1.00	58.66	C
ATOM	590	OD1	ASP	A	79	15.982	-17.332	25.582	1.00	59.75	O
ATOM	591	OD2	ASP	A	79	15.250	-15.994	23.989	1.00	58.55	O
ATOM	592	N	LYS	A	80	19.315	-19.645	22.239	1.00	56.47	N
ATOM	593	CA	LYS	A	80	19.789	-20.503	21.149	1.00	56.74	C
ATOM	594	C	LYS	A	80	21.019	-21.285	21.572	1.00	57.02	C
ATOM	595	O	LYS	A	80	21.981	-20.700	22.077	1.00	57.90	O

ATOM	596	CB	LYS	A	80	20.158	-19.666	19.928	1.00	57.42	C
ATOM	597	CG	LYS	A	80	19.027	-18.824	19.368	1.00	57.44	C
ATOM	598	CD	LYS	A	80	19.407	-18.203	18.033	1.00	57.18	C
ATOM	599	CE	LYS	A	80	19.283	-19.197	16.898	1.00	57.28	C
ATOM	600	NZ	LYS	A	80	19.819	-18.632	15.638	1.00	57.69	N
ATOM	601	N	PRO	A	81	21.016	-22.608	21.349	1.00	57.25	N
ATOM	602	CA	PRO	A	81	22.222	-23.362	21.686	1.00	58.09	C
ATOM	603	C	PRO	A	81	23.358	-22.962	20.754	1.00	57.79	C
ATOM	604	O	PRO	A	81	23.186	-23.013	19.546	1.00	57.81	O
ATOM	605	CB	PRO	A	81	21.807	-24.813	21.437	1.00	57.32	C
ATOM	606	CG	PRO	A	81	20.710	-24.720	20.435	1.00	57.23	C
ATOM	607	CD	PRO	A	81	19.971	-23.469	20.770	1.00	57.39	C
ATOM	608	N	MET	A	82	24.487	-22.530	21.301	1.00	57.55	N
ATOM	609	CA	MET	A	82	25.609	-22.121	20.453	1.00	59.24	C
ATOM	610	C	MET	A	82	26.356	-23.342	19.890	1.00	57.99	C
ATOM	611	O	MET	A	82	26.406	-24.386	20.537	1.00	57.34	O
ATOM	612	CB	MET	A	82	26.556	-21.138	21.193	1.00	60.26	C
ATOM	613	CG	MET	A	82	27.111	-21.571	22.553	1.00	60.22	C
ATOM	614	SD	MET	A	82	27.856	-20.221	23.527	1.00	60.33	S
ATOM	615	CE	MET	A	82	28.314	-21.112	24.996	1.00	59.35	C
ATOM	616	N	ARG	A	83	26.874	-23.220	18.662	1.00	58.51	N
ATOM	617	CA	ARG	A	83	27.818	-24.196	18.091	1.00	59.31	C
ATOM	618	C	ARG	A	83	29.206	-23.615	18.229	1.00	58.31	C
ATOM	619	O	ARG	A	83	29.398	-22.424	17.970	1.00	56.87	O
ATOM	620	CB	ARG	A	83	27.572	-24.433	16.606	1.00	61.54	C
ATOM	621	CG	ARG	A	83	26.190	-24.923	16.256	1.00	63.47	C
ATOM	622	CD	ARG	A	83	26.163	-26.310	15.615	1.00	63.96	C
ATOM	623	NE	ARG	A	83	25.028	-26.427	14.692	1.00	64.62	N
ATOM	624	CZ	ARG	A	83	23.741	-26.480	15.049	1.00	65.08	C
ATOM	625	NH1	ARG	A	83	23.371	-26.430	16.329	1.00	65.91	N
ATOM	626	NH2	ARG	A	83	22.803	-26.582	14.110	1.00	65.30	N
ATOM	627	N	ILE	A	84	30.170	-24.450	18.617	1.00	56.65	N
ATOM	628	CA	ILE	A	84	31.547	-23.996	18.783	1.00	56.27	C
ATOM	629	C	ILE	A	84	32.494	-24.859	17.970	1.00	56.35	C
ATOM	630	O	ILE	A	84	32.394	-26.086	17.981	1.00	56.26	O
ATOM	631	CB	ILE	A	84	32.012	-24.022	20.257	1.00	56.35	C
ATOM	632	CG1	ILE	A	84	30.952	-23.424	21.192	1.00	56.43	C
ATOM	633	CG2	ILE	A	84	33.320	-23.261	20.398	1.00	56.38	C
ATOM	634	CD1	ILE	A	84	31.390	-23.336	22.658	1.00	55.77	C
ATOM	635	N	GLN	A	85	33.420	-24.197	17.279	1.00	56.36	N
ATOM	636	CA	GLN	A	85	34.433	-24.855	16.455	1.00	54.51	C
ATOM	637	C	GLN	A	85	35.807	-24.268	16.735	1.00	50.74	C
ATOM	638	O	GLN	A	85	35.933	-23.103	17.111	1.00	49.82	O
ATOM	639	CB	GLN	A	85	34.118	-24.671	14.966	1.00	56.22	C
ATOM	640	CG	GLN	A	85	33.156	-25.699	14.380	1.00	57.00	C
ATOM	641	CD	GLN	A	85	32.786	-25.407	12.932	1.00	56.74	C
ATOM	642	OE1	GLN	A	85	31.679	-24.948	12.650	1.00	57.67	O
ATOM	643	NE2	GLN	A	85	33.710	-25.669	12.013	1.00	57.18	N
ATOM	644	N	TYR	A	86	36.840	-25.082	16.552	1.00	47.55	N
ATOM	645	CA	TYR	A	86	38.194	-24.560	16.498	1.00	44.57	C
ATOM	646	C	TYR	A	86	38.266	-23.737	15.212	1.00	47.02	C
ATOM	647	O	TYR	A	86	37.794	-24.187	14.157	1.00	46.91	O
ATOM	648	CB	TYR	A	86	39.229	-25.684	16.463	1.00	40.59	C
ATOM	649	CG	TYR	A	86	39.384	-26.463	17.753	1.00	39.49	C
ATOM	650	CD1	TYR	A	86	39.250	-27.851	17.772	1.00	39.47	C
ATOM	651	CD2	TYR	A	86	39.699	-25.817	18.952	1.00	39.36	C
ATOM	652	CE1	TYR	A	86	39.411	-28.582	18.955	1.00	39.79	C
ATOM	653	CE2	TYR	A	86	39.864	-26.538	20.148	1.00	38.99	C
ATOM	654	CZ	TYR	A	86	39.717	-27.920	20.141	1.00	39.98	C

ATOM	655	OH	TYR	A	86	39.873	-28.649	21.303	1.00	40.12	O
ATOM	656	N	ALA	A	87	38.829	-22.531	15.303	1.00	49.03	N
ATOM	657	CA	ALA	A	87	38.901	-21.627	14.150	1.00	50.85	C
ATOM	658	C	ALA	A	87	39.788	-22.205	13.039	1.00	52.94	C
ATOM	659	O	ALA	A	87	40.744	-22.934	13.314	1.00	53.38	O
ATOM	660	CB	ALA	A	87	39.402	-20.245	14.581	1.00	49.24	C
ATOM	661	N	LYS	A	88	39.452	-21.887	11.789	1.00	55.95	N
ATOM	662	CA	LYS	A	88	40.237	-22.326	10.634	1.00	58.59	C
ATOM	663	C	LYS	A	88	41.682	-21.847	10.757	1.00	60.86	C
ATOM	664	O	LYS	A	88	42.587	-22.662	10.906	1.00	60.89	O
ATOM	665	CB	LYS	A	88	39.617	-21.820	9.328	1.00	58.07	C
ATOM	666	N	THR	A	89	41.882	-20.530	10.722	1.00	64.28	N
ATOM	667	CA	THR	A	89	43.216	-19.931	10.846	1.00	65.59	C
ATOM	668	C	THR	A	89	43.389	-19.226	12.200	1.00	66.79	C
ATOM	669	O	THR	A	89	42.411	-18.967	12.908	1.00	66.85	O
ATOM	670	CB	THR	A	89	43.497	-18.924	9.693	1.00	65.54	C
ATOM	671	OG1	THR	A	89	42.771	-17.707	9.915	1.00	65.49	O
ATOM	672	CG2	THR	A	89	43.094	-19.511	8.338	1.00	65.29	C
ATOM	673	N	ASP	A	90	44.641	-18.931	12.552	1.00	68.02	N
ATOM	674	CA	ASP	A	90	44.966	-18.174	13.766	1.00	68.43	C
ATOM	675	C	ASP	A	90	44.500	-16.728	13.640	1.00	68.02	C
ATOM	676	O	ASP	A	90	44.459	-16.177	12.538	1.00	68.18	O
ATOM	677	CB	ASP	A	90	46.482	-18.183	14.026	1.00	69.60	C
ATOM	678	CG	ASP	A	90	46.985	-19.517	14.567	1.00	70.33	C
ATOM	679	OD1	ASP	A	90	46.353	-20.082	15.487	1.00	72.53	O
ATOM	680	OD2	ASP	A	90	48.032	-19.993	14.091	1.00	70.58	O
ATOM	681	N	SER	A	91	44.148	-16.114	14.764	1.00	67.27	N
ATOM	682	CA	SER	A	91	43.881	-14.683	14.776	1.00	67.55	C
ATOM	683	C	SER	A	91	45.225	-13.971	14.670	1.00	68.04	C
ATOM	684	O	SER	A	91	46.206	-14.420	15.258	1.00	67.44	O
ATOM	685	CB	SER	A	91	43.136	-14.281	16.045	1.00	67.47	C
ATOM	686	OG	SER	A	91	41.922	-15.003	16.152	1.00	67.17	O
ATOM	687	N	ASP	A	92	45.287	-12.881	13.910	1.00	69.32	N
ATOM	688	CA	ASP	A	92	46.580	-12.243	13.631	1.00	70.97	C
ATOM	689	C	ASP	A	92	47.227	-11.579	14.858	1.00	72.18	C
ATOM	690	O	ASP	A	92	48.427	-11.295	14.842	1.00	71.92	O
ATOM	691	CB	ASP	A	92	46.512	-11.282	12.423	1.00	71.48	C
ATOM	692	CG	ASP	A	92	45.518	-10.140	12.604	1.00	71.65	C
ATOM	693	OD1	ASP	A	92	45.050	-9.612	11.571	1.00	71.80	O
ATOM	694	OD2	ASP	A	92	45.215	-9.755	13.755	1.00	72.05	O
ATOM	695	N	ILE	A	93	46.603	-11.474	15.506	1.00	74.00	N
ATOM	696	CA	ILE	A	93	47.021	-11.044	16.856	1.00	75.69	C
ATOM	697	C	ILE	A	93	47.600	-12.201	17.703	1.00	77.11	C
ATOM	698	O	ILE	A	93	48.231	-11.957	18.738	1.00	77.75	O
ATOM	699	CB	ILE	A	93	45.862	-10.350	17.644	1.00	74.84	C
ATOM	700	CG1	ILE	A	93	46.414	-9.588	18.868	1.00	74.96	C
ATOM	701	CG2	ILE	A	93	44.804	-11.382	18.066	1.00	74.59	C
ATOM	702	CD1	ILE	A	93	45.474	-8.514	19.446	1.00	75.04	C
ATOM	703	N	ILE	A	94	47.367	-13.448	17.276	1.00	79.23	N
ATOM	704	CA	ILE	A	94	47.990	-14.644	17.894	1.00	80.16	C
ATOM	705	C	ILE	A	94	49.259	-15.066	17.126	1.00	85.09	C
ATOM	706	O	ILE	A	94	50.222	-15.551	17.733	1.00	85.35	O
ATOM	707	CB	ILE	A	94	46.976	-15.845	18.001	1.00	79.30	C
ATOM	708	CG1	ILE	A	94	46.004	-15.625	19.169	1.00	78.98	C
ATOM	709	CG2	ILE	A	94	47.689	-17.185	18.196	1.00	78.44	C
ATOM	710	CD1	ILE	A	94	46.643	-15.814	20.547	1.00	78.42	C
ATOM	711	N	ALA	A	95	49.253	-14.879	15.803	1.00	90.46	N
ATOM	712	CA	ALA	A	95	50.455	-15.098	14.979	1.00	93.99	C
ATOM	713	C	ALA	A	95	51.560	-14.085	15.322	1.00	96.58	C

ATOM	714	O	ALA	A	95	52.732	-14.459	15.448	1.00	96.68	O
ATOM	715	CB	ALA	A	95	50.114	-15.030	13.484	1.00	93.72	C
ATOM	716	N	LYS	A	96	51.171	-12.818	15.491	1.00	98.41	N
ATOM	717	CA	LYS	A	96	52.113	-11.730	15.790	1.00	99.14	C
ATOM	718	C	LYS	A	96	53.056	-12.063	16.953	1.00	99.71	C
ATOM	719	O	LYS	A	96	54.264	-11.802	16.883	1.00	99.97	O
ATOM	720	CB	LYS	A	96	51.346	-10.437	16.103	1.00	98.03	C
TER	721		LYS	A	96						
ATOM	722	C4*	A	E	-1	25.961	38.944	21.725	1.00	42.98	C
ATOM	723	O4*	A	E	-1	25.138	38.039	22.480	1.00	41.33	O
ATOM	724	C3*	A	E	-1	25.233	40.277	21.884	1.00	42.81	C
ATOM	725	O3*	A	E	-1	24.211	40.384	20.881	1.00	43.88	O
ATOM	726	C2*	A	E	-1	24.615	40.256	23.282	1.00	42.03	C
ATOM	727	O2*	A	E	-1	23.311	40.829	23.366	1.00	42.17	O
ATOM	728	C1*	A	E	-1	24.568	38.761	23.573	1.00	40.54	C
ATOM	729	N9	A	E	-1	25.250	38.473	24.837	1.00	39.05	N
ATOM	730	C8	A	E	-1	26.562	38.625	25.172	1.00	38.11	C
ATOM	731	N7	A	E	-1	26.833	38.270	26.407	1.00	37.82	N
ATOM	732	C5	A	E	-1	25.616	37.858	26.911	1.00	38.02	C
ATOM	733	C6	A	E	-1	25.204	37.369	28.162	1.00	38.45	C
ATOM	734	N6	A	E	-1	26.016	37.196	29.207	1.00	39.03	N
ATOM	735	N1	A	E	-1	23.905	37.066	28.315	1.00	38.56	N
ATOM	736	C2	A	E	-1	23.073	37.241	27.285	1.00	38.45	C
ATOM	737	N3	A	E	-1	23.335	37.687	26.067	1.00	37.55	N
ATOM	738	C4	A	E	-1	24.633	37.985	25.954	1.00	38.50	C
HETATM	739	P	A2M	E	0	24.402	41.367	19.640	1.00	43.51	P
HETATM	740	O1P	A2M	E	0	25.892	41.508	19.414	1.00	44.81	O
HETATM	741	O2P	A2M	E	0	23.566	42.609	19.842	1.00	44.52	O
HETATM	742	O5*	A2M	E	0	23.781	40.589	18.405	1.00	41.92	O
HETATM	743	C5*	A2M	E	0	24.155	39.265	18.035	1.00	40.44	C
HETATM	744	C4*	A2M	E	0	23.038	38.747	17.135	1.00	38.61	C
HETATM	745	O4*	A2M	E	0	21.895	38.488	17.970	1.00	38.79	O
HETATM	746	C3*	A2M	E	0	22.571	39.756	16.076	1.00	36.78	C
HETATM	747	O3*	A2M	E	0	22.225	39.089	14.858	1.00	36.17	O
HETATM	748	C2*	A2M	E	0	21.336	40.354	16.699	1.00	36.80	C
HETATM	749	O2*	A2M	E	0	20.429	40.926	15.774	1.00	35.97	O
HETATM	750	C1*	A2M	E	0	20.764	39.116	17.360	1.00	37.17	C
HETATM	751	CM*	A2M	E	0	19.676	41.955	16.410	1.00	36.97	C
HETATM	752	N9	A2M	E	0	19.682	39.429	18.303	1.00	36.13	N
HETATM	753	C8	A2M	E	0	19.785	40.133	19.428	1.00	37.08	C
HETATM	754	N7	A2M	E	0	18.569	40.206	20.015	1.00	36.05	N
HETATM	755	C5	A2M	E	0	17.717	39.531	19.223	1.00	36.69	C
HETATM	756	C6	A2M	E	0	16.364	39.266	19.310	1.00	35.41	C
HETATM	757	N6	A2M	E	0	15.673	39.729	20.361	1.00	36.48	N
HETATM	758	N1	A2M	E	0	15.768	38.550	18.344	1.00	35.62	N
HETATM	759	C2	A2M	E	0	16.483	38.082	17.304	1.00	36.23	C
HETATM	760	N3	A2M	E	0	17.801	38.327	17.184	1.00	36.11	N
HETATM	761	C4	A2M	E	0	18.430	39.045	18.142	1.00	35.71	C
ATOM	762	P	G	E	1	21.930	39.820	13.469	1.00	32.97	P
ATOM	763	O1P	G	E	1	22.220	41.232	13.687	1.00	34.94	O
ATOM	764	O2P	G	E	1	20.590	39.437	12.980	1.00	33.93	O
ATOM	765	O5*	G	E	1	23.031	39.184	12.494	1.00	33.71	O
ATOM	766	C5*	G	E	1	24.340	38.911	12.968	1.00	35.34	C
ATOM	767	C4*	G	E	1	24.607	37.422	13.092	1.00	35.86	C
ATOM	768	O4*	G	E	1	24.100	36.801	11.903	1.00	35.86	O
ATOM	769	C3*	G	E	1	26.089	37.010	13.172	1.00	36.30	C
ATOM	770	O3*	G	E	1	26.344	35.950	14.110	1.00	34.64	O
ATOM	771	C2*	G	E	1	26.407	36.563	11.749	1.00	36.47	C
ATOM	772	O2*	G	E	1	27.433	35.598	11.642	1.00	35.76	O

ATOM	773	C1*	G E	1	25.077	35.963	11.340	1.00	36.78	C
ATOM	774	N9	G E	1	24.821	35.963	9.911	1.00	37.30	N
ATOM	775	C8	G E	1	25.519	36.599	8.916	1.00	37.82	C
ATOM	776	N7	G E	1	25.028	36.420	7.731	1.00	37.83	N
ATOM	777	C5	G E	1	23.946	35.624	7.971	1.00	36.49	C
ATOM	778	C6	G E	1	23.032	35.124	7.057	1.00	37.77	C
ATOM	779	O6	G E	1	23.057	35.306	5.838	1.00	37.62	O
ATOM	780	N1	G E	1	22.049	34.355	7.699	1.00	38.53	N
ATOM	781	C2	G E	1	21.992	34.113	9.051	1.00	36.82	C
ATOM	782	N2	G E	1	20.988	33.343	9.427	1.00	37.56	N
ATOM	783	C4	G E	1	23.791	35.329	9.295	1.00	36.46	C
ATOM	784	P	C E	2	26.533	36.236	15.677	1.00	31.54	P
ATOM	785	O1P	C E	2	26.824	37.663	15.854	1.00	33.04	O
ATOM	786	O2P	C E	2	27.441	35.215	16.261	1.00	31.92	O
ATOM	787	O5*	C E	2	25.040	36.048	16.211	1.00	33.76	O
ATOM	788	C5*	C E	2	24.197	35.010	15.795	1.00	32.75	C
ATOM	789	C4*	C E	2	22.943	35.035	16.650	1.00	33.42	C
ATOM	790	O4*	C E	2	21.959	36.000	16.181	1.00	34.08	O
ATOM	791	C3*	C E	2	22.182	33.727	16.678	1.00	32.93	C
ATOM	792	O3*	C E	2	22.812	32.939	17.639	1.00	33.42	O
ATOM	793	C2*	C E	2	20.825	34.227	17.113	1.00	33.20	C
ATOM	794	O2*	C E	2	20.848	34.606	18.481	1.00	31.99	O
ATOM	795	C1*	C E	2	20.684	35.425	16.190	1.00	32.09	C
ATOM	796	N1	C E	2	20.307	35.158	14.760	1.00	32.67	N
ATOM	797	C2	C E	2	18.989	34.785	14.457	1.00	32.06	C
ATOM	798	O2	C E	2	18.181	34.651	15.379	1.00	30.17	O
ATOM	799	N3	C E	2	18.641	34.567	13.151	1.00	33.18	N
ATOM	800	C4	C E	2	19.509	34.699	12.148	1.00	31.78	C
ATOM	801	C5	C E	2	20.855	35.093	12.452	1.00	32.52	C
ATOM	802	C6	C E	2	21.198	35.315	13.732	1.00	31.25	C
ATOM	803	P	G E	3	22.772	31.363	17.577	1.00	33.89	P
ATOM	804	O1P	G E	3	23.484	30.888	18.769	1.00	36.06	O
ATOM	805	O2P	G E	3	23.128	30.874	16.231	1.00	32.13	O
ATOM	806	O5*	G E	3	21.209	31.111	17.877	1.00	37.05	O
ATOM	807	C5*	G E	3	20.721	31.231	19.206	1.00	38.05	C
ATOM	808	C4*	G E	3	19.275	30.776	19.334	1.00	39.66	C
ATOM	809	O4*	G E	3	18.369	31.665	18.627	1.00	40.44	O
ATOM	810	C3*	G E	3	18.992	29.410	18.740	1.00	39.96	C
ATOM	811	O3*	G E	3	19.356	28.428	19.656	1.00	40.94	O
ATOM	812	C2*	G E	3	17.499	29.508	18.532	1.00	39.41	C
ATOM	813	O2*	G E	3	16.791	29.416	19.746	1.00	40.83	O
ATOM	814	C1*	G E	3	17.380	30.906	17.949	1.00	39.70	C
ATOM	815	N9	G E	3	17.600	31.013	16.498	1.00	39.38	N
ATOM	816	C8	G E	3	18.750	31.391	15.860	1.00	39.59	C
ATOM	817	N7	G E	3	18.660	31.404	14.560	1.00	39.55	N
ATOM	818	C5	G E	3	17.362	31.014	14.313	1.00	38.63	C
ATOM	819	C6	G E	3	16.683	30.851	13.085	1.00	39.96	C
ATOM	820	O6	G E	3	17.112	31.032	11.933	1.00	39.84	O
ATOM	821	N1	G E	3	15.365	30.438	13.272	1.00	39.79	N
ATOM	822	C2	G E	3	14.778	30.211	14.485	1.00	39.72	C
ATOM	823	N2	G E	3	13.497	29.818	14.462	1.00	39.57	N
ATOM	824	N3	G E	3	15.411	30.373	15.639	1.00	40.18	N
ATOM	825	C4	G E	3	16.695	30.774	15.486	1.00	39.03	C
ATOM	826	P	C E	4	19.672	26.938	19.182	1.00	44.45	P
ATOM	827	O1P	C E	4	19.923	26.176	20.434	1.00	43.83	O
ATOM	828	O2P	C E	4	20.671	26.929	18.083	1.00	41.00	O
ATOM	829	O5*	C E	4	18.266	26.467	18.578	1.00	43.55	O
ATOM	830	C5*	C E	4	17.214	26.079	19.444	1.00	44.33	C
ATOM	831	C4*	C E	4	15.917	25.904	18.676	1.00	44.60	C

ATOM	832	O4*	C E	4	15.685	27.014	17.783	1.00	44.98	O
ATOM	833	C3*	C E	4	15.909	24.702	17.764	1.00	45.01	C
ATOM	834	O3*	C E	4	15.583	23.571	18.534	1.00	46.75	O
ATOM	835	C2*	C E	4	14.848	25.088	16.743	1.00	45.30	C
ATOM	836	O2*	C E	4	13.517	24.916	17.192	1.00	47.12	O
ATOM	837	C1*	C E	4	15.130	26.565	16.559	1.00	44.62	C
ATOM	838	N1	C E	4	16.039	26.906	15.390	1.00	44.72	N
ATOM	839	C2	C E	4	15.514	26.882	14.096	1.00	44.21	C
ATOM	840	O2	C E	4	14.327	26.570	13.940	1.00	44.11	O
ATOM	841	N3	C E	4	16.320	27.209	13.046	1.00	44.07	N
ATOM	842	C4	C E	4	17.590	27.541	13.238	1.00	42.91	C
ATOM	843	N4	C E	4	18.330	27.842	12.185	1.00	42.67	N
ATOM	844	C5	C E	4	18.150	27.565	14.538	1.00	44.29	C
ATOM	845	C6	C E	4	17.353	27.248	15.570	1.00	44.32	C
ATOM	846	P	C E	5	16.328	22.179	18.311	1.00	47.93	P
ATOM	847	O1P	C E	5	15.867	21.258	19.375	1.00	48.81	O
ATOM	848	O2P	C E	5	17.769	22.399	18.094	1.00	48.00	O
ATOM	849	O5*	C E	5	15.684	21.723	16.923	1.00	49.21	O
ATOM	850	C5*	C E	5	14.295	21.775	16.711	1.00	49.90	C
ATOM	851	C4*	C E	5	13.998	21.382	15.285	1.00	51.26	C
ATOM	852	O4*	C E	5	14.574	22.366	14.392	1.00	51.44	O
ATOM	853	C3*	C E	5	14.595	20.043	14.865	1.00	52.24	C
ATOM	854	O3*	C E	5	13.663	19.309	14.071	1.00	53.72	O
ATOM	855	C2*	C E	5	15.830	20.455	14.063	1.00	52.18	C
ATOM	856	O2*	C E	5	16.243	19.435	13.176	1.00	52.66	O
ATOM	857	C1*	C E	5	15.260	21.680	13.357	1.00	51.70	C
ATOM	858	N1	C E	5	16.219	22.655	12.717	1.00	52.10	N
ATOM	859	C2	C E	5	16.127	22.941	11.348	1.00	51.68	C
ATOM	860	O2	C E	5	15.284	22.382	10.645	1.00	51.66	O
ATOM	861	N3	C E	5	16.985	23.838	10.813	1.00	51.60	N
ATOM	862	C4	C E	5	17.899	24.454	11.557	1.00	50.78	C
ATOM	863	N4	C E	5	18.703	25.315	10.932	1.00	50.88	N
ATOM	864	C5	C E	5	18.015	24.196	12.950	1.00	50.99	C
ATOM	865	C6	C E	5	17.161	23.306	13.480	1.00	52.12	C
ATOM	866	P	A E	6	13.345	17.776	14.415	1.00	56.19	P
ATOM	867	O1P	A E	6	12.689	17.754	15.746	1.00	55.57	O
ATOM	868	O2P	A E	6	14.560	16.962	14.158	1.00	56.03	O
ATOM	869	O5*	A E	6	12.255	17.387	13.310	1.00	56.37	O
ATOM	870	C5*	A E	6	12.655	17.116	11.974	1.00	57.15	C
ATOM	871	C4*	A E	6	11.454	17.235	11.060	1.00	57.43	C
ATOM	872	O4*	A E	6	10.736	18.458	11.399	1.00	58.35	O
ATOM	873	C3*	A E	6	11.764	17.316	9.569	1.00	57.23	C
ATOM	874	O3*	A E	6	11.641	16.033	8.971	1.00	57.29	O
ATOM	875	C2*	A E	6	10.654	18.257	9.096	1.00	57.86	C
ATOM	876	O2*	A E	6	9.395	17.623	8.951	1.00	56.87	O
ATOM	877	C1*	A E	6	10.590	19.259	10.242	1.00	58.03	C
ATOM	878	P	G E	7	12.848	15.157	8.384	1.00	56.05	P
ATOM	879	O1P	G E	7	12.288	13.820	8.089	1.00	56.96	O
ATOM	880	O2P	G E	7	14.008	15.266	9.278	1.00	55.81	O
ATOM	881	O5*	G E	7	13.171	15.851	6.985	1.00	56.02	O
ATOM	882	C5*	G E	7	12.300	15.631	5.888	1.00	55.33	C
ATOM	883	C4*	G E	7	12.796	16.356	4.657	1.00	55.41	C
ATOM	884	O4*	G E	7	12.934	17.776	4.939	1.00	55.90	O
ATOM	885	C3*	G E	7	14.173	15.914	4.197	1.00	55.70	C
ATOM	886	O3*	G E	7	14.098	14.743	3.391	1.00	55.72	O
ATOM	887	C2*	G E	7	14.667	17.151	3.446	1.00	55.65	C
ATOM	888	O2*	G E	7	14.195	17.265	2.122	1.00	54.93	O
ATOM	889	C1*	G E	7	14.102	18.285	4.305	1.00	55.70	C
ATOM	890	N9	G E	7	15.065	18.771	5.300	1.00	55.66	N

ATOM	891	C8	G E	7	14.958	18.723	6.670	1.00	55.39	C
ATOM	892	N7	G E	7	15.984	19.237	7.291	1.00	55.37	N
ATOM	893	C5	G E	7	16.827	19.652	6.268	1.00	55.58	C
ATOM	894	C6	G E	7	18.096	20.288	6.327	1.00	55.68	C
ATOM	895	O6	G E	7	18.739	20.616	7.334	1.00	55.47	O
ATOM	896	N1	G E	7	18.620	20.545	5.056	1.00	55.60	N
ATOM	897	C2	G E	7	17.997	20.228	3.865	1.00	55.71	C
ATOM	898	N2	G E	7	18.666	20.549	2.743	1.00	55.28	N
ATOM	899	N3	G E	7	16.805	19.633	3.801	1.00	55.20	N
ATOM	900	C4	G E	7	16.279	19.375	5.033	1.00	55.48	C
ATOM	901	P	A E	8	15.136	13.542	3.633	1.00	57.75	P
ATOM	902	O1P	A E	8	14.774	12.408	2.745	1.00	56.52	O
ATOM	903	O2P	A E	8	15.251	13.309	5.097	1.00	56.75	O
ATOM	904	O5*	A E	8	16.514	14.194	3.146	1.00	56.73	O
ATOM	905	C5*	A E	8	16.686	14.803	1.878	1.00	56.87	C
ATOM	906	C4*	A E	8	18.027	15.506	1.847	1.00	57.44	C
ATOM	907	O4*	A E	8	17.992	16.747	2.599	1.00	58.42	O
ATOM	908	C3*	A E	8	19.144	14.725	2.513	1.00	57.59	C
ATOM	909	O3*	A E	8	19.614	13.765	1.594	1.00	58.54	O
ATOM	910	C2*	A E	8	20.128	15.832	2.834	1.00	57.49	C
ATOM	911	O2*	A E	8	20.804	16.304	1.695	1.00	57.22	O
ATOM	912	C1*	A E	8	19.180	16.897	3.362	1.00	57.72	C
ATOM	913	N9	A E	8	18.874	16.783	4.788	1.00	57.59	N
ATOM	914	C8	A E	8	17.776	16.203	5.365	1.00	58.81	C
ATOM	915	N7	A E	8	17.756	16.239	6.678	1.00	58.71	N
ATOM	916	C5	A E	8	18.927	16.893	6.986	1.00	57.95	C
ATOM	917	C6	A E	8	19.501	17.256	8.216	1.00	58.39	C
ATOM	918	N6	A E	8	18.930	16.988	9.391	1.00	58.21	N
ATOM	919	N1	A E	8	20.685	17.906	8.192	1.00	58.09	N
ATOM	920	C2	A E	8	21.250	18.164	7.012	1.00	57.94	C
ATOM	921	N3	A E	8	20.803	17.869	5.791	1.00	58.02	N
ATOM	922	C4	A E	8	19.625	17.231	5.842	1.00	57.70	C
ATOM	923	P	A E	9	19.819	12.245	2.030	1.00	57.97	P
ATOM	924	O1P	A E	9	19.924	11.446	0.804	1.00	58.77	O
ATOM	925	O2P	A E	9	18.844	11.883	3.083	1.00	58.12	O
ATOM	926	O5*	A E	9	21.283	12.333	2.652	1.00	59.47	O
ATOM	927	C5*	A E	9	22.358	12.742	1.821	1.00	60.21	C
ATOM	928	C4*	A E	9	23.455	13.316	2.683	1.00	60.83	C
ATOM	929	O4*	A E	9	22.941	14.450	3.422	1.00	61.09	O
ATOM	930	C3*	A E	9	23.959	12.382	3.766	1.00	61.60	C
ATOM	931	O3*	A E	9	24.889	11.431	3.249	1.00	61.66	O
ATOM	932	C2*	A E	9	24.569	13.374	4.747	1.00	61.54	C
ATOM	933	O2*	A E	9	25.826	13.868	4.318	1.00	62.09	O
ATOM	934	C1*	A E	9	23.486	14.453	4.733	1.00	61.09	C
ATOM	935	N9	A E	9	22.402	14.256	5.705	1.00	61.36	N
ATOM	936	C8	A E	9	21.133	13.769	5.485	1.00	61.36	C
ATOM	937	N7	A E	9	20.372	13.718	6.555	1.00	61.15	N
ATOM	938	C5	A E	9	21.187	14.206	7.552	1.00	61.21	C
ATOM	939	C6	A E	9	20.972	14.409	8.927	1.00	61.44	C
ATOM	940	N6	A E	9	19.811	14.122	9.521	1.00	60.70	N
ATOM	941	N1	A E	9	22.000	14.910	9.659	1.00	61.16	N
ATOM	942	C2	A E	9	23.155	15.189	9.040	1.00	61.20	C
ATOM	943	N3	A E	9	23.472	15.048	7.749	1.00	60.90	N
ATOM	944	C4	A E	9	22.440	14.544	7.053	1.00	61.40	C
ATOM	945	P	C E	10	24.931	9.962	3.889	1.00	62.80	P
ATOM	946	O1P	C E	10	25.818	9.137	3.040	1.00	63.03	O
ATOM	947	O2P	C E	10	23.549	9.518	4.191	1.00	62.50	O
ATOM	948	O5*	C E	10	25.672	10.164	5.287	1.00	62.57	O
ATOM	949	C5*	C E	10	27.011	10.646	5.367	1.00	62.39	C

ATOM	950	C4*	C E	10	27.338	10.994	6.808	1.00	61.81	C
ATOM	951	O4*	C E	10	26.499	12.087	7.254	1.00	61.72	O
ATOM	952	C3*	C E	10	27.046	9.898	7.819	1.00	61.31	C
ATOM	953	O3*	C E	10	28.083	8.916	7.819	1.00	60.68	O
ATOM	954	C2*	C E	10	26.946	10.705	9.107	1.00	61.05	C
ATOM	955	O2*	C E	10	28.187	11.149	9.617	1.00	61.14	O
ATOM	956	C1*	C E	10	26.108	11.874	8.604	1.00	61.32	C
ATOM	957	N1	C E	10	24.624	11.594	8.741	1.00	61.25	N
ATOM	958	C2	C E	10	24.010	11.787	9.990	1.00	60.97	C
ATOM	959	O2	C E	10	24.672	12.187	10.949	1.00	61.79	O
ATOM	960	N3	C E	10	22.692	11.536	10.141	1.00	60.90	N
ATOM	961	C4	C E	10	21.972	11.095	9.113	1.00	61.48	C
ATOM	962	N4	C E	10	20.676	10.864	9.333	1.00	60.83	N
ATOM	963	C5	C E	10	22.563	10.883	7.827	1.00	61.66	C
ATOM	964	C6	C E	10	23.875	11.139	7.690	1.00	61.19	C
ATOM	965	P	U E	11	27.721	7.379	8.049	1.00	59.54	P
ATOM	966	O1P	U E	11	28.915	6.564	7.736	1.00	60.24	O
ATOM	967	O2P	U E	11	26.433	7.099	7.386	1.00	60.41	O
ATOM	968	O5*	U E	11	27.470	7.325	9.617	1.00	59.68	O
ATOM	969	C5*	U E	11	28.593	7.305	10.478	1.00	60.02	C
ATOM	970	C4*	U E	11	28.128	7.448	11.906	1.00	59.91	C
ATOM	971	O4*	U E	11	27.082	8.444	11.927	1.00	59.91	O
ATOM	972	C3*	U E	11	27.507	6.194	12.499	1.00	59.89	C
ATOM	973	O3*	U E	11	28.511	5.345	13.076	1.00	59.87	O
ATOM	974	C2*	U E	11	26.524	6.770	13.518	1.00	59.85	C
ATOM	975	O2*	U E	11	27.101	6.999	14.789	1.00	59.56	O
ATOM	976	C1*	U E	11	26.116	8.106	12.899	1.00	60.04	C
ATOM	977	N1	U E	11	24.752	8.130	12.283	1.00	59.75	N
ATOM	978	C2	U E	11	23.661	8.147	13.126	1.00	60.19	C
ATOM	979	O2	U E	11	23.743	8.128	14.341	1.00	60.55	O
ATOM	980	N3	U E	11	22.440	8.187	12.499	1.00	61.00	N
ATOM	981	C4	U E	11	22.192	8.210	11.138	1.00	60.60	C
ATOM	982	O4	U E	11	21.035	8.245	10.735	1.00	60.13	O
ATOM	983	C5	U E	11	23.375	8.193	10.313	1.00	60.67	C
ATOM	984	C6	U E	11	24.580	8.156	10.908	1.00	60.56	C
TER	985		U E	11						
HETATM	986	PG	GTP P	12	29.109	0.171	13.139	1.00	85.10	P
HETATM	987	O1G	GTP P	12	28.447	0.058	14.492	1.00	84.91	O
HETATM	988	O2G	GTP P	12	29.993	-1.007	12.800	1.00	84.62	O
HETATM	989	O3G	GTP P	12	29.739	1.524	12.882	1.00	84.63	O
HETATM	990	O3B	GTP P	12	27.922	0.078	12.037	1.00	84.37	O
HETATM	991	PB	GTP P	12	26.382	-0.300	12.369	1.00	84.47	P
HETATM	992	O1B	GTP P	12	25.521	-0.084	11.141	1.00	83.81	O
HETATM	993	O2B	GTP P	12	26.343	-1.647	13.061	1.00	83.82	O
HETATM	994	O3A	GTP P	12	26.008	0.841	13.439	1.00	82.17	O
HETATM	995	PA	GTP P	12	25.755	2.373	13.018	1.00	81.07	P
HETATM	996	O1A	GTP P	12	26.947	2.900	12.249	1.00	80.38	O
HETATM	997	O2A	GTP P	12	24.365	2.421	12.423	1.00	80.41	O
HETATM	998	O5*	GTP P	12	25.750	3.114	14.453	1.00	78.66	O
HETATM	999	C5*	GTP P	12	25.818	2.377	15.679	1.00	75.96	C
HETATM	1000	C4*	GTP P	12	24.954	3.007	16.766	1.00	74.29	C
HETATM	1001	O4*	GTP P	12	24.649	4.381	16.469	1.00	72.89	O
HETATM	1002	C3*	GTP P	12	23.605	2.319	16.938	1.00	72.95	C
HETATM	1003	O3*	GTP P	12	23.629	1.098	17.716	1.00	73.09	O
HETATM	1004	C2*	GTP P	12	22.793	3.449	17.543	1.00	72.39	C
HETATM	1005	O2*	GTP P	12	23.079	3.691	18.926	1.00	72.37	O
HETATM	1006	C1*	GTP P	12	23.265	4.642	16.729	1.00	71.01	C
HETATM	1007	N9	GTP P	12	22.480	4.744	15.467	1.00	70.41	N
HETATM	1008	C8	GTP P	12	22.930	4.687	14.202	1.00	69.89	C

HETATM	1009	N7	GTP	P	12	21.888	4.816	13.347	1.00	69.69	N
HETATM	1010	C5	GTP	P	12	20.773	4.950	14.089	1.00	69.70	C
HETATM	1011	C6	GTP	P	12	19.431	5.116	13.786	1.00	69.44	C
HETATM	1012	O6	GTP	P	12	19.068	5.165	12.595	1.00	69.34	O
HETATM	1013	N1	GTP	P	12	18.531	5.230	14.794	1.00	69.69	N
HETATM	1014	C2	GTP	P	12	18.932	5.175	16.092	1.00	69.68	C
HETATM	1015	N2	GTP	P	12	18.053	5.291	17.113	1.00	69.69	N
HETATM	1016	N3	GTP	P	12	20.233	5.022	16.400	1.00	69.75	N
HETATM	1017	C4	GTP	P	12	21.158	4.907	15.419	1.00	70.04	C
ATOM	1018	P	G	P	13	23.146	-0.427	17.442	1.00	71.87	P
ATOM	1019	O1P	G	P	13	24.321	-0.217	18.325	1.00	72.55	O
ATOM	1020	O2P	G	P	13	23.267	-0.314	15.967	1.00	70.94	O
ATOM	1021	O5*	G	P	13	21.832	0.344	17.971	1.00	73.56	O
ATOM	1022	C5*	G	P	13	21.376	0.210	19.324	1.00	74.78	C
ATOM	1023	C4*	G	P	13	19.921	0.619	19.514	1.00	75.45	C
ATOM	1024	O4*	G	P	13	19.654	1.894	18.877	1.00	75.65	O
ATOM	1025	C3*	G	P	13	18.882	-0.310	18.900	1.00	76.23	C
ATOM	1026	O3*	G	P	13	18.605	-1.410	19.742	1.00	78.22	O
ATOM	1027	C2*	G	P	13	17.676	0.609	18.780	1.00	75.88	C
ATOM	1028	O2*	G	P	13	17.003	0.852	20.000	1.00	75.89	O
ATOM	1029	C1*	G	P	13	18.363	1.870	18.282	1.00	75.28	C
ATOM	1030	N9	G	P	13	18.456	1.921	16.821	1.00	75.10	N
ATOM	1031	C8	G	P	13	19.573	1.829	16.018	1.00	74.89	C
ATOM	1032	N7	G	P	13	19.314	1.921	14.743	1.00	74.79	N
ATOM	1033	C5	G	P	13	17.937	2.082	14.694	1.00	74.73	C
ATOM	1034	C6	G	P	13	17.075	2.241	13.585	1.00	74.89	C
ATOM	1035	O6	G	P	13	17.379	2.266	12.382	1.00	74.69	O
ATOM	1036	N1	G	P	13	15.743	2.376	13.987	1.00	74.97	N
ATOM	1037	C2	G	P	13	15.295	2.363	15.290	1.00	74.64	C
ATOM	1038	N2	G	P	13	13.977	2.511	15.494	1.00	74.35	N
ATOM	1039	N3	G	P	13	16.099	2.219	16.331	1.00	74.78	N
ATOM	1040	C4	G	P	13	17.397	2.086	15.961	1.00	74.82	C
ATOM	1041	P	C	P	14	18.231	-2.856	19.159	1.00	80.89	P
ATOM	1042	O1P	C	P	14	18.358	-3.758	20.332	1.00	80.71	O
ATOM	1043	O2P	C	P	14	18.992	-3.108	17.909	1.00	79.92	O
ATOM	1044	O5*	C	P	14	16.682	-2.776	18.752	1.00	81.45	O
ATOM	1045	C5*	C	P	14	15.669	-2.399	19.686	1.00	82.99	C
ATOM	1046	C4*	C	P	14	14.314	-2.188	19.017	1.00	83.56	C
ATOM	1047	O4*	C	P	14	14.292	-0.947	18.253	1.00	83.93	O
ATOM	1048	C3*	C	P	14	13.892	-3.247	17.999	1.00	83.94	C
ATOM	1049	O3*	C	P	14	13.406	-4.436	18.616	1.00	84.13	O
ATOM	1050	C2*	C	P	14	12.835	-2.462	17.227	1.00	84.08	C
ATOM	1051	O2*	C	P	14	11.645	-2.202	17.948	1.00	84.34	O
ATOM	1052	C1*	C	P	14	13.598	-1.163	17.027	1.00	84.02	C
ATOM	1053	N1	C	P	14	14.556	-1.160	15.848	1.00	83.79	N
ATOM	1054	C2	C	P	14	14.103	-0.767	14.582	1.00	83.64	C
ATOM	1055	O2	C	P	14	12.921	-0.437	14.432	1.00	83.42	O
ATOM	1056	N3	C	P	14	14.989	-0.756	13.549	1.00	84.08	N
ATOM	1057	C4	C	P	14	16.268	-1.112	13.719	1.00	83.89	C
ATOM	1058	N4	C	P	14	17.099	-1.085	12.670	1.00	83.56	N
ATOM	1059	C5	C	P	14	16.749	-1.515	14.993	1.00	83.80	C
ATOM	1060	C6	C	P	14	15.873	-1.518	16.005	1.00	84.02	C
ATOM	1061	P	A	P	15	13.410	-5.821	17.805	1.00	85.48	P
ATOM	1062	O1P	A	P	15	12.980	-6.873	18.753	1.00	85.67	O
ATOM	1063	O2P	A	P	15	14.673	-5.990	17.050	1.00	84.60	O
ATOM	1064	O5*	A	P	15	12.251	-5.593	16.730	1.00	85.04	O
ATOM	1065	C5*	A	P	15	10.875	-5.712	17.073	1.00	84.83	C
ATOM	1066	C4*	A	P	15	10.012	-5.490	15.845	1.00	84.25	C
ATOM	1067	O4*	A	P	15	10.269	-4.188	15.253	1.00	84.57	O

ATOM	1068	C3*	A P	15	10.286	-6.455	14.704	1.00	83.57	C
ATOM	1069	O3*	A P	15	9.707	-7.713	14.983	1.00	81.50	O
ATOM	1070	C2*	A P	15	9.653	-5.691	13.549	1.00	83.76	C
ATOM	1071	O2*	A P	15	8.241	-5.672	13.557	1.00	84.17	O
ATOM	1072	C1*	A P	15	10.193	-4.301	13.841	1.00	84.30	C
ATOM	1073	N9	A P	15	11.508	-4.078	13.247	1.00	84.44	N
ATOM	1074	C8	A P	15	12.744	-4.255	13.810	1.00	84.49	C
ATOM	1075	N7	A P	15	13.741	-3.967	13.008	1.00	84.66	N
ATOM	1076	C5	A P	15	13.118	-3.575	11.835	1.00	84.77	C
ATOM	1077	C6	A P	15	13.613	-3.141	10.586	1.00	84.65	C
ATOM	1078	N6	A P	15	14.916	-3.025	10.307	1.00	84.70	N
ATOM	1079	N1	A P	15	12.711	-2.828	9.631	1.00	84.29	N
ATOM	1080	C2	A P	15	11.403	-2.940	9.904	1.00	84.46	C
ATOM	1081	N3	A P	15	10.818	-3.335	11.034	1.00	84.70	N
ATOM	1082	C4	A P	15	11.740	-3.641	11.967	1.00	84.72	C
ATOM	1083	P	C P	16	10.341	-9.034	14.357	1.00	80.06	P
ATOM	1084	O1P	C P	16	9.492	-10.163	14.785	1.00	80.41	O
ATOM	1085	O2P	C P	16	11.797	-9.084	14.612	1.00	79.53	O
ATOM	1086	O5*	C P	16	10.090	-8.782	12.801	1.00	79.47	O
ATOM	1087	C5*	C P	16	8.764	-8.714	12.306	1.00	78.42	C
ATOM	1088	C4*	C P	16	8.755	-8.377	10.832	1.00	77.64	C
ATOM	1089	O4*	C P	16	9.316	-7.067	10.607	1.00	77.25	O
ATOM	1090	C3*	C P	16	9.604	-9.282	9.963	1.00	77.12	C
ATOM	1091	O3*	C P	16	8.931	-10.510	9.772	1.00	76.59	O
ATOM	1092	C2*	C P	16	9.718	-8.422	8.712	1.00	77.11	C
ATOM	1093	O2*	C P	16	8.563	-8.415	7.900	1.00	77.32	O
ATOM	1094	C1*	C P	16	9.944	-7.055	9.340	1.00	77.41	C
ATOM	1095	N1	C P	16	11.395	-6.751	9.487	1.00	77.30	N
ATOM	1096	C2	C P	16	12.084	-6.169	8.416	1.00	77.15	C
ATOM	1097	O2	C P	16	11.492	-5.901	7.362	1.00	77.13	O
ATOM	1098	N3	C P	16	13.402	-5.904	8.571	1.00	77.11	N
ATOM	1099	C4	C P	16	14.036	-6.191	9.702	1.00	77.50	C
ATOM	1100	N4	C P	16	15.337	-5.897	9.778	1.00	77.59	N
ATOM	1101	C5	C P	16	13.357	-6.791	10.801	1.00	77.72	C
ATOM	1102	C6	C P	16	12.054	-7.052	10.648	1.00	77.58	C
ATOM	1103	P	C P	17A	9.657	-11.797	9.167	1.00	75.80	P
ATOM	1104	O1P	C P	17A	8.587	-12.777	8.894	1.00	76.03	O
ATOM	1105	O2P	C P	17A	10.781	-12.171	10.050	1.00	75.77	O
ATOM	1106	O5*	C P	17A	10.252	-11.274	7.771	1.00	75.72	O
ATOM	1107	C5*	C P	17A	9.525	-11.323	6.554	1.00	75.01	C
ATOM	1108	C4*	C P	17A	10.370	-10.864	5.373	1.00	75.03	C
ATOM	1109	O4*	C P	17A	10.899	-9.543	5.637	1.00	75.05	O
ATOM	1110	C3*	C P	17A	11.608	-11.694	5.045	1.00	75.20	C
ATOM	1111	O3*	C P	17A	11.301	-12.874	4.281	1.00	75.17	O
ATOM	1112	C2*	C P	17A	12.430	-10.681	4.252	1.00	75.14	C
ATOM	1113	O2*	C P	17A	12.012	-10.523	2.913	1.00	74.54	O
ATOM	1114	C1*	C P	17A	12.180	-9.401	5.037	1.00	75.07	C
ATOM	1115	N1	C P	17A	13.260	-9.139	6.069	1.00	75.12	N
ATOM	1116	C2	C P	17A	14.453	-8.502	5.684	1.00	75.33	C
ATOM	1117	O2	C P	17A	14.617	-8.155	4.504	1.00	74.96	O
ATOM	1118	N3	C P	17A	15.410	-8.273	6.631	1.00	75.41	N
ATOM	1119	C4	C P	17A	15.238	-8.652	7.899	1.00	74.73	C
ATOM	1120	N4	C P	17A	16.214	-8.410	8.776	1.00	74.11	N
ATOM	1121	C5	C P	17A	14.037	-9.300	8.310	1.00	75.38	C
ATOM	1122	C6	C P	17A	13.094	-9.522	7.375	1.00	75.04	C
ATOM	1123	P	A P	17B	11.855	-14.314	4.728	1.00	75.77	P
ATOM	1124	O1P	A P	17B	11.231	-15.323	3.849	1.00	75.38	O
ATOM	1125	O2P	A P	17B	11.723	-14.446	6.193	1.00	75.44	O
ATOM	1126	O5*	A P	17B	13.407	-14.239	4.359	1.00	75.06	O

ATOM	1127	C5*	A P	17B	13.781	-14.242	2.992	1.00	74.88	C
ATOM	1128	C4*	A P	17B	15.140	-13.605	2.786	1.00	74.68	C
ATOM	1129	O4*	A P	17B	15.178	-12.271	3.358	1.00	74.63	O
ATOM	1130	C3*	A P	17B	16.303	-14.311	3.462	1.00	74.48	C
ATOM	1131	O3*	A P	17B	16.674	-15.463	2.732	1.00	75.13	O
ATOM	1132	C2*	A P	17B	17.345	-13.202	3.407	1.00	74.14	C
ATOM	1133	O2*	A P	17B	17.891	-12.987	2.122	1.00	74.03	O
ATOM	1134	C1*	A P	17B	16.485	-12.017	3.842	1.00	73.14	C
ATOM	1135	N9	A P	17B	16.465	-11.918	5.288	1.00	72.28	N
ATOM	1136	C8	A P	17B	15.448	-12.231	6.146	1.00	72.20	C
ATOM	1137	N7	A P	17B	15.760	-12.058	7.410	1.00	72.27	N
ATOM	1138	C5	A P	17B	17.074	-11.611	7.368	1.00	72.08	C
ATOM	1139	C6	A P	17B	17.989	-11.240	8.370	1.00	71.70	C
ATOM	1140	N6	A P	17B	17.693	-11.267	9.669	1.00	71.96	N
ATOM	1141	N1	A P	17B	19.219	-10.843	7.982	1.00	71.85	N
ATOM	1142	C2	A P	17B	19.519	-10.811	6.678	1.00	71.81	C
ATOM	1143	N3	A P	17B	18.742	-11.132	5.644	1.00	71.80	N
ATOM	1144	C4	A P	17B	17.525	-11.525	6.064	1.00	72.07	C
ATOM	1145	P	U P	17C	17.062	-16.832	3.449	1.00	75.19	P
ATOM	1146	O1P	U P	17C	17.171	-17.826	2.357	1.00	74.95	O
ATOM	1147	O2P	U P	17C	16.154	-17.066	4.592	1.00	75.55	O
ATOM	1148	O5*	U P	17C	18.512	-16.542	4.051	1.00	74.87	O
ATOM	1149	C5*	U P	17C	19.565	-16.022	3.241	1.00	74.77	C
ATOM	1150	C4*	U P	17C	20.772	-15.637	4.084	1.00	74.79	C
ATOM	1151	O4*	U P	17C	20.512	-14.401	4.809	1.00	74.45	O
ATOM	1152	C3*	U P	17C	21.172	-16.613	5.181	1.00	74.68	C
ATOM	1153	O3*	U P	17C	21.888	-17.727	4.657	1.00	75.51	O
ATOM	1154	C2*	U P	17C	22.015	-15.705	6.072	1.00	74.54	C
ATOM	1155	O2*	U P	17C	23.319	-15.467	5.574	1.00	74.18	O
ATOM	1156	C1*	U P	17C	21.168	-14.431	6.068	1.00	73.91	C
ATOM	1157	N1	U P	17C	20.163	-14.411	7.191	1.00	73.63	N
ATOM	1158	C2	U P	17C	20.519	-13.936	8.441	1.00	73.58	C
ATOM	1159	O2	U P	17C	21.621	-13.499	8.718	1.00	73.35	O
ATOM	1160	N3	U P	17C	19.521	-13.985	9.385	1.00	73.57	N
ATOM	1161	C4	U P	17C	18.234	-14.450	9.231	1.00	73.45	C
ATOM	1162	O4	U P	17C	17.459	-14.421	10.176	1.00	73.92	O
ATOM	1163	C5	U P	17C	17.931	-14.932	7.917	1.00	73.85	C
ATOM	1164	C6	U P	17C	18.885	-14.897	6.978	1.00	73.87	C
ATOM	1165	P	U P	17D	21.632	-19.228	5.177	1.00	76.90	P
ATOM	1166	O1P	U P	17D	22.233	-20.119	4.156	1.00	75.76	O
ATOM	1167	O2P	U P	17D	20.211	-19.417	5.541	1.00	76.56	O
ATOM	1168	O5*	U P	17D	22.469	-19.291	6.542	1.00	76.09	O
ATOM	1169	C5*	U P	17D	23.850	-18.954	6.568	1.00	76.58	C
ATOM	1170	C4*	U P	17D	24.586	-19.709	7.662	1.00	76.81	C
ATOM	1171	O4*	U P	17D	24.050	-19.312	8.957	1.00	77.74	O
ATOM	1172	C3*	U P	17D	24.489	-21.237	7.602	1.00	76.58	C
ATOM	1173	O3*	U P	17D	25.771	-21.850	7.869	1.00	75.32	O
ATOM	1174	C2*	U P	17D	23.445	-21.551	8.675	1.00	77.36	C
ATOM	1175	O2*	U P	17D	23.572	-22.836	9.254	1.00	77.73	O
ATOM	1176	C1*	U P	17D	23.741	-20.471	9.713	1.00	78.10	C
ATOM	1177	N1	U P	17D	22.606	-20.184	10.669	1.00	78.25	N
ATOM	1178	C2	U P	17D	22.673	-20.624	11.976	1.00	77.86	C
ATOM	1179	O2	U P	17D	23.609	-21.246	12.433	1.00	78.79	O
ATOM	1180	N3	U P	17D	21.590	-20.305	12.754	1.00	78.28	N
ATOM	1181	C4	U P	17D	20.453	-19.607	12.382	1.00	78.54	C
ATOM	1182	O4	U P	17D	19.557	-19.406	13.201	1.00	78.35	O
ATOM	1183	C5	U P	17D	20.446	-19.180	11.005	1.00	78.86	C
ATOM	1184	C6	U P	17D	21.497	-19.481	10.224	1.00	78.74	C
ATOM	1185	P	G P	17E	26.911	-21.892	6.735	1.00	75.37	P

ATOM	1186	O1P	G P	17E	26.194	-21.895	5.434	1.00	76.15	O
ATOM	1187	O2P	G P	17E	27.909	-22.947	7.029	1.00	75.51	O
ATOM	1188	O5*	G P	17E	27.679	-20.505	6.878	1.00	74.06	O
ATOM	1189	C5*	G P	17E	28.221	-19.913	5.711	1.00	73.40	C
ATOM	1190	C4*	G P	17E	28.429	-18.428	5.900	1.00	72.73	C
ATOM	1191	O4*	G P	17E	27.268	-17.839	6.539	1.00	72.81	O
ATOM	1192	C3*	G P	17E	29.611	-18.101	6.795	1.00	72.35	C
ATOM	1193	O3*	G P	17E	30.792	-18.019	6.010	1.00	70.79	O
ATOM	1194	C2*	G P	17E	29.180	-16.779	7.418	1.00	72.33	C
ATOM	1195	O2*	G P	17E	29.412	-15.660	6.583	1.00	72.86	O
ATOM	1196	C1*	G P	17E	27.678	-16.992	7.600	1.00	72.96	C
ATOM	1197	N9	G P	17E	27.282	-17.571	8.894	1.00	73.05	N
ATOM	1198	C8	G P	17E	27.933	-18.529	9.637	1.00	73.00	C
ATOM	1199	N7	G P	17E	27.330	-18.828	10.751	1.00	72.97	N
ATOM	1200	C5	G P	17E	26.202	-18.019	10.757	1.00	73.39	C
ATOM	1201	C6	G P	17E	25.153	-17.901	11.712	1.00	73.29	C
ATOM	1202	O6	G P	17E	25.001	-18.507	12.782	1.00	73.34	O
ATOM	1203	N1	G P	17E	24.199	-16.964	11.335	1.00	73.32	N
ATOM	1204	C2	G P	17E	24.239	-16.230	10.174	1.00	73.11	C
ATOM	1205	N2	G P	17E	23.221	-15.375	9.994	1.00	73.36	N
ATOM	1206	N3	G P	17E	25.209	-16.326	9.268	1.00	72.81	N
ATOM	1207	C4	G P	17E	26.157	-17.238	9.621	1.00	73.17	C
ATOM	1208	P	C P	17F	31.985	-19.044	6.284	1.00	70.99	P
ATOM	1209	O1P	C P	17F	33.021	-18.760	5.262	1.00	70.78	O
ATOM	1210	O2P	C P	17F	31.444	-20.417	6.481	1.00	70.45	O
ATOM	1211	O5*	C P	17F	32.541	-18.560	7.696	1.00	69.54	O
ATOM	1212	C5*	C P	17F	32.728	-17.179	7.973	1.00	68.22	C
ATOM	1213	C4*	C P	17F	34.145	-16.922	8.440	1.00	67.21	C
ATOM	1214	O4*	C P	17F	34.474	-17.751	9.584	1.00	67.70	O
ATOM	1215	C3*	C P	17F	35.217	-17.252	7.420	1.00	66.46	C
ATOM	1216	O3*	C P	17F	36.219	-16.276	7.578	1.00	65.27	O
ATOM	1217	C2*	C P	17F	35.686	-18.650	7.813	1.00	66.47	C
ATOM	1218	O2*	C P	17F	36.991	-18.973	7.371	1.00	66.76	O
ATOM	1219	C1*	C P	17F	35.639	-18.512	9.325	1.00	66.58	C
ATOM	1220	N1	C P	17F	35.536	-19.797	10.083	1.00	66.60	N
ATOM	1221	C2	C P	17F	36.564	-20.194	10.939	1.00	66.46	C
ATOM	1222	O2	C P	17F	37.561	-19.482	11.054	1.00	66.77	O
ATOM	1223	N3	C P	17F	36.445	-21.362	11.619	1.00	66.98	N
ATOM	1224	C4	C P	17F	35.352	-22.117	11.477	1.00	66.76	C
ATOM	1225	N4	C P	17F	35.271	-23.259	12.166	1.00	66.95	N
ATOM	1226	C5	C P	17F	34.289	-21.733	10.615	1.00	66.64	C
ATOM	1227	C6	C P	17F	34.424	-20.579	9.948	1.00	66.64	C
ATOM	1228	P	A P	17G	37.085	-15.761	6.345	1.00	63.44	P
ATOM	1229	O1P	A P	17G	36.228	-15.773	5.133	1.00	63.25	O
ATOM	1230	O2P	A P	17G	38.356	-16.519	6.388	1.00	63.45	O
ATOM	1231	O5*	A P	17G	37.367	-14.235	6.747	1.00	62.75	O
ATOM	1232	C5*	A P	17G	36.300	-13.284	6.749	1.00	61.88	C
ATOM	1233	C4*	A P	17G	36.181	-12.608	8.099	1.00	61.52	C
ATOM	1234	O4*	A P	17G	36.085	-13.611	9.137	1.00	61.02	O
ATOM	1235	C3*	A P	17G	37.374	-11.762	8.493	1.00	61.86	C
ATOM	1236	O3*	A P	17G	37.234	-10.463	7.921	1.00	63.28	O
ATOM	1237	C2*	A P	17G	37.276	-11.767	10.016	1.00	61.31	C
ATOM	1238	O2*	A P	17G	36.386	-10.784	10.512	1.00	61.00	O
ATOM	1239	C1*	A P	17G	36.742	-13.168	10.311	1.00	60.32	C
ATOM	1240	N9	A P	17G	37.751	-14.148	10.728	1.00	59.88	N
ATOM	1241	C8	A P	17G	38.194	-15.256	10.059	1.00	59.91	C
ATOM	1242	N7	A P	17G	39.101	-15.954	10.702	1.00	59.73	N
ATOM	1243	C5	A P	17G	39.265	-15.261	11.882	1.00	59.68	C
ATOM	1244	C6	A P	17G	40.083	-15.483	13.007	1.00	59.66	C

ATOM	1245	N6	A P	17G	40.929	-16.508	13.116	1.00	59.92	N
ATOM	1246	N1	A P	17G	40.009	-14.600	14.020	1.00	59.88	N
ATOM	1247	C2	A P	17G	39.161	-13.568	13.912	1.00	59.87	C
ATOM	1248	N3	A P	17G	38.337	-13.257	12.909	1.00	59.76	N
ATOM	1249	C4	A P	17G	38.443	-14.148	11.912	1.00	59.74	C
ATOM	1250	P	C P	17H	38.509	-9.573	7.553	1.00	64.05	P
ATOM	1251	O1P	C P	17H	38.011	-8.265	7.069	1.00	63.83	O
ATOM	1252	O2P	C P	17H	39.397	-10.395	6.701	1.00	64.35	O
ATOM	1253	O5*	C P	17H	39.230	-9.372	8.968	1.00	65.49	O
ATOM	1254	C5*	C P	17H	38.811	-8.379	9.898	1.00	66.93	C
ATOM	1255	C4*	C P	17H	39.833	-8.230	11.011	1.00	67.81	C
ATOM	1256	O4*	C P	17H	39.884	-9.460	11.769	1.00	68.16	O
ATOM	1257	C3*	C P	17H	41.252	-7.956	10.529	1.00	68.70	C
ATOM	1258	O3*	C P	17H	41.563	-6.574	10.698	1.00	69.61	O
ATOM	1259	C2*	C P	17H	42.157	-8.849	11.376	1.00	68.88	C
ATOM	1260	O2*	C P	17H	42.956	-8.131	12.302	1.00	68.75	O
ATOM	1261	C1*	C P	17H	41.210	-9.800	12.106	1.00	68.93	C
ATOM	1262	N1	C P	17H	41.476	-11.220	11.722	1.00	69.28	N
ATOM	1263	C2	C P	17H	42.269	-12.034	12.545	1.00	69.50	C
ATOM	1264	O2	C P	17H	42.742	-11.593	13.601	1.00	69.41	O
ATOM	1265	N3	C P	17H	42.506	-13.312	12.159	1.00	69.83	N
ATOM	1266	C4	C P	17H	42.001	-13.787	11.019	1.00	69.74	C
ATOM	1267	N4	C P	17H	42.268	-15.059	10.700	1.00	69.66	N
ATOM	1268	C5	C P	17H	41.194	-12.978	10.165	1.00	69.58	C
ATOM	1269	C6	C P	17H	40.969	-11.716	10.549	1.00	69.44	C
ATOM	1270	P	U P	17I	42.073	-5.670	9.482	1.00	70.45	P
ATOM	1271	O1P	U P	17I	41.565	-6.243	8.215	1.00	70.34	O
ATOM	1272	O2P	U P	17I	43.525	-5.440	9.664	1.00	70.58	O
ATOM	1273	O5*	U P	17I	41.311	-4.291	9.773	1.00	71.50	O
ATOM	1274	C5*	U P	17I	41.900	-3.032	9.453	1.00	72.63	C
ATOM	1275	C4*	U P	17I	40.838	-1.958	9.271	1.00	73.26	C
ATOM	1276	O4*	U P	17I	41.420	-0.850	8.529	1.00	73.43	O
ATOM	1277	C3*	U P	17I	39.597	-2.379	8.485	1.00	73.72	C
ATOM	1278	O3*	U P	17I	38.543	-2.830	9.358	1.00	74.96	O
ATOM	1279	C2*	U P	17I	39.234	-1.097	7.735	1.00	73.59	C
ATOM	1280	O2*	U P	17I	38.492	-0.172	8.507	1.00	73.23	O
ATOM	1281	C1*	U P	17I	40.612	-0.536	7.411	1.00	73.44	C
ATOM	1282	P	C P	17J	37.950	-4.331	9.324	1.00	76.39	P
ATOM	1283	O1P	C P	17J	38.624	-5.096	10.398	1.00	76.12	O
ATOM	1284	O2P	C P	17J	37.989	-4.831	7.929	1.00	76.27	O
ATOM	1285	O5*	C P	17J	36.416	-4.148	9.772	1.00	76.10	O
ATOM	1286	C5*	C P	17J	35.401	-3.723	8.858	1.00	76.17	C
ATOM	1287	C4*	C P	17J	34.654	-2.495	9.362	1.00	76.27	C
ATOM	1288	O4*	C P	17J	35.387	-1.282	9.026	1.00	76.25	O
ATOM	1289	C3*	C P	17J	33.271	-2.319	8.749	1.00	76.19	C
ATOM	1290	O3*	C P	17J	32.285	-2.960	9.557	1.00	75.95	O
ATOM	1291	C2*	C P	17J	33.100	-0.800	8.680	1.00	76.31	C
ATOM	1292	O2*	C P	17J	32.578	-0.229	9.865	1.00	76.40	O
ATOM	1293	C1*	C P	17J	34.529	-0.322	8.436	1.00	76.22	C
ATOM	1294	P	C P	17K	31.421	-4.174	8.966	1.00	75.99	P
ATOM	1295	O1P	C P	17K	30.359	-4.503	9.941	1.00	75.81	O
ATOM	1296	O2P	C P	17K	32.346	-5.243	8.533	1.00	75.91	O
ATOM	1297	O5*	C P	17K	30.761	-3.515	7.662	1.00	75.92	O
ATOM	1298	C5*	C P	17K	29.503	-2.834	7.679	1.00	75.50	C
ATOM	1299	C4*	C P	17K	28.862	-2.848	6.299	1.00	75.37	C
ATOM	1300	O4*	C P	17K	29.550	-1.916	5.428	1.00	75.35	O
ATOM	1301	C3*	C P	17K	28.900	-4.200	5.584	1.00	75.03	C
ATOM	1302	O3*	C P	17K	27.703	-4.421	4.845	1.00	74.15	O
ATOM	1303	C2*	C P	17K	30.142	-4.111	4.694	1.00	75.09	C

ATOM	1304	O2*	C P	17K	30.042	-4.833	3.480	1.00	74.68	O
ATOM	1305	C1*	C P	17K	30.281	-2.604	4.424	1.00	75.31	C
ATOM	1306	N1	C P	17K	31.686	-2.026	4.426	1.00	75.28	N
ATOM	1307	C2	C P	17K	31.857	-0.687	4.034	1.00	75.17	C
ATOM	1308	O2	C P	17K	30.874	-0.016	3.696	1.00	75.07	O
ATOM	1309	N3	C P	17K	33.107	-0.152	4.036	1.00	75.42	N
ATOM	1310	C4	C P	17K	34.160	-0.887	4.403	1.00	75.36	C
ATOM	1311	N4	C P	17K	35.366	-0.311	4.384	1.00	75.22	N
ATOM	1312	C5	C P	17K	34.017	-2.249	4.804	1.00	75.24	C
ATOM	1313	C6	C P	17K	32.783	-2.767	4.802	1.00	75.36	C
ATOM	1314	P	G P	17L	26.434	-5.098	5.545	1.00	73.05	P
ATOM	1315	O1P	G P	17L	26.232	-4.444	6.854	1.00	73.11	O
ATOM	1316	O2P	G P	17L	26.589	-6.567	5.475	1.00	72.41	O
ATOM	1317	O5*	G P	17L	25.231	-4.647	4.591	1.00	73.49	O
ATOM	1318	C5*	G P	17L	25.428	-4.486	3.190	1.00	73.50	C
ATOM	1319	C4*	G P	17L	24.223	-4.960	2.399	1.00	73.69	C
ATOM	1320	O4*	G P	17L	23.802	-6.275	2.842	1.00	73.20	O
ATOM	1321	C3*	G P	17L	22.965	-4.118	2.543	1.00	73.71	C
ATOM	1322	O3*	G P	17L	23.043	-2.936	1.768	1.00	75.03	O
ATOM	1323	C2*	G P	17L	21.922	-5.090	2.011	1.00	73.69	C
ATOM	1324	O2*	G P	17L	21.892	-5.177	0.596	1.00	73.01	O
ATOM	1325	C1*	G P	17L	22.401	-6.390	2.662	1.00	73.14	C
ATOM	1326	N9	G P	17L	21.746	-6.623	3.947	1.00	72.99	N
ATOM	1327	C8	G P	17L	22.273	-6.472	5.208	1.00	72.84	C
ATOM	1328	N7	G P	17L	21.429	-6.753	6.160	1.00	72.77	N
ATOM	1329	C5	G P	17L	20.265	-7.109	5.495	1.00	72.92	C
ATOM	1330	C6	G P	17L	19.002	-7.509	6.000	1.00	72.94	C
ATOM	1331	O6	G P	17L	18.643	-7.638	7.179	1.00	72.86	O
ATOM	1332	N1	G P	17L	18.099	-7.776	4.975	1.00	72.82	N
ATOM	1333	C2	G P	17L	18.368	-7.669	3.638	1.00	72.75	C
ATOM	1334	N2	G P	17L	17.353	-7.973	2.821	1.00	73.14	N
ATOM	1335	N3	G P	17L	19.542	-7.294	3.148	1.00	72.90	N
ATOM	1336	C4	G P	17L	20.442	-7.030	4.130	1.00	72.95	C
ATOM	1337	P	G P	18	22.148	-1.654	2.112	1.00	75.91	P
ATOM	1338	O1P	G P	18	22.488	-0.615	1.117	1.00	76.33	O
ATOM	1339	O2P	G P	18	22.276	-1.357	3.556	1.00	76.15	O
ATOM	1340	O5*	G P	18	20.656	-2.148	1.833	1.00	77.30	O
ATOM	1341	C5*	G P	18	20.130	-2.116	0.518	1.00	78.65	C
ATOM	1342	C4*	G P	18	18.737	-2.707	0.505	1.00	79.54	C
ATOM	1343	O4*	G P	18	18.702	-3.937	1.272	1.00	79.91	O
ATOM	1344	C3*	G P	18	17.679	-1.836	1.157	1.00	80.24	C
ATOM	1345	O3*	G P	18	17.273	-0.796	0.272	1.00	81.12	O
ATOM	1346	C2*	G P	18	16.590	-2.863	1.456	1.00	80.35	C
ATOM	1347	O2*	G P	18	15.751	-3.170	0.361	1.00	80.19	O
ATOM	1348	C1*	G P	18	17.424	-4.080	1.869	1.00	80.56	C
ATOM	1349	N9	G P	18	17.547	-4.176	3.319	1.00	80.79	N
ATOM	1350	C8	G P	18	18.667	-3.993	4.093	1.00	80.88	C
ATOM	1351	N7	G P	18	18.445	-4.135	5.369	1.00	80.84	N
ATOM	1352	C5	G P	18	17.093	-4.426	5.449	1.00	80.91	C
ATOM	1353	C6	G P	18	16.279	-4.684	6.575	1.00	80.87	C
ATOM	1354	O6	G P	18	16.604	-4.703	7.769	1.00	80.80	O
ATOM	1355	N1	G P	18	14.957	-4.935	6.209	1.00	81.10	N
ATOM	1356	C2	G P	18	14.470	-4.939	4.926	1.00	80.92	C
ATOM	1357	N2	G P	18	13.162	-5.200	4.792	1.00	80.85	N
ATOM	1358	N3	G P	18	15.226	-4.700	3.861	1.00	81.27	N
ATOM	1359	C4	G P	18	16.522	-4.455	4.196	1.00	80.99	C
ATOM	1360	P	U P	19	16.858	0.657	0.813	1.00	82.28	P
ATOM	1361	O1P	U P	19	16.558	1.527	-0.351	1.00	82.09	O
ATOM	1362	O2P	U P	19	17.875	1.093	1.796	1.00	81.92	O

ATOM	1363	O5*	U P	19	15.479	0.343	1.561	1.00	83.19	O
ATOM	1364	C5*	U P	19	14.337	-0.031	0.800	1.00	84.68	C
ATOM	1365	C4*	U P	19	13.187	-0.491	1.677	1.00	85.28	C
ATOM	1366	O4*	U P	19	13.555	-1.665	2.450	1.00	85.84	O
ATOM	1367	C3*	U P	19	12.737	0.501	2.733	1.00	85.65	C
ATOM	1368	O3*	U P	19	11.974	1.549	2.149	1.00	86.15	O
ATOM	1369	C2*	U P	19	11.936	-0.419	3.645	1.00	85.80	C
ATOM	1370	O2*	U P	19	10.648	-0.730	3.156	1.00	85.28	O
ATOM	1371	C1*	U P	19	12.854	-1.641	3.682	1.00	86.23	C
ATOM	1372	N1	U P	19	13.818	-1.586	4.844	1.00	86.73	N
ATOM	1373	C2	U P	19	13.360	-1.944	6.100	1.00	87.03	C
ATOM	1374	O2	U P	19	12.214	-2.314	6.306	1.00	87.11	O
ATOM	1375	N3	U P	19	14.299	-1.859	7.108	1.00	86.83	N
ATOM	1376	C4	U P	19	15.620	-1.458	7.006	1.00	86.66	C
ATOM	1377	O4	U P	19	16.333	-1.440	8.004	1.00	86.40	O
ATOM	1378	C5	U P	19	16.029	-1.095	5.673	1.00	86.76	C
ATOM	1379	C6	U P	19	15.134	-1.168	4.673	1.00	86.83	C
ATOM	1380	P	G P	20	12.050	3.042	2.727	1.00	86.62	P
ATOM	1381	O1P	G P	20	11.271	3.920	1.821	1.00	86.79	O
ATOM	1382	O2P	G P	20	13.461	3.369	3.032	1.00	86.34	O
ATOM	1383	O5*	G P	20	11.235	2.910	4.095	1.00	86.19	O
ATOM	1384	C5*	G P	20	9.833	2.697	4.043	1.00	85.69	C
ATOM	1385	C4*	G P	20	9.298	2.209	5.375	1.00	85.05	C
ATOM	1386	O4*	G P	20	9.965	0.992	5.793	1.00	85.28	O
ATOM	1387	C3*	G P	20	9.514	3.163	6.534	1.00	84.27	C
ATOM	1388	O3*	G P	20	8.535	4.178	6.499	1.00	82.55	O
ATOM	1389	C2*	G P	20	9.344	2.221	7.714	1.00	84.69	C
ATOM	1390	O2*	G P	20	7.989	1.921	7.989	1.00	84.32	O
ATOM	1391	C1*	G P	20	10.096	0.993	7.207	1.00	85.31	C
ATOM	1392	N9	G P	20	11.514	0.981	7.569	1.00	85.46	N
ATOM	1393	C8	G P	20	12.590	1.301	6.773	1.00	85.61	C
ATOM	1394	N7	G P	20	13.742	1.193	7.369	1.00	85.56	N
ATOM	1395	C5	G P	20	13.415	0.775	8.646	1.00	85.66	C
ATOM	1396	C6	G P	20	14.256	0.486	9.744	1.00	85.51	C
ATOM	1397	O6	G P	20	15.489	0.558	9.802	1.00	85.62	O
ATOM	1398	N1	G P	20	13.531	0.097	10.864	1.00	85.40	N
ATOM	1399	C2	G P	20	12.163	-0.009	10.918	1.00	85.47	C
ATOM	1400	N2	G P	20	11.647	-0.408	12.087	1.00	85.50	N
ATOM	1401	N3	G P	20	11.359	0.256	9.893	1.00	85.85	N
ATOM	1402	C4	G P	20	12.051	0.641	8.790	1.00	85.71	C
ATOM	1403	P	C P	21	8.815	5.621	7.119	1.00	80.72	P
ATOM	1404	O1P	C P	21	7.575	6.402	6.900	1.00	80.66	O
ATOM	1405	O2P	C P	21	10.120	6.106	6.610	1.00	80.12	O
ATOM	1406	O5*	C P	21	8.951	5.343	8.693	1.00	78.68	O
ATOM	1407	C5*	C P	21	7.811	5.020	9.499	1.00	76.03	C
ATOM	1408	C4*	C P	21	8.204	4.624	10.917	1.00	74.25	C
ATOM	1409	O4*	C P	21	8.986	3.399	10.894	1.00	73.34	O
ATOM	1410	C3*	C P	21	9.084	5.610	11.682	1.00	72.73	C
ATOM	1411	O3*	C P	21	8.332	6.693	12.239	1.00	70.49	O
ATOM	1412	C2*	C P	21	9.663	4.692	12.749	1.00	72.65	C
ATOM	1413	O2*	C P	21	8.764	4.433	13.809	1.00	72.45	O
ATOM	1414	C1*	C P	21	9.954	3.437	11.927	1.00	72.87	C
ATOM	1415	N1	C P	21	11.351	3.475	11.371	1.00	72.83	N
ATOM	1416	C2	C P	21	12.424	2.971	12.130	1.00	72.70	C
ATOM	1417	O2	C P	21	12.221	2.470	13.243	1.00	72.70	O
ATOM	1418	N3	C P	21	13.678	3.032	11.614	1.00	72.63	N
ATOM	1419	C4	C P	21	13.898	3.576	10.416	1.00	72.78	C
ATOM	1420	N4	C P	21	15.154	3.604	9.964	1.00	72.69	N
ATOM	1421	C5	C P	21	12.831	4.100	9.629	1.00	72.86	C

ATOM	1422	C6	C P	21	11.596	4.035	10.144	1.00	72.91	C
ATOM	1423	P	C P	22	8.981	8.140	12.509	1.00	68.50	P
ATOM	1424	O1P	C P	22	7.862	9.040	12.864	1.00	68.49	O
ATOM	1425	O2P	C P	22	9.875	8.501	11.390	1.00	68.41	O
ATOM	1426	O5*	C P	22	9.906	7.928	13.798	1.00	66.04	O
ATOM	1427	C5*	C P	22	9.318	7.733	15.081	1.00	63.15	C
ATOM	1428	C4*	C P	22	10.335	7.213	16.079	1.00	61.22	C
ATOM	1429	O4*	C P	22	10.960	5.998	15.588	1.00	60.37	O
ATOM	1430	C3*	C P	22	11.528	8.116	16.355	1.00	59.48	C
ATOM	1431	O3*	C P	22	11.162	9.212	17.169	1.00	57.34	O
ATOM	1432	C2*	C P	22	12.449	7.104	17.031	1.00	59.29	C
ATOM	1433	O2*	C P	22	12.050	6.655	18.313	1.00	58.79	O
ATOM	1434	C1*	C P	22	12.306	5.964	16.040	1.00	59.13	C
ATOM	1435	N1	C P	22	13.278	6.082	14.906	1.00	58.76	N
ATOM	1436	C2	C P	22	14.599	5.677	15.132	1.00	58.13	C
ATOM	1437	O2	C P	22	14.913	5.247	16.245	1.00	57.85	O
ATOM	1438	N3	C P	22	15.498	5.763	14.122	1.00	58.24	N
ATOM	1439	C4	C P	22	15.123	6.233	12.931	1.00	58.39	C
ATOM	1440	N4	C P	22	16.047	6.297	11.971	1.00	58.16	N
ATOM	1441	C5	C P	22	13.783	6.655	12.675	1.00	58.33	C
ATOM	1442	C6	C P	22	12.905	6.565	13.680	1.00	58.42	C
ATOM	1443	P	A P	23	11.864	10.643	17.030	1.00	57.40	P
ATOM	1444	O1P	A P	23	11.031	11.574	17.816	1.00	56.60	O
ATOM	1445	O2P	A P	23	12.139	10.940	15.604	1.00	56.75	O
ATOM	1446	O5*	A P	23	13.281	10.454	17.751	1.00	55.29	O
ATOM	1447	C5*	A P	23	13.378	9.796	19.014	1.00	54.07	C
ATOM	1448	C4*	A P	23	14.791	9.332	19.334	1.00	53.12	C
ATOM	1449	O4*	A P	23	15.167	8.175	18.539	1.00	52.03	O
ATOM	1450	C3*	A P	23	15.890	10.340	19.037	1.00	52.33	C
ATOM	1451	O3*	A P	23	15.931	11.349	20.030	1.00	51.16	O
ATOM	1452	C2*	A P	23	17.108	9.421	19.010	1.00	51.95	C
ATOM	1453	O2*	A P	23	17.534	8.965	20.286	1.00	51.34	O
ATOM	1454	C1*	A P	23	16.533	8.286	18.164	1.00	51.25	C
ATOM	1455	N9	A P	23	16.639	8.520	16.720	1.00	50.98	N
ATOM	1456	C8	A P	23	15.644	8.888	15.853	1.00	51.09	C
ATOM	1457	N7	A P	23	16.039	9.023	14.609	1.00	51.28	N
ATOM	1458	C5	A P	23	17.390	8.731	14.656	1.00	51.04	C
ATOM	1459	C6	A P	23	18.395	8.700	13.661	1.00	51.19	C
ATOM	1460	N6	A P	23	18.166	8.975	12.374	1.00	50.63	N
ATOM	1461	N1	A P	23	19.652	8.375	14.043	1.00	50.87	N
ATOM	1462	C2	A P	23	19.886	8.099	15.332	1.00	50.60	C
ATOM	1463	N3	A P	23	19.022	8.096	16.350	1.00	50.84	N
ATOM	1464	C4	A P	23	17.778	8.420	15.948	1.00	50.90	C
ATOM	1465	P	G P	24	16.245	12.849	19.578	1.00	52.56	P
ATOM	1466	O1P	G P	24	15.950	13.721	20.735	1.00	51.77	O
ATOM	1467	O2P	G P	24	15.623	13.137	18.263	1.00	51.62	O
ATOM	1468	O5*	G P	24	17.817	12.780	19.305	1.00	50.69	O
ATOM	1469	C5*	G P	24	18.694	12.439	20.360	1.00	49.14	C
ATOM	1470	C4*	G P	24	20.073	12.135	19.823	1.00	47.74	C
ATOM	1471	O4*	G P	24	19.979	11.095	18.830	1.00	46.61	O
ATOM	1472	C3*	G P	24	20.764	13.272	19.089	1.00	47.08	C
ATOM	1473	O3*	G P	24	21.282	14.225	20.011	1.00	46.90	O
ATOM	1474	C2*	G P	24	21.812	12.466	18.327	1.00	46.78	C
ATOM	1475	O2*	G P	24	22.856	11.924	19.113	1.00	45.39	O
ATOM	1476	C1*	G P	24	20.928	11.344	17.818	1.00	46.00	C
ATOM	1477	N9	G P	24	20.212	11.581	16.565	1.00	46.10	N
ATOM	1478	C8	G P	24	18.873	11.817	16.338	1.00	45.90	C
ATOM	1479	N7	G P	24	18.571	11.940	15.070	1.00	45.80	N
ATOM	1480	C5	G P	24	19.780	11.764	14.416	1.00	45.83	C

ATOM	1481	C6	G P	24	20.103	11.779	13.037	1.00	45.96	C
ATOM	1482	O6	G P	24	19.355	11.960	12.065	1.00	45.91	O
ATOM	1483	N1	G P	24	21.464	11.560	12.830	1.00	45.92	N
ATOM	1484	C2	G P	24	22.397	11.344	13.822	1.00	45.71	C
ATOM	1485	N2	G P	24	23.665	11.156	13.448	1.00	46.09	N
ATOM	1486	N3	G P	24	22.107	11.320	15.106	1.00	45.12	N
ATOM	1487	C4	G P	24	20.793	11.543	15.326	1.00	45.88	C
ATOM	1488	P	U P	25	21.649	15.719	19.567	1.00	46.75	P
ATOM	1489	O1P	U P	25	22.336	16.308	20.731	1.00	46.20	O
ATOM	1490	O2P	U P	25	20.499	16.418	18.949	1.00	46.68	O
ATOM	1491	O5*	U P	25	22.684	15.466	18.383	1.00	46.83	O
ATOM	1492	C5*	U P	25	24.030	15.072	18.627	1.00	46.53	C
ATOM	1493	C4*	U P	25	24.779	15.100	17.315	1.00	46.32	C
ATOM	1494	O4*	U P	25	24.219	14.164	16.373	1.00	45.93	O
ATOM	1495	C3*	U P	25	24.629	16.411	16.577	1.00	46.66	C
ATOM	1496	O3*	U P	25	25.465	17.353	17.170	1.00	46.89	O
ATOM	1497	C2*	U P	25	25.052	16.015	15.177	1.00	46.68	C
ATOM	1498	O2*	U P	25	26.443	15.829	15.044	1.00	48.02	O
ATOM	1499	C1*	U P	25	24.304	14.697	15.063	1.00	46.11	C
ATOM	1500	N1	U P	25	22.937	14.835	14.477	1.00	45.63	N
ATOM	1501	C2	U P	25	22.816	14.983	13.114	1.00	45.66	C
ATOM	1502	O2	U P	25	23.766	15.018	12.359	1.00	45.73	O
ATOM	1503	N3	U P	25	21.526	15.081	12.654	1.00	46.01	N
ATOM	1504	C4	U P	25	20.366	15.055	13.397	1.00	45.48	C
ATOM	1505	O4	U P	25	19.288	15.160	12.831	1.00	45.92	O
ATOM	1506	C5	U P	25	20.560	14.900	14.807	1.00	45.72	C
ATOM	1507	C6	U P	25	21.810	14.797	15.278	1.00	46.20	C
ATOM	1508	P	U P	26	25.191	18.903	16.967	1.00	46.91	P
ATOM	1509	O1P	U P	26	26.156	19.574	17.870	1.00	46.17	O
ATOM	1510	O2P	U P	26	23.736	19.183	17.039	1.00	46.73	O
ATOM	1511	O5*	U P	26	25.610	19.099	15.445	1.00	46.15	O
ATOM	1512	C5*	U P	26	26.981	19.220	15.079	1.00	45.50	C
ATOM	1513	C4*	U P	26	27.049	19.339	13.570	1.00	45.21	C
ATOM	1514	O4*	U P	26	26.277	18.274	12.945	1.00	45.43	O
ATOM	1515	C3*	U P	26	26.426	20.603	13.000	1.00	44.44	C
ATOM	1516	O3*	U P	26	27.326	21.667	13.038	1.00	43.27	O
ATOM	1517	C2*	U P	26	26.217	20.186	11.568	1.00	45.25	C
ATOM	1518	O2*	U P	26	27.448	20.265	10.880	1.00	45.37	O
ATOM	1519	C1*	U P	26	25.728	18.750	11.733	1.00	45.45	C
ATOM	1520	N1	U P	26	24.240	18.625	11.771	1.00	45.47	N
ATOM	1521	C2	U P	26	23.552	18.563	10.579	1.00	46.07	C
ATOM	1522	O2	U P	26	24.090	18.602	9.486	1.00	46.71	O
ATOM	1523	N3	U P	26	22.185	18.442	10.701	1.00	46.30	N
ATOM	1524	C4	U P	26	21.437	18.383	11.860	1.00	46.04	C
ATOM	1525	O4	U P	26	20.213	18.273	11.796	1.00	46.34	O
ATOM	1526	C5	U P	26	22.219	18.462	13.065	1.00	46.13	C
ATOM	1527	C6	U P	26	23.553	18.577	12.973	1.00	46.11	C
ATOM	1528	P	G P	27	26.881	23.072	13.622	1.00	41.31	P
ATOM	1529	O1P	G P	27	28.036	23.987	13.471	1.00	42.05	O
ATOM	1530	O2P	G P	27	26.230	22.862	14.936	1.00	41.34	O
ATOM	1531	O5*	G P	27	25.779	23.505	12.576	1.00	41.24	O
ATOM	1532	C5*	G P	27	26.162	23.777	11.244	1.00	40.62	C
ATOM	1533	C4*	G P	27	24.900	24.024	10.446	1.00	40.51	C
ATOM	1534	O4*	G P	27	24.120	22.822	10.498	1.00	40.09	O
ATOM	1535	C3*	G P	27	23.959	25.093	10.986	1.00	39.73	C
ATOM	1536	O3*	G P	27	24.366	26.370	10.565	1.00	40.40	O
ATOM	1537	C2*	G P	27	22.640	24.672	10.361	1.00	39.64	C
ATOM	1538	O2*	G P	27	22.494	25.010	9.002	1.00	39.16	O
ATOM	1539	C1*	G P	27	22.755	23.169	10.484	1.00	39.43	C

ATOM	1540	N9	G P	27	22.138	22.681	11.699	1.00	39.24	N
ATOM	1541	C8	G P	27	22.561	22.812	12.994	1.00	38.90	C
ATOM	1542	N7	G P	27	21.758	22.261	13.848	1.00	39.16	N
ATOM	1543	C5	G P	27	20.751	21.728	13.062	1.00	39.33	C
ATOM	1544	C6	G P	27	19.589	21.008	13.415	1.00	39.71	C
ATOM	1545	O6	G P	27	19.230	20.678	14.556	1.00	39.59	O
ATOM	1546	N1	G P	27	18.829	20.665	12.284	1.00	39.55	N
ATOM	1547	C2	G P	27	19.157	20.982	10.990	1.00	38.67	C
ATOM	1548	N2	G P	27	18.331	20.573	10.032	1.00	38.68	N
ATOM	1549	N3	G P	27	20.244	21.649	10.660	1.00	38.27	N
ATOM	1550	C4	G P	27	20.977	21.982	11.737	1.00	38.57	C
ATOM	1551	P	A P	28	24.290	27.616	11.545	1.00	39.86	P
ATOM	1552	O1P	A P	28	24.823	27.241	12.867	1.00	41.24	O
ATOM	1553	O2P	A P	28	22.922	28.162	11.460	1.00	42.83	O
ATOM	1554	O5*	A P	28	25.272	28.604	10.772	1.00	39.65	O
ATOM	1555	C5*	A P	28	26.673	28.463	10.833	1.00	37.89	C
ATOM	1556	C4*	A P	28	27.363	29.765	11.230	1.00	37.87	C
ATOM	1557	O4*	A P	28	27.173	30.780	10.213	1.00	37.78	O
ATOM	1558	C3*	A P	28	26.903	30.454	12.498	1.00	36.62	C
ATOM	1559	O3*	A P	28	27.952	31.220	12.997	1.00	38.42	O
ATOM	1560	C2*	A P	28	25.799	31.383	12.032	1.00	37.41	C
ATOM	1561	O2*	A P	28	25.665	32.539	12.831	1.00	39.52	O
ATOM	1562	C1*	A P	28	26.256	31.763	10.633	1.00	36.52	C
ATOM	1563	N9	A P	28	25.256	31.698	9.583	1.00	36.61	N
ATOM	1564	C8	A P	28	24.044	31.080	9.618	1.00	35.88	C
ATOM	1565	N7	A P	28	23.387	31.178	8.497	1.00	37.04	N
ATOM	1566	C5	A P	28	24.219	31.890	7.682	1.00	34.99	C
ATOM	1567	C6	A P	28	24.062	32.309	6.370	1.00	35.52	C
ATOM	1568	N6	A P	28	22.955	32.032	5.684	1.00	35.52	N
ATOM	1569	N1	A P	28	25.076	33.023	5.821	1.00	36.38	N
ATOM	1570	C2	A P	28	26.169	33.290	6.550	1.00	35.95	C
ATOM	1571	N3	A P	28	26.421	32.939	7.817	1.00	37.07	N
ATOM	1572	C4	A P	28	25.386	32.226	8.324	1.00	36.66	C
ATOM	1573	P	C P	29	29.033	30.655	14.012	1.00	37.35	P
ATOM	1574	O1P	C P	29	28.767	29.225	14.275	1.00	40.00	O
ATOM	1575	O2P	C P	29	29.093	31.588	15.149	1.00	39.76	O
ATOM	1576	O5*	C P	29	30.374	30.789	13.163	1.00	39.64	O
ATOM	1577	C5*	C P	29	31.646	30.652	13.794	1.00	39.77	C
ATOM	1578	C4*	C P	29	32.581	31.789	13.436	1.00	40.22	C
ATOM	1579	O4*	C P	29	32.644	31.875	11.994	1.00	39.74	O
ATOM	1580	C3*	C P	29	32.154	33.190	13.875	1.00	41.18	C
ATOM	1581	O3*	C P	29	32.557	33.504	15.193	1.00	41.21	O
ATOM	1582	C2*	C P	29	32.933	34.027	12.887	1.00	40.80	C
ATOM	1583	O2*	C P	29	34.282	34.063	13.265	1.00	43.83	O
ATOM	1584	C1*	C P	29	32.797	33.225	11.606	1.00	41.45	C
ATOM	1585	N1	C P	29	31.644	33.642	10.779	1.00	42.35	N
ATOM	1586	C2	C P	29	31.693	34.847	10.077	1.00	43.29	C
ATOM	1587	O2	C P	29	32.693	35.569	10.145	1.00	43.96	O
ATOM	1588	N3	C P	29	30.630	35.209	9.329	1.00	43.64	N
ATOM	1589	C4	C P	29	29.551	34.448	9.235	1.00	42.46	C
ATOM	1590	N4	C P	29	28.539	34.863	8.461	1.00	42.48	N
ATOM	1591	C5	C P	29	29.483	33.222	9.932	1.00	43.40	C
ATOM	1592	C6	C P	29	30.529	32.861	10.685	1.00	43.50	C
ATOM	1593	P	G P	30	31.506	34.008	16.298	1.00	41.98	P
ATOM	1594	O1P	G P	30	31.534	33.111	17.471	1.00	41.70	O
ATOM	1595	O2P	G P	30	30.226	34.308	15.618	1.00	41.63	O
ATOM	1596	O5*	G P	30	32.202	35.333	16.856	1.00	42.08	O
ATOM	1597	C5*	G P	30	31.751	36.640	16.526	1.00	42.86	C
ATOM	1598	C4*	G P	30	32.831	37.343	15.744	1.00	42.73	C

ATOM	1599	O4*	G P	30	32.897	36.723	14.440	1.00	43.77	O
ATOM	1600	C3*	G P	30	32.610	38.826	15.478	1.00	43.41	C
ATOM	1601	O3*	G P	30	33.194	39.620	16.499	1.00	42.97	O
ATOM	1602	C2*	G P	30	33.352	39.016	14.164	1.00	43.67	C
ATOM	1603	O2*	G P	30	34.747	39.137	14.376	1.00	43.98	O
ATOM	1604	C1*	G P	30	32.984	37.726	13.433	1.00	42.84	C
ATOM	1605	N9	G P	30	31.712	37.749	12.698	1.00	42.42	N
ATOM	1606	C8	G P	30	30.658	36.876	12.853	1.00	42.02	C
ATOM	1607	N7	G P	30	29.649	37.111	12.068	1.00	41.51	N
ATOM	1608	C5	G P	30	30.055	38.210	11.341	1.00	41.97	C
ATOM	1609	C6	G P	30	29.374	38.914	10.331	1.00	42.07	C
ATOM	1610	O6	G P	30	28.255	38.702	9.862	1.00	42.23	O
ATOM	1611	N1	G P	30	30.136	39.962	9.838	1.00	42.42	N
ATOM	1612	C2	G P	30	31.390	40.307	10.261	1.00	41.75	C
ATOM	1613	N2	G P	30	31.928	41.374	9.655	1.00	41.86	N
ATOM	1614	N3	G P	30	32.040	39.655	11.212	1.00	41.56	N
ATOM	1615	C4	G P	30	31.320	38.618	11.706	1.00	41.81	C
ATOM	1616	P	A P	31	32.429	40.878	17.098	1.00	42.10	P
ATOM	1617	O1P	A P	31	33.217	41.338	18.257	1.00	42.38	O
ATOM	1618	O2P	A P	31	31.006	40.530	17.321	1.00	42.18	O
ATOM	1619	O5*	A P	31	32.558	41.940	15.911	1.00	43.46	O
ATOM	1620	C5*	A P	31	33.720	42.733	15.723	1.00	44.12	C
ATOM	1621	C4*	A P	31	33.544	43.703	14.568	1.00	44.91	C
ATOM	1622	O4*	A P	31	33.256	43.000	13.330	1.00	46.09	O
ATOM	1623	C3*	A P	31	32.381	44.659	14.707	1.00	46.18	C
ATOM	1624	O3*	A P	31	32.724	45.782	15.476	1.00	46.12	O
ATOM	1625	C2*	A P	31	32.125	45.053	13.263	1.00	46.94	C
ATOM	1626	O2*	A P	31	33.060	45.993	12.792	1.00	48.83	O
ATOM	1627	C1*	A P	31	32.303	43.721	12.560	1.00	47.41	C
ATOM	1628	N9	A P	31	31.046	42.970	12.432	1.00	47.77	N
ATOM	1629	C8	A P	31	30.640	41.863	13.125	1.00	47.92	C
ATOM	1630	N7	A P	31	29.460	41.405	12.776	1.00	48.28	N
ATOM	1631	C5	A P	31	29.063	42.266	11.781	1.00	47.74	C
ATOM	1632	C6	A P	31	27.898	42.328	10.996	1.00	47.88	C
ATOM	1633	N6	A P	31	26.888	41.463	11.105	1.00	47.47	N
ATOM	1634	N1	A P	31	27.819	43.320	10.080	1.00	48.16	N
ATOM	1635	C2	A P	31	28.827	44.193	9.973	1.00	48.20	C
ATOM	1636	N3	A P	31	29.973	44.228	10.660	1.00	48.08	N
ATOM	1637	C4	A P	31	30.026	43.233	11.557	1.00	47.60	C
ATOM	1638	P	G P	32	31.591	46.433	16.387	1.00	45.36	P
ATOM	1639	O1P	G P	32	32.128	47.669	17.012	1.00	48.04	O
ATOM	1640	O2P	G P	32	31.086	45.340	17.237	1.00	45.39	O
ATOM	1641	O5*	G P	32	30.488	46.887	15.335	1.00	44.89	O
ATOM	1642	C5*	G P	32	30.731	47.939	14.437	1.00	44.20	C
ATOM	1643	C4*	G P	32	29.498	48.230	13.592	1.00	44.35	C
ATOM	1644	O4*	G P	32	29.217	47.118	12.703	1.00	43.13	O
ATOM	1645	C3*	G P	32	28.216	48.439	14.386	1.00	44.13	C
ATOM	1646	O3*	G P	32	28.089	49.786	14.780	1.00	43.75	O
ATOM	1647	C2*	G P	32	27.186	48.079	13.339	1.00	44.05	C
ATOM	1648	O2*	G P	32	26.996	49.159	12.465	1.00	44.68	O
ATOM	1649	C1*	G P	32	27.827	46.893	12.628	1.00	43.56	C
ATOM	1650	N9	G P	32	27.476	45.617	13.252	1.00	43.42	N
ATOM	1651	C8	G P	32	28.157	44.936	14.233	1.00	43.64	C
ATOM	1652	N7	G P	32	27.577	43.819	14.598	1.00	43.68	N
ATOM	1653	C5	G P	32	26.435	43.750	13.816	1.00	43.33	C
ATOM	1654	C6	G P	32	25.405	42.777	13.760	1.00	43.26	C
ATOM	1655	O6	G P	32	25.279	41.729	14.395	1.00	43.55	O
ATOM	1656	N1	G P	32	24.436	43.093	12.832	1.00	42.25	N
ATOM	1657	C2	G P	32	24.449	44.207	12.059	1.00	42.83	C

ATOM	1658	N2	G P	32	23.418	44.332	11.226	1.00	43.88	N
ATOM	1659	N3	G P	32	25.395	45.135	12.089	1.00	44.17	N
ATOM	1660	C4	G P	32	26.362	44.847	12.990	1.00	43.60	C
ATOM	1661	P	G P	33	27.370	50.237	16.136	1.00	45.22	P
ATOM	1662	O1P	G P	33	27.826	51.620	16.364	1.00	44.67	O
ATOM	1663	O2P	G P	33	27.521	49.183	17.159	1.00	44.11	O
ATOM	1664	O5*	G P	33	25.819	50.333	15.814	1.00	43.60	O
ATOM	1665	C5*	G P	33	25.321	51.236	14.864	1.00	43.35	C
ATOM	1666	C4*	G P	33	24.045	50.643	14.303	1.00	43.77	C
ATOM	1667	O4*	G P	33	24.313	49.289	13.882	1.00	42.55	O
ATOM	1668	C3*	G P	33	22.897	50.521	15.299	1.00	43.58	C
ATOM	1669	O3*	G P	33	22.182	51.751	15.371	1.00	44.29	O
ATOM	1670	C2*	G P	33	22.087	49.395	14.672	1.00	43.40	C
ATOM	1671	O2*	G P	33	21.218	49.801	13.636	1.00	41.84	O
ATOM	1672	C1*	G P	33	23.169	48.491	14.095	1.00	43.71	C
ATOM	1673	N9	G P	33	23.522	47.363	14.954	1.00	44.00	N
ATOM	1674	C8	G P	33	24.500	47.307	15.925	1.00	44.57	C
ATOM	1675	N7	G P	33	24.599	46.152	16.524	1.00	43.47	N
ATOM	1676	C5	G P	33	23.615	45.393	15.910	1.00	43.64	C
ATOM	1677	C6	G P	33	23.238	44.049	16.140	1.00	44.35	C
ATOM	1678	O6	G P	33	23.722	43.248	16.961	1.00	44.55	O
ATOM	1679	N1	G P	33	22.190	43.656	15.303	1.00	44.03	N
ATOM	1680	C2	G P	33	21.588	44.447	14.357	1.00	43.63	C
ATOM	1681	N2	G P	33	20.604	43.888	13.652	1.00	43.14	N
ATOM	1682	N3	G P	33	21.939	45.712	14.132	1.00	44.33	N
ATOM	1683	C4	G P	33	22.949	46.117	14.943	1.00	43.49	C
ATOM	1684	P	U P	34	21.538	52.350	16.704	1.00	45.84	P
ATOM	1685	O1P	U P	34	21.451	53.820	16.528	1.00	43.88	O
ATOM	1686	O2P	U P	34	22.182	51.773	17.908	1.00	44.78	O
ATOM	1687	O5*	U P	34	20.057	51.751	16.619	1.00	47.50	O
ATOM	1688	C5*	U P	34	19.324	51.863	15.402	1.00	49.84	C
ATOM	1689	C4*	U P	34	17.830	51.870	15.651	1.00	51.07	C
ATOM	1690	O4*	U P	34	17.417	50.578	16.161	1.00	52.20	O
ATOM	1691	C3*	U P	34	17.355	52.881	16.685	1.00	52.03	C
ATOM	1692	O3*	U P	34	16.089	53.388	16.303	1.00	52.44	O
ATOM	1693	C2*	U P	34	17.242	52.077	17.972	1.00	52.37	C
ATOM	1694	O2*	U P	34	16.333	52.647	18.908	1.00	52.48	O
ATOM	1695	C1*	U P	34	16.736	50.760	17.387	1.00	52.16	C
ATOM	1696	N1	U P	34	16.967	49.541	18.205	1.00	52.06	N
ATOM	1697	C2	U P	34	15.947	48.611	18.302	1.00	52.48	C
ATOM	1698	O2	U P	34	14.858	48.734	17.762	1.00	52.06	O
ATOM	1699	N3	U P	34	16.253	47.515	19.073	1.00	52.82	N
ATOM	1700	C4	U P	34	17.442	47.267	19.738	1.00	52.79	C
ATOM	1701	O4	U P	34	17.566	46.240	20.396	1.00	53.12	O
ATOM	1702	C5	U P	34	18.456	48.280	19.584	1.00	52.36	C
ATOM	1703	C6	U P	34	18.183	49.351	18.837	1.00	51.99	C
ATOM	1704	P	G P	35	15.825	54.953	16.086	1.00	54.17	P
ATOM	1705	O1P	G P	35	15.505	55.110	14.646	1.00	51.84	O
ATOM	1706	O2P	G P	35	16.898	55.770	16.732	1.00	53.33	O
ATOM	1707	O5*	G P	35	14.464	55.136	16.900	1.00	52.80	O
ATOM	1708	C5*	G P	35	14.437	55.572	18.250	1.00	53.69	C
ATOM	1709	C4*	G P	35	13.152	56.344	18.486	1.00	53.75	C
ATOM	1710	O4*	G P	35	13.271	57.688	17.940	1.00	53.79	O
ATOM	1711	C3*	G P	35	11.927	55.755	17.795	1.00	53.31	C
ATOM	1712	O3*	G P	35	11.394	54.673	18.546	1.00	52.45	O
ATOM	1713	C2*	G P	35	11.017	56.977	17.715	1.00	53.19	C
ATOM	1714	O2*	G P	35	10.330	57.263	18.915	1.00	53.13	O
ATOM	1715	C1*	G P	35	12.030	58.074	17.369	1.00	53.77	C
ATOM	1716	N9	G P	35	12.165	58.296	15.922	1.00	53.96	N

ATOM	1717	C8	G P	35	13.273	58.153	15.117	1.00	54.00	C
ATOM	1718	N7	G P	35	13.057	58.432	13.858	1.00	54.04	N
ATOM	1719	C5	G P	35	11.716	58.787	13.824	1.00	53.87	C
ATOM	1720	C6	G P	35	10.902	59.193	12.744	1.00	53.54	C
ATOM	1721	O6	G P	35	11.222	59.321	11.558	1.00	53.61	O
ATOM	1722	N1	G P	35	9.596	59.465	13.145	1.00	53.60	N
ATOM	1723	C2	G P	35	9.122	59.362	14.433	1.00	54.05	C
ATOM	1724	N2	G P	35	7.827	59.666	14.635	1.00	54.19	N
ATOM	1725	N3	G P	35	9.876	58.987	15.456	1.00	54.18	N
ATOM	1726	C4	G P	35	11.155	58.713	15.080	1.00	54.33	C
ATOM	1727	P	G P	36	10.645	53.454	17.829	1.00	51.59	P
ATOM	1728	O1P	G P	36	10.266	52.517	18.901	1.00	52.57	O
ATOM	1729	O2P	G P	36	11.456	52.998	16.682	1.00	51.97	O
ATOM	1730	O5*	G P	36	9.292	54.073	17.264	1.00	51.80	O
ATOM	1731	C5*	G P	36	8.185	54.352	18.108	1.00	51.59	C
ATOM	1732	C4*	G P	36	7.030	54.904	17.286	1.00	51.55	C
ATOM	1733	O4*	G P	36	7.391	56.177	16.682	1.00	51.25	O
ATOM	1734	C3*	G P	36	6.612	54.050	16.098	1.00	51.14	C
ATOM	1735	O3*	G P	36	5.826	52.925	16.496	1.00	51.51	O
ATOM	1736	C2*	G P	36	5.844	55.077	15.280	1.00	50.52	C
ATOM	1737	O2*	G P	36	4.566	55.348	15.796	1.00	50.64	O
ATOM	1738	C1*	G P	36	6.768	56.280	15.414	1.00	50.35	C
ATOM	1739	N9	G P	36	7.773	56.276	14.360	1.00	50.16	N
ATOM	1740	C8	G P	36	9.110	55.967	14.451	1.00	50.29	C
ATOM	1741	N7	G P	36	9.748	56.041	13.316	1.00	50.18	N
ATOM	1742	C5	G P	36	8.769	56.413	12.410	1.00	49.84	C
ATOM	1743	C6	G P	36	8.857	56.648	11.022	1.00	49.71	C
ATOM	1744	O6	G P	36	9.842	56.573	10.279	1.00	49.61	O
ATOM	1745	N1	G P	36	7.620	57.006	10.499	1.00	50.24	N
ATOM	1746	C2	G P	36	6.449	57.125	11.206	1.00	49.94	C
ATOM	1747	N2	G P	36	5.366	57.479	10.504	1.00	50.00	N
ATOM	1748	N3	G P	36	6.355	56.908	12.506	1.00	49.69	N
ATOM	1749	C4	G P	36	7.549	56.558	13.037	1.00	49.82	C
ATOM	1750	P	G P	37	5.583	51.699	15.491	1.00	51.50	P
ATOM	1751	O1P	G P	37	4.762	50.686	16.194	1.00	52.01	O
ATOM	1752	O2P	G P	37	6.862	51.317	14.847	1.00	50.64	O
ATOM	1753	O5*	G P	37	4.646	52.361	14.391	1.00	51.66	O
ATOM	1754	C5*	G P	37	3.259	52.479	14.588	1.00	51.42	C
ATOM	1755	C4*	G P	37	2.657	52.859	13.260	1.00	51.56	C
ATOM	1756	O4*	G P	37	3.270	54.088	12.800	1.00	51.22	O
ATOM	1757	C3*	G P	37	2.939	51.896	12.116	1.00	51.59	C
ATOM	1758	O3*	G P	37	2.151	50.719	12.189	1.00	52.00	O
ATOM	1759	C2*	G P	37	2.586	52.804	10.948	1.00	51.42	C
ATOM	1760	O2*	G P	37	1.199	53.047	10.805	1.00	51.96	O
ATOM	1761	C1*	G P	37	3.323	54.065	11.383	1.00	51.18	C
ATOM	1762	N9	G P	37	4.707	54.063	10.916	1.00	51.21	N
ATOM	1763	C8	G P	37	5.852	53.728	11.605	1.00	51.13	C
ATOM	1764	N7	G P	37	6.945	53.814	10.899	1.00	50.54	N
ATOM	1765	C5	G P	37	6.493	54.226	9.662	1.00	50.63	C
ATOM	1766	C6	G P	37	7.224	54.493	8.492	1.00	50.90	C
ATOM	1767	O6	G P	37	8.447	54.409	8.335	1.00	51.20	O
ATOM	1768	N1	G P	37	6.389	54.890	7.445	1.00	51.18	N
ATOM	1769	C2	G P	37	5.016	55.017	7.519	1.00	50.73	C
ATOM	1770	N2	G P	37	4.392	55.408	6.400	1.00	50.48	N
ATOM	1771	N3	G P	37	4.316	54.773	8.622	1.00	50.69	N
ATOM	1772	C4	G P	37	5.122	54.386	9.648	1.00	51.08	C
ATOM	1773	P	G P	38	2.609	49.371	11.442	1.00	53.47	P
ATOM	1774	O1P	G P	38	1.491	48.417	11.615	1.00	53.40	O
ATOM	1775	O2P	G P	38	3.967	48.967	11.888	1.00	52.21	O

ATOM	1776	O5*	G P	38	2.675	49.794	9.904	1.00	52.54	O
ATOM	1777	C5*	G P	38	1.481	50.032	9.197	1.00	53.80	C
ATOM	1778	C4*	G P	38	1.789	50.495	7.793	1.00	54.28	C
ATOM	1779	O4*	G P	38	2.659	51.652	7.846	1.00	54.57	O
ATOM	1780	C3*	G P	38	2.541	49.484	6.939	1.00	54.76	C
ATOM	1781	O3*	G P	38	1.648	48.522	6.352	1.00	54.50	O
ATOM	1782	C2*	G P	38	3.179	50.412	5.915	1.00	55.04	C
ATOM	1783	O2*	G P	38	2.261	50.859	4.927	1.00	54.91	O
ATOM	1784	C1*	G P	38	3.636	51.553	6.820	1.00	55.24	C
ATOM	1785	N9	G P	38	4.978	51.397	7.409	1.00	55.52	N
ATOM	1786	C8	G P	38	5.316	51.135	8.723	1.00	55.60	C
ATOM	1787	N7	G P	38	6.599	51.070	8.945	1.00	55.57	N
ATOM	1788	C5	G P	38	7.163	51.313	7.702	1.00	55.61	C
ATOM	1789	C6	G P	38	8.528	51.368	7.315	1.00	55.66	C
ATOM	1790	O6	G P	38	9.536	51.210	8.017	1.00	55.37	O
ATOM	1791	N1	G P	38	8.663	51.634	5.956	1.00	55.32	N
ATOM	1792	C2	G P	38	7.618	51.823	5.077	1.00	55.48	C
ATOM	1793	N2	G P	38	7.940	52.071	3.801	1.00	55.46	N
ATOM	1794	N3	G P	38	6.336	51.773	5.427	1.00	55.30	N
ATOM	1795	C4	G P	38	6.182	51.517	6.749	1.00	55.32	C
ATOM	1796	P	U P	39	2.043	46.972	6.284	1.00	54.26	P
ATOM	1797	O1P	U P	39	0.857	46.186	5.885	1.00	54.88	O
ATOM	1798	O2P	U P	39	2.775	46.631	7.526	1.00	55.23	O
ATOM	1799	O5*	U P	39	3.068	46.918	5.060	1.00	54.35	O
ATOM	1800	C5*	U P	39	2.634	47.204	3.738	1.00	53.50	C
ATOM	1801	C4*	U P	39	3.828	47.508	2.852	1.00	53.26	C
ATOM	1802	O4*	U P	39	4.600	48.598	3.410	1.00	52.93	O
ATOM	1803	C3*	U P	39	4.856	46.400	2.731	1.00	53.40	C
ATOM	1804	O3*	U P	39	4.385	45.386	1.842	1.00	53.21	O
ATOM	1805	C2*	U P	39	6.068	47.194	2.237	1.00	53.35	C
ATOM	1806	O2*	U P	39	6.011	47.604	0.882	1.00	53.78	O
ATOM	1807	C1*	U P	39	5.976	48.418	3.132	1.00	52.47	C
ATOM	1808	N1	U P	39	6.740	48.339	4.421	1.00	52.23	N
ATOM	1809	C2	U P	39	8.111	48.495	4.402	1.00	51.99	C
ATOM	1810	O2	U P	39	8.757	48.681	3.387	1.00	52.27	O
ATOM	1811	N3	U P	39	8.718	48.428	5.628	1.00	51.49	N
ATOM	1812	C4	U P	39	8.130	48.228	6.856	1.00	51.67	C
ATOM	1813	O4	U P	39	8.820	48.197	7.871	1.00	51.85	O
ATOM	1814	C5	U P	39	6.702	48.073	6.805	1.00	52.45	C
ATOM	1815	C6	U P	39	6.078	48.136	5.620	1.00	52.24	C
ATOM	1816	P	U P	40	4.483	43.833	2.233	1.00	53.67	P
ATOM	1817	O1P	U P	40	3.574	43.080	1.332	1.00	53.01	O
ATOM	1818	O2P	U P	40	4.339	43.673	3.704	1.00	52.09	O
ATOM	1819	O5*	U P	40	5.990	43.513	1.798	1.00	52.65	O
ATOM	1820	C5*	U P	40	6.508	43.966	0.547	1.00	52.54	C
ATOM	1821	C4*	U P	40	8.028	43.972	0.539	1.00	52.42	C
ATOM	1822	O4*	U P	40	8.522	45.147	1.238	1.00	52.68	O
ATOM	1823	C3*	U P	40	8.690	42.797	1.241	1.00	52.03	C
ATOM	1824	O3*	U P	40	8.772	41.693	0.364	1.00	51.79	O
ATOM	1825	C2*	U P	40	10.049	43.378	1.620	1.00	52.03	C
ATOM	1826	O2*	U P	40	10.986	43.371	0.558	1.00	51.96	O
ATOM	1827	C1*	U P	40	9.661	44.801	2.011	1.00	51.95	C
ATOM	1828	N1	U P	40	9.353	44.912	3.470	1.00	51.83	N
ATOM	1829	C2	U P	40	10.345	45.301	4.345	1.00	51.53	C
ATOM	1830	O2	U P	40	11.469	45.581	3.991	1.00	51.19	O
ATOM	1831	N3	U P	40	9.963	45.367	5.664	1.00	51.46	N
ATOM	1832	C4	U P	40	8.719	45.071	6.187	1.00	51.19	C
ATOM	1833	O4	U P	40	8.513	45.166	7.388	1.00	51.45	O
ATOM	1834	C5	U P	40	7.738	44.665	5.221	1.00	51.60	C

ATOM	1835	C6	U P	40	8.087	44.606	3.934	1.00	51.77	C
ATOM	1836	P	U P	41	9.134	40.241	0.918	1.00	51.17	P
ATOM	1837	O1P	U P	41	8.759	39.292	-0.148	1.00	51.25	O
ATOM	1838	O2P	U P	41	8.631	40.080	2.297	1.00	51.43	O
ATOM	1839	O5*	U P	41	10.722	40.277	1.044	1.00	53.35	O
ATOM	1840	C5*	U P	41	11.342	39.368	1.943	1.00	55.04	C
ATOM	1841	C4*	U P	41	12.805	39.147	1.615	1.00	55.54	C
ATOM	1842	O4*	U P	41	12.929	38.399	0.385	1.00	56.76	O
ATOM	1843	C3*	U P	41	13.615	40.414	1.391	1.00	56.03	C
ATOM	1844	O3*	U P	41	14.989	40.201	1.761	1.00	54.97	O
ATOM	1845	C2*	U P	41	13.415	40.619	-0.110	1.00	56.73	C
ATOM	1846	O2*	U P	41	14.381	41.454	-0.707	1.00	56.82	O
ATOM	1847	C1*	U P	41	13.548	39.184	-0.618	1.00	58.72	C
ATOM	1848	N1	U P	41	12.878	38.814	-1.927	1.00	60.24	N
ATOM	1849	C2	U P	41	12.586	39.747	-2.930	1.00	60.84	C
ATOM	1850	O2	U P	41	12.838	40.945	-2.877	1.00	60.35	O
ATOM	1851	N3	U P	41	11.967	39.205	-4.041	1.00	60.77	N
ATOM	1852	C4	U P	41	11.613	37.876	-4.258	1.00	60.62	C
ATOM	1853	O4	U P	41	11.055	37.540	-5.304	1.00	60.47	O
ATOM	1854	C5	U P	41	11.946	36.978	-3.183	1.00	60.94	C
ATOM	1855	C6	U P	41	12.551	37.470	-2.094	1.00	61.10	C
ATOM	1856	P	A P	42	15.478	40.070	3.296	1.00	54.27	P
ATOM	1857	O1P	A P	42	16.812	39.413	3.277	1.00	51.96	O
ATOM	1858	O2P	A P	42	14.367	39.563	4.136	1.00	52.67	O
ATOM	1859	O5*	A P	42	15.655	41.591	3.723	1.00	49.42	O
ATOM	1860	C5*	A P	42	16.509	42.419	2.984	1.00	46.45	C
ATOM	1861	C4*	A P	42	17.366	43.165	3.970	1.00	45.10	C
ATOM	1862	O4*	A P	42	16.511	43.703	5.010	1.00	43.77	O
ATOM	1863	C3*	A P	42	18.399	42.287	4.669	1.00	43.97	C
ATOM	1864	O3*	A P	42	19.634	42.964	4.686	1.00	43.94	O
ATOM	1865	C2*	A P	42	17.792	42.084	6.063	1.00	44.22	C
ATOM	1866	O2*	A P	42	18.729	41.785	7.079	1.00	42.62	O
ATOM	1867	C1*	A P	42	17.100	43.430	6.262	1.00	42.72	C
ATOM	1868	N9	A P	42	16.042	43.445	7.258	1.00	42.16	N
ATOM	1869	C8	A P	42	14.730	43.092	7.101	1.00	42.67	C
ATOM	1870	N7	A P	42	13.998	43.217	8.190	1.00	42.22	N
ATOM	1871	C5	A P	42	14.899	43.695	9.121	1.00	41.81	C
ATOM	1872	C6	A P	42	14.778	44.038	10.477	1.00	42.24	C
ATOM	1873	N6	A P	42	13.635	43.956	11.160	1.00	41.81	N
ATOM	1874	N1	A P	42	15.885	44.485	11.113	1.00	42.47	N
ATOM	1875	C2	A P	42	17.029	44.568	10.442	1.00	41.73	C
ATOM	1876	N3	A P	42	17.265	44.270	9.173	1.00	42.20	N
ATOM	1877	C4	A P	42	16.156	43.837	8.565	1.00	42.13	C
ATOM	1878	P	U P	43	20.904	42.413	3.883	1.00	44.41	P
ATOM	1879	O1P	U P	43	20.580	42.385	2.435	1.00	42.60	O
ATOM	1880	O2P	U P	43	21.367	41.220	4.626	1.00	43.19	O
ATOM	1881	O5*	U P	43	21.990	43.561	4.085	1.00	43.82	O
ATOM	1882	C5*	U P	43	21.668	44.889	3.741	1.00	44.03	C
ATOM	1883	C4*	U P	43	22.709	45.812	4.315	1.00	44.12	C
ATOM	1884	O4*	U P	43	22.527	45.933	5.751	1.00	44.19	O
ATOM	1885	C3*	U P	43	24.138	45.318	4.151	1.00	43.99	C
ATOM	1886	O3*	U P	43	24.610	45.548	2.838	1.00	42.91	O
ATOM	1887	C2*	U P	43	24.803	46.162	5.215	1.00	43.95	C
ATOM	1888	O2*	U P	43	24.892	47.505	4.831	1.00	44.76	O
ATOM	1889	C1*	U P	43	23.805	46.004	6.358	1.00	45.04	C
ATOM	1890	N1	U P	43	24.039	44.783	7.199	1.00	45.60	N
ATOM	1891	C2	U P	43	25.143	44.729	8.010	1.00	45.45	C
ATOM	1892	O2	U P	43	25.976	45.613	8.112	1.00	47.02	O
ATOM	1893	N3	U P	43	25.257	43.582	8.727	1.00	45.88	N

ATOM	1894	C4	U P	43	24.429	42.486	8.745	1.00	45.93	C
ATOM	1895	O4	U P	43	24.699	41.536	9.474	1.00	45.24	O
ATOM	1896	C5	U P	43	23.293	42.603	7.883	1.00	46.63	C
ATOM	1897	C6	U P	43	23.148	43.724	7.164	1.00	47.06	C
ATOM	1898	P	C P	44	25.753	44.622	2.194	1.00	44.01	P
ATOM	1899	O1P	C P	44	26.096	45.219	0.881	1.00	43.80	O
ATOM	1900	O2P	C P	44	25.363	43.196	2.225	1.00	43.82	O
ATOM	1901	O5*	C P	44	26.954	44.786	3.237	1.00	42.20	O
ATOM	1902	C5*	C P	44	27.993	45.707	3.010	1.00	43.02	C
ATOM	1903	C4*	C P	44	29.144	45.534	3.990	1.00	43.32	C
ATOM	1904	O4*	C P	44	28.632	45.382	5.335	1.00	43.80	O
ATOM	1905	C3*	C P	44	30.024	44.305	3.829	1.00	43.54	C
ATOM	1906	O3*	C P	44	30.946	44.437	2.756	1.00	43.05	O
ATOM	1907	C2*	C P	44	30.698	44.278	5.186	1.00	44.37	C
ATOM	1908	O2*	C P	44	31.697	45.265	5.347	1.00	45.46	O
ATOM	1909	C1*	C P	44	29.500	44.555	6.081	1.00	43.34	C
ATOM	1910	N1	C P	44	28.807	43.311	6.474	1.00	43.24	N
ATOM	1911	C2	C P	44	29.436	42.466	7.386	1.00	43.69	C
ATOM	1912	O2	C P	44	30.547	42.766	7.848	1.00	43.16	O
ATOM	1913	N3	C P	44	28.802	41.324	7.752	1.00	43.47	N
ATOM	1914	C4	C P	44	27.614	40.995	7.266	1.00	41.63	C
ATOM	1915	N4	C P	44	27.088	39.854	7.688	1.00	41.95	N
ATOM	1916	C5	C P	44	26.949	41.828	6.336	1.00	42.63	C
ATOM	1917	C6	C P	44	27.577	42.964	5.969	1.00	43.95	C
ATOM	1918	P	G P	45	30.604	43.649	1.418	1.00	43.76	P
ATOM	1919	O1P	G P	45	30.731	44.545	0.264	1.00	45.64	O
ATOM	1920	O2P	G P	45	29.299	43.001	1.627	1.00	47.88	O
ATOM	1921	O5*	G P	45	31.628	42.423	1.354	1.00	44.90	O
ATOM	1922	C5*	G P	45	33.032	42.516	1.314	1.00	43.32	C
ATOM	1923	C4*	G P	45	33.623	42.238	2.682	1.00	43.56	C
ATOM	1924	O4*	G P	45	32.629	42.399	3.728	1.00	45.02	O
ATOM	1925	C3*	G P	45	34.142	40.839	2.947	1.00	42.91	C
ATOM	1926	O3*	G P	45	35.410	40.668	2.378	1.00	42.02	O
ATOM	1927	C2*	G P	45	34.245	40.869	4.464	1.00	42.70	C
ATOM	1928	O2*	G P	45	35.314	41.661	4.931	1.00	41.91	O
ATOM	1929	C1*	G P	45	32.936	41.552	4.822	1.00	43.15	C
ATOM	1930	N9	G P	45	31.815	40.652	5.033	1.00	43.39	N
ATOM	1931	C8	G P	45	30.593	40.664	4.399	1.00	43.38	C
ATOM	1932	N7	G P	45	29.783	39.728	4.816	1.00	43.16	N
ATOM	1933	C5	G P	45	30.509	39.057	5.788	1.00	43.20	C
ATOM	1934	C6	G P	45	30.165	37.949	6.598	1.00	43.23	C
ATOM	1935	O6	G P	45	29.109	37.307	6.637	1.00	43.91	O
ATOM	1936	N1	G P	45	31.200	37.580	7.450	1.00	43.51	N
ATOM	1937	C2	G P	45	32.424	38.194	7.526	1.00	43.09	C
ATOM	1938	N2	G P	45	33.280	37.676	8.416	1.00	43.46	N
ATOM	1939	N3	G P	45	32.763	39.235	6.780	1.00	42.68	N
ATOM	1940	C4	G P	45	31.765	39.613	5.936	1.00	43.65	C
ATOM	1941	P	A P	46	35.889	39.242	1.867	1.00	41.55	P
ATOM	1942	O1P	A P	46	37.219	39.434	1.228	1.00	41.67	O
ATOM	1943	O2P	A P	46	34.778	38.619	1.109	1.00	41.24	O
ATOM	1944	O5*	A P	46	36.109	38.441	3.227	1.00	41.19	O
ATOM	1945	C5*	A P	46	37.364	38.553	3.861	1.00	41.06	C
ATOM	1946	C4*	A P	46	37.532	37.475	4.904	1.00	40.42	C
ATOM	1947	O4*	A P	46	36.475	37.599	5.872	1.00	39.61	O
ATOM	1948	C3*	A P	46	37.427	36.057	4.394	1.00	39.91	C
ATOM	1949	O3*	A P	46	38.648	35.592	3.880	1.00	40.08	O
ATOM	1950	C2*	A P	46	37.072	35.319	5.659	1.00	39.43	C
ATOM	1951	O2*	A P	46	38.162	35.156	6.534	1.00	38.80	O
ATOM	1952	C1*	A P	46	36.066	36.299	6.233	1.00	39.61	C

ATOM	1953	N9	A P	46	34.685	36.089	5.817	1.00	38.36	N
ATOM	1954	C8	A P	46	33.919	36.808	4.957	1.00	38.93	C
ATOM	1955	N7	A P	46	32.699	36.363	4.831	1.00	38.92	N
ATOM	1956	C5	A P	46	32.669	35.271	5.673	1.00	39.17	C
ATOM	1957	C6	A P	46	31.656	34.352	6.016	1.00	38.68	C
ATOM	1958	N6	A P	46	30.416	34.355	5.522	1.00	38.30	N
ATOM	1959	N1	A P	46	31.986	33.399	6.900	1.00	39.25	N
ATOM	1960	C2	A P	46	33.224	33.346	7.410	1.00	39.77	C
ATOM	1961	N3	A P	46	34.253	34.151	7.167	1.00	39.73	N
ATOM	1962	C4	A P	46	33.892	35.099	6.286	1.00	38.75	C
ATOM	1963	P	G P	47	38.579	34.558	2.679	1.00	41.44	P
ATOM	1964	O1P	G P	47	39.959	34.266	2.210	1.00	42.85	O
ATOM	1965	O2P	G P	47	37.560	35.029	1.711	1.00	40.97	O
ATOM	1966	O5*	G P	47	38.008	33.254	3.380	1.00	42.30	O
ATOM	1967	C5*	G P	47	38.755	32.488	4.279	1.00	43.21	C
ATOM	1968	C4*	G P	47	37.819	31.468	4.894	1.00	45.01	C
ATOM	1969	O4*	G P	47	36.583	32.104	5.331	1.00	45.64	O
ATOM	1970	C3*	G P	47	37.355	30.374	3.950	1.00	46.05	C
ATOM	1971	O3*	G P	47	38.334	29.373	3.944	1.00	47.61	O
ATOM	1972	C2*	G P	47	36.036	29.940	4.594	1.00	46.25	C
ATOM	1973	O2*	G P	47	36.183	29.092	5.716	1.00	46.49	O
ATOM	1974	C1*	G P	47	35.473	31.251	5.101	1.00	45.79	C
ATOM	1975	N9	G P	47	34.519	31.951	4.244	1.00	46.12	N
ATOM	1976	C8	G P	47	34.734	33.112	3.533	1.00	46.57	C
ATOM	1977	N7	G P	47	33.673	33.527	2.888	1.00	47.09	N
ATOM	1978	C5	G P	47	32.704	32.596	3.198	1.00	45.82	C
ATOM	1979	C6	G P	47	31.367	32.543	2.778	1.00	46.69	C
ATOM	1980	O6	G P	47	30.797	33.349	2.031	1.00	46.85	O
ATOM	1981	N1	G P	47	30.700	31.432	3.299	1.00	46.08	N
ATOM	1982	C2	G P	47	31.280	30.507	4.128	1.00	45.73	C
ATOM	1983	N2	G P	47	30.507	29.499	4.537	1.00	46.09	N
ATOM	1984	N3	G P	47	32.539	30.557	4.533	1.00	46.43	N
ATOM	1985	C4	G P	47	33.197	31.623	4.026	1.00	45.68	C
ATOM	1986	P	A P	48	38.734	28.604	2.607	1.00	51.79	P
ATOM	1987	O1P	A P	48	39.926	27.793	2.946	1.00	49.94	O
ATOM	1988	O2P	A P	48	38.805	29.532	1.443	1.00	50.42	O
ATOM	1989	O5*	A P	48	37.451	27.671	2.393	1.00	51.68	O
ATOM	1990	C5*	A P	48	36.925	26.776	3.359	1.00	53.25	C
ATOM	1991	C4*	A P	48	35.532	26.329	2.936	1.00	54.41	C
ATOM	1992	O4*	A P	48	34.698	27.495	2.745	1.00	54.14	O
ATOM	1993	C3*	A P	48	35.464	25.586	1.602	1.00	55.86	C
ATOM	1994	O3*	A P	48	34.396	24.650	1.557	1.00	57.48	O
ATOM	1995	C2*	A P	48	35.223	26.702	0.596	1.00	55.86	C
ATOM	1996	O2*	A P	48	34.642	26.280	-0.627	1.00	56.34	O
ATOM	1997	C1*	A P	48	34.266	27.571	1.402	1.00	54.84	C
ATOM	1998	N9	A P	48	34.258	28.942	0.906	1.00	54.74	N
ATOM	1999	C8	A P	48	35.338	29.735	0.622	1.00	54.46	C
ATOM	2000	N7	A P	48	35.021	30.914	0.151	1.00	54.12	N
ATOM	2001	C5	A P	48	33.640	30.898	0.134	1.00	54.58	C
ATOM	2002	C6	A P	48	32.689	31.860	-0.251	1.00	54.90	C
ATOM	2003	N6	A P	48	33.042	33.066	-0.707	1.00	54.98	N
ATOM	2004	N1	A P	48	31.375	31.531	-0.167	1.00	54.86	N
ATOM	2005	C2	A P	48	31.048	30.312	0.290	1.00	54.75	C
ATOM	2006	N3	A P	48	31.858	29.326	0.691	1.00	55.05	N
ATOM	2007	C4	A P	48	33.150	29.688	0.587	1.00	54.89	C
ATOM	2008	P	U P	49	34.706	23.089	1.640	1.00	60.56	P
ATOM	2009	O1P	U P	49	34.627	22.766	3.083	1.00	60.43	O
ATOM	2010	O2P	U P	49	35.922	22.749	0.854	1.00	58.85	O
ATOM	2011	O5*	U P	49	33.431	22.456	0.907	1.00	61.60	O

ATOM	2012	C5*	U P	49	32.122	22.702	1.412	1.00	62.96	C
ATOM	2013	C4*	U P	49	31.132	21.669	0.905	1.00	63.56	C
ATOM	2014	O4*	U P	49	31.769	20.370	0.812	1.00	64.39	O
ATOM	2015	C3*	U P	49	29.899	21.501	1.793	1.00	64.34	C
ATOM	2016	O3*	U P	49	28.722	21.630	0.986	1.00	64.05	O
ATOM	2017	C2*	U P	49	30.052	20.133	2.470	1.00	64.39	C
ATOM	2018	O2*	U P	49	28.855	19.372	2.479	1.00	64.34	O
ATOM	2019	C1*	U P	49	31.143	19.422	1.658	1.00	64.72	C
ATOM	2020	N1	U P	49	32.210	18.798	2.515	1.00	64.84	N
ATOM	2021	C2	U P	49	32.268	17.423	2.663	1.00	64.92	C
ATOM	2022	O2	U P	49	31.494	16.646	2.127	1.00	65.07	O
ATOM	2023	N3	U P	49	33.286	16.981	3.478	1.00	65.02	N
ATOM	2024	C4	U P	49	34.225	17.754	4.145	1.00	64.83	C
ATOM	2025	O4	U P	49	35.078	17.215	4.840	1.00	64.96	O
ATOM	2026	C5	U P	49	34.104	19.173	3.944	1.00	64.81	C
ATOM	2027	C6	U P	49	33.122	19.625	3.156	1.00	64.83	C
ATOM	2028	P	U P	50	28.144	23.097	0.689	1.00	65.25	P
ATOM	2029	O1P	U P	50	26.897	22.925	-0.110	1.00	63.95	O
ATOM	2030	O2P	U P	50	29.244	23.965	0.195	1.00	64.29	O
ATOM	2031	O5*	U P	50	27.840	23.593	2.183	1.00	61.66	O
ATOM	2032	C5*	U P	50	26.818	24.509	2.489	1.00	59.05	C
ATOM	2033	C4*	U P	50	26.159	24.156	3.819	1.00	57.71	C
ATOM	2034	O4*	U P	50	25.007	23.313	3.560	1.00	57.17	O
ATOM	2035	C3*	U P	50	26.972	23.379	4.861	1.00	55.81	C
ATOM	2036	O3*	U P	50	26.656	23.841	6.176	1.00	53.40	O
ATOM	2037	C2*	U P	50	26.490	21.940	4.696	1.00	55.72	C
ATOM	2038	O2*	U P	50	26.674	21.135	5.850	1.00	55.16	O
ATOM	2039	C1*	U P	50	25.014	22.208	4.440	1.00	55.57	C
ATOM	2040	N1	U P	50	24.232	21.108	3.809	1.00	55.48	N
ATOM	2041	C2	U P	50	23.560	20.197	4.606	1.00	55.24	C
ATOM	2042	O2	U P	50	23.573	20.214	5.826	1.00	54.85	O
ATOM	2043	N3	U P	50	22.862	19.243	3.904	1.00	55.19	N
ATOM	2044	C4	U P	50	22.766	19.111	2.531	1.00	54.89	C
ATOM	2045	O4	U P	50	22.108	18.204	2.052	1.00	55.28	O
ATOM	2046	C5	U P	50	23.487	20.090	1.768	1.00	55.17	C
ATOM	2047	C6	U P	50	24.177	21.032	2.423	1.00	55.44	C
ATOM	2048	P	U P	51	27.658	24.758	7.002	1.00	53.11	P
ATOM	2049	O1P	U P	51	28.988	24.665	6.370	1.00	52.76	O
ATOM	2050	O2P	U P	51	27.514	24.510	8.449	1.00	51.63	O
ATOM	2051	O5*	U P	51	27.079	26.214	6.712	1.00	52.09	O
ATOM	2052	C5*	U P	51	25.743	26.572	6.958	1.00	49.90	C
ATOM	2053	C4*	U P	51	25.527	27.958	6.379	1.00	48.89	C
ATOM	2054	O4*	U P	51	26.363	28.911	7.065	1.00	49.06	O
ATOM	2055	C3*	U P	51	25.913	28.115	4.918	1.00	48.02	C
ATOM	2056	O3*	U P	51	25.074	29.050	4.269	1.00	49.07	O
ATOM	2057	C2*	U P	51	27.343	28.644	4.976	1.00	47.52	C
ATOM	2058	O2*	U P	51	27.719	29.375	3.826	1.00	47.21	O
ATOM	2059	C1*	U P	51	27.251	29.558	6.180	1.00	46.69	C
ATOM	2060	N1	U P	51	28.507	29.793	6.946	1.00	46.37	N
ATOM	2061	C2	U P	51	29.206	30.968	6.821	1.00	46.13	C
ATOM	2062	O2	U P	51	28.888	31.860	6.072	1.00	46.47	O
ATOM	2063	N3	U P	51	30.337	31.075	7.588	1.00	46.40	N
ATOM	2064	C4	U P	51	30.855	30.158	8.468	1.00	46.14	C
ATOM	2065	O4	U P	51	31.886	30.401	9.085	1.00	45.90	O
ATOM	2066	C5	U P	51	30.076	28.956	8.559	1.00	46.79	C
ATOM	2067	C6	U P	51	28.965	28.826	7.814	1.00	46.97	C
ATOM	2068	P	C P	52	23.529	28.803	3.956	1.00	49.11	P
ATOM	2069	O1P	C P	52	23.210	29.943	3.083	1.00	50.01	O
ATOM	2070	O2P	C P	52	22.772	28.534	5.196	1.00	49.10	O

ATOM	2071	O5*	C P	52	23.487	27.467	3.110	1.00	50.76	O
ATOM	2072	C5*	C P	52	23.847	27.434	1.748	1.00	51.99	C
ATOM	2073	C4*	C P	52	23.163	26.246	1.144	1.00	52.23	C
ATOM	2074	O4*	C P	52	23.615	25.066	1.829	1.00	52.80	O
ATOM	2075	C3*	C P	52	21.659	26.229	1.378	1.00	53.83	C
ATOM	2076	O3*	C P	52	20.995	27.101	0.489	1.00	53.85	O
ATOM	2077	C2*	C P	52	21.395	24.760	1.119	1.00	53.94	C
ATOM	2078	O2*	C P	52	21.508	24.451	-0.251	1.00	56.27	O
ATOM	2079	C1*	C P	52	22.528	24.155	1.927	1.00	53.62	C
ATOM	2080	N1	C P	52	22.144	23.916	3.357	1.00	54.06	N
ATOM	2081	C2	C P	52	21.378	22.794	3.645	1.00	54.59	C
ATOM	2082	O2	C P	52	21.051	22.061	2.708	1.00	56.41	O
ATOM	2083	N3	C P	52	21.022	22.528	4.924	1.00	54.05	N
ATOM	2084	C4	C P	52	21.376	23.345	5.913	1.00	54.41	C
ATOM	2085	N4	C P	52	20.979	23.037	7.159	1.00	53.71	N
ATOM	2086	C5	C P	52	22.155	24.514	5.648	1.00	54.30	C
ATOM	2087	C6	C P	52	22.511	24.752	4.378	1.00	54.26	C
ATOM	2088	P	G P	53	19.531	27.614	0.801	1.00	53.55	P
ATOM	2089	O1P	G P	53	19.022	28.335	-0.386	1.00	54.47	O
ATOM	2090	O2P	G P	53	19.501	28.322	2.093	1.00	54.48	O
ATOM	2091	O5*	G P	53	18.821	26.197	0.980	1.00	54.91	O
ATOM	2092	C5*	G P	53	17.848	25.716	0.092	1.00	56.16	C
ATOM	2093	C4*	G P	53	16.890	24.800	0.815	1.00	56.01	C
ATOM	2094	O4*	G P	53	17.593	23.868	1.668	1.00	57.08	O
ATOM	2095	C3*	G P	53	15.951	25.506	1.763	1.00	56.11	C
ATOM	2096	O3*	G P	53	14.903	26.064	1.022	1.00	55.25	O
ATOM	2097	C2*	G P	53	15.516	24.338	2.633	1.00	56.95	C
ATOM	2098	O2*	G P	53	14.612	23.468	1.974	1.00	57.63	O
ATOM	2099	C1*	G P	53	16.870	23.677	2.872	1.00	57.04	C
ATOM	2100	N9	G P	53	17.599	24.282	3.986	1.00	57.21	N
ATOM	2101	C8	G P	53	18.629	25.188	3.926	1.00	57.31	C
ATOM	2102	N7	G P	53	19.070	25.557	5.097	1.00	57.86	N
ATOM	2103	C5	G P	53	18.280	24.863	5.994	1.00	57.01	C
ATOM	2104	C6	G P	53	18.296	24.867	7.411	1.00	57.96	C
ATOM	2105	O6	G P	53	19.036	25.505	8.188	1.00	57.14	O
ATOM	2106	N1	G P	53	17.317	24.012	7.926	1.00	57.49	N
ATOM	2107	C2	G P	53	16.444	23.257	7.177	1.00	57.67	C
ATOM	2108	N2	G P	53	15.576	22.504	7.868	1.00	57.06	N
ATOM	2109	N3	G P	53	16.425	23.257	5.847	1.00	57.87	N
ATOM	2110	C4	G P	53	17.370	24.076	5.326	1.00	56.96	C
ATOM	2111	P	G P	54	14.165	27.355	1.556	1.00	54.03	P
ATOM	2112	O1P	G P	54	13.109	27.760	0.605	1.00	52.32	O
ATOM	2113	O2P	G P	54	15.205	28.346	1.894	1.00	55.42	O
ATOM	2114	O5*	G P	54	13.565	26.755	2.902	1.00	55.41	O
ATOM	2115	C5*	G P	54	12.379	25.983	2.839	1.00	56.94	C
ATOM	2116	C4*	G P	54	11.889	25.552	4.210	1.00	56.70	C
ATOM	2117	O4*	G P	54	12.917	24.833	4.919	1.00	57.31	O
ATOM	2118	C3*	G P	54	11.528	26.661	5.175	1.00	57.31	C
ATOM	2119	O3*	G P	54	10.284	27.240	4.824	1.00	55.12	O
ATOM	2120	C2*	G P	54	11.498	25.859	6.466	1.00	57.87	C
ATOM	2121	O2*	G P	54	10.383	24.995	6.574	1.00	59.37	O
ATOM	2122	C1*	G P	54	12.779	25.061	6.303	1.00	58.47	C
ATOM	2123	N9	G P	54	13.939	25.792	6.785	1.00	59.12	N
ATOM	2124	C8	G P	54	14.909	26.434	6.047	1.00	59.54	C
ATOM	2125	N7	G P	54	15.822	27.016	6.783	1.00	59.74	N
ATOM	2126	C5	G P	54	15.428	26.742	8.084	1.00	58.88	C
ATOM	2127	C6	G P	54	16.017	27.109	9.308	1.00	59.38	C
ATOM	2128	O6	G P	54	17.048	27.771	9.508	1.00	60.36	O
ATOM	2129	N1	G P	54	15.297	26.621	10.394	1.00	59.53	N

ATOM	2130	C2	G P	54	14.149	25.874	10.318	1.00	59.38	C
ATOM	2131	N2	G P	54	13.612	25.498	11.488	1.00	59.29	N
ATOM	2132	N3	G P	54	13.582	25.530	9.171	1.00	59.30	N
ATOM	2133	C4	G P	54	14.273	25.993	8.103	1.00	59.07	C
ATOM	2134	P	C P	55	10.019	28.805	5.046	1.00	55.81	P
ATOM	2135	O1P	C P	55	8.647	29.130	4.566	1.00	54.74	O
ATOM	2136	O2P	C P	55	11.154	29.577	4.481	1.00	53.75	O
ATOM	2137	O5*	C P	55	9.993	28.861	6.647	1.00	54.37	O
ATOM	2138	C5*	C P	55	8.943	28.150	7.294	1.00	54.39	C
ATOM	2139	C4*	C P	55	9.040	28.108	8.810	1.00	54.04	C
ATOM	2140	O4*	C P	55	10.201	27.351	9.243	1.00	53.64	O
ATOM	2141	C3*	C P	55	9.185	29.440	9.503	1.00	54.32	C
ATOM	2142	O3*	C P	55	7.949	30.145	9.542	1.00	55.70	O
ATOM	2143	C2*	C P	55	9.708	28.966	10.857	1.00	54.39	C
ATOM	2144	O2*	C P	55	8.742	28.371	11.689	1.00	54.01	O
ATOM	2145	C1*	C P	55	10.755	27.953	10.396	1.00	54.23	C
ATOM	2146	N1	C P	55	12.065	28.654	10.091	1.00	54.09	N
ATOM	2147	C2	C P	55	12.894	29.022	11.142	1.00	54.27	C
ATOM	2148	O2	C P	55	12.554	28.734	12.292	1.00	55.36	O
ATOM	2149	N3	C P	55	14.056	29.674	10.883	1.00	54.98	N
ATOM	2150	C4	C P	55	14.399	29.970	9.638	1.00	54.08	C
ATOM	2151	N4	C P	55	15.545	30.606	9.430	1.00	53.97	N
ATOM	2152	C5	C P	55	13.568	29.616	8.549	1.00	54.88	C
ATOM	2153	C6	C P	55	12.427	28.976	8.817	1.00	54.49	C
ATOM	2154	P	G P	56	7.946	31.747	9.441	1.00	57.79	P
ATOM	2155	O1P	G P	56	6.564	32.239	9.240	1.00	57.71	O
ATOM	2156	O2P	G P	56	9.016	32.154	8.498	1.00	59.31	O
ATOM	2157	O5*	G P	56	8.422	32.147	10.914	1.00	58.06	O
ATOM	2158	C5*	G P	56	7.831	31.603	12.108	1.00	58.28	C
ATOM	2159	C4*	G P	56	8.710	31.898	13.319	1.00	58.73	C
ATOM	2160	O4*	G P	56	10.014	31.280	13.139	1.00	58.61	O
ATOM	2161	C3*	G P	56	9.047	33.366	13.519	1.00	58.66	C
ATOM	2162	O3*	G P	56	8.003	34.089	14.158	1.00	59.03	O
ATOM	2163	C2*	G P	56	10.321	33.303	14.357	1.00	58.86	C
ATOM	2164	O2*	G P	56	10.141	33.156	15.752	1.00	58.40	O
ATOM	2165	C1*	G P	56	10.995	32.080	13.758	1.00	58.09	C
ATOM	2166	N9	G P	56	11.997	32.476	12.785	1.00	57.96	N
ATOM	2167	C8	G P	56	11.920	32.469	11.417	1.00	58.19	C
ATOM	2168	N7	G P	56	13.014	32.892	10.840	1.00	57.41	N
ATOM	2169	C5	G P	56	13.850	33.197	11.888	1.00	57.00	C
ATOM	2170	C6	G P	56	15.164	33.682	11.868	1.00	57.51	C
ATOM	2171	O6	G P	56	15.819	33.950	10.851	1.00	58.57	O
ATOM	2172	N1	G P	56	15.680	33.864	13.157	1.00	56.81	N
ATOM	2173	C2	G P	56	14.992	33.596	14.322	1.00	57.65	C
ATOM	2174	N2	G P	56	15.614	33.819	15.483	1.00	57.77	N
ATOM	2175	N3	G P	56	13.751	33.133	14.350	1.00	57.74	N
ATOM	2176	C4	G P	56	13.247	32.958	13.096	1.00	58.16	C
ATOM	2177	P	G P	57	8.003	35.696	14.051	1.00	61.16	P
ATOM	2178	O1P	G P	57	6.929	36.208	14.945	1.00	59.70	O
ATOM	2179	O2P	G P	57	8.180	36.151	12.640	1.00	59.33	O
ATOM	2180	O5*	G P	57	9.388	36.029	14.728	1.00	57.75	O
ATOM	2181	C5*	G P	57	10.000	37.255	14.534	1.00	55.84	C
ATOM	2182	C4*	G P	57	11.088	37.227	15.569	1.00	54.95	C
ATOM	2183	O4*	G P	57	11.975	36.111	15.275	1.00	54.84	O
ATOM	2184	C3*	G P	57	11.953	38.458	15.630	1.00	54.48	C
ATOM	2185	O3*	G P	57	11.366	39.373	16.547	1.00	52.61	O
ATOM	2186	C2*	G P	57	13.244	37.827	16.110	1.00	53.74	C
ATOM	2187	O2*	G P	57	13.137	37.504	17.481	1.00	54.43	O
ATOM	2188	C1*	G P	57	13.310	36.551	15.271	1.00	53.55	C

ATOM	2189	N9	G P	57	13.751	36.693	13.876	1.00	53.36	N
ATOM	2190	C8	G P	57	13.027	36.431	12.738	1.00	53.19	C
ATOM	2191	N7	G P	57	13.680	36.649	11.631	1.00	53.27	N
ATOM	2192	C5	G P	57	14.920	37.078	12.053	1.00	52.95	C
ATOM	2193	C6	G P	57	16.041	37.461	11.298	1.00	53.17	C
ATOM	2194	O6	G P	57	16.147	37.498	10.068	1.00	53.59	O
ATOM	2195	N1	G P	57	17.103	37.831	12.117	1.00	53.31	N
ATOM	2196	C2	G P	57	17.083	37.818	13.494	1.00	53.14	C
ATOM	2197	N2	G P	57	18.190	38.201	14.143	1.00	53.00	N
ATOM	2198	N3	G P	57	16.028	37.459	14.200	1.00	53.07	N
ATOM	2199	C4	G P	57	14.985	37.103	13.425	1.00	52.85	C
ATOM	2200	P	A P	58	11.075	40.862	16.062	1.00	52.79	P
ATOM	2201	O1P	A P	58	10.654	41.664	17.236	1.00	51.48	O
ATOM	2202	O2P	A P	58	10.291	40.780	14.808	1.00	51.52	O
ATOM	2203	O5*	A P	58	12.518	41.382	15.626	1.00	52.47	O
ATOM	2204	C5*	A P	58	13.598	41.369	16.528	1.00	52.08	C
ATOM	2205	C4*	A P	58	14.866	41.739	15.787	1.00	52.17	C
ATOM	2206	O4*	A P	58	15.316	40.642	14.954	1.00	52.33	O
ATOM	2207	C3*	A P	58	14.707	42.875	14.796	1.00	51.92	C
ATOM	2208	O3*	A P	58	14.715	44.113	15.448	1.00	50.69	O
ATOM	2209	C2*	A P	58	15.928	42.665	13.922	1.00	51.41	C
ATOM	2210	O2*	A P	58	17.106	43.100	14.555	1.00	51.37	O
ATOM	2211	C1*	A P	58	15.871	41.149	13.751	1.00	51.64	C
ATOM	2212	N9	A P	58	15.062	40.739	12.599	1.00	51.22	N
ATOM	2213	C8	A P	58	13.747	40.368	12.577	1.00	51.59	C
ATOM	2214	N7	A P	58	13.294	40.064	11.383	1.00	51.24	N
ATOM	2215	C5	A P	58	14.382	40.248	10.567	1.00	51.09	C
ATOM	2216	C6	A P	58	14.564	40.089	9.183	1.00	51.58	C
ATOM	2217	N6	A P	58	13.590	39.696	8.365	1.00	50.41	N
ATOM	2218	N1	A P	58	15.799	40.356	8.672	1.00	51.78	N
ATOM	2219	C2	A P	58	16.764	40.752	9.515	1.00	51.34	C
ATOM	2220	N3	A P	58	16.704	40.932	10.833	1.00	51.34	N
ATOM	2221	C4	A P	58	15.478	40.660	11.300	1.00	51.23	C
ATOM	2222	P	U P	59	13.706	45.242	14.962	1.00	51.63	P
ATOM	2223	O1P	U P	59	12.711	45.430	16.049	1.00	51.68	O
ATOM	2224	O2P	U P	59	13.269	44.971	13.575	1.00	49.67	O
ATOM	2225	O5*	U P	59	14.645	46.529	14.918	1.00	50.46	O
ATOM	2226	C5*	U P	59	15.487	46.729	13.825	1.00	50.78	C
ATOM	2227	C4*	U P	59	16.367	47.916	14.114	1.00	51.13	C
ATOM	2228	O4*	U P	59	16.868	47.761	15.456	1.00	50.80	O
ATOM	2229	C3*	U P	59	17.586	48.051	13.223	1.00	51.01	C
ATOM	2230	O3*	U P	59	17.964	49.426	13.165	1.00	52.00	O
ATOM	2231	C2*	U P	59	18.573	47.159	13.966	1.00	51.43	C
ATOM	2232	O2*	U P	59	19.929	47.455	13.718	1.00	51.48	O
ATOM	2233	C1*	U P	59	18.249	47.511	15.410	1.00	51.70	C
ATOM	2234	N1	U P	59	18.563	46.475	16.439	1.00	52.02	N
ATOM	2235	C2	U P	59	19.766	46.534	17.102	1.00	51.47	C
ATOM	2236	O2	U P	59	20.581	47.385	16.867	1.00	51.48	O
ATOM	2237	N3	U P	59	19.976	45.556	18.049	1.00	51.88	N
ATOM	2238	C4	U P	59	19.107	44.533	18.402	1.00	51.73	C
ATOM	2239	O4	U P	59	19.413	43.712	19.273	1.00	52.24	O
ATOM	2240	C5	U P	59	17.871	44.530	17.668	1.00	51.73	C
ATOM	2241	C6	U P	59	17.651	45.477	16.740	1.00	52.45	C
ATOM	2242	P	G P	60	17.446	50.398	11.992	1.00	53.50	P
ATOM	2243	O1P	G P	60	18.205	51.668	12.106	1.00	51.74	O
ATOM	2244	O2P	G P	60	15.971	50.389	11.956	1.00	52.58	O
ATOM	2245	O5*	G P	60	17.942	49.670	10.666	1.00	52.86	O
ATOM	2246	C5*	G P	60	19.329	49.654	10.399	1.00	52.91	C
ATOM	2247	C4*	G P	60	19.607	48.916	9.116	1.00	52.60	C

ATOM	2248	O4*	G P	60	19.009	47.598	9.137	1.00	53.11	O
ATOM	2249	C3*	G P	60	19.012	49.606	7.911	1.00	52.35	C
ATOM	2250	O3*	G P	60	19.923	50.569	7.469	1.00	52.45	O
ATOM	2251	C2*	G P	60	18.839	48.461	6.933	1.00	52.48	C
ATOM	2252	O2*	G P	60	20.032	48.161	6.254	1.00	51.09	O
ATOM	2253	C1*	G P	60	18.422	47.330	7.878	1.00	52.65	C
ATOM	2254	N9	G P	60	16.988	47.220	8.107	1.00	52.45	N
ATOM	2255	C8	G P	60	16.319	47.416	9.294	1.00	52.87	C
ATOM	2256	N7	G P	60	15.028	47.245	9.206	1.00	52.89	N
ATOM	2257	C5	G P	60	14.827	46.921	7.874	1.00	52.29	C
ATOM	2258	C6	G P	60	13.627	46.614	7.197	1.00	52.92	C
ATOM	2259	O6	G P	60	12.466	46.593	7.659	1.00	53.50	O
ATOM	2260	N1	G P	60	13.862	46.336	5.847	1.00	52.98	N
ATOM	2261	C2	G P	60	15.097	46.349	5.238	1.00	52.63	C
ATOM	2262	N2	G P	60	15.116	46.051	3.935	1.00	52.19	N
ATOM	2263	N3	G P	60	16.233	46.632	5.869	1.00	52.69	N
ATOM	2264	C4	G P	60	16.022	46.905	7.181	1.00	52.69	C
ATOM	2265	P	A P	61	19.388	51.937	6.872	1.00	51.80	P
ATOM	2266	O1P	A P	61	20.594	52.701	6.499	1.00	52.96	O
ATOM	2267	O2P	A P	61	18.370	52.530	7.770	1.00	52.21	O
ATOM	2268	O5*	A P	61	18.622	51.439	5.568	1.00	51.73	O
ATOM	2269	C5*	A P	61	19.310	51.184	4.366	1.00	53.14	C
ATOM	2270	C4*	A P	61	18.312	50.803	3.295	1.00	53.40	C
ATOM	2271	O4*	A P	61	17.581	49.646	3.753	1.00	54.67	O
ATOM	2272	C3*	A P	61	17.232	51.831	3.017	1.00	53.71	C
ATOM	2273	O3*	A P	61	17.706	52.796	2.095	1.00	53.78	O
ATOM	2274	C2*	A P	61	16.105	50.958	2.473	1.00	54.03	C
ATOM	2275	O2*	A P	61	16.239	50.562	1.124	1.00	54.56	O
ATOM	2276	C1*	A P	61	16.223	49.743	3.377	1.00	54.26	C
ATOM	2277	N9	A P	61	15.380	49.826	4.566	1.00	54.31	N
ATOM	2278	C8	A P	61	15.681	50.306	5.807	1.00	54.64	C
ATOM	2279	N7	A P	61	14.694	50.240	6.667	1.00	54.73	N
ATOM	2280	C5	A P	61	13.676	49.683	5.929	1.00	54.20	C
ATOM	2281	C6	A P	61	12.361	49.346	6.259	1.00	54.26	C
ATOM	2282	N6	A P	61	11.840	49.532	7.474	1.00	54.64	N
ATOM	2283	N1	A P	61	11.608	48.792	5.293	1.00	54.58	N
ATOM	2284	C2	A P	61	12.125	48.596	4.074	1.00	54.82	C
ATOM	2285	N3	A P	61	13.348	48.874	3.638	1.00	54.56	N
ATOM	2286	C4	A P	61	14.075	49.418	4.634	1.00	54.76	C
ATOM	2287	P	C P	62	17.366	54.351	2.270	1.00	54.56	P
ATOM	2288	O1P	C P	62	18.264	55.091	1.356	1.00	55.09	O
ATOM	2289	O2P	C P	62	17.284	54.727	3.702	1.00	53.20	O
ATOM	2290	O5*	C P	62	15.898	54.407	1.663	1.00	54.29	O
ATOM	2291	C5*	C P	62	15.711	54.188	0.296	1.00	55.12	C
ATOM	2292	C4*	C P	62	14.248	53.896	0.046	1.00	55.91	C
ATOM	2293	O4*	C P	62	13.858	52.689	0.750	1.00	56.25	O
ATOM	2294	C3*	C P	62	13.269	54.939	0.564	1.00	56.44	C
ATOM	2295	O3*	C P	62	13.281	56.111	-0.258	1.00	57.08	O
ATOM	2296	C2*	C P	62	11.990	54.102	0.515	1.00	56.28	C
ATOM	2297	O2*	C P	62	11.474	53.862	-0.781	1.00	56.43	O
ATOM	2298	C1*	C P	62	12.502	52.808	1.141	1.00	56.15	C
ATOM	2299	N1	C P	62	12.371	52.798	2.645	1.00	55.86	N
ATOM	2300	C2	C P	62	11.134	52.455	3.198	1.00	55.77	C
ATOM	2301	O2	C P	62	10.190	52.160	2.454	1.00	55.70	O
ATOM	2302	N3	C P	62	11.003	52.456	4.546	1.00	56.12	N
ATOM	2303	C4	C P	62	12.028	52.762	5.342	1.00	56.27	C
ATOM	2304	N4	C P	62	11.815	52.736	6.665	1.00	56.10	N
ATOM	2305	C5	C P	62	13.297	53.127	4.800	1.00	56.04	C
ATOM	2306	C6	C P	62	13.417	53.133	3.466	1.00	55.65	C

ATOM	2307	P	U P	63	13.103	57.570	0.365	1.00	57.99	P
ATOM	2308	O1P	U P	63	13.349	58.582	-0.687	1.00	57.99	O
ATOM	2309	O2P	U P	63	13.819	57.663	1.655	1.00	58.27	O
ATOM	2310	O5*	U P	63	11.544	57.564	0.644	1.00	59.65	O
ATOM	2311	C5*	U P	63	10.633	57.257	-0.402	1.00	61.16	C
ATOM	2312	C4*	U P	63	9.258	57.017	0.180	1.00	61.97	C
ATOM	2313	O4*	U P	63	9.223	55.738	0.858	1.00	62.13	O
ATOM	2314	C3*	U P	63	8.826	58.019	1.241	1.00	62.59	C
ATOM	2315	O3*	U P	63	8.417	59.222	0.602	1.00	63.58	O
ATOM	2316	C2*	U P	63	7.736	57.205	1.934	1.00	62.77	C
ATOM	2317	O2*	U P	63	6.532	57.046	1.209	1.00	63.04	O
ATOM	2318	C1*	U P	63	8.469	55.876	2.046	1.00	63.00	C
ATOM	2319	N1	U P	63	9.337	55.817	3.282	1.00	63.55	N
ATOM	2320	C2	U P	63	8.703	55.520	4.466	1.00	63.82	C
ATOM	2321	O2	U P	63	7.507	55.312	4.529	1.00	64.27	O
ATOM	2322	N3	U P	63	9.510	55.472	5.573	1.00	63.97	N
ATOM	2323	C4	U P	63	10.870	55.696	5.631	1.00	63.64	C
ATOM	2324	O4	U P	63	11.446	55.614	6.712	1.00	63.38	O
ATOM	2325	C5	U P	63	11.476	56.006	4.361	1.00	63.65	C
ATOM	2326	C6	U P	63	10.703	56.055	3.265	1.00	63.50	C
ATOM	2327	P	C P	64	8.165	60.587	1.396	1.00	64.35	P
ATOM	2328	O1P	C P	64	7.614	61.545	0.409	1.00	64.22	O
ATOM	2329	O2P	C P	64	9.345	60.954	2.211	1.00	63.54	O
ATOM	2330	O5*	C P	64	6.989	60.143	2.380	1.00	65.08	O
ATOM	2331	C5*	C P	64	5.703	60.754	2.340	1.00	66.01	C
ATOM	2332	C4*	C P	64	4.862	60.230	3.490	1.00	66.35	C
ATOM	2333	O4*	C P	64	5.320	58.906	3.882	1.00	66.07	O
ATOM	2334	C3*	C P	64	4.953	61.050	4.765	1.00	66.56	C
ATOM	2335	O3*	C P	64	4.114	62.211	4.663	1.00	67.47	O
ATOM	2336	C2*	C P	64	4.527	60.010	5.803	1.00	66.26	C
ATOM	2337	O2*	C P	64	3.138	59.759	5.871	1.00	66.31	O
ATOM	2338	C1*	C P	64	5.253	58.770	5.292	1.00	65.57	C
ATOM	2339	N1	C P	64	6.626	58.595	5.886	1.00	65.06	N
ATOM	2340	C2	C P	64	6.749	58.166	7.216	1.00	64.58	C
ATOM	2341	O2	C P	64	5.737	57.937	7.886	1.00	64.37	O
ATOM	2342	N3	C P	64	7.987	58.010	7.744	1.00	64.15	N
ATOM	2343	C4	C P	64	9.077	58.258	7.022	1.00	64.55	C
ATOM	2344	N4	C P	64	10.269	58.085	7.596	1.00	64.54	N
ATOM	2345	C5	C P	64	8.984	58.694	5.673	1.00	64.86	C
ATOM	2346	C6	C P	64	7.757	58.848	5.156	1.00	65.07	C
ATOM	2347	P	C P	65	4.649	63.683	5.038	1.00	68.30	P
ATOM	2348	O1P	C P	65	3.646	64.678	4.586	1.00	67.85	O
ATOM	2349	O2P	C P	65	6.061	63.830	4.623	1.00	68.11	O
ATOM	2350	O5*	C P	65	4.600	63.618	6.631	1.00	68.23	O
ATOM	2351	C5*	C P	65	3.339	63.642	7.266	1.00	68.30	C
ATOM	2352	C4*	C P	65	3.366	62.876	8.569	1.00	68.43	C
ATOM	2353	O4*	C P	65	4.009	61.583	8.447	1.00	68.09	O
ATOM	2354	C3*	C P	65	4.163	63.546	9.669	1.00	68.47	C
ATOM	2355	O3*	C P	65	3.443	64.671	10.141	1.00	69.05	O
ATOM	2356	C2*	C P	65	4.243	62.387	10.651	1.00	68.40	C
ATOM	2357	O2*	C P	65	3.024	62.141	11.326	1.00	68.40	O
ATOM	2358	C1*	C P	65	4.603	61.248	9.694	1.00	68.06	C
ATOM	2359	N1	C P	65	6.095	61.056	9.549	1.00	68.01	N
ATOM	2360	C2	C P	65	6.842	60.533	10.625	1.00	67.98	C
ATOM	2361	O2	C P	65	6.279	60.227	11.684	1.00	67.93	O
ATOM	2362	N3	C P	65	8.184	60.374	10.482	1.00	67.36	N
ATOM	2363	C4	C P	65	8.789	60.710	9.344	1.00	67.57	C
ATOM	2364	N4	C P	65	10.106	60.530	9.260	1.00	67.56	N
ATOM	2365	C5	C P	65	8.062	61.240	8.238	1.00	67.72	C

ATOM	2366	C6	C P	65	6.739	61.398	8.385	1.00	68.01	C
ATOM	2367	P	C P	66	4.063	66.150	10.191	1.00	69.49	P
ATOM	2368	O1P	C P	66	2.940	67.115	10.125	1.00	69.33	O
ATOM	2369	O2P	C P	66	5.176	66.259	9.220	1.00	69.31	O
ATOM	2370	O5*	C P	66	4.647	66.185	11.680	1.00	69.43	O
ATOM	2371	C5*	C P	66	3.830	65.814	12.793	1.00	69.52	C
ATOM	2372	C4*	C P	66	4.678	65.255	13.916	1.00	69.55	C
ATOM	2373	O4*	C P	66	5.256	63.978	13.555	1.00	69.51	O
ATOM	2374	C3*	C P	66	5.887	66.098	14.259	1.00	69.61	C
ATOM	2375	O3*	C P	66	5.488	67.229	15.004	1.00	69.51	O
ATOM	2376	C2*	C P	66	6.734	65.105	15.035	1.00	69.60	C
ATOM	2377	O2*	C P	66	6.305	64.888	16.363	1.00	70.16	O
ATOM	2378	C1*	C P	66	6.533	63.869	14.160	1.00	69.49	C
ATOM	2379	N1	C P	66	7.580	63.767	13.109	1.00	69.17	N
ATOM	2380	C2	C P	66	8.884	63.460	13.513	1.00	69.15	C
ATOM	2381	O2	C P	66	9.123	63.277	14.716	1.00	69.19	O
ATOM	2382	N3	C P	66	9.849	63.371	12.566	1.00	68.97	N
ATOM	2383	C4	C P	66	9.560	63.575	11.278	1.00	69.19	C
ATOM	2384	N4	C P	66	10.558	63.472	10.395	1.00	69.11	N
ATOM	2385	C5	C P	66	8.237	63.895	10.845	1.00	68.91	C
ATOM	2386	C6	C P	66	7.290	63.981	11.785	1.00	68.86	C
ATOM	2387	P	G P	67	6.343	68.560	14.854	1.00	69.50	P
ATOM	2388	O1P	G P	67	5.689	69.619	15.653	1.00	69.07	O
ATOM	2389	O2P	G P	67	6.626	68.778	13.415	1.00	69.24	O
ATOM	2390	O5*	G P	67	7.688	68.119	15.592	1.00	68.95	O
ATOM	2391	C5*	G P	67	7.712	67.955	17.004	1.00	68.90	C
ATOM	2392	C4*	G P	67	9.123	67.650	17.459	1.00	68.58	C
ATOM	2393	O4*	G P	67	9.557	66.399	16.868	1.00	68.64	O
ATOM	2394	C3*	G P	67	10.162	68.674	17.019	1.00	68.38	C
ATOM	2395	O3*	G P	67	10.206	69.794	17.914	1.00	66.95	O
ATOM	2396	C2*	G P	67	11.439	67.835	16.999	1.00	68.48	C
ATOM	2397	O2*	G P	67	12.065	67.719	18.266	1.00	69.08	O
ATOM	2398	C1*	G P	67	10.917	66.493	16.487	1.00	68.55	C
ATOM	2399	N9	G P	67	11.048	66.405	15.036	1.00	68.54	N
ATOM	2400	C8	G P	67	10.111	66.685	14.067	1.00	68.64	C
ATOM	2401	N7	G P	67	10.547	66.524	12.847	1.00	68.44	N
ATOM	2402	C5	G P	67	11.862	66.119	13.018	1.00	68.35	C
ATOM	2403	C6	G P	67	12.848	65.793	12.054	1.00	68.38	C
ATOM	2404	O6	G P	67	12.753	65.799	10.819	1.00	68.26	O
ATOM	2405	N1	G P	67	14.050	65.432	12.659	1.00	68.48	N
ATOM	2406	C2	G P	67	14.276	65.392	14.018	1.00	68.61	C
ATOM	2407	N2	G P	67	15.504	65.021	14.405	1.00	68.57	N
ATOM	2408	N3	G P	67	13.360	65.697	14.933	1.00	68.43	N
ATOM	2409	C4	G P	67	12.184	66.047	14.359	1.00	68.33	C
ATOM	2410	P	G P	68	11.098	71.064	17.523	1.00	65.98	P
ATOM	2411	O1P	G P	68	11.071	72.027	18.647	1.00	66.06	O
ATOM	2412	O2P	G P	68	10.733	71.489	16.152	1.00	65.36	O
ATOM	2413	O5*	G P	68	12.561	70.435	17.495	1.00	65.15	O
ATOM	2414	C5*	G P	68	13.597	71.137	16.860	1.00	64.44	C
ATOM	2415	C4*	G P	68	14.848	70.292	16.799	1.00	63.78	C
ATOM	2416	O4*	G P	68	14.564	68.957	16.304	1.00	63.88	O
ATOM	2417	C3*	G P	68	15.891	70.834	15.841	1.00	63.29	C
ATOM	2418	O3*	G P	68	16.620	71.883	16.457	1.00	62.40	O
ATOM	2419	C2*	G P	68	16.687	69.563	15.566	1.00	63.28	C
ATOM	2420	O2*	G P	68	17.473	69.124	16.661	1.00	62.86	O
ATOM	2421	C1*	G P	68	15.514	68.625	15.304	1.00	63.13	C
ATOM	2422	N9	G P	68	14.899	68.799	13.985	1.00	62.83	N
ATOM	2423	C8	G P	68	13.656	69.325	13.716	1.00	62.84	C
ATOM	2424	N7	G P	68	13.367	69.361	12.444	1.00	62.95	N

ATOM	2425	C5	G P	68	14.487	68.831	11.821	1.00	62.47	C
ATOM	2426	C6	G P	68	14.750	68.623	10.445	1.00	62.49	C
ATOM	2427	O6	G P	68	14.027	68.868	9.474	1.00	62.66	O
ATOM	2428	N1	G P	68	16.005	68.065	10.235	1.00	62.81	N
ATOM	2429	C2	G P	68	16.898	67.740	11.234	1.00	62.92	C
ATOM	2430	N2	G P	68	18.064	67.208	10.833	1.00	62.76	N
ATOM	2431	N3	G P	68	16.662	67.930	12.530	1.00	62.64	N
ATOM	2432	C4	G P	68	15.442	68.480	12.755	1.00	62.56	C
ATOM	2433	P	U P	69	17.282	73.039	15.580	1.00	61.06	P
ATOM	2434	O1P	U P	69	17.801	74.021	16.554	1.00	61.19	O
ATOM	2435	O2P	U P	69	16.340	73.463	14.517	1.00	60.85	O
ATOM	2436	O5*	U P	69	18.519	72.299	14.886	1.00	61.07	O
ATOM	2437	C5*	U P	69	19.587	71.798	15.680	1.00	61.14	C
ATOM	2438	C4*	U P	69	20.683	71.203	14.822	1.00	60.84	C
ATOM	2439	O4*	U P	69	20.139	70.150	13.997	1.00	61.02	O
ATOM	2440	C3*	U P	69	21.298	72.150	13.810	1.00	61.02	C
ATOM	2441	O3*	U P	69	22.271	72.996	14.401	1.00	61.16	O
ATOM	2442	C2*	U P	69	21.923	71.173	12.835	1.00	61.10	C
ATOM	2443	O2*	U P	69	23.142	70.653	13.333	1.00	60.77	O
ATOM	2444	C1*	U P	69	20.811	70.127	12.748	1.00	61.50	C
ATOM	2445	N1	U P	69	19.818	70.337	11.621	1.00	61.80	N
ATOM	2446	C2	U P	69	20.226	70.078	10.321	1.00	61.87	C
ATOM	2447	O2	U P	69	21.348	69.697	10.033	1.00	62.04	O
ATOM	2448	N3	U P	69	19.274	70.287	9.349	1.00	61.73	N
ATOM	2449	C4	U P	69	17.967	70.713	9.532	1.00	62.02	C
ATOM	2450	O4	U P	69	17.230	70.853	8.559	1.00	61.69	O
ATOM	2451	C5	U P	69	17.605	70.967	10.909	1.00	62.02	C
ATOM	2452	C6	U P	69	18.520	70.772	11.875	1.00	62.01	C
ATOM	2453	P	U P	70	22.557	74.411	13.714	1.00	60.80	P
ATOM	2454	O1P	U P	70	23.595	75.102	14.513	1.00	60.70	O
ATOM	2455	O2P	U P	70	21.240	75.048	13.490	1.00	60.17	O
ATOM	2456	O5*	U P	70	23.157	74.022	12.277	1.00	60.16	O
ATOM	2457	C5*	U P	70	24.527	73.681	12.075	1.00	59.82	C
ATOM	2458	C4*	U P	70	24.830	73.453	10.599	1.00	59.72	C
ATOM	2459	O4*	U P	70	23.988	72.404	10.047	1.00	59.31	O
ATOM	2460	C3*	U P	70	24.560	74.631	9.673	1.00	59.69	C
ATOM	2461	O3*	U P	70	25.614	75.590	9.703	1.00	61.04	O
ATOM	2462	C2*	U P	70	24.474	73.913	8.332	1.00	59.44	C
ATOM	2463	O2*	U P	70	25.729	73.482	7.844	1.00	59.69	O
ATOM	2464	C1*	U P	70	23.616	72.719	8.710	1.00	58.16	C
ATOM	2465	N1	U P	70	22.134	72.972	8.582	1.00	57.38	N
ATOM	2466	C2	U P	70	21.546	72.967	7.330	1.00	57.46	C
ATOM	2467	O2	U P	70	22.164	72.781	6.296	1.00	57.67	O
ATOM	2468	N3	U P	70	20.189	73.197	7.317	1.00	57.27	N
ATOM	2469	C4	U P	70	19.367	73.431	8.402	1.00	57.17	C
ATOM	2470	O4	U P	70	18.168	73.622	8.247	1.00	57.09	O
ATOM	2471	C5	U P	70	20.041	73.418	9.667	1.00	57.24	C
ATOM	2472	C6	U P	70	21.361	73.196	9.703	1.00	57.28	C
ATOM	2473	P	G P	71	25.351	77.130	9.339	1.00	61.39	P
ATOM	2474	O1P	G P	71	26.656	77.827	9.412	1.00	61.21	O
ATOM	2475	O2P	G P	71	24.215	77.599	10.160	1.00	61.58	O
ATOM	2476	O5*	G P	71	24.861	77.079	7.818	1.00	63.92	O
ATOM	2477	C5*	G P	71	25.787	77.076	6.741	1.00	66.77	C
ATOM	2478	C4*	G P	71	25.064	77.152	5.410	1.00	68.72	C
ATOM	2479	O4*	G P	71	24.120	76.060	5.286	1.00	69.13	O
ATOM	2480	C3*	G P	71	24.182	78.374	5.204	1.00	70.59	C
ATOM	2481	O3*	G P	71	24.944	79.542	4.912	1.00	74.38	O
ATOM	2482	C2*	G P	71	23.325	77.899	4.038	1.00	70.15	C
ATOM	2483	O2*	G P	71	24.000	77.871	2.795	1.00	69.97	O

ATOM	2484	C1*	G P	71	23.013	76.487	4.507	1.00	69.05	C
ATOM	2485	N9	G P	71	21.806	76.396	5.316	1.00	68.73	N
ATOM	2486	C8	G P	71	21.706	76.348	6.687	1.00	68.55	C
ATOM	2487	N7	G P	71	20.480	76.259	7.115	1.00	68.53	N
ATOM	2488	C5	G P	71	19.722	76.245	5.954	1.00	68.38	C
ATOM	2489	C6	G P	71	18.323	76.163	5.786	1.00	68.49	C
ATOM	2490	O6	G P	71	17.449	76.083	6.660	1.00	68.51	O
ATOM	2491	N1	G P	71	17.963	76.183	4.440	1.00	68.66	N
ATOM	2492	C2	G P	71	18.843	76.270	3.379	1.00	68.67	C
ATOM	2493	N2	G P	71	18.305	76.280	2.148	1.00	68.47	N
ATOM	2494	N3	G P	71	20.163	76.352	3.527	1.00	68.38	N
ATOM	2495	C4	G P	71	20.524	76.332	4.836	1.00	68.47	C
ATOM	2496	P	U P	72	24.403	81.001	5.294	1.00	77.68	P
ATOM	2497	O1P	U P	72	23.424	80.910	6.404	1.00	77.57	O
ATOM	2498	O2P	U P	72	24.019	81.640	4.015	1.00	77.83	O
ATOM	2499	O5*	U P	72	25.710	81.726	5.860	1.00	80.61	O
ATOM	2500	C5*	U P	72	26.460	81.130	6.912	1.00	84.34	C
ATOM	2501	C4*	U P	72	25.927	81.500	8.290	1.00	86.44	C
ATOM	2502	O4*	U P	72	26.957	81.270	9.282	1.00	88.05	O
ATOM	2503	C3*	U P	72	25.591	82.964	8.545	1.00	88.00	C
ATOM	2504	O3*	U P	72	24.752	83.187	9.719	1.00	88.82	O
ATOM	2505	C2*	U P	72	27.003	83.550	8.678	1.00	88.50	C
ATOM	2506	O2*	U P	72	27.040	84.752	9.427	1.00	88.42	O
ATOM	2507	C1*	U P	72	27.787	82.420	9.371	1.00	89.19	C
ATOM	2508	N1	U P	72	29.148	82.039	8.796	1.00	89.82	N
ATOM	2509	C2	U P	72	30.069	83.003	8.401	1.00	90.15	C
ATOM	2510	O2	U P	72	29.878	84.205	8.471	1.00	90.24	O
ATOM	2511	N3	U P	72	31.255	82.501	7.905	1.00	90.24	N
ATOM	2512	C4	U P	72	31.614	81.169	7.766	1.00	90.05	C
ATOM	2513	O4	U P	72	32.709	80.868	7.308	1.00	90.05	O
ATOM	2514	C5	U P	72	30.619	80.224	8.195	1.00	90.19	C
ATOM	2515	C6	U P	72	29.461	80.686	8.681	1.00	90.19	C
ATOM	2516	P	U P	73	24.474	82.166	10.943	1.00	89.83	P
ATOM	2517	O1P	U P	73	25.726	81.977	11.708	1.00	89.64	O
ATOM	2518	O2P	U P	73	23.700	81.003	10.454	1.00	89.67	O
ATOM	2519	O5*	U P	73	23.487	83.002	11.871	1.00	90.64	O
ATOM	2520	C5*	U P	73	23.811	84.347	12.163	1.00	91.69	C
ATOM	2521	C4*	U P	73	24.495	84.501	13.507	1.00	92.08	C
ATOM	2522	O4*	U P	73	25.284	85.709	13.483	1.00	92.31	O
ATOM	2523	C3*	U P	73	23.547	84.674	14.685	1.00	92.48	C
ATOM	2524	O3*	U P	73	23.850	83.711	15.703	1.00	93.16	O
ATOM	2525	C2*	U P	73	23.743	86.132	15.122	1.00	92.48	C
ATOM	2526	O2*	U P	73	24.522	86.253	16.298	1.00	92.20	O
ATOM	2527	C1*	U P	73	24.481	86.776	13.943	1.00	92.58	C
ATOM	2528	N1	U P	73	23.706	87.369	12.752	1.00	92.75	N
ATOM	2529	C2	U P	73	22.428	87.908	12.871	1.00	92.77	C
ATOM	2530	O2	U P	73	21.795	87.966	13.908	1.00	92.88	O
ATOM	2531	N3	U P	73	21.886	88.402	11.704	1.00	92.75	N
ATOM	2532	C4	U P	73	22.459	88.423	10.444	1.00	92.82	C
ATOM	2533	O4	U P	73	21.840	88.899	9.494	1.00	92.78	O
ATOM	2534	C5	U P	73	23.782	87.857	10.383	1.00	92.88	C
ATOM	2535	C6	U P	73	24.334	87.374	11.508	1.00	92.89	C
ATOM	2536	P	C P	74	23.129	82.276	15.699	1.00	93.89	P
ATOM	2537	O1P	C P	74	23.539	81.551	16.923	1.00	93.70	O
ATOM	2538	O2P	C P	74	23.350	81.651	14.375	1.00	93.85	O
ATOM	2539	O5*	C P	74	21.580	82.658	15.854	1.00	94.21	O
ATOM	2540	C5*	C P	74	21.089	83.159	17.098	1.00	94.68	C
ATOM	2541	C4*	C P	74	20.167	84.357	16.927	1.00	94.90	C
ATOM	2542	O4*	C P	74	20.638	85.281	15.911	1.00	94.99	O

ATOM	2543	C3*	C P	74	18.767	84.063	16.416	1.00	95.03	C
ATOM	2544	O3*	C P	74	17.968	83.365	17.373	1.00	95.16	O
ATOM	2545	C2*	C P	74	18.292	85.488	16.150	1.00	95.02	C
ATOM	2546	O2*	C P	74	17.906	86.181	17.323	1.00	95.02	O
ATOM	2547	C1*	C P	74	19.545	86.105	15.526	1.00	94.87	C
ATOM	2548	N1	C P	74	19.435	86.240	14.027	1.00	94.74	N
ATOM	2549	C2	C P	74	18.647	87.275	13.500	1.00	94.78	C
ATOM	2550	O2	C P	74	18.063	88.050	14.269	1.00	94.76	O
ATOM	2551	N3	C P	74	18.538	87.407	12.152	1.00	94.77	N
ATOM	2552	C4	C P	74	19.172	86.563	11.334	1.00	94.76	C
ATOM	2553	N4	C P	74	19.034	86.737	10.016	1.00	94.60	N
ATOM	2554	C5	C P	74	19.979	85.503	11.844	1.00	94.82	C
ATOM	2555	C6	C P	74	20.080	85.379	13.177	1.00	94.83	C
ATOM	2556	P	A P	75	17.281	81.980	16.959	1.00	95.26	P
ATOM	2557	O1P	A P	75	16.258	81.625	17.969	1.00	95.29	O
ATOM	2558	O2P	A P	75	18.375	81.034	16.644	1.00	95.42	O
ATOM	2559	O5*	A P	75	16.560	82.355	15.583	1.00	95.60	O
ATOM	2560	C5*	A P	75	15.186	82.072	15.358	1.00	95.90	C
ATOM	2561	C4*	A P	75	14.275	83.104	16.008	1.00	95.97	C
ATOM	2562	O4*	A P	75	14.892	84.418	15.997	1.00	96.04	O
ATOM	2563	C3*	A P	75	12.933	83.269	15.304	1.00	96.06	C
ATOM	2564	O3*	A P	75	11.937	82.514	15.988	1.00	96.00	O
ATOM	2565	C2*	A P	75	12.675	84.773	15.332	1.00	96.00	C
ATOM	2566	O2*	A P	75	12.025	85.208	16.509	1.00	95.96	O
ATOM	2567	C1*	A P	75	14.094	85.325	15.259	1.00	96.07	C
ATOM	2568	N9	A P	75	14.642	85.465	13.907	1.00	96.08	N
ATOM	2569	C8	A P	75	15.781	84.890	13.403	1.00	96.11	C
ATOM	2570	N7	A P	75	16.037	85.200	12.156	1.00	96.17	N
ATOM	2571	C5	A P	75	14.997	86.041	11.811	1.00	96.19	C
ATOM	2572	C6	A P	75	14.690	86.715	10.610	1.00	96.15	C
ATOM	2573	N6	A P	75	15.451	86.622	9.516	1.00	96.10	N
ATOM	2574	N1	A P	75	13.575	87.483	10.585	1.00	96.21	N
ATOM	2575	C2	A P	75	12.824	87.565	11.697	1.00	96.21	C
ATOM	2576	N3	A P	75	13.013	86.975	12.883	1.00	96.10	N
ATOM	2577	C4	A P	75	14.128	86.220	12.876	1.00	96.15	C
ATOM	2578	P	U P	76	10.850	81.682	15.163	1.00	96.13	P
ATOM	2579	O1P	U P	76	10.067	80.891	16.138	1.00	95.94	O
ATOM	2580	O2P	U P	76	11.529	81.003	14.032	1.00	95.77	O
ATOM	2581	O5*	U P	76	9.928	82.847	14.564	1.00	95.79	O
ATOM	2582	C5*	U P	76	8.598	82.584	14.123	1.00	95.56	C
ATOM	2583	C4*	U P	76	8.351	83.107	12.717	1.00	95.43	C
ATOM	2584	O4*	U P	76	9.300	84.147	12.361	1.00	95.28	O
ATOM	2585	C3*	U P	76	8.528	82.084	11.607	1.00	95.41	C
ATOM	2586	O3*	U P	76	7.422	81.176	11.541	1.00	95.63	O
ATOM	2587	C2*	U P	76	8.632	83.014	10.405	1.00	95.27	C
ATOM	2588	O2*	U P	76	7.392	83.565	10.001	1.00	95.12	O
ATOM	2589	C1*	U P	76	9.568	84.083	10.967	1.00	95.09	C
ATOM	2590	N1	U P	76	11.026	83.782	10.700	1.00	95.00	N
ATOM	2591	C2	U P	76	11.511	83.932	9.409	1.00	94.93	C
ATOM	2592	O2	U P	76	10.824	84.299	8.471	1.00	94.86	O
ATOM	2593	N3	U P	76	12.846	83.634	9.246	1.00	94.96	N
ATOM	2594	C4	U P	76	13.734	83.209	10.219	1.00	94.93	C
ATOM	2595	O4	U P	76	14.904	82.980	9.924	1.00	94.83	O
ATOM	2596	C5	U P	76	13.164	83.073	11.536	1.00	94.96	C
ATOM	2597	C6	U P	76	11.865	83.356	11.721	1.00	94.94	C
ATOM	2598	P	C P	77	7.600	79.648	11.077	1.00	95.81	P
ATOM	2599	O1P	C P	77	6.527	78.853	11.718	1.00	95.60	O
ATOM	2600	O2P	C P	77	9.015	79.251	11.264	1.00	95.37	O
ATOM	2601	O5*	C P	77	7.293	79.701	9.506	1.00	95.82	O

ATOM	2602	C5*	C P	77	6.159	80.376	8.954	1.00	95.93	C
ATOM	2603	C4*	C P	77	6.418	80.779	7.510	1.00	96.04	C
ATOM	2604	O4*	C P	77	7.419	81.831	7.461	1.00	96.05	O
ATOM	2605	C3*	C P	77	6.998	79.700	6.602	1.00	96.20	C
ATOM	2606	O3*	C P	77	5.999	78.775	6.148	1.00	96.51	O
ATOM	2607	C2*	C P	77	7.576	80.560	5.483	1.00	96.08	C
ATOM	2608	O2*	C P	77	6.594	81.079	4.604	1.00	96.00	O
ATOM	2609	C1*	C P	77	8.225	81.679	6.298	1.00	95.86	C
ATOM	2610	N1	C P	77	9.683	81.423	6.665	1.00	95.68	N
ATOM	2611	C2	C P	77	10.711	81.802	5.777	1.00	95.46	C
ATOM	2612	O2	C P	77	10.436	82.341	4.697	1.00	95.37	O
ATOM	2613	N3	C P	77	12.005	81.569	6.124	1.00	95.30	N
ATOM	2614	C4	C P	77	12.299	80.986	7.288	1.00	95.46	C
ATOM	2615	N4	C P	77	13.587	80.781	7.576	1.00	95.52	N
ATOM	2616	C5	C P	77	11.281	80.591	8.205	1.00	95.40	C
ATOM	2617	C6	C P	77	10.009	80.824	7.856	1.00	95.48	C
ATOM	2618	P	A P	78	6.332	77.233	5.838	1.00	96.73	P
ATOM	2619	O1P	A P	78	5.264	76.415	6.456	1.00	96.70	O
ATOM	2620	O2P	A P	78	7.747	76.952	6.174	1.00	96.26	O
ATOM	2621	O5*	A P	78	6.122	77.163	4.252	1.00	96.73	O
ATOM	2622	C5*	A P	78	6.895	76.287	3.434	1.00	96.81	C
ATOM	2623	C4*	A P	78	7.660	77.065	2.376	1.00	96.85	C
ATOM	2624	O4*	A P	78	8.210	78.300	2.914	1.00	96.54	O
ATOM	2625	C3*	A P	78	8.880	76.350	1.817	1.00	96.89	C
ATOM	2626	O3*	A P	78	8.508	75.316	0.897	1.00	97.51	O
ATOM	2627	C2*	A P	78	9.611	77.527	1.180	1.00	96.58	C
ATOM	2628	O2*	A P	78	9.053	77.956	-0.047	1.00	96.54	O
ATOM	2629	C1*	A P	78	9.438	78.592	2.262	1.00	96.14	C
ATOM	2630	N9	A P	78	10.547	78.600	3.220	1.00	95.95	N
ATOM	2631	C8	A P	78	10.530	78.276	4.551	1.00	95.77	C
ATOM	2632	N7	A P	78	11.698	78.380	5.144	1.00	95.68	N
ATOM	2633	C5	A P	78	12.548	78.797	4.134	1.00	95.69	C
ATOM	2634	C6	A P	78	13.931	79.093	4.103	1.00	95.70	C
ATOM	2635	N6	A P	78	14.737	79.007	5.167	1.00	95.72	N
ATOM	2636	N1	A P	78	14.462	79.485	2.926	1.00	95.67	N
ATOM	2637	C2	A P	78	13.665	79.570	1.852	1.00	95.83	C
ATOM	2638	N3	A P	78	12.356	79.324	1.758	1.00	95.93	N
ATOM	2639	C4	A P	78	11.853	78.936	2.944	1.00	95.82	C
ATOM	2640	P	C P	79	9.242	73.882	0.882	1.00	99.10	P
ATOM	2641	O1P	C P	79	8.269	72.897	0.356	1.00	98.67	O
ATOM	2642	O2P	C P	79	9.870	73.640	2.202	1.00	98.31	O
ATOM	2643	O5*	C P	79	10.418	74.055	-0.197	1.00	98.76	O
ATOM	2644	C5*	C P	79	10.381	75.039	-1.250	1.00	98.60	C
ATOM	2645	C4*	C P	79	11.765	75.574	-1.597	1.00	98.34	C
ATOM	2646	O4*	C P	79	12.153	76.677	-0.732	1.00	98.08	O
ATOM	2647	C3*	C P	79	12.915	74.591	-1.434	1.00	98.31	C
ATOM	2648	O3*	C P	79	12.953	73.653	-2.493	1.00	98.52	O
ATOM	2649	C2*	C P	79	14.098	75.545	-1.416	1.00	98.01	C
ATOM	2650	O2*	C P	79	14.395	76.107	-2.679	1.00	97.78	O
ATOM	2651	C1*	C P	79	13.542	76.577	-0.441	1.00	97.73	C
ATOM	2652	N1	C P	79	13.780	76.169	0.997	1.00	97.52	N
ATOM	2653	C2	C P	79	15.047	76.383	1.572	1.00	97.24	C
ATOM	2654	O2	C P	79	15.953	76.908	0.912	1.00	97.03	O
ATOM	2655	N3	C P	79	15.255	76.009	2.859	1.00	96.89	N
ATOM	2656	C4	C P	79	14.279	75.443	3.570	1.00	97.16	C
ATOM	2657	N4	C P	79	14.548	75.101	4.833	1.00	97.18	N
ATOM	2658	C5	C P	79	12.986	75.208	3.013	1.00	97.16	C
ATOM	2659	C6	C P	79	12.785	75.580	1.742	1.00	97.30	C
ATOM	2660	P	A P	80	13.021	72.098	-2.143	1.00	99.54	P

ATOM	2661	O1P	A P	80	12.554	71.355	-3.334	1.00	99.71	O
ATOM	2662	O2P	A P	80	12.356	71.876	-0.838	1.00	99.54	O
ATOM	2663	O5*	A P	80	14.593	71.834	-1.991	1.00	98.77	O
ATOM	2664	C5*	A P	80	15.431	71.985	-3.131	1.00	98.23	C
ATOM	2665	C4*	A P	80	16.899	72.054	-2.757	1.00	97.94	C
ATOM	2666	O4*	A P	80	17.179	73.222	-1.942	1.00	97.44	O
ATOM	2667	C3*	A P	80	17.405	70.905	-1.905	1.00	97.80	C
ATOM	2668	O3*	A P	80	17.570	69.722	-2.678	1.00	98.31	O
ATOM	2669	C2*	A P	80	18.706	71.502	-1.386	1.00	97.47	C
ATOM	2670	O2*	A P	80	19.737	71.545	-2.355	1.00	96.69	O
ATOM	2671	C1*	A P	80	18.192	72.893	-0.998	1.00	97.26	C
ATOM	2672	N9	A P	80	17.633	72.931	0.359	1.00	97.19	N
ATOM	2673	C8	A P	80	16.309	72.969	0.716	1.00	97.13	C
ATOM	2674	N7	A P	80	16.102	72.989	2.012	1.00	97.17	N
ATOM	2675	C5	A P	80	17.375	72.955	2.555	1.00	97.05	C
ATOM	2676	C6	A P	80	17.841	72.954	3.888	1.00	96.88	C
ATOM	2677	N6	A P	80	17.032	72.986	4.953	1.00	96.85	N
ATOM	2678	N1	A P	80	19.178	72.918	4.082	1.00	96.97	N
ATOM	2679	C2	A P	80	19.991	72.885	3.017	1.00	96.91	C
ATOM	2680	N3	A P	80	19.669	72.882	1.722	1.00	96.87	N
ATOM	2681	C4	A P	80	18.333	72.919	1.552	1.00	97.03	C
ATOM	2682	P	A P	81	16.786	68.386	-2.264	1.00	99.00	P
ATOM	2683	O1P	A P	81	16.693	67.513	-3.455	1.00	98.81	O
ATOM	2684	O2P	A P	81	15.530	68.774	-1.573	1.00	98.94	O
ATOM	2685	O5*	A P	81	17.804	67.723	-1.219	1.00	97.80	O
ATOM	2686	C5*	A P	81	18.966	67.047	-1.677	1.00	97.42	C
ATOM	2687	C4*	A P	81	20.160	67.263	-0.760	1.00	97.19	C
ATOM	2688	O4*	A P	81	20.198	68.617	-0.223	1.00	97.36	O
ATOM	2689	C3*	A P	81	20.179	66.395	0.487	1.00	96.87	C
ATOM	2690	O3*	A P	81	20.540	65.046	0.186	1.00	95.91	O
ATOM	2691	C2*	A P	81	21.206	67.161	1.316	1.00	96.89	C
ATOM	2692	O2*	A P	81	22.538	67.022	0.859	1.00	97.06	O
ATOM	2693	C1*	A P	81	20.687	68.583	1.111	1.00	97.13	C
ATOM	2694	N9	A P	81	19.623	68.911	2.066	1.00	97.36	N
ATOM	2695	C8	A P	81	18.268	68.940	1.844	1.00	97.34	C
ATOM	2696	N7	A P	81	17.555	69.255	2.902	1.00	97.37	N
ATOM	2697	C5	A P	81	18.503	69.442	3.896	1.00	97.48	C
ATOM	2698	C6	A P	81	18.400	69.794	5.262	1.00	97.30	C
ATOM	2699	N6	A P	81	17.241	70.031	5.885	1.00	97.22	N
ATOM	2700	N1	A P	81	19.546	69.896	5.970	1.00	97.18	N
ATOM	2701	C2	A P	81	20.711	69.662	5.354	1.00	97.21	C
ATOM	2702	N3	A P	81	20.933	69.326	4.082	1.00	97.22	N
ATOM	2703	C4	A P	81	19.781	69.230	3.398	1.00	97.24	C
ATOM	2704	P	C P	82	20.159	63.870	1.205	1.00	95.38	P
ATOM	2705	O1P	C P	82	20.647	62.587	0.650	1.00	95.61	O
ATOM	2706	O2P	C P	82	18.731	64.029	1.569	1.00	94.14	O
ATOM	2707	O5*	C P	82	21.097	64.205	2.462	1.00	93.97	O
ATOM	2708	C5*	C P	82	20.834	63.586	3.707	1.00	92.72	C
ATOM	2709	C4*	C P	82	21.688	64.112	4.842	1.00	92.10	C
ATOM	2710	O4*	C P	82	21.581	65.559	4.979	1.00	91.62	O
ATOM	2711	C3*	C P	82	21.261	63.544	6.188	1.00	91.42	C
ATOM	2712	O3*	C P	82	21.878	62.263	6.388	1.00	90.23	O
ATOM	2713	C2*	C P	82	21.718	64.671	7.111	1.00	91.24	C
ATOM	2714	O2*	C P	82	23.119	64.718	7.282	1.00	91.49	O
ATOM	2715	C1*	C P	82	21.235	65.885	6.317	1.00	91.21	C
ATOM	2716	N1	C P	82	19.744	66.213	6.437	1.00	90.92	N
ATOM	2717	C2	C P	82	19.196	66.577	7.681	1.00	90.65	C
ATOM	2718	O2	C P	82	19.911	66.632	8.684	1.00	90.77	O
ATOM	2719	N3	C P	82	17.874	66.863	7.774	1.00	90.65	N

ATOM	2720	C4	C P	82	17.093	66.811	6.697	1.00	90.80	C
ATOM	2721	N4	C P	82	15.801	67.108	6.850	1.00	90.75	N
ATOM	2722	C5	C P	82	17.614	66.450	5.420	1.00	90.90	C
ATOM	2723	C6	C P	82	18.922	66.165	5.337	1.00	90.95	C
ATOM	2724	P	C P	83	21.549	61.339	7.650	1.00	89.38	P
ATOM	2725	O1P	C P	83	22.361	60.103	7.576	1.00	89.51	O
ATOM	2726	O2P	C P	83	20.083	61.249	7.818	1.00	89.25	O
ATOM	2727	O5*	C P	83	22.166	62.224	8.812	1.00	88.59	O
ATOM	2728	C5*	C P	83	22.482	61.658	10.052	1.00	87.84	C
ATOM	2729	C4*	C P	83	21.762	62.431	11.127	1.00	87.31	C
ATOM	2730	O4*	C P	83	20.974	63.513	10.580	1.00	87.32	O
ATOM	2731	C3*	C P	83	20.716	61.636	11.852	1.00	86.90	C
ATOM	2732	O3*	C P	83	21.380	60.715	12.692	1.00	87.51	O
ATOM	2733	C2*	C P	83	19.991	62.760	12.573	1.00	86.65	C
ATOM	2734	O2*	C P	83	20.721	63.287	13.661	1.00	85.95	O
ATOM	2735	C1*	C P	83	19.908	63.808	11.467	1.00	86.59	C
ATOM	2736	N1	C P	83	18.610	63.892	10.708	1.00	86.41	N
ATOM	2737	C2	C P	83	17.422	64.177	11.401	1.00	86.46	C
ATOM	2738	O2	C P	83	17.452	64.336	12.628	1.00	86.19	O
ATOM	2739	N3	C P	83	16.256	64.266	10.701	1.00	86.73	N
ATOM	2740	C4	C P	83	16.230	64.100	9.375	1.00	86.68	C
ATOM	2741	N4	C P	83	15.051	64.202	8.748	1.00	86.21	N
ATOM	2742	C5	C P	83	17.428	63.818	8.647	1.00	86.67	C
ATOM	2743	C6	C P	83	18.575	63.730	9.343	1.00	86.60	C
ATOM	2744	P	G P	84	20.837	59.226	12.880	1.00	86.90	P
ATOM	2745	O1P	G P	84	22.006	58.412	13.290	1.00	87.42	O
ATOM	2746	O2P	G P	84	20.052	58.843	11.683	1.00	86.56	O
ATOM	2747	O5*	G P	84	19.857	59.386	14.139	1.00	87.21	O
ATOM	2748	C5*	G P	84	20.272	60.137	15.287	1.00	87.60	C
ATOM	2749	C4*	G P	84	19.113	60.446	16.218	1.00	87.94	C
ATOM	2750	O4*	G P	84	18.117	61.251	15.537	1.00	87.86	O
ATOM	2751	C3*	G P	84	18.390	59.216	16.760	1.00	88.22	C
ATOM	2752	O3*	G P	84	18.232	59.335	18.171	1.00	89.10	O
ATOM	2753	C2*	G P	84	17.044	59.188	16.031	1.00	88.05	C
ATOM	2754	O2*	G P	84	15.981	58.769	16.870	1.00	87.72	O
ATOM	2755	C1*	G P	84	16.841	60.641	15.601	1.00	87.95	C
ATOM	2756	N9	G P	84	16.231	60.824	14.285	1.00	87.58	N
ATOM	2757	C8	G P	84	16.795	60.555	13.059	1.00	87.52	C
ATOM	2758	N7	G P	84	16.019	60.827	12.050	1.00	87.18	N
ATOM	2759	C5	G P	84	14.867	61.312	12.648	1.00	87.48	C
ATOM	2760	C6	G P	84	13.666	61.776	12.064	1.00	87.67	C
ATOM	2761	O6	G P	84	13.378	61.848	10.864	1.00	87.79	O
ATOM	2762	N1	G P	84	12.740	62.186	13.019	1.00	87.65	N
ATOM	2763	C2	G P	84	12.943	62.151	14.380	1.00	87.82	C
ATOM	2764	N2	G P	84	11.930	62.587	15.144	1.00	87.70	N
ATOM	2765	N3	G P	84	14.068	61.713	14.944	1.00	87.91	N
ATOM	2766	C4	G P	84	14.980	61.317	14.022	1.00	87.44	C
ATOM	2767	P	C P	85	19.371	58.847	19.184	1.00	90.07	P
ATOM	2768	O1P	C P	85	19.663	57.420	18.892	1.00	89.99	O
ATOM	2769	O2P	C P	85	18.917	59.265	20.533	1.00	89.73	O
ATOM	2770	O5*	C P	85	20.663	59.703	18.769	1.00	90.37	O
ATOM	2771	C5*	C P	85	21.621	60.127	19.742	1.00	90.69	C
ATOM	2772	C4*	C P	85	21.437	61.589	20.112	1.00	90.66	C
ATOM	2773	O4*	C P	85	20.084	61.829	20.572	1.00	90.78	O
ATOM	2774	C3*	C P	85	22.337	62.070	21.246	1.00	90.88	C
ATOM	2775	O3*	C P	85	23.377	62.904	20.715	1.00	91.47	O
ATOM	2776	C2*	C P	85	21.395	62.805	22.221	1.00	90.61	C
ATOM	2777	O2*	C P	85	21.857	64.075	22.640	1.00	89.53	O
ATOM	2778	C1*	C P	85	20.098	62.946	21.433	1.00	90.40	C

ATOM	2779	P	A P	86	24.830	62.357	20.309	1.00	91.90	P
ATOM	2780	O1P	A P	86	25.016	60.998	20.865	1.00	91.27	O
ATOM	2781	O2P	A P	86	25.781	63.437	20.654	1.00	92.16	O
ATOM	2782	O5*	A P	86	24.762	62.245	18.709	1.00	91.80	O
ATOM	2783	C5*	A P	86	25.894	62.547	17.851	1.00	91.26	C
ATOM	2784	C4*	A P	86	25.521	62.418	16.372	1.00	90.86	C
ATOM	2785	O4*	A P	86	24.120	62.023	16.286	1.00	90.41	O
ATOM	2786	C3*	A P	86	25.639	63.671	15.498	1.00	90.33	C
ATOM	2787	O3*	A P	86	26.829	63.686	14.704	1.00	90.65	O
ATOM	2788	C2*	A P	86	24.387	63.573	14.630	1.00	89.91	C
ATOM	2789	O2*	A P	86	24.564	62.690	13.532	1.00	89.17	O
ATOM	2790	C1*	A P	86	23.363	63.003	15.603	1.00	88.92	C
ATOM	2791	N9	A P	86	22.727	63.896	16.593	1.00	88.31	N
ATOM	2792	C8	A P	86	23.326	64.637	17.581	1.00	88.01	C
ATOM	2793	N7	A P	86	22.503	65.329	18.329	1.00	87.86	N
ATOM	2794	C5	A P	86	21.259	65.025	17.816	1.00	87.81	C
ATOM	2795	C6	A P	86	19.958	65.445	18.181	1.00	87.79	C
ATOM	2796	N6	A P	86	19.715	66.288	19.188	1.00	87.84	N
ATOM	2797	N1	A P	86	18.915	64.963	17.471	1.00	87.77	N
ATOM	2798	C2	A P	86	19.173	64.119	16.463	1.00	87.92	C
ATOM	2799	N3	A P	86	20.352	63.654	16.031	1.00	87.87	N
ATOM	2800	C4	A P	86	21.375	64.143	16.751	1.00	87.87	C
ATOM	2801	P	A P	87	27.343	65.048	14.002	1.00	91.17	P
ATOM	2802	O1P	A P	87	28.515	64.679	13.170	1.00	90.98	O
ATOM	2803	O2P	A P	87	27.468	66.103	15.038	1.00	89.75	O
ATOM	2804	O5*	A P	87	26.155	65.456	13.004	1.00	88.82	O
ATOM	2805	C5*	A P	87	26.029	64.881	11.697	1.00	86.97	C
ATOM	2806	C4*	A P	87	24.715	65.285	11.036	1.00	85.52	C
ATOM	2807	O4*	A P	87	23.628	65.145	11.986	1.00	84.23	O
ATOM	2808	C3*	A P	87	24.669	66.731	10.557	1.00	84.59	C
ATOM	2809	O3*	A P	87	24.984	66.814	9.166	1.00	84.80	O
ATOM	2810	C2*	A P	87	23.238	67.183	10.836	1.00	83.75	C
ATOM	2811	O2*	A P	87	22.404	67.058	9.703	1.00	83.89	O
ATOM	2812	C1*	A P	87	22.748	66.252	11.940	1.00	82.57	C
ATOM	2813	N9	A P	87	22.689	66.876	13.261	1.00	81.68	N
ATOM	2814	C8	A P	87	23.736	67.340	14.004	1.00	81.32	C
ATOM	2815	N7	A P	87	23.385	67.851	15.158	1.00	81.16	N
ATOM	2816	C5	A P	87	22.012	67.715	15.179	1.00	80.77	C
ATOM	2817	C6	A P	87	21.036	68.065	16.136	1.00	81.10	C
ATOM	2818	N6	A P	87	21.324	68.655	17.300	1.00	81.27	N
ATOM	2819	N1	A P	87	19.744	67.791	15.846	1.00	81.34	N
ATOM	2820	C2	A P	87	19.458	67.201	14.674	1.00	81.40	C
ATOM	2821	N3	A P	87	20.292	66.825	13.699	1.00	81.21	N
ATOM	2822	C4	A P	87	21.567	67.110	14.018	1.00	81.03	C
ATOM	2823	P	G P	88	25.805	68.073	8.629	1.00	85.21	P
ATOM	2824	O1P	G P	88	27.215	67.865	9.020	1.00	85.51	O
ATOM	2825	O2P	G P	88	25.095	69.278	9.108	1.00	85.69	O
ATOM	2826	O5*	G P	88	25.730	67.996	7.025	1.00	85.81	O
ATOM	2827	C5*	G P	88	24.497	67.775	6.333	1.00	86.49	C
ATOM	2828	C4*	G P	88	24.416	68.496	4.988	1.00	86.72	C
ATOM	2829	O4*	G P	88	24.872	69.874	5.085	1.00	86.82	O
ATOM	2830	C3*	G P	88	25.272	67.910	3.871	1.00	87.08	C
ATOM	2831	O3*	G P	88	24.678	66.732	3.301	1.00	87.74	O
ATOM	2832	C2*	G P	88	25.334	69.084	2.891	1.00	87.13	C
ATOM	2833	O2*	G P	88	24.218	69.179	2.022	1.00	87.33	O
ATOM	2834	C1*	G P	88	25.381	70.296	3.825	1.00	86.66	C
ATOM	2835	N9	G P	88	26.726	70.857	3.979	1.00	86.37	N
ATOM	2836	C8	G P	88	27.457	70.975	5.140	1.00	86.27	C
ATOM	2837	N7	G P	88	28.633	71.513	4.970	1.00	86.11	N

ATOM	2838	C5	G P	88	28.698	71.772	3.605	1.00	86.44	C
ATOM	2839	C6	G P	88	29.738	72.361	2.826	1.00	86.55	C
ATOM	2840	O6	G P	88	30.845	72.779	3.207	1.00	86.35	O
ATOM	2841	N1	G P	88	29.398	72.442	1.469	1.00	86.48	N
ATOM	2842	C2	G P	88	28.200	72.009	0.933	1.00	86.50	C
ATOM	2843	N2	G P	88	28.051	72.172	-0.391	1.00	86.23	N
ATOM	2844	N3	G P	88	27.218	71.459	1.655	1.00	86.51	N
ATOM	2845	C4	G P	88	27.529	71.373	2.980	1.00	86.39	C
ATOM	2846	P	C P	89	25.495	65.357	3.141	1.00	87.99	P
ATOM	2847	O1P	C P	89	24.566	64.360	2.565	1.00	88.22	O
ATOM	2848	O2P	C P	89	26.169	65.057	4.426	1.00	87.47	O
ATOM	2849	O5*	C P	89	26.592	65.712	2.031	1.00	88.50	O
ATOM	2850	C5*	C P	89	26.302	65.555	0.646	1.00	89.46	C
ATOM	2851	C4*	C P	89	27.178	66.444	-0.223	1.00	89.91	C
ATOM	2852	O4*	C P	89	27.300	67.779	0.340	1.00	89.97	O
ATOM	2853	C3*	C P	89	28.625	65.998	-0.377	1.00	90.25	C
ATOM	2854	O3*	C P	89	28.750	64.907	-1.287	1.00	90.83	O
ATOM	2855	C2*	C P	89	29.249	67.288	-0.897	1.00	90.22	C
ATOM	2856	O2*	C P	89	28.966	67.550	-2.261	1.00	90.04	O
ATOM	2857	C1*	C P	89	28.578	68.314	0.017	1.00	89.88	C
ATOM	2858	N1	C P	89	29.384	68.601	1.266	1.00	89.75	N
ATOM	2859	C2	C P	89	30.546	69.401	1.188	1.00	89.58	C
ATOM	2860	O2	C P	89	30.913	69.880	0.107	1.00	89.26	O
ATOM	2861	N3	C P	89	31.260	69.639	2.319	1.00	89.42	N
ATOM	2862	C4	C P	89	30.867	69.124	3.486	1.00	89.57	C
ATOM	2863	N4	C P	89	31.604	69.396	4.564	1.00	89.59	N
ATOM	2864	C5	C P	89	29.699	68.311	3.595	1.00	89.50	C
ATOM	2865	C6	C P	89	29.001	68.077	2.476	1.00	89.64	C
ATOM	2866	P	U P	90	29.871	63.787	-1.085	1.00	91.15	P
ATOM	2867	O1P	U P	90	29.575	62.694	-2.037	1.00	91.19	O
ATOM	2868	O2P	U P	90	29.977	63.496	0.358	1.00	91.26	O
ATOM	2869	O5*	U P	90	31.211	64.510	-1.564	1.00	92.48	O
ATOM	2870	C5*	U P	90	31.445	64.694	-2.954	1.00	94.19	C
ATOM	2871	C4*	U P	90	32.675	65.545	-3.233	1.00	95.18	C
ATOM	2872	O4*	U P	90	32.618	66.792	-2.491	1.00	95.42	O
ATOM	2873	C3*	U P	90	34.019	64.957	-2.823	1.00	95.93	C
ATOM	2874	O3*	U P	90	34.469	63.945	-3.730	1.00	97.19	O
ATOM	2875	C2*	U P	90	34.878	66.219	-2.856	1.00	95.84	C
ATOM	2876	O2*	U P	90	35.210	66.661	-4.161	1.00	95.75	O
ATOM	2877	C1*	U P	90	33.938	67.207	-2.172	1.00	95.43	C
ATOM	2878	N1	U P	90	34.128	67.257	-0.681	1.00	95.34	N
ATOM	2879	C2	U P	90	35.029	68.164	-0.144	1.00	95.21	C
ATOM	2880	O2	U P	90	35.695	68.945	-0.805	1.00	94.92	O
ATOM	2881	N3	U P	90	35.126	68.126	1.225	1.00	95.21	N
ATOM	2882	C4	U P	90	34.440	67.295	2.097	1.00	95.26	C
ATOM	2883	O4	U P	90	34.639	67.381	3.304	1.00	95.15	O
ATOM	2884	C5	U P	90	33.522	66.378	1.472	1.00	95.08	C
ATOM	2885	C6	U P	90	33.408	66.396	0.139	1.00	95.28	C
ATOM	2886	P	U P	91	34.884	62.479	-3.236	1.00	98.08	P
ATOM	2887	O1P	U P	91	34.177	61.525	-4.116	1.00	98.11	O
ATOM	2888	O2P	U P	91	34.699	62.374	-1.773	1.00	98.15	O
ATOM	2889	O5*	U P	91	36.459	62.399	-3.530	1.00	99.93	O
ATOM	2890	C5*	U P	91	37.290	63.549	-3.739	1.00	101.55	C
ATOM	2891	C4*	U P	91	38.296	63.788	-2.616	1.00	102.66	C
ATOM	2892	O4*	U P	91	38.293	65.210	-2.312	1.00	102.84	O
ATOM	2893	C3*	U P	91	38.054	63.094	-1.267	1.00	103.47	C
ATOM	2894	O3*	U P	91	38.692	61.786	-1.125	1.00	104.73	O
ATOM	2895	C2*	U P	91	38.522	64.120	-0.231	1.00	103.39	C
ATOM	2896	O2*	U P	91	39.904	64.081	0.070	1.00	103.40	O

ATÓM	2897	C1*	U P	91	38.152	65.429	-0.920	1.00103.12	C
ATOM	2898	P	U P	92	40.195	61.348	-1.514	1.00106.05	P
ATOM	2899	O1P	U P	92	41.048	62.542	-1.705	1.00105.77	O
ATOM	2900	O2P	U P	92	40.105	60.338	-2.593	1.00105.76	O
ATOM	2901	O5*	U P	92	40.666	60.625	-0.161	1.00107.09	O
ATOM	2902	C5*	U P	92	42.036	60.285	0.089	1.00108.15	C
ATOM	2903	C4*	U P	92	42.832	61.410	0.745	1.00108.64	C
ATOM	2904	O4*	U P	92	42.021	62.611	0.885	1.00108.91	O
ATOM	2905	C3*	U P	92	43.348	61.124	2.153	1.00108.96	C
ATOM	2906	O3*	U P	92	44.596	60.406	2.128	1.00109.27	O
ATOM	2907	C2*	U P	92	43.502	62.541	2.698	1.00109.08	C
ATOM	2908	O2*	U P	92	44.682	63.178	2.251	1.00109.09	O
ATOM	2909	C1*	U P	92	42.268	63.241	2.128	1.00109.31	C
ATOM	2910	N1	U P	92	41.045	63.181	3.026	1.00109.60	N
ATOM	2911	C2	U P	92	41.046	63.908	4.207	1.00109.67	C
ATOM	2912	O2	U P	92	41.981	64.600	4.570	1.00109.65	O
ATOM	2913	N3	U P	92	39.902	63.798	4.967	1.00109.72	N
ATOM	2914	C4	U P	92	38.771	63.053	4.677	1.00109.60	C
ATOM	2915	O4	U P	92	37.824	63.049	5.456	1.00109.55	O
ATOM	2916	C5	U P	92	38.833	62.322	3.436	1.00109.66	C
ATOM	2917	C6	U P	92	39.939	62.412	2.681	1.00109.71	C
ATOM	2918	P	U P	93	44.885	59.131	3.067	1.00109.59	P
ATOM	2919	O1P	U P	93	46.267	58.675	2.798	1.00109.38	O
ATOM	2920	O2P	U P	93	43.764	58.181	2.904	1.00109.45	O
ATOM	2921	O5*	U P	93	44.837	59.720	4.557	1.00109.82	O
ATOM	2922	C5*	U P	93	45.895	60.534	5.074	1.00109.85	C
ATOM	2923	C4*	U P	93	45.672	60.914	6.534	1.00109.76	C
ATOM	2924	O4*	U P	93	44.531	61.809	6.665	1.00110.01	O
ATOM	2925	C3*	U P	93	45.339	59.775	7.489	1.00109.49	C
ATOM	2926	O3*	U P	93	46.500	59.045	7.893	1.00108.52	O
ATOM	2927	C2*	U P	93	44.701	60.544	8.638	1.00109.70	C
ATOM	2928	O2*	U P	93	45.627	61.230	9.460	1.00109.57	O
ATOM	2929	C1*	U P	93	43.818	61.527	7.863	1.00110.04	C
ATOM	2930	N1	U P	93	42.412	61.035	7.547	1.00110.27	N
ATOM	2931	C2	U P	93	41.617	60.533	8.568	1.00110.39	C
ATOM	2932	O2	U P	93	41.984	60.455	9.725	1.00110.32	O
ATOM	2933	N3	U P	93	40.359	60.114	8.196	1.00110.37	N
ATOM	2934	C4	U P	93	39.813	60.145	6.925	1.00110.36	C
ATOM	2935	O4	U P	93	38.670	59.736	6.739	1.00110.38	O
ATOM	2936	C5	U P	93	40.688	60.680	5.910	1.00110.41	C
ATOM	2937	C6	U P	93	41.918	61.096	6.250	1.00110.30	C
ATOM	2938	P	A P	94	46.599	57.456	7.699	1.00107.76	P
ATOM	2939	O1P	A P	94	48.032	57.126	7.547	1.00108.16	O
ATOM	2940	O2P	A P	94	45.648	57.048	6.641	1.00108.04	O
ATOM	2941	O5*	A P	94	46.096	56.858	9.099	1.00106.65	O
ATOM	2942	C5*	A P	94	46.982	56.701	10.211	1.00105.23	C
ATOM	2943	C4*	A P	94	46.320	57.113	11.516	1.00104.40	C
ATOM	2944	O4*	A P	94	45.328	58.141	11.274	1.00104.30	O
ATOM	2945	C3*	A P	94	45.552	56.016	12.236	1.00103.54	C
ATOM	2946	O3*	A P	94	46.425	55.220	13.021	1.00101.97	O
ATOM	2947	C2*	A P	94	44.572	56.811	13.091	1.00103.63	C
ATOM	2948	O2*	A P	94	45.110	57.222	14.333	1.00103.49	O
ATOM	2949	C1*	A P	94	44.261	58.006	12.195	1.00104.13	C
ATOM	2950	N9	A P	94	43.003	57.847	11.469	1.00104.41	N
ATOM	2951	C8	A P	94	42.814	57.415	10.182	1.00104.49	C
ATOM	2952	N7	A P	94	41.555	57.376	9.811	1.00104.54	N
ATOM	2953	C5	A P	94	40.869	57.811	10.932	1.00104.53	C
ATOM	2954	C6	A P	94	39.495	58.002	11.192	1.00104.45	C
ATOM	2955	N6	A P	94	38.529	57.759	10.296	1.00104.25	N

ATOM	2956	N1	A P	94	39.157	58.445	12.425	1.00104.30	N
ATOM	2957	C2	A P	94	40.116	58.685	13.330	1.00104.32	C
ATOM	2958	N3	A P	94	41.436	58.550	13.199	1.00104.41	N
ATOM	2959	C4	A P	94	41.746	58.104	11.966	1.00104.57	C
ATOM	2960	P	C P	95	45.994	53.745	13.450	1.00100.40	P
ATOM	2961	O1P	C P	95	46.999	53.242	14.410	1.00101.15	O
ATOM	2962	O2P	C P	95	45.720	52.983	12.213	1.00100.34	O
ATOM	2963	O5*	C P	95	44.630	53.978	14.252	1.00 99.65	O
ATOM	2964	C5*	C P	95	44.631	54.299	15.641	1.00 98.49	C
ATOM	2965	C4*	C P	95	43.226	54.559	16.161	1.00 97.74	C
ATOM	2966	O4*	C P	95	42.562	55.611	15.405	1.00 97.91	O
ATOM	2967	C3*	C P	95	42.249	53.397	16.036	1.00 96.97	C
ATOM	2968	O3*	C P	95	42.511	52.376	16.997	1.00 94.98	O
ATOM	2969	C2*	C P	95	40.930	54.137	16.251	1.00 97.14	C
ATOM	2970	O2*	C P	95	40.692	54.548	17.586	1.00 97.25	O
ATOM	2971	C1*	C P	95	41.163	55.338	15.341	1.00 97.25	C
ATOM	2972	N1	C P	95	40.689	55.092	13.918	1.00 97.10	N
ATOM	2973	C2	C P	95	39.345	55.336	13.588	1.00 96.94	C
ATOM	2974	O2	C P	95	38.564	55.752	14.453	1.00 96.99	O
ATOM	2975	N3	C P	95	38.923	55.114	12.315	1.00 96.53	N
ATOM	2976	C4	C P	95	39.764	54.665	11.385	1.00 96.89	C
ATOM	2977	N4	C P	95	39.285	54.469	10.154	1.00 96.92	N
ATOM	2978	C5	C P	95	41.133	54.402	11.689	1.00 96.98	C
ATOM	2979	C6	C P	95	41.543	54.624	12.948	1.00 97.05	C
ATOM	2980	P	U P	96	42.377	50.836	16.597	1.00 92.60	P
ATOM	2981	O1P	U P	96	43.044	50.032	17.640	1.00 92.92	O
ATOM	2982	O2P	U P	96	42.773	50.694	15.179	1.00 92.44	O
ATOM	2983	O5*	U P	96	40.806	50.561	16.721	1.00 92.66	O
ATOM	2984	C5*	U P	96	40.022	51.040	17.818	1.00 91.32	C
ATOM	2985	C4*	U P	96	38.529	51.059	17.503	1.00 90.39	C
ATOM	2986	O4*	U P	96	38.185	52.193	16.656	1.00 90.02	O
ATOM	2987	C3*	U P	96	38.004	49.849	16.742	1.00 89.51	C
ATOM	2988	O3*	U P	96	37.738	48.763	17.610	1.00 88.13	O
ATOM	2989	C2*	U P	96	36.746	50.426	16.110	1.00 89.44	C
ATOM	2990	O2*	U P	96	35.694	50.574	17.039	1.00 89.23	O
ATOM	2991	C1*	U P	96	37.282	51.776	15.642	1.00 89.99	C
ATOM	2992	N1	U P	96	37.972	51.696	14.294	1.00 90.01	N
ATOM	2993	C2	U P	96	37.211	51.682	13.141	1.00 89.92	C
ATOM	2994	O2	U P	96	36.000	51.744	13.147	1.00 89.67	O
ATOM	2995	N3	U P	96	37.924	51.602	11.966	1.00 90.22	N
ATOM	2996	C4	U P	96	39.301	51.525	11.821	1.00 90.11	C
ATOM	2997	O4	U P	96	39.808	51.459	10.704	1.00 90.16	O
ATOM	2998	C5	U P	96	40.032	51.543	13.059	1.00 90.10	C
ATOM	2999	C6	U P	96	39.355	51.623	14.210	1.00 90.04	C
ATOM	3000	P	U P	97	37.955	47.276	17.060	1.00 87.53	P
ATOM	3001	O1P	U P	97	37.592	47.246	15.625	1.00 86.44	O
ATOM	3002	O2P	U P	97	37.326	46.334	18.016	1.00 87.09	O
ATOM	3003	O5*	U P	97	39.545	47.125	17.111	1.00 86.81	O
ATOM	3004	C5*	U P	97	40.251	47.095	18.349	1.00 86.18	C
ATOM	3005	C4*	U P	97	41.303	45.996	18.361	1.00 85.30	C
ATOM	3006	O4*	U P	97	41.611	45.660	19.743	1.00 85.86	O
ATOM	3007	C3*	U P	97	40.899	44.668	17.720	1.00 84.34	C
ATOM	3008	O3*	U P	97	42.066	43.932	17.294	1.00 80.96	O
ATOM	3009	C2*	U P	97	40.180	44.007	18.889	1.00 84.88	C
ATOM	3010	O2*	U P	97	40.008	42.610	18.749	1.00 84.84	O
ATOM	3011	C1*	U P	97	41.177	44.329	19.995	1.00 86.41	C
ATOM	3012	N1	U P	97	40.634	44.170	21.390	1.00 87.07	N
ATOM	3013	C2	U P	97	40.532	42.891	21.905	1.00 87.55	C
ATOM	3014	O2	U P	97	40.849	41.889	21.289	1.00 87.95	O

ATOM	3015	N3	U P	97	40.039	42.812	23.184	1.00	87.82	N
ATOM	3016	C4	U P	97	39.644	43.864	23.988	1.00	87.58	C
ATOM	3017	O4	U P	97	39.222	43.630	25.114	1.00	87.70	O
ATOM	3018	C5	U P	97	39.778	45.173	23.393	1.00	87.82	C
ATOM	3019	C6	U P	97	40.259	45.273	22.144	1.00	87.63	C
ATOM	3020	P	A P	98	42.506	43.829	15.750	1.00	78.97	P
ATOM	3021	O1P	A P	98	43.657	42.891	15.681	1.00	76.23	O
ATOM	3022	O2P	A P	98	42.655	45.209	15.224	1.00	77.73	O
ATOM	3023	O5*	A P	98	41.204	43.172	15.067	1.00	72.72	O
ATOM	3024	C5*	A P	98	41.038	41.765	15.075	1.00	68.88	C
ATOM	3025	C4*	A P	98	39.595	41.396	15.342	1.00	66.54	C
ATOM	3026	O4*	A P	98	38.757	41.867	14.259	1.00	65.48	O
ATOM	3027	C3*	A P	98	39.327	39.908	15.429	1.00	64.33	C
ATOM	3028	O3*	A P	98	39.440	39.487	16.763	1.00	62.33	O
ATOM	3029	C2*	A P	98	37.889	39.815	14.966	1.00	64.39	C
ATOM	3030	O2*	A P	98	36.989	40.153	15.993	1.00	65.15	O
ATOM	3031	C1*	A P	98	37.838	40.871	13.879	1.00	63.43	C
ATOM	3032	N9	A P	98	38.182	40.433	12.527	1.00	63.03	N
ATOM	3033	C8	A P	98	39.406	40.438	11.910	1.00	62.24	C
ATOM	3034	N7	A P	98	39.385	39.996	10.678	1.00	61.41	N
ATOM	3035	C5	A P	98	38.053	39.684	10.477	1.00	61.99	C
ATOM	3036	C6	A P	98	37.351	39.178	9.372	1.00	61.93	C
ATOM	3037	N6	A P	98	37.929	38.872	8.210	1.00	62.59	N
ATOM	3038	N1	A P	98	36.024	38.983	9.504	1.00	62.84	N
ATOM	3039	C2	A P	98	35.427	39.277	10.662	1.00	62.37	C
ATOM	3040	N3	A P	98	35.976	39.767	11.768	1.00	62.88	N
ATOM	3041	C4	A P	98	37.300	39.944	11.604	1.00	62.44	C
ATOM	3042	P	A P	99	40.344	38.240	17.162	1.00	59.98	P
ATOM	3043	O1P	A P	99	40.606	38.303	18.625	1.00	59.70	O
ATOM	3044	O2P	A P	99	41.466	38.157	16.211	1.00	60.84	O
ATOM	3045	O5*	A P	99	39.324	37.055	16.859	1.00	57.94	O
ATOM	3046	C5*	A P	99	38.216	36.854	17.707	1.00	56.53	C
ATOM	3047	C4*	A P	99	37.175	36.012	17.008	1.00	55.39	C
ATOM	3048	O4*	A P	99	36.749	36.745	15.847	1.00	56.87	O
ATOM	3049	C3*	A P	99	37.660	34.707	16.420	1.00	54.68	C
ATOM	3050	O3*	A P	99	37.744	33.674	17.390	1.00	52.66	O
ATOM	3051	C2*	A P	99	36.609	34.465	15.354	1.00	54.30	C
ATOM	3052	O2*	A P	99	35.369	34.017	15.848	1.00	56.43	O
ATOM	3053	C1*	A P	99	36.443	35.860	14.790	1.00	55.41	C
ATOM	3054	N9	A P	99	37.330	36.117	13.663	1.00	55.62	N
ATOM	3055	C8	A P	99	38.643	36.486	13.704	1.00	55.17	C
ATOM	3056	N7	A P	99	39.190	36.635	12.527	1.00	55.30	N
ATOM	3057	C5	A P	99	38.166	36.343	11.651	1.00	55.38	C
ATOM	3058	C6	A P	99	38.099	36.313	10.245	1.00	55.48	C
ATOM	3059	N6	A P	99	39.130	36.599	9.447	1.00	55.19	N
ATOM	3060	N1	A P	99	36.919	35.981	9.683	1.00	55.15	N
ATOM	3061	C2	A P	99	35.890	35.692	10.481	1.00	54.86	C
ATOM	3062	N3	A P	99	35.835	35.682	11.809	1.00	54.41	N
ATOM	3063	C4	A P	99	37.011	36.023	12.336	1.00	55.20	C
ATOM	3064	P	A P	100	38.725	32.451	17.097	1.00	52.04	P
ATOM	3065	O1P	A P	100	38.698	31.574	18.288	1.00	51.76	O
ATOM	3066	O2P	A P	100	39.971	33.024	16.549	1.00	48.10	O
ATOM	3067	O5*	A P	100	38.044	31.637	15.901	1.00	49.85	O
ATOM	3068	C5*	A P	100	36.926	30.790	16.078	1.00	48.80	C
ATOM	3069	C4*	A P	100	36.243	30.457	14.749	1.00	48.42	C
ATOM	3070	O4*	A P	100	36.057	31.666	13.962	1.00	48.55	O
ATOM	3071	C3*	A P	100	36.964	29.529	13.773	1.00	48.19	C
ATOM	3072	O3*	A P	100	36.812	28.141	14.094	1.00	47.47	O
ATOM	3073	C2*	A P	100	36.227	29.872	12.486	1.00	48.02	C

ATOM	3074	O2*	A P 100	34.951	29.283	12.430	1.00	48.04	O
ATOM	3075	C1*	A P 100	36.126	31.384	12.578	1.00	48.25	C
ATOM	3076	N9	A P 100	37.273	32.044	11.946	1.00	48.34	N
ATOM	3077	C8	A P 100	38.433	32.479	12.526	1.00	48.01	C
ATOM	3078	N7	A P 100	39.277	33.023	11.680	1.00	48.41	N
ATOM	3079	C5	A P 100	38.631	32.938	10.459	1.00	48.86	C
ATOM	3080	C6	A P 100	38.984	33.333	9.148	1.00	48.48	C
ATOM	3081	N6	A P 100	40.137	33.921	8.841	1.00	48.63	N
ATOM	3082	N1	A P 100	38.104	33.104	8.154	1.00	48.08	N
ATOM	3083	C2	A P 100	36.948	32.510	8.466	1.00	48.24	C
ATOM	3084	N3	A P 100	36.508	32.088	9.650	1.00	48.15	N
ATOM	3085	C4	A P 100	37.398	32.336	10.613	1.00	47.73	C
ATOM	3086	P	U P 101	37.961	27.063	13.778	1.00	46.67	P
ATOM	3087	O1P	U P 101	37.386	25.731	14.093	1.00	43.19	O
ATOM	3088	O2P	U P 101	39.201	27.553	14.430	1.00	45.55	O
ATOM	3089	O5*	U P 101	38.185	27.142	12.197	1.00	47.61	O
ATOM	3090	C5*	U P 101	37.145	26.713	11.314	1.00	50.23	C
ATOM	3091	C4*	U P 101	37.366	27.117	9.865	1.00	50.28	C
ATOM	3092	O4*	U P 101	37.558	28.548	9.752	1.00	50.62	O
ATOM	3093	C3*	U P 101	38.607	26.529	9.221	1.00	51.64	C
ATOM	3094	O3*	U P 101	38.409	25.185	8.809	1.00	52.38	O
ATOM	3095	C2*	U P 101	38.776	27.488	8.051	1.00	51.73	C
ATOM	3096	O2*	U P 101	37.864	27.292	6.996	1.00	52.36	O
ATOM	3097	C1*	U P 101	38.487	28.826	8.721	1.00	51.94	C
ATOM	3098	N1	U P 101	39.737	29.445	9.230	1.00	52.24	N
ATOM	3099	C2	U P 101	40.661	29.850	8.298	1.00	53.01	C
ATOM	3100	O2	U P 101	40.473	29.716	7.107	1.00	53.11	O
ATOM	3101	N3	U P 101	41.813	30.410	8.805	1.00	53.30	N
ATOM	3102	C4	U P 101	42.114	30.597	10.140	1.00	52.67	C
ATOM	3103	O4	U P 101	43.176	31.100	10.453	1.00	53.05	O
ATOM	3104	C5	U P 101	41.111	30.159	11.066	1.00	52.60	C
ATOM	3105	C6	U P 101	39.986	29.606	10.582	1.00	52.94	C
ATOM	3106	P	C P 102	39.503	24.039	9.069	1.00	53.22	P
ATOM	3107	O1P	C P 102	39.376	23.026	8.003	1.00	52.67	O
ATOM	3108	O2P	C P 102	39.366	23.629	10.482	1.00	52.32	O
ATOM	3109	O5*	C P 102	40.888	24.790	8.829	1.00	53.84	O
ATOM	3110	C5*	C P 102	41.434	24.955	7.532	1.00	55.87	C
ATOM	3111	C4*	C P 102	42.840	25.544	7.582	1.00	57.06	C
ATOM	3112	O4*	C P 102	42.796	26.927	8.042	1.00	57.49	O
ATOM	3113	C3*	C P 102	43.832	24.879	8.530	1.00	57.46	C
ATOM	3114	O3*	C P 102	44.420	23.740	7.948	1.00	58.90	O
ATOM	3115	C2*	C P 102	44.840	26.006	8.682	1.00	57.73	C
ATOM	3116	O2*	C P 102	45.630	26.205	7.523	1.00	57.90	O
ATOM	3117	C1*	C P 102	43.899	27.184	8.895	1.00	57.17	C
ATOM	3118	N1	C P 102	43.435	27.370	10.312	1.00	56.58	N
ATOM	3119	C2	C P 102	44.292	27.922	11.267	1.00	56.55	C
ATOM	3120	O2	C P 102	45.435	28.247	10.945	1.00	56.98	O
ATOM	3121	N3	C P 102	43.847	28.088	12.534	1.00	56.71	N
ATOM	3122	C4	C P 102	42.612	27.731	12.878	1.00	56.71	C
ATOM	3123	N4	C P 102	42.214	27.911	14.139	1.00	56.80	N
ATOM	3124	C5	C P 102	41.725	27.161	11.931	1.00	57.15	C
ATOM	3125	C6	C P 102	42.173	27.009	10.680	1.00	57.19	C
ATOM	3126	P	A P 103	44.416	22.306	8.657	1.00	60.45	P
ATOM	3127	O1P	A P 103	44.895	21.365	7.620	1.00	60.64	O
ATOM	3128	O2P	A P 103	43.106	22.108	9.320	1.00	60.62	O
ATOM	3129	O5*	A P 103	45.543	22.377	9.790	1.00	60.90	O
ATOM	3130	C5*	A P 103	46.932	22.247	9.470	1.00	60.72	C
ATOM	3131	C4*	A P 103	47.796	22.986	10.475	1.00	60.63	C
ATOM	3132	O4*	A P 103	47.265	24.312	10.761	1.00	60.84	O

ATOM	3133	C3*	A P 103	47.871	22.341	11.846	1.00	60.86	C
ATOM	3134	O3*	A P 103	48.750	21.227	11.838	1.00	61.98	O
ATOM	3135	C2*	A P 103	48.397	23.513	12.669	1.00	60.84	C
ATOM	3136	O2*	A P 103	49.776	23.781	12.490	1.00	59.62	O
ATOM	3137	C1*	A P 103	47.525	24.643	12.121	1.00	60.34	C
ATOM	3138	N9	A P 103	46.285	24.776	12.889	1.00	60.37	N
ATOM	3139	C8	A P 103	44.990	24.527	12.507	1.00	60.23	C
ATOM	3140	N7	A P 103	44.100	24.738	13.451	1.00	59.46	N
ATOM	3141	C5	A P 103	44.860	25.146	14.528	1.00	59.53	C
ATOM	3142	C6	A P 103	44.530	25.527	15.837	1.00	59.36	C
ATOM	3143	N6	A P 103	43.292	25.556	16.316	1.00	59.92	N
ATOM	3144	N1	A P 103	45.535	25.879	16.656	1.00	60.22	N
ATOM	3145	C2	A P 103	46.796	25.858	16.202	1.00	60.50	C
ATOM	3146	N3	A P 103	47.235	25.519	14.989	1.00	60.38	N
ATOM	3147	C4	A P 103	46.206	25.172	14.198	1.00	60.06	C
ATOM	3148	P	U P 104	48.342	19.800	12.446	1.00	63.65	P
ATOM	3149	O1P	U P 104	49.405	18.833	12.044	1.00	61.83	O
ATOM	3150	O2P	U P 104	46.912	19.526	12.151	1.00	61.37	O
ATOM	3151	O5*	U P 104	48.473	20.052	14.011	1.00	62.32	O
ATOM	3152	C5*	U P 104	49.733	20.174	14.625	1.00	63.15	C
ATOM	3153	C4*	U P 104	49.506	20.842	15.955	1.00	63.19	C
ATOM	3154	O4*	U P 104	48.623	21.973	15.771	1.00	64.04	O
ATOM	3155	C3*	U P 104	48.768	19.973	16.951	1.00	63.20	C
ATOM	3156	O3*	U P 104	49.694	19.051	17.486	1.00	63.18	O
ATOM	3157	C2*	U P 104	48.247	21.039	17.912	1.00	63.26	C
ATOM	3158	O2*	U P 104	49.216	21.532	18.806	1.00	61.94	O
ATOM	3159	C1*	U P 104	47.856	22.161	16.949	1.00	63.55	C
ATOM	3160	N1	U P 104	46.396	22.219	16.631	1.00	63.01	N
ATOM	3161	C2	U P 104	45.556	22.766	17.583	1.00	63.81	C
ATOM	3162	O2	U P 104	45.949	23.191	18.653	1.00	63.63	O
ATOM	3163	N3	U P 104	44.225	22.801	17.247	1.00	63.87	N
ATOM	3164	C4	U P 104	43.653	22.354	16.072	1.00	63.59	C
ATOM	3165	O4	U P 104	42.442	22.463	15.919	1.00	63.86	O
ATOM	3166	C5	U P 104	44.586	21.802	15.118	1.00	63.54	C
ATOM	3167	C6	U P 104	45.892	21.754	15.431	1.00	63.32	C
ATOM	3168	P	U P 105	49.239	17.715	18.240	1.00	64.16	P
ATOM	3169	O1P	U P 105	50.476	16.969	18.587	1.00	63.26	O
ATOM	3170	O2P	U P 105	48.126	17.059	17.511	1.00	63.25	O
ATOM	3171	O5*	U P 105	48.612	18.335	19.564	1.00	63.36	O
ATOM	3172	C5*	U P 105	49.428	18.822	20.630	1.00	61.81	C
ATOM	3173	C4*	U P 105	48.580	18.812	21.882	1.00	61.08	C
ATOM	3174	O4*	U P 105	47.411	19.652	21.681	1.00	59.83	O
ATOM	3175	C3*	U P 105	48.067	17.417	22.222	1.00	60.18	C
ATOM	3176	O3*	U P 105	48.207	17.204	23.622	1.00	60.53	O
ATOM	3177	C2*	U P 105	46.629	17.446	21.693	1.00	60.06	C
ATOM	3178	O2*	U P 105	45.734	16.524	22.297	1.00	59.51	O
ATOM	3179	C1*	U P 105	46.256	18.907	21.969	1.00	59.17	C
ATOM	3180	N1	U P 105	45.128	19.458	21.149	1.00	58.99	N
ATOM	3181	C2	U P 105	44.154	20.213	21.778	1.00	58.93	C
ATOM	3182	O2	U P 105	44.158	20.470	22.969	1.00	58.70	O
ATOM	3183	N3	U P 105	43.151	20.666	20.954	1.00	58.92	N
ATOM	3184	C4	U P 105	43.013	20.457	19.593	1.00	58.88	C
ATOM	3185	O4	U P 105	42.050	20.936	19.011	1.00	59.09	O
ATOM	3186	C5	U P 105	44.058	19.666	18.994	1.00	58.64	C
ATOM	3187	C6	U P 105	45.051	19.211	19.780	1.00	59.17	C
ATOM	3188	P	A P 106	47.971	15.754	24.255	1.00	61.20	P
ATOM	3189	O1P	A P 106	48.668	15.704	25.564	1.00	60.09	O
ATOM	3190	O2P	A P 106	48.226	14.717	23.216	1.00	60.93	O
ATOM	3191	O5*	A P 106	46.380	15.817	24.463	1.00	59.64	O

ATOM	3192	C5*	A P 106	45.756	15.213	25.572	1.00	57.90	C
ATOM	3193	C4*	A P 106	44.900	16.203	26.342	1.00	56.55	C
ATOM	3194	O4*	A P 106	44.627	17.438	25.629	1.00	55.82	O
ATOM	3195	C3*	A P 106	43.517	15.656	26.607	1.00	55.42	C
ATOM	3196	O3*	A P 106	43.610	14.662	27.609	1.00	53.30	O
ATOM	3197	C2*	A P 106	42.772	16.912	27.011	1.00	55.04	C
ATOM	3198	O2*	A P 106	43.073	17.281	28.334	1.00	55.30	O
ATOM	3199	C1*	A P 106	43.324	17.896	25.980	1.00	55.44	C
ATOM	3200	N9	A P 106	42.514	18.010	24.763	1.00	55.33	N
ATOM	3201	C8	A P 106	42.829	17.588	23.497	1.00	55.78	C
ATOM	3202	N7	A P 106	41.909	17.821	22.587	1.00	55.54	N
ATOM	3203	C5	A P 106	40.910	18.441	23.308	1.00	55.64	C
ATOM	3204	C6	A P 106	39.652	18.951	22.930	1.00	55.15	C
ATOM	3205	N6	A P 106	39.183	18.913	21.685	1.00	54.88	N
ATOM	3206	N1	A P 106	38.894	19.510	23.898	1.00	55.19	N
ATOM	3207	C2	A P 106	39.359	19.559	25.153	1.00	55.59	C
ATOM	3208	N3	A P 106	40.532	19.117	25.631	1.00	56.47	N
ATOM	3209	C4	A P 106	41.268	18.566	24.646	1.00	55.79	C
ATOM	3210	P	A P 107	42.706	13.366	27.438	1.00	52.42	P
ATOM	3211	O1P	A P 107	43.076	12.351	28.458	1.00	50.99	O
ATOM	3212	O2P	A P 107	42.677	13.010	25.992	1.00	51.58	O
ATOM	3213	O5*	A P 107	41.305	14.018	27.833	1.00	52.20	O
ATOM	3214	C5*	A P 107	41.119	14.537	29.132	1.00	52.64	C
ATOM	3215	C4*	A P 107	39.745	15.157	29.257	1.00	52.78	C
ATOM	3216	O4*	A P 107	39.647	16.337	28.427	1.00	52.92	O
ATOM	3217	C3*	A P 107	38.582	14.292	28.790	1.00	52.64	C
ATOM	3218	O3*	A P 107	38.240	13.362	29.783	1.00	52.07	O
ATOM	3219	C2*	A P 107	37.522	15.361	28.584	1.00	52.66	C
ATOM	3220	O2*	A P 107	37.033	15.941	29.779	1.00	53.34	O
ATOM	3221	C1*	A P 107	38.361	16.368	27.828	1.00	52.73	C
ATOM	3222	N9	A P 107	38.501	16.081	26.404	1.00	52.96	N
ATOM	3223	C8	A P 107	39.522	15.438	25.753	1.00	52.99	C
ATOM	3224	N7	A P 107	39.366	15.358	24.457	1.00	53.17	N
ATOM	3225	C5	A P 107	38.158	15.992	24.241	1.00	52.86	C
ATOM	3226	C6	A P 107	37.422	16.252	23.070	1.00	52.90	C
ATOM	3227	N6	A P 107	37.808	15.883	21.844	1.00	52.52	N
ATOM	3228	N1	A P 107	36.258	16.918	23.223	1.00	53.20	N
ATOM	3229	C2	A P 107	35.855	17.297	24.449	1.00	53.15	C
ATOM	3230	N3	A P 107	36.463	17.109	25.620	1.00	52.58	N
ATOM	3231	C4	A P 107	37.614	16.445	25.434	1.00	52.82	C
ATOM	3232	P	G P 108	37.735	11.902	29.410	1.00	52.03	P
ATOM	3233	O1P	G P 108	37.689	11.213	30.719	1.00	52.33	O
ATOM	3234	O2P	G P 108	38.524	11.403	28.258	1.00	51.74	O
ATOM	3235	O5*	G P 108	36.234	12.071	28.884	1.00	53.19	O
ATOM	3236	C5*	G P 108	35.261	12.735	29.693	1.00	53.44	C
ATOM	3237	C4*	G P 108	34.063	13.216	28.888	1.00	53.43	C
ATOM	3238	O4*	G P 108	34.433	14.264	27.949	1.00	52.35	O
ATOM	3239	C3*	G P 108	33.382	12.168	28.011	1.00	52.98	C
ATOM	3240	O3*	G P 108	32.598	11.302	28.798	1.00	53.97	O
ATOM	3241	C2*	G P 108	32.544	13.069	27.121	1.00	52.21	C
ATOM	3242	O2*	G P 108	31.402	13.581	27.773	1.00	51.99	O
ATOM	3243	C1*	G P 108	33.547	14.183	26.837	1.00	51.60	C
ATOM	3244	N9	G P 108	34.306	13.906	25.630	1.00	51.08	N
ATOM	3245	C8	G P 108	35.593	13.443	25.551	1.00	50.61	C
ATOM	3246	N7	G P 108	36.007	13.292	24.331	1.00	50.77	N
ATOM	3247	C5	G P 108	34.921	13.678	23.561	1.00	50.27	C
ATOM	3248	C6	G P 108	34.779	13.715	22.164	1.00	50.56	C
ATOM	3249	O6	G P 108	35.618	13.400	21.311	1.00	50.37	O
ATOM	3250	N1	G P 108	33.511	14.158	21.783	1.00	51.30	N

ATOM	3251	C2	G P 108	32.493	14.525	22.630	1.00	50.96	C
ATOM	3252	N2	G P 108	31.351	14.930	22.041	1.00	50.31	N
ATOM	3253	N3	G P 108	32.622	14.491	23.954	1.00	50.97	N
ATOM	3254	C4	G P 108	33.856	14.057	24.340	1.00	50.96	C
ATOM	3255	P	G P 109	32.467	9.755	28.431	1.00	55.97	P
ATOM	3256	O1P	G P 109	31.533	9.185	29.427	1.00	55.86	O
ATOM	3257	O2P	G P 109	33.814	9.163	28.232	1.00	54.53	O
ATOM	3258	O5*	G P 109	31.725	9.797	27.018	1.00	56.36	O
ATOM	3259	C5*	G P 109	30.333	10.083	26.967	1.00	57.31	C
ATOM	3260	C4*	G P 109	29.810	10.068	25.542	1.00	57.64	C
ATOM	3261	O4*	G P 109	30.417	11.155	24.795	1.00	57.75	O
ATOM	3262	C3*	G P 109	30.124	8.830	24.708	1.00	58.29	C
ATOM	3263	O3*	G P 109	29.334	7.667	25.090	1.00	58.96	O
ATOM	3264	C2*	G P 109	29.849	9.411	23.310	1.00	58.61	C
ATOM	3265	O2*	G P 109	28.489	9.543	22.928	1.00	58.43	O
ATOM	3266	C1*	G P 109	30.513	10.789	23.433	1.00	58.65	C
ATOM	3267	N9	G P 109	31.903	10.695	23.008	1.00	58.84	N
ATOM	3268	C8	G P 109	33.005	10.448	23.795	1.00	59.09	C
ATOM	3269	N7	G P 109	34.120	10.384	23.125	1.00	59.16	N
ATOM	3270	C5	G P 109	33.733	10.588	21.802	1.00	59.25	C
ATOM	3271	C6	G P 109	34.508	10.620	20.613	1.00	59.14	C
ATOM	3272	O6	G P 109	35.736	10.474	20.491	1.00	59.41	O
ATOM	3273	N1	G P 109	33.719	10.855	19.482	1.00	59.32	N
ATOM	3274	C2	G P 109	32.350	11.034	19.491	1.00	58.90	C
ATOM	3275	N2	G P 109	31.761	11.251	18.304	1.00	58.80	N
ATOM	3276	N3	G P 109	31.615	11.001	20.600	1.00	58.95	N
ATOM	3277	C4	G P 109	32.367	10.775	21.714	1.00	59.02	C
ATOM	3278	P	U P 110	29.954	6.178	25.267	1.00	60.29	P
ATOM	3279	O1P	U P 110	28.842	5.211	25.125	1.00	60.60	O
ATOM	3280	O2P	U P 110	30.781	6.102	26.489	1.00	59.24	O
ATOM	3281	O5*	U P 110	30.925	6.032	24.002	1.00	59.90	O
ATOM	3282	C5*	U P 110	31.659	4.835	23.787	1.00	59.88	C
ATOM	3283	C4*	U P 110	31.328	4.199	22.446	1.00	59.72	C
ATOM	3284	O4*	U P 110	29.942	3.778	22.404	1.00	59.72	O
ATOM	3285	C3*	U P 110	31.455	5.086	21.219	1.00	59.37	C
ATOM	3286	O3*	U P 110	32.816	5.205	20.842	1.00	58.34	O
ATOM	3287	C2*	U P 110	30.624	4.320	20.189	1.00	59.52	C
ATOM	3288	O2*	U P 110	31.352	3.322	19.493	1.00	59.16	O
ATOM	3289	C1*	U P 110	29.534	3.677	21.050	1.00	59.63	C
ATOM	3290	N1	U P 110	28.194	4.312	20.905	1.00	59.76	N
ATOM	3291	C2	U P 110	27.544	4.247	19.690	1.00	59.85	C
ATOM	3292	O2	U P 110	28.014	3.697	18.711	1.00	59.93	O
ATOM	3293	N3	U P 110	26.312	4.860	19.664	1.00	60.12	N
ATOM	3294	C4	U P 110	25.676	5.511	20.709	1.00	59.72	C
ATOM	3295	O4	U P 110	24.569	6.008	20.544	1.00	59.77	O
ATOM	3296	C5	U P 110	26.410	5.537	21.943	1.00	59.85	C
ATOM	3297	C6	U P 110	27.612	4.949	21.989	1.00	60.03	C
ATOM	3298	P	G P 111	33.438	6.643	20.520	1.00	58.93	P
ATOM	3299	O1P	G P 111	34.869	6.424	20.174	1.00	57.70	O
ATOM	3300	O2P	G P 111	33.033	7.550	21.620	1.00	57.98	O
ATOM	3301	O5*	G P 111	32.667	7.132	19.210	1.00	56.86	O
ATOM	3302	C5*	G P 111	32.868	6.407	18.013	1.00	56.48	C
ATOM	3303	C4*	G P 111	31.746	6.622	17.014	1.00	55.81	C
ATOM	3304	O4*	G P 111	30.445	6.304	17.577	1.00	55.21	O
ATOM	3305	C3*	G P 111	31.617	8.048	16.529	1.00	55.32	C
ATOM	3306	O3*	G P 111	32.637	8.264	15.551	1.00	55.08	O
ATOM	3307	C2*	G P 111	30.178	8.031	16.009	1.00	54.83	C
ATOM	3308	O2*	G P 111	30.093	7.430	14.730	1.00	55.19	O
ATOM	3309	C1*	G P 111	29.445	7.162	17.042	1.00	53.35	C

ATOM	3310	N9	G P 111	28.793	7.764	18.222	1.00	52.68	N
ATOM	3311	C8	G P 111	29.427	8.147	19.387	1.00	51.95	C
ATOM	3312	N7	G P 111	28.631	8.613	20.305	1.00	51.54	N
ATOM	3313	C5	G P 111	27.375	8.525	19.725	1.00	51.64	C
ATOM	3314	C6	G P 111	26.119	8.897	20.263	1.00	51.64	C
ATOM	3315	O6	G P 111	25.872	9.381	21.378	1.00	51.29	O
ATOM	3316	N1	G P 111	25.085	8.661	19.359	1.00	52.00	N
ATOM	3317	C2	G P 111	25.242	8.128	18.102	1.00	51.84	C
ATOM	3318	N2	G P 111	24.108	7.976	17.402	1.00	51.59	N
ATOM	3319	N3	G P 111	26.422	7.777	17.586	1.00	51.47	N
ATOM	3320	C4	G P 111	27.447	8.000	18.448	1.00	51.62	C
ATOM	3321	P	A P 112	33.053	9.743	15.119	1.00	55.43	P
ATOM	3322	O1P	A P 112	34.131	9.659	14.102	1.00	54.81	O
ATOM	3323	O2P	A P 112	33.244	10.567	16.330	1.00	53.37	O
ATOM	3324	O5*	A P 112	31.688	10.206	14.435	1.00	53.96	O
ATOM	3325	C5*	A P 112	31.444	10.048	13.060	1.00	53.39	C
ATOM	3326	C4*	A P 112	30.121	10.707	12.709	1.00	52.83	C
ATOM	3327	O4*	A P 112	29.101	10.204	13.601	1.00	52.04	O
ATOM	3328	C3*	A P 112	30.068	12.217	12.884	1.00	51.85	C
ATOM	3329	O3*	A P 112	30.556	12.863	11.725	1.00	51.58	O
ATOM	3330	C2*	A P 112	28.578	12.450	13.078	1.00	51.62	C
ATOM	3331	O2*	A P 112	27.884	12.549	11.858	1.00	50.59	O
ATOM	3332	C1*	A P 112	28.145	11.205	13.841	1.00	51.44	C
ATOM	3333	N9	A P 112	28.090	11.401	15.279	1.00	51.54	N
ATOM	3334	C8	A P 112	29.143	11.617	16.124	1.00	51.88	C
ATOM	3335	N7	A P 112	28.799	11.756	17.384	1.00	52.07	N
ATOM	3336	C5	A P 112	27.417	11.624	17.358	1.00	51.77	C
ATOM	3337	C6	A P 112	26.440	11.674	18.374	1.00	51.62	C
ATOM	3338	N6	A P 112	26.738	11.888	19.657	1.00	51.59	N
ATOM	3339	N1	A P 112	25.148	11.499	18.027	1.00	51.55	N
ATOM	3340	C2	A P 112	24.867	11.289	16.736	1.00	51.87	C
ATOM	3341	N3	A P 112	25.692	11.224	15.685	1.00	51.52	N
ATOM	3342	C4	A P 112	26.966	11.402	16.069	1.00	51.57	C
ATOM	3343	P	C P 113	31.572	14.084	11.829	1.00	51.61	P
ATOM	3344	O1P	C P 113	31.979	14.452	10.458	1.00	52.68	O
ATOM	3345	O2P	C P 113	32.621	13.753	12.807	1.00	52.56	O
ATOM	3346	O5*	C P 113	30.637	15.248	12.384	1.00	51.79	O
ATOM	3347	C5*	C P 113	31.076	16.165	13.356	1.00	51.86	C
ATOM	3348	C4*	C P 113	30.121	16.135	14.532	1.00	52.38	C
ATOM	3349	O4*	C P 113	30.077	14.812	15.140	1.00	52.37	O
ATOM	3350	C3*	C P 113	30.507	17.084	15.655	1.00	52.41	C
ATOM	3351	O3*	C P 113	30.007	18.399	15.358	1.00	52.74	O
ATOM	3352	C2*	C P 113	29.892	16.382	16.880	1.00	52.54	C
ATOM	3353	O2*	C P 113	28.495	16.538	17.075	1.00	52.01	O
ATOM	3354	C1*	C P 113	30.214	14.919	16.558	1.00	52.14	C
ATOM	3355	N1	C P 113	31.596	14.520	17.002	1.00	51.69	N
ATOM	3356	C2	C P 113	31.934	14.500	18.366	1.00	52.10	C
ATOM	3357	O2	C P 113	31.097	14.791	19.233	1.00	51.73	O
ATOM	3358	N3	C P 113	33.206	14.151	18.712	1.00	51.96	N
ATOM	3359	C4	C P 113	34.119	13.839	17.795	1.00	51.10	C
ATOM	3360	N4	C P 113	35.335	13.502	18.214	1.00	50.88	N
ATOM	3361	C5	C P 113	33.808	13.861	16.409	1.00	51.53	C
ATOM	3362	C6	C P 113	32.555	14.203	16.070	1.00	52.20	C
ATOM	3363	P	U P 114	30.726	19.715	15.922	1.00	52.99	P
ATOM	3364	O1P	U P 114	29.929	20.866	15.456	1.00	52.17	O
ATOM	3365	O2P	U P 114	32.167	19.650	15.595	1.00	53.57	O
ATOM	3366	O5*	U P 114	30.571	19.581	17.504	1.00	51.57	O
ATOM	3367	C5*	U P 114	29.287	19.624	18.062	1.00	53.49	C
ATOM	3368	C4*	U P 114	29.331	19.526	19.572	1.00	54.07	C

ATOM	3369	O4*	U P 114	29.795	18.223	19.991	1.00	55.07	O
ATOM	3370	C3*	U P 114	30.284	20.489	20.243	1.00	54.81	C
ATOM	3371	O3*	U P 114	29.654	21.742	20.344	1.00	54.64	O
ATOM	3372	C2*	U P 114	30.498	19.788	21.575	1.00	55.05	C
ATOM	3373	O2*	U P 114	29.398	19.908	22.443	1.00	55.10	O
ATOM	3374	C1*	U P 114	30.661	18.352	21.102	1.00	55.48	C
ATOM	3375	N1	U P 114	32.062	17.989	20.699	1.00	55.79	N
ATOM	3376	C2	U P 114	32.993	17.747	21.682	1.00	55.70	C
ATOM	3377	O2	U P 114	32.753	17.814	22.871	1.00	56.41	O
ATOM	3378	N3	U P 114	34.242	17.414	21.225	1.00	55.98	N
ATOM	3379	C4	U P 114	34.675	17.297	19.921	1.00	56.10	C
ATOM	3380	O4	U P 114	35.843	16.982	19.696	1.00	56.33	O
ATOM	3381	C5	U P 114	33.655	17.561	18.939	1.00	56.26	C
ATOM	3382	C6	U P 114	32.421	17.884	19.361	1.00	56.26	C
ATOM	3383	P	U P 115	30.499	23.098	20.378	1.00	55.98	P
ATOM	3384	O1P	U P 115	29.479	24.159	20.495	1.00	56.23	O
ATOM	3385	O2P	U P 115	31.527	23.124	19.307	1.00	54.44	O
ATOM	3386	O5*	U P 115	31.236	23.013	21.791	1.00	55.96	O
ATOM	3387	C5*	U P 115	30.498	23.203	22.990	1.00	55.87	C
ATOM	3388	C4*	U P 115	31.377	22.981	24.197	1.00	55.40	C
ATOM	3389	O4*	U P 115	31.861	21.618	24.190	1.00	55.41	O
ATOM	3390	C3*	U P 115	32.646	23.816	24.241	1.00	55.15	C
ATOM	3391	O3*	U P 115	32.399	25.109	24.742	1.00	54.42	O
ATOM	3392	C2*	U P 115	33.508	23.000	25.184	1.00	55.07	C
ATOM	3393	O2*	U P 115	33.128	23.125	26.540	1.00	55.08	O
ATOM	3394	C1*	U P 115	33.203	21.607	24.659	1.00	55.06	C
ATOM	3395	N1	U P 115	34.134	21.183	23.568	1.00	54.69	N
ATOM	3396	C2	U P 115	35.404	20.796	23.907	1.00	54.60	C
ATOM	3397	O2	U P 115	35.824	20.785	25.048	1.00	54.71	O
ATOM	3398	N3	U P 115	36.182	20.418	22.850	1.00	54.76	N
ATOM	3399	C4	U P 115	35.841	20.386	21.520	1.00	54.41	C
ATOM	3400	O4	U P 115	36.656	20.009	20.695	1.00	55.10	O
ATOM	3401	C5	U P 115	34.508	20.808	21.238	1.00	54.73	C
ATOM	3402	C6	U P 115	33.730	21.179	22.253	1.00	54.60	C
ATOM	3403	P	A P 116	33.316	26.317	24.239	1.00	53.79	P
ATOM	3404	O1P	A P 116	32.723	27.542	24.830	1.00	53.99	O
ATOM	3405	O2P	A P 116	33.521	26.194	22.777	1.00	53.05	O
ATOM	3406	O5*	A P 116	34.731	26.029	24.917	1.00	53.43	O
ATOM	3407	C5*	A P 116	34.960	26.241	26.290	1.00	53.13	C
ATOM	3408	C4*	A P 116	36.309	25.657	26.640	1.00	53.41	C
ATOM	3409	O4*	A P 116	36.361	24.287	26.178	1.00	53.30	O
ATOM	3410	C3*	A P 116	37.506	26.278	25.934	1.00	53.41	C
ATOM	3411	O3*	A P 116	37.879	27.523	26.506	1.00	54.24	O
ATOM	3412	C2*	A P 116	38.539	25.186	26.160	1.00	53.05	C
ATOM	3413	O2*	A P 116	39.037	25.125	27.473	1.00	52.94	O
ATOM	3414	C1*	A P 116	37.700	23.949	25.851	1.00	52.63	C
ATOM	3415	N9	A P 116	37.844	23.576	24.445	1.00	52.09	N
ATOM	3416	C8	A P 116	36.955	23.740	23.423	1.00	52.19	C
ATOM	3417	N7	A P 116	37.400	23.316	22.261	1.00	52.26	N
ATOM	3418	C5	A P 116	38.673	22.857	22.542	1.00	51.55	C
ATOM	3419	C6	A P 116	39.672	22.283	21.743	1.00	51.38	C
ATOM	3420	N6	A P 116	39.529	22.070	20.438	1.00	51.41	N
ATOM	3421	N1	A P 116	40.824	21.928	22.342	1.00	51.57	N
ATOM	3422	C2	A P 116	40.975	22.136	23.651	1.00	51.70	C
ATOM	3423	N3	A P 116	40.109	22.668	24.508	1.00	51.85	N
ATOM	3424	C4	A P 116	38.964	23.008	23.882	1.00	52.08	C
ATOM	3425	P	G P 117	38.670	28.615	25.640	1.00	55.02	P
ATOM	3426	O1P	G P 117	38.687	29.852	26.442	1.00	54.75	O
ATOM	3427	O2P	G P 117	38.165	28.613	24.244	1.00	54.83	O

ATOM	3428	O5*	G P 117	40.158	28.050	25.650	1.00	55.25	O
ATOM	3429	C5*	G P 117	40.792	27.947	26.897	1.00	55.92	C
ATOM	3430	C4*	G P 117	42.045	27.129	26.790	1.00	55.84	C
ATOM	3431	O4*	G P 117	41.758	25.815	26.260	1.00	57.12	O
ATOM	3432	C3*	G P 117	43.057	27.682	25.815	1.00	56.09	C
ATOM	3433	O3*	G P 117	43.675	28.808	26.377	1.00	56.01	O
ATOM	3434	C2*	G P 117	43.948	26.458	25.688	1.00	56.16	C
ATOM	3435	O2*	G P 117	44.719	26.212	26.845	1.00	55.78	O
ATOM	3436	C1*	G P 117	42.870	25.398	25.489	1.00	56.04	C
ATOM	3437	N9	G P 117	42.452	25.267	24.096	1.00	55.78	N
ATOM	3438	C8	G P 117	41.286	25.695	23.498	1.00	55.72	C
ATOM	3439	N7	G P 117	41.221	25.426	22.220	1.00	55.63	N
ATOM	3440	C5	G P 117	42.423	24.781	21.968	1.00	55.51	C
ATOM	3441	C6	G P 117	42.935	24.250	20.769	1.00	55.81	C
ATOM	3442	O6	G P 117	42.408	24.238	19.652	1.00	56.44	O
ATOM	3443	N1	G P 117	44.190	23.682	20.944	1.00	55.79	N
ATOM	3444	C2	G P 117	44.878	23.630	22.124	1.00	55.52	C
ATOM	3445	N2	G P 117	46.075	23.036	22.080	1.00	55.50	N
ATOM	3446	N3	G P 117	44.415	24.125	23.259	1.00	55.70	N
ATOM	3447	C4	G P 117	43.188	24.674	23.105	1.00	55.53	C
ATOM	3448	P	U P 118	44.273	29.946	25.439	1.00	55.97	P
ATOM	3449	O1P	U P 118	44.907	30.934	26.342	1.00	54.13	O
ATOM	3450	O2P	U P 118	43.255	30.345	24.430	1.00	54.73	O
ATOM	3451	O5*	U P 118	45.390	29.126	24.656	1.00	55.25	O
ATOM	3452	C5*	U P 118	46.543	28.695	25.340	1.00	55.10	C
ATOM	3453	C4*	U P 118	47.462	28.022	24.350	1.00	55.12	C
ATOM	3454	O4*	U P 118	46.785	26.897	23.754	1.00	55.67	O
ATOM	3455	C3*	U P 118	47.831	28.862	23.147	1.00	55.30	C
ATOM	3456	O3*	U P 118	48.840	29.792	23.490	1.00	56.24	O
ATOM	3457	C2*	U P 118	48.303	27.772	22.205	1.00	55.41	C
ATOM	3458	O2*	U P 118	49.552	27.220	22.568	1.00	55.59	O
ATOM	3459	C1*	U P 118	47.197	26.749	22.408	1.00	55.07	C
ATOM	3460	N1	U P 118	46.028	26.926	21.482	1.00	55.29	N
ATOM	3461	C2	U P 118	46.185	26.627	20.138	1.00	54.52	C
ATOM	3462	O2	U P 118	47.226	26.223	19.650	1.00	54.02	O
ATOM	3463	N3	U P 118	45.064	26.823	19.373	1.00	53.74	N
ATOM	3464	C4	U P 118	43.822	27.269	19.774	1.00	53.96	C
ATOM	3465	O4	U P 118	42.906	27.387	18.953	1.00	54.79	O
ATOM	3466	C5	U P 118	43.735	27.561	21.176	1.00	54.17	C
ATOM	3467	C6	U P 118	44.809	27.386	21.959	1.00	54.83	C
ATOM	3468	P	G P 119	48.901	31.230	22.790	1.00	55.80	P
ATOM	3469	O1P	G P 119	49.975	31.993	23.463	1.00	56.43	O
ATOM	3470	O2P	G P 119	47.521	31.766	22.700	1.00	56.45	O
ATOM	3471	O5*	G P 119	49.411	30.865	21.330	1.00	55.66	O
ATOM	3472	C5*	G P 119	50.642	30.187	21.201	1.00	55.79	C
ATOM	3473	C4*	G P 119	50.896	29.933	19.738	1.00	55.82	C
ATOM	3474	O4*	G P 119	50.062	28.865	19.250	1.00	55.81	O
ATOM	3475	C3*	G P 119	50.500	31.085	18.850	1.00	55.93	C
ATOM	3476	O3*	G P 119	51.443	32.123	18.987	1.00	56.49	O
ATOM	3477	C2*	G P 119	50.485	30.387	17.506	1.00	56.00	C
ATOM	3478	O2*	G P 119	51.755	30.054	17.005	1.00	55.33	O
ATOM	3479	C1*	G P 119	49.732	29.129	17.903	1.00	56.32	C
ATOM	3480	N9	G P 119	48.281	29.252	17.774	1.00	56.33	N
ATOM	3481	C8	G P 119	47.352	29.531	18.754	1.00	56.69	C
ATOM	3482	N7	G P 119	46.119	29.564	18.321	1.00	56.11	N
ATOM	3483	C5	G P 119	46.249	29.278	16.967	1.00	56.51	C
ATOM	3484	C6	G P 119	45.260	29.167	15.966	1.00	56.28	C
ATOM	3485	O6	G P 119	44.040	29.310	16.094	1.00	56.36	O
ATOM	3486	N1	G P 119	45.811	28.868	14.719	1.00	56.37	N

ATOM	3487	C2	G P 119	47.155	28.695	14.471	1.00	56.40	C
ATOM	3488	N2	G P 119	47.502	28.408	13.210	1.00	56.34	N
ATOM	3489	N3	G P 119	48.094	28.791	15.403	1.00	56.10	N
ATOM	3490	C4	G P 119	47.568	29.085	16.617	1.00	56.05	C
ATOM	3491	P	G P 120	50.968	33.646	18.919	1.00	57.16	P
ATOM	3492	O1P	G P 120	52.047	34.453	19.532	1.00	57.80	O
ATOM	3493	O2P	G P 120	49.588	33.758	19.449	1.00	58.35	O
ATOM	3494	O5*	G P 120	50.907	33.911	17.334	1.00	57.40	O
ATOM	3495	C5*	G P 120	52.012	33.564	16.488	1.00	57.51	C
ATOM	3496	C4*	G P 120	51.646	33.495	15.013	1.00	57.15	C
ATOM	3497	O4*	G P 120	50.862	32.305	14.771	1.00	56.99	O
ATOM	3498	C3*	G P 120	50.775	34.620	14.478	1.00	57.01	C
ATOM	3499	O3*	G P 120	51.515	35.775	14.128	1.00	57.23	O
ATOM	3500	C2*	G P 120	50.157	33.969	13.251	1.00	57.07	C
ATOM	3501	O2*	G P 120	50.997	33.954	12.109	1.00	56.59	O
ATOM	3502	C1*	G P 120	49.874	32.578	13.796	1.00	55.99	C
ATOM	3503	N9	G P 120	48.546	32.514	14.403	1.00	55.86	N
ATOM	3504	C8	G P 120	48.200	32.692	15.724	1.00	55.48	C
ATOM	3505	N7	G P 120	46.924	32.579	15.950	1.00	55.01	N
ATOM	3506	C5	G P 120	46.390	32.321	14.699	1.00	55.20	C
ATOM	3507	C6	G P 120	45.045	32.101	14.316	1.00	55.16	C
ATOM	3508	O6	G P 120	44.048	32.096	15.042	1.00	54.87	O
ATOM	3509	N1	G P 120	44.924	31.870	12.948	1.00	55.36	N
ATOM	3510	C2	G P 120	45.985	31.854	12.059	1.00	55.59	C
ATOM	3511	N2	G P 120	45.700	31.619	10.772	1.00	55.11	N
ATOM	3512	N3	G P 120	47.252	32.056	12.409	1.00	55.17	N
ATOM	3513	C4	G P 120	47.373	32.280	13.738	1.00	55.12	C
ATOM	3514	P	A P 121	50.808	37.201	14.281	1.00	58.00	P
ATOM	3515	O1P	A P 121	51.608	38.182	13.515	1.00	58.23	O
ATOM	3516	O2P	A P 121	50.541	37.408	15.724	1.00	58.04	O
ATOM	3517	O5*	A P 121	49.402	37.008	13.563	1.00	57.25	O
ATOM	3518	C5*	A P 121	49.007	37.875	12.531	1.00	57.06	C
ATOM	3519	C4*	A P 121	49.019	37.152	11.202	1.00	56.63	C
ATOM	3520	O4*	A P 121	48.630	35.765	11.351	1.00	55.95	O
ATOM	3521	C3*	A P 121	48.030	37.742	10.220	1.00	56.36	C
ATOM	3522	O3*	A P 121	48.715	38.752	9.500	1.00	56.82	O
ATOM	3523	C2*	A P 121	47.593	36.534	9.398	1.00	55.97	C
ATOM	3524	O2*	A P 121	48.481	36.202	8.354	1.00	57.06	O
ATOM	3525	C1*	A P 121	47.590	35.438	10.453	1.00	54.89	C
ATOM	3526	N9	A P 121	46.330	35.300	11.200	1.00	54.79	N
ATOM	3527	C8	A P 121	46.106	35.575	12.525	1.00	54.06	C
ATOM	3528	N7	A P 121	44.878	35.344	12.916	1.00	53.70	N
ATOM	3529	C5	A P 121	44.251	34.873	11.776	1.00	53.92	C
ATOM	3530	C6	A P 121	42.928	34.445	11.527	1.00	53.32	C
ATOM	3531	N6	A P 121	41.973	34.426	12.458	1.00	53.03	N
ATOM	3532	N1	A P 121	42.629	34.044	10.273	1.00	53.72	N
ATOM	3533	C2	A P 121	43.592	34.065	9.334	1.00	53.82	C
ATOM	3534	N3	A P 121	44.869	34.442	9.454	1.00	53.38	N
ATOM	3535	C4	A P 121	45.133	34.841	10.709	1.00	53.64	C
ATOM	3536	P	C P 122	48.362	40.304	9.704	1.00	57.03	P
ATOM	3537	O1P	C P 122	49.536	41.107	9.274	1.00	56.65	O
ATOM	3538	O2P	C P 122	47.766	40.507	11.047	1.00	56.35	O
ATOM	3539	O5*	C P 122	47.226	40.499	8.608	1.00	55.82	O
ATOM	3540	C5*	C P 122	47.448	40.099	7.257	1.00	55.44	C
ATOM	3541	C4*	C P 122	46.175	39.506	6.678	1.00	54.89	C
ATOM	3542	O4*	C P 122	45.788	38.307	7.396	1.00	54.23	O
ATOM	3543	C3*	C P 122	44.946	40.393	6.779	1.00	53.88	C
ATOM	3544	O3*	C P 122	44.998	41.392	5.790	1.00	53.30	O
ATOM	3545	C2*	C P 122	43.869	39.353	6.526	1.00	54.30	C

ATOM	3546	O2*	C P 122	43.746	38.997	5.165	1.00	55.64	O
ATOM	3547	C1*	C P 122	44.382	38.163	7.326	1.00	53.85	C
ATOM	3548	N1	C P 122	43.760	38.085	8.697	1.00	53.74	N
ATOM	3549	C2	C P 122	42.525	37.443	8.840	1.00	53.83	C
ATOM	3550	O2	C P 122	41.992	36.958	7.840	1.00	54.34	O
ATOM	3551	N3	C P 122	41.940	37.357	10.061	1.00	53.17	N
ATOM	3552	C4	C P 122	42.529	37.890	11.124	1.00	53.33	C
ATOM	3553	N4	C P 122	41.906	37.783	12.301	1.00	53.37	N
ATOM	3554	C5	C P 122	43.781	38.563	11.011	1.00	53.67	C
ATOM	3555	C6	C P 122	44.355	38.637	9.797	1.00	53.64	C
ATOM	3556	P	A P 123	44.446	42.884	6.008	1.00	53.52	P
ATOM	3557	O1P	A P 123	44.596	43.608	4.723	1.00	51.68	O
ATOM	3558	O2P	A P 123	45.018	43.444	7.251	1.00	52.47	O
ATOM	3559	O5*	A P 123	42.896	42.589	6.241	1.00	52.69	O
ATOM	3560	C5*	A P 123	41.916	43.565	5.969	1.00	51.91	C
ATOM	3561	C4*	A P 123	40.665	42.889	5.466	1.00	51.27	C
ATOM	3562	O4*	A P 123	40.153	41.983	6.466	1.00	50.45	O
ATOM	3563	C3*	A P 123	39.533	43.857	5.212	1.00	51.52	C
ATOM	3564	O3*	A P 123	39.703	44.441	3.923	1.00	51.65	O
ATOM	3565	C2*	A P 123	38.313	42.959	5.334	1.00	50.37	C
ATOM	3566	O2*	A P 123	38.047	42.260	4.144	1.00	50.97	O
ATOM	3567	C1*	A P 123	38.742	42.010	6.445	1.00	49.64	C
ATOM	3568	N9	A P 123	38.279	42.373	7.785	1.00	49.57	N
ATOM	3569	C8	A P 123	38.999	42.884	8.830	1.00	49.00	C
ATOM	3570	N7	A P 123	38.293	43.093	9.916	1.00	48.36	N
ATOM	3571	C5	A P 123	37.023	42.686	9.563	1.00	48.90	C
ATOM	3572	C6	A P 123	35.803	42.637	10.268	1.00	48.76	C
ATOM	3573	N6	A P 123	35.660	43.023	11.533	1.00	48.72	N
ATOM	3574	N1	A P 123	34.720	42.173	9.617	1.00	49.17	N
ATOM	3575	C2	A P 123	34.851	41.774	8.345	1.00	49.24	C
ATOM	3576	N3	A P 123	35.943	41.765	7.578	1.00	49.01	N
ATOM	3577	C4	A P 123	37.000	42.238	8.255	1.00	49.19	C
ATOM	3578	P	A P 124	39.820	46.029	3.762	1.00	52.80	P
ATOM	3579	O1P	A P 124	40.633	46.287	2.540	1.00	52.33	O
ATOM	3580	O2P	A P 124	40.202	46.601	5.085	1.00	50.63	O
ATOM	3581	O5*	A P 124	38.308	46.431	3.408	1.00	51.22	O
ATOM	3582	C5*	A P 124	37.570	45.687	2.426	1.00	51.01	C
ATOM	3583	C4*	A P 124	36.090	45.628	2.741	1.00	50.28	C
ATOM	3584	O4*	A P 124	35.816	44.637	3.769	1.00	50.31	O
ATOM	3585	C3*	A P 124	35.495	46.913	3.302	1.00	50.03	C
ATOM	3586	O3*	A P 124	35.308	47.858	2.275	1.00	48.70	O
ATOM	3587	C2*	A P 124	34.202	46.366	3.898	1.00	50.34	C
ATOM	3588	O2*	A P 124	33.205	46.019	2.951	1.00	50.82	O
ATOM	3589	C1*	A P 124	34.738	45.111	4.565	1.00	50.59	C
ATOM	3590	N9	A P 124	35.215	45.378	5.911	1.00	50.72	N
ATOM	3591	C8	A P 124	36.470	45.781	6.273	1.00	51.12	C
ATOM	3592	N7	A P 124	36.630	45.935	7.566	1.00	51.65	N
ATOM	3593	C5	A P 124	35.395	45.614	8.088	1.00	50.97	C
ATOM	3594	C6	A P 124	34.921	45.585	9.408	1.00	50.61	C
ATOM	3595	N6	A P 124	35.681	45.904	10.449	1.00	50.04	N
ATOM	3596	N1	A P 124	33.638	45.218	9.609	1.00	50.95	N
ATOM	3597	C2	A P 124	32.894	44.910	8.532	1.00	51.21	C
ATOM	3598	N3	A P 124	33.232	44.900	7.236	1.00	50.27	N
ATOM	3599	C4	A P 124	34.507	45.269	7.081	1.00	50.77	C
ATOM	3600	P	A P 125	35.047	49.400	2.583	1.00	48.16	P
ATOM	3601	O1P	A P 125	34.858	50.033	1.267	1.00	48.67	O
ATOM	3602	O2P	A P 125	36.065	49.901	3.536	1.00	49.06	O
ATOM	3603	O5*	A P 125	33.646	49.435	3.331	1.00	50.88	O
ATOM	3604	C5*	A P 125	32.454	49.193	2.607	1.00	52.37	C

ATOM	3605	C4*	A P 125	31.270	49.026	3.541	1.00	53.04	C
ATOM	3606	O4*	A P 125	31.525	47.961	4.485	1.00	53.40	O
ATOM	3607	C3*	A P 125	30.962	50.215	4.434	1.00	53.90	C
ATOM	3608	O3*	A P 125	30.263	51.213	3.714	1.00	55.46	O
ATOM	3609	C2*	A P 125	30.116	49.527	5.489	1.00	53.19	C
ATOM	3610	O2*	A P 125	28.831	49.194	5.026	1.00	54.37	O
ATOM	3611	C1*	A P 125	30.916	48.266	5.722	1.00	52.78	C
ATOM	3612	N9	A P 125	31.946	48.444	6.725	1.00	52.50	N
ATOM	3613	C8	A P 125	33.208	48.929	6.557	1.00	52.44	C
ATOM	3614	N7	A P 125	33.910	48.967	7.661	1.00	52.85	N
ATOM	3615	C5	A P 125	33.049	48.479	8.616	1.00	52.16	C
ATOM	3616	C6	A P 125	33.191	48.275	10.001	1.00	52.95	C
ATOM	3617	N6	A P 125	34.308	48.547	10.683	1.00	52.51	N
ATOM	3618	N1	A P 125	32.125	47.758	10.654	1.00	53.17	N
ATOM	3619	C2	A P 125	31.005	47.493	9.956	1.00	52.87	C
ATOM	3620	N3	A P 125	30.757	47.654	8.655	1.00	51.99	N
ATOM	3621	C4	A P 125	31.833	48.153	8.047	1.00	52.24	C
ATOM	3622	P	G P 126	30.605	52.771	3.866	1.00	57.70	P
ATOM	3623	O1P	G P 126	29.734	53.457	2.878	1.00	57.77	O
ATOM	3624	O2P	G P 126	32.071	53.000	3.853	1.00	57.23	O
ATOM	3625	O5*	G P 126	30.035	53.089	5.322	1.00	58.11	O
ATOM	3626	C5*	G P 126	28.631	52.945	5.559	1.00	59.52	C
ATOM	3627	C4*	G P 126	28.357	52.723	7.032	1.00	59.91	C
ATOM	3628	O4*	G P 126	29.057	51.545	7.514	1.00	59.73	O
ATOM	3629	C3*	G P 126	28.868	53.828	7.933	1.00	60.40	C
ATOM	3630	O3*	G P 126	27.990	54.934	7.913	1.00	61.48	O
ATOM	3631	C2*	G P 126	28.900	53.110	9.269	1.00	60.33	C
ATOM	3632	O2*	G P 126	27.613	52.970	9.843	1.00	61.10	O
ATOM	3633	C1*	G P 126	29.519	51.787	8.830	1.00	59.76	C
ATOM	3634	N9	G P 126	30.978	51.857	8.847	1.00	59.49	N
ATOM	3635	C8	G P 126	31.846	52.098	7.807	1.00	59.31	C
ATOM	3636	N7	G P 126	33.105	52.110	8.164	1.00	59.28	N
ATOM	3637	C5	G P 126	33.071	51.865	9.524	1.00	59.03	C
ATOM	3638	C6	G P 126	34.124	51.761	10.457	1.00	59.06	C
ATOM	3639	O6	G P 126	35.337	51.871	10.252	1.00	59.10	O
ATOM	3640	N1	G P 126	33.644	51.505	11.741	1.00	59.29	N
ATOM	3641	C2	G P 126	32.317	51.364	12.083	1.00	59.60	C
ATOM	3642	N2	G P 126	32.053	51.118	13.377	1.00	59.25	N
ATOM	3643	N3	G P 126	31.318	51.467	11.213	1.00	59.51	N
ATOM	3644	C4	G P 126	31.770	51.712	9.959	1.00	59.55	C
ATOM	3645	P	G P 127	28.560	56.426	8.025	1.00	61.90	P
ATOM	3646	O1P	G P 127	27.386	57.332	7.941	1.00	61.59	O
ATOM	3647	O2P	G P 127	29.698	56.570	7.086	1.00	61.94	O
ATOM	3648	O5*	G P 127	29.147	56.475	9.510	1.00	62.56	O
ATOM	3649	C5*	G P 127	28.251	56.457	10.603	1.00	63.80	C
ATOM	3650	C4*	G P 127	28.980	56.028	11.853	1.00	64.62	C
ATOM	3651	O4*	G P 127	29.823	54.893	11.561	1.00	63.83	O
ATOM	3652	C3*	G P 127	29.945	57.055	12.403	1.00	65.41	C
ATOM	3653	O3*	G P 127	29.215	58.058	13.095	1.00	69.77	O
ATOM	3654	C2*	G P 127	30.835	56.176	13.273	1.00	64.25	C
ATOM	3655	O2*	G P 127	30.266	55.769	14.498	1.00	63.46	O
ATOM	3656	C1*	G P 127	30.997	54.977	12.342	1.00	62.37	C
ATOM	3657	N9	G P 127	32.144	55.076	11.450	1.00	61.39	N
ATOM	3658	C8	G P 127	32.175	55.157	10.079	1.00	60.84	C
ATOM	3659	N7	G P 127	33.385	55.227	9.597	1.00	60.65	N
ATOM	3660	C5	G P 127	34.199	55.189	10.718	1.00	60.39	C
ATOM	3661	C6	G P 127	35.605	55.232	10.842	1.00	60.48	C
ATOM	3662	O6	G P 127	36.456	55.314	9.952	1.00	60.73	O
ATOM	3663	N1	G P 127	36.008	55.171	12.170	1.00	60.53	N

ATOM	3664	C2	G P 127	35.173	55.078	13.256	1.00	60.67	C
ATOM	3665	N2	G P 127	35.753	55.031	14.466	1.00	60.82	N
ATOM	3666	N3	G P 127	33.854	55.037	13.156	1.00	60.43	N
ATOM	3667	C4	G P 127	33.447	55.096	11.863	1.00	60.65	C
ATOM	3668	P	U P 128	29.579	59.608	12.917	1.00	73.97	P
ATOM	3669	O1P	U P 128	28.486	60.426	13.500	1.00	73.06	O
ATOM	3670	O2P	U P 128	30.035	59.856	11.528	1.00	73.03	O
ATOM	3671	O5*	U P 128	30.833	59.699	13.898	1.00	76.41	O
ATOM	3672	C5*	U P 128	30.626	59.453	15.277	1.00	80.17	C
ATOM	3673	C4*	U P 128	31.947	59.298	15.994	1.00	82.30	C
ATOM	3674	O4*	U P 128	32.653	58.140	15.490	1.00	82.75	O
ATOM	3675	C3*	U P 128	32.925	60.448	15.808	1.00	84.30	C
ATOM	3676	O3*	U P 128	32.554	61.565	16.631	1.00	88.19	O
ATOM	3677	C2*	U P 128	34.217	59.750	16.214	1.00	83.97	C
ATOM	3678	O2*	U P 128	34.360	59.530	17.605	1.00	83.87	O
ATOM	3679	C1*	U P 128	34.037	58.435	15.457	1.00	83.27	C
ATOM	3680	N1	U P 128	34.511	58.529	14.039	1.00	83.10	N
ATOM	3681	C2	U P 128	35.872	58.553	13.804	1.00	82.73	C
ATOM	3682	O2	U P 128	36.710	58.498	14.686	1.00	82.53	O
ATOM	3683	N3	U P 128	36.221	58.648	12.479	1.00	82.74	N
ATOM	3684	C4	U P 128	35.384	58.720	11.380	1.00	82.98	C
ATOM	3685	O4	U P 128	35.864	58.800	10.251	1.00	82.85	O
ATOM	3686	C5	U P 128	33.977	58.694	11.699	1.00	83.20	C
ATOM	3687	C6	U P 128	33.608	58.605	12.986	1.00	83.23	C
ATOM	3688	P	G P 129	32.603	63.083	16.109	1.00	91.37	P
ATOM	3689	O1P	G P 129	31.862	63.916	17.084	1.00	91.44	O
ATOM	3690	O2P	G P 129	32.249	63.134	14.672	1.00	91.38	O
ATOM	3691	O5*	G P 129	34.155	63.422	16.272	1.00	94.22	O
ATOM	3692	C5*	G P 129	34.731	63.421	17.576	1.00	97.25	C
ATOM	3693	C4*	G P 129	36.241	63.544	17.521	1.00	98.78	C
ATOM	3694	O4*	G P 129	36.822	62.279	17.101	1.00	99.49	O
ATOM	3695	C3*	G P 129	36.802	64.555	16.523	1.00	100.14	C
ATOM	3696	O3*	G P 129	36.690	65.915	16.972	1.00	101.83	O
ATOM	3697	C2*	G P 129	38.233	64.034	16.443	1.00	100.17	C
ATOM	3698	O2*	G P 129	39.008	64.316	17.596	1.00	100.01	O
ATOM	3699	C1*	G P 129	37.958	62.537	16.291	1.00	100.21	C
ATOM	3700	N9	G P 129	37.697	62.174	14.894	1.00	100.36	N
ATOM	3701	C8	G P 129	36.475	62.019	14.277	1.00	100.52	C
ATOM	3702	N7	G P 129	36.554	61.708	13.014	1.00	100.48	N
ATOM	3703	C5	G P 129	37.917	61.663	12.767	1.00	100.41	C
ATOM	3704	C6	G P 129	38.610	61.379	11.567	1.00	100.41	C
ATOM	3705	O6	G P 129	38.139	61.100	10.455	1.00	100.40	O
ATOM	3706	N1	G P 129	39.991	61.437	11.749	1.00	100.46	N
ATOM	3707	C2	G P 129	40.633	61.737	12.932	1.00	100.46	C
ATOM	3708	N2	G P 129	41.977	61.744	12.908	1.00	100.28	N
ATOM	3709	N3	G P 129	39.987	62.004	14.063	1.00	100.49	N
ATOM	3710	C4	G P 129	38.637	61.950	13.910	1.00	100.37	C
ATOM	3711	P	A P 130	36.615	67.117	15.906	1.00	103.46	P
ATOM	3712	O1P	A P 130	36.836	68.390	16.631	1.00	103.74	O
ATOM	3713	O2P	A P 130	35.386	66.943	15.101	1.00	103.30	O
ATOM	3714	O5*	A P 130	37.892	66.828	14.982	1.00	105.20	O
ATOM	3715	C5*	A P 130	38.766	67.853	14.498	1.00	107.00	C
ATOM	3716	C4*	A P 130	40.227	67.501	14.746	1.00	108.04	C
ATOM	3717	O4*	A P 130	40.399	66.063	14.861	1.00	108.58	O
ATOM	3718	C3*	A P 130	41.183	67.913	13.634	1.00	108.94	C
ATOM	3719	O3*	A P 130	41.700	69.209	13.878	1.00	110.26	O
ATOM	3720	C2*	A P 130	42.238	66.816	13.685	1.00	108.98	C
ATOM	3721	O2*	A P 130	43.151	66.957	14.756	1.00	108.72	O
ATOM	3722	C1*	A P 130	41.318	65.617	13.882	1.00	109.03	C

ATOM	3723	N9	A P 130	40.578	65.194	12.687	1.00109.16	N
ATOM	3724	C8	A P 130	39.218	65.103	12.530	1.00109.20	C
ATOM	3725	N7	A P 130	38.836	64.692	11.346	1.00109.25	N
ATOM	3726	C5	A P 130	40.025	64.496	10.669	1.00109.37	C
ATOM	3727	C6	A P 130	40.305	64.061	9.355	1.00109.37	C
ATOM	3728	N6	A P 130	39.351	63.736	8.475	1.00109.18	N
ATOM	3729	N1	A P 130	41.607	63.973	8.989	1.00109.38	N
ATOM	3730	C2	A P 130	42.555	64.303	9.883	1.00109.27	C
ATOM	3731	N3	A P 130	42.411	64.722	11.142	1.00109.30	N
ATOM	3732	C4	A P 130	41.110	64.801	11.478	1.00109.36	C
ATOM	3733	P	A P 131	41.208	70.408	12.942	1.00111.50	P
ATOM	3734	O1P	A P 131	41.760	71.669	13.483	1.00111.57	O
ATOM	3735	O2P	A P 131	39.749	70.266	12.727	1.00111.19	O
ATOM	3736	O5*	A P 131	41.960	70.084	11.569	1.00112.92	O
ATOM	3737	C5*	A P 131	43.381	69.955	11.511	1.00114.40	C
ATOM	3738	C4*	A P 131	43.865	69.797	10.077	1.00115.25	C
ATOM	3739	O4*	A P 131	43.689	68.420	9.648	1.00115.71	O
ATOM	3740	C3*	A P 131	43.133	70.642	9.035	1.00115.86	C
ATOM	3741	O3*	A P 131	43.714	71.951	8.950	1.00116.30	O
ATOM	3742	C2*	A P 131	43.307	69.798	7.775	1.00116.01	C
ATOM	3743	O2*	A P 131	44.572	69.949	7.158	1.00115.97	O
ATOM	3744	C1*	A P 131	43.141	68.388	8.341	1.00116.22	C
ATOM	3745	N9	A P 131	41.749	67.936	8.404	1.00116.42	N
ATOM	3746	C8	A P 131	40.957	67.785	9.513	1.00116.52	C
ATOM	3747	N7	A P 131	39.743	67.361	9.253	1.00116.50	N
ATOM	3748	C5	A P 131	39.733	67.221	7.876	1.00116.58	C
ATOM	3749	C6	A P 131	38.735	66.803	6.969	1.00116.50	C
ATOM	3750	N6	A P 131	37.508	66.436	7.349	1.00116.43	N
ATOM	3751	N1	A P 131	39.046	66.779	5.652	1.00116.56	N
ATOM	3752	C2	A P 131	40.281	67.145	5.275	1.00116.52	C
ATOM	3753	N3	A P 131	41.301	67.556	6.034	1.00116.50	N
ATOM	3754	C4	A P 131	40.960	67.571	7.336	1.00116.55	C
ATOM	3755	P	A P 132	42.858	73.243	8.538	1.00116.53	P
ATOM	3756	O1P	A P 132	43.674	74.439	8.838	1.00116.66	O
ATOM	3757	O2P	A P 132	41.499	73.140	9.110	1.00116.65	O
ATOM	3758	O5*	A P 132	42.773	73.086	6.948	1.00116.96	O
ATOM	3759	C5*	A P 132	43.964	73.163	6.165	1.00117.02	C
ATOM	3760	C4*	A P 132	43.723	72.854	4.695	1.00116.84	C
ATOM	3761	O4*	A P 132	43.406	71.448	4.491	1.00117.03	O
ATOM	3762	C3*	A P 132	42.545	73.563	4.040	1.00116.52	C
ATOM	3763	O3*	A P 132	42.791	74.949	3.809	1.00115.27	O
ATOM	3764	C2*	A P 132	42.429	72.731	2.766	1.00116.77	C
ATOM	3765	O2*	A P 132	43.444	72.983	1.813	1.00116.96	O
ATOM	3766	C1*	A P 132	42.547	71.333	3.367	1.00117.15	C
ATOM	3767	N9	A P 132	41.237	70.827	3.775	1.00117.33	N
ATOM	3768	C8	A P 132	40.665	70.874	5.020	1.00117.36	C
ATOM	3769	N7	A P 132	39.464	70.349	5.075	1.00117.31	N
ATOM	3770	C5	A P 132	39.226	69.932	3.774	1.00117.48	C
ATOM	3771	C6	A P 132	38.126	69.291	3.161	1.00117.40	C
ATOM	3772	N6	A P 132	37.018	68.951	3.828	1.00117.32	N
ATOM	3773	N1	A P 132	38.212	69.013	1.837	1.00117.42	N
ATOM	3774	C2	A P 132	39.326	69.356	1.170	1.00117.42	C
ATOM	3775	N3	A P 132	40.423	69.960	1.638	1.00117.49	N
ATOM	3776	C4	A P 132	40.309	70.222	2.957	1.00117.51	C
ATOM	3777	P	G P 133	41.542	75.943	3.677	1.00114.47	P
ATOM	3778	O1P	G P 133	42.039	77.251	3.191	1.00114.42	O
ATOM	3779	O2P	G P 133	40.774	75.871	4.941	1.00114.38	O
ATOM	3780	O5*	G P 133	40.684	75.235	2.519	1.00113.19	O
ATOM	3781	C5*	G P 133	39.954	75.961	1.528	1.00111.55	C

ATOM	3782	C4*	G P 133	39.677	75.110	0.293	1.00110.57	C
ATOM	3783	O4*	G P 133	39.716	73.686	0.604	1.00110.42	O
ATOM	3784	C3*	G P 133	38.306	75.324	-0.338	1.00109.62	C
ATOM	3785	O3*	G P 133	38.299	76.439	-1.229	1.00108.00	O
ATOM	3786	C2*	G P 133	38.101	73.984	-1.034	1.00109.76	C
ATOM	3787	O2*	G P 133	38.885	73.825	-2.201	1.00109.64	O
ATOM	3788	C1*	G P 133	38.558	73.048	0.085	1.00110.21	C
ATOM	3789	N9	G P 133	37.571	72.866	1.160	1.00110.32	N
ATOM	3790	C8	G P 133	37.749	73.108	2.508	1.00110.28	C
ATOM	3791	N7	G P 133	36.691	72.870	3.234	1.00110.28	N
ATOM	3792	C5	G P 133	35.741	72.442	2.317	1.00110.34	C
ATOM	3793	C6	G P 133	34.395	72.040	2.519	1.00110.28	C
ATOM	3794	O6	G P 133	33.769	71.986	3.587	1.00110.19	O
ATOM	3795	N1	G P 133	33.771	71.679	1.321	1.00110.32	N
ATOM	3796	C2	G P 133	34.373	71.704	0.082	1.00110.29	C
ATOM	3797	N2	G P 133	33.620	71.324	-0.960	1.00110.29	N
ATOM	3798	N3	G P 133	35.635	72.077	-0.119	1.00110.27	N
ATOM	3799	C4	G P 133	36.262	72.434	1.036	1.00110.38	C
ATOM	3800	P	U P 134	37.292	77.673	-1.011	1.00106.83	P
ATOM	3801	O1P	U P 134	37.733	78.760	-1.912	1.00106.89	O
ATOM	3802	O2P	U P 134	37.188	77.950	0.438	1.00106.69	O
ATOM	3803	O5*	U P 134	35.876	77.106	-1.513	1.00105.07	O
ATOM	3804	C5*	U P 134	35.366	77.432	-2.810	1.00103.10	C
ATOM	3805	C4*	U P 134	34.169	76.570	-3.173	1.00102.03	C
ATOM	3806	O4*	U P 134	34.563	75.172	-3.213	1.00101.74	O
ATOM	3807	C3*	U P 134	33.009	76.647	-2.187	1.00101.14	C
ATOM	3808	O3*	U P 134	32.083	77.655	-2.598	1.00 99.58	O
ATOM	3809	C2*	U P 134	32.433	75.234	-2.233	1.00101.21	C
ATOM	3810	O2*	U P 134	31.546	75.015	-3.312	1.00101.32	O
ATOM	3811	C1*	U P 134	33.698	74.400	-2.401	1.00101.51	C
ATOM	3812	P	G P 135	31.064	78.347	-1.570	1.00 98.23	P
ATOM	3813	O1P	G P 135	30.541	79.586	-2.190	1.00 98.07	O
ATOM	3814	O2P	G P 135	31.735	78.436	-0.256	1.00 97.99	O
ATOM	3815	O5*	G P 135	29.877	77.269	-1.466	1.00 96.97	O
ATOM	3816	C5*	G P 135	29.015	76.978	-2.579	1.00 95.19	C
ATOM	3817	C4*	G P 135	27.629	76.529	-2.138	1.00 94.15	C
ATOM	3818	O4*	G P 135	27.699	75.285	-1.390	1.00 93.50	O
ATOM	3819	C3*	G P 135	26.903	77.466	-1.186	1.00 93.33	C
ATOM	3820	O3*	G P 135	26.383	78.605	-1.870	1.00 93.64	O
ATOM	3821	C2*	G P 135	25.833	76.529	-0.627	1.00 92.82	C
ATOM	3822	O2*	G P 135	24.739	76.299	-1.497	1.00 92.36	O
ATOM	3823	C1*	G P 135	26.664	75.264	-0.414	1.00 91.98	C
ATOM	3824	N9	G P 135	27.237	75.197	0.933	1.00 91.48	N
ATOM	3825	C8	G P 135	28.497	75.583	1.340	1.00 91.05	C
ATOM	3826	N7	G P 135	28.713	75.409	2.615	1.00 90.80	N
ATOM	3827	C5	G P 135	27.520	74.876	3.083	1.00 90.89	C
ATOM	3828	C6	G P 135	27.153	74.479	4.391	1.00 90.89	C
ATOM	3829	O6	G P 135	27.844	74.524	5.416	1.00 90.85	O
ATOM	3830	N1	G P 135	25.848	73.983	4.441	1.00 90.95	N
ATOM	3831	C2	G P 135	25.002	73.886	3.358	1.00 90.95	C
ATOM	3832	N2	G P 135	23.780	73.391	3.601	1.00 91.16	N
ATOM	3833	N3	G P 135	25.334	74.258	2.127	1.00 90.75	N
ATOM	3834	C4	G P 135	26.601	74.742	2.064	1.00 90.94	C
ATOM	3835	P	U P 136	26.049	79.950	-1.064	1.00 93.59	P
ATOM	3836	O1P	U P 136	25.416	80.893	-2.009	1.00 93.66	O
ATOM	3837	O2P	U P 136	27.254	80.359	-0.303	1.00 93.23	O
ATOM	3838	O5*	U P 136	24.927	79.450	-0.042	1.00 94.04	O
ATOM	3839	C5*	U P 136	24.043	80.366	0.568	1.00 94.53	C
ATOM	3840	C4*	U P 136	22.775	80.475	-0.245	1.00 94.91	C

ATOM	3841	O4*	U P 136	21.915	79.319	-0.052	1.00	94.95	O
ATOM	3842	C3*	U P 136	21.860	81.622	0.156	1.00	95.47	C
ATOM	3843	O3*	U P 136	22.430	82.938	-0.032	1.00	96.19	O
ATOM	3844	C2*	U P 136	20.633	81.207	-0.663	1.00	95.46	C
ATOM	3845	O2*	U P 136	20.730	81.324	-2.072	1.00	95.49	O
ATOM	3846	C1*	U P 136	20.567	79.736	-0.239	1.00	95.25	C
ATOM	3847	N1	U P 136	19.710	79.619	1.007	1.00	95.26	N
ATOM	3848	C2	U P 136	18.337	79.505	0.847	1.00	95.24	C
ATOM	3849	O2	U P 136	17.780	79.462	-0.240	1.00	95.21	O
ATOM	3850	N3	U P 136	17.620	79.428	2.019	1.00	95.09	N
ATOM	3851	C4	U P 136	18.110	79.466	3.316	1.00	94.92	C
ATOM	3852	O4	U P 136	17.332	79.383	4.264	1.00	94.89	O
ATOM	3853	C5	U P 136	19.544	79.599	3.412	1.00	94.94	C
ATOM	3854	C6	U P 136	20.269	79.673	2.282	1.00	95.11	C
ATOM	3855	P	G P 137	22.567	83.747	-1.405	1.00	96.94	P
ATOM	3856	O1P	G P 137	23.235	82.864	-2.386	1.00	96.97	O
ATOM	3857	O2P	G P 137	23.179	85.050	-1.061	1.00	96.96	O
ATOM	3858	O5*	G P 137	21.060	83.987	-1.903	1.00	97.14	O
ATOM	3859	C5*	G P 137	20.124	84.744	-1.143	1.00	97.28	C
ATOM	3860	C4*	G P 137	18.717	84.534	-1.678	1.00	97.61	C
ATOM	3861	O4*	G P 137	18.264	83.183	-1.389	1.00	97.69	O
ATOM	3862	C3*	G P 137	17.645	85.423	-1.060	1.00	97.90	C
ATOM	3863	O3*	G P 137	17.585	86.700	-1.685	1.00	98.35	O
ATOM	3864	C2*	G P 137	16.396	84.571	-1.284	1.00	97.93	C
ATOM	3865	O2*	G P 137	15.931	84.541	-2.622	1.00	97.86	O
ATOM	3866	C1*	G P 137	16.949	83.219	-0.860	1.00	97.87	C
ATOM	3867	N9	G P 137	16.958	83.050	0.599	1.00	97.94	N
ATOM	3868	C8	G P 137	18.041	83.042	1.454	1.00	97.88	C
ATOM	3869	N7	G P 137	17.723	82.872	2.708	1.00	97.76	N
ATOM	3870	C5	G P 137	16.340	82.763	2.692	1.00	97.77	C
ATOM	3871	C6	G P 137	15.429	82.566	3.760	1.00	97.84	C
ATOM	3872	O6	G P 137	15.682	82.448	4.967	1.00	97.74	O
ATOM	3873	N1	G P 137	14.104	82.512	3.312	1.00	98.01	N
ATOM	3874	C2	G P 137	13.710	82.634	1.994	1.00	98.00	C
ATOM	3875	N2	G P 137	12.391	82.554	1.755	1.00	97.94	N
ATOM	3876	N3	G P 137	14.558	82.814	0.982	1.00	97.82	N
ATOM	3877	C4	G P 137	15.851	82.872	1.403	1.00	97.83	C
ATOM	3878	P	A P 138	16.863	87.915	-0.930	1.00	98.91	P
ATOM	3879	O1P	A P 138	16.817	89.061	-1.864	1.00	99.01	O
ATOM	3880	O2P	A P 138	17.503	88.090	0.394	1.00	98.76	O
ATOM	3881	O5*	A P 138	15.379	87.356	-0.715	1.00	99.16	O
ATOM	3882	C5*	A P 138	14.263	87.783	-1.487	1.00	99.62	C
ATOM	3883	C4*	A P 138	13.007	87.714	-0.643	1.00	99.88	C
ATOM	3884	O4*	A P 138	12.920	86.425	0.017	1.00	100.10	O
ATOM	3885	C3*	A P 138	12.949	88.696	0.517	1.00	100.15	C
ATOM	3886	O3*	A P 138	12.627	90.022	0.098	1.00	100.68	O
ATOM	3887	C2*	A P 138	11.855	88.050	1.354	1.00	100.15	C
ATOM	3888	O2*	A P 138	10.551	88.207	0.827	1.00	100.09	O
ATOM	3889	C1*	A P 138	12.312	86.598	1.286	1.00	100.32	C
ATOM	3890	N9	A P 138	13.259	86.294	2.356	1.00	100.40	N
ATOM	3891	C8	A P 138	14.624	86.380	2.333	1.00	100.48	C
ATOM	3892	N7	A P 138	15.198	86.046	3.466	1.00	100.57	N
ATOM	3893	C5	A P 138	14.137	85.722	4.294	1.00	100.61	C
ATOM	3894	C6	A P 138	14.066	85.285	5.638	1.00	100.56	C
ATOM	3895	N6	A P 138	15.140	85.094	6.413	1.00	100.43	N
ATOM	3896	N1	A P 138	12.841	85.055	6.161	1.00	100.54	N
ATOM	3897	C2	A P 138	11.761	85.247	5.388	1.00	100.58	C
ATOM	3898	N3	A P 138	11.702	85.653	4.116	1.00	100.60	N
ATOM	3899	C4	A P 138	12.934	85.876	3.624	1.00	100.55	C

ATOM	3900	P	U P 139	13.339	91.304	0.755	1.00101.07	P
ATOM	3901	O1P	U P 139	12.996	92.477	-0.081	1.00100.85	O
ATOM	3902	O2P	U P 139	14.759	90.974	1.025	1.00100.85	O
ATOM	3903	O5*	U P 139	12.582	91.476	2.154	1.00100.99	O
ATOM	3904	C5*	U P 139	11.210	91.851	2.224	1.00100.89	C
ATOM	3905	C4*	U P 139	10.633	91.462	3.574	1.00100.98	C
ATOM	3906	O4*	U P 139	10.882	90.059	3.855	1.00101.11	O
ATOM	3907	C3*	U P 139	11.260	92.155	4.771	1.00101.03	C
ATOM	3908	O3*	U P 139	10.780	93.481	4.915	1.00101.51	O
ATOM	3909	C2*	U P 139	10.817	91.233	5.899	1.00100.93	C
ATOM	3910	O2*	U P 139	9.456	91.376	6.258	1.00100.68	O
ATOM	3911	C1*	U P 139	11.070	89.876	5.252	1.00100.83	C
ATOM	3912	N1	U P 139	12.445	89.355	5.573	1.00100.67	N
ATOM	3913	C2	U P 139	12.662	88.798	6.822	1.00100.58	C
ATOM	3914	O2	U P 139	11.800	88.696	7.678	1.00100.44	O
ATOM	3915	N3	U P 139	13.942	88.350	7.043	1.00100.63	N
ATOM	3916	C4	U P 139	15.015	88.404	6.167	1.00100.67	C
ATOM	3917	O4	U P 139	16.108	87.958	6.508	1.00100.46	O
ATOM	3918	C5	U P 139	14.719	89.000	4.887	1.00100.72	C
ATOM	3919	C6	U P 139	13.475	89.444	4.648	1.00100.67	C
ATOM	3920	P	G P 140	11.522	94.494	5.908	1.00102.00	P
ATOM	3921	O1P	G P 140	10.862	95.813	5.762	1.00102.07	O
ATOM	3922	O2P	G P 140	12.982	94.367	5.697	1.00101.88	O
ATOM	3923	O5*	G P 140	11.164	93.916	7.360	1.00102.15	O
ATOM	3924	C5*	G P 140	11.022	94.780	8.491	1.00102.15	C
ATOM	3925	C4*	G P 140	11.489	94.110	9.773	1.00102.21	C
ATOM	3926	O4*	G P 140	11.697	92.686	9.569	1.00102.45	O
ATOM	3927	C3*	G P 140	12.830	94.593	10.297	1.00102.28	C
ATOM	3928	O3*	G P 140	12.702	95.797	11.026	1.00102.60	O
ATOM	3929	C2*	G P 140	13.241	93.441	11.198	1.00102.37	C
ATOM	3930	O2*	G P 140	12.591	93.472	12.455	1.00102.21	O
ATOM	3931	C1*	G P 140	12.799	92.254	10.345	1.00102.34	C
ATOM	3932	N9	G P 140	13.864	91.784	9.466	1.00102.41	N
ATOM	3933	C8	G P 140	14.005	91.944	8.105	1.00102.43	C
ATOM	3934	N7	G P 140	15.091	91.396	7.627	1.00102.39	N
ATOM	3935	C5	G P 140	15.714	90.841	8.741	1.00102.48	C
ATOM	3936	C6	G P 140	16.930	90.110	8.868	1.00102.60	C
ATOM	3937	O6	G P 140	17.745	89.788	7.988	1.00102.56	O
ATOM	3938	N1	G P 140	17.174	89.736	10.191	1.00102.54	N
ATOM	3939	C2	G P 140	16.354	90.025	11.262	1.00102.39	C
ATOM	3940	N2	G P 140	16.748	89.587	12.465	1.00102.35	N
ATOM	3941	N3	G P 140	15.220	90.705	11.157	1.00102.42	N
ATOM	3942	C4	G P 140	14.966	91.076	9.877	1.00102.46	C
ATOM	3943	P	A P 141	14.009	96.563	11.545	1.00103.16	P
ATOM	3944	O1P	A P 141	13.708	98.017	11.543	1.00102.85	O
ATOM	3945	O2P	A P 141	15.175	96.043	10.798	1.00102.81	O
ATOM	3946	O5*	A P 141	14.133	96.100	13.070	1.00102.93	O
ATOM	3947	C5*	A P 141	14.853	96.913	14.001	1.00102.65	C
ATOM	3948	C4*	A P 141	15.606	96.056	15.006	1.00102.54	C
ATOM	3949	O4*	A P 141	15.527	94.654	14.632	1.00102.20	O
ATOM	3950	C3*	A P 141	17.098	96.348	15.114	1.00102.42	C
ATOM	3951	O3*	A P 141	17.340	97.451	15.990	1.00102.41	O
ATOM	3952	C2*	A P 141	17.645	95.022	15.642	1.00102.31	C
ATOM	3953	O2*	A P 141	17.583	94.898	17.050	1.00102.48	O
ATOM	3954	C1*	A P 141	16.736	93.996	14.964	1.00102.12	C
ATOM	3955	N9	A P 141	17.349	93.449	13.759	1.00102.03	N
ATOM	3956	C8	A P 141	17.202	93.891	12.476	1.00101.95	C
ATOM	3957	N7	A P 141	17.888	93.206	11.595	1.00101.89	N
ATOM	3958	C5	A P 141	18.538	92.250	12.355	1.00101.94	C

ATOM	3959	C6	A	P	141	19.427	91.209	12.016	1.00101.90	C
ATOM	3960	N6	A	P	141	19.826	90.961	10.764	1.00101.87	N
ATOM	3961	N1	A	P	141	19.890	90.431	13.020	1.00101.89	N
ATOM	3962	C2	A	P	141	19.489	90.682	14.273	1.00101.88	C
ATOM	3963	N3	A	P	141	18.659	91.631	14.712	1.00101.92	N
ATOM	3964	C4	A	P	141	18.215	92.387	13.693	1.00101.92	C
TER	3965		A	P	141					
ATOM	3966	N	GLU	B	5	11.925	-20.700	52.664	1.00 66.61	N
ATOM	3967	CA	GLU	B	5	13.284	-20.607	52.052	1.00 66.68	C
ATOM	3968	C	GLU	B	5	13.443	-21.666	50.965	1.00 66.19	C
ATOM	3969	O	GLU	B	5	13.714	-21.345	49.808	1.00 65.13	O
ATOM	3970	CB	GLU	B	5	14.367	-20.777	53.123	1.00 66.51	C
ATOM	3971	N	THR	B	6	13.256	-22.926	51.356	1.00 66.27	N
ATOM	3972	CA	THR	B	6	13.323	-24.060	50.438	1.00 66.05	C
ATOM	3973	C	THR	B	6	12.017	-24.261	49.651	1.00 66.05	C
ATOM	3974	O	THR	B	6	11.963	-25.099	48.748	1.00 65.77	O
ATOM	3975	CB	THR	B	6	13.679	-25.375	51.196	1.00 65.71	C
ATOM	3976	OG1	THR	B	6	12.765	-25.581	52.282	1.00 64.60	O
ATOM	3977	CG2	THR	B	6	15.099	-25.315	51.743	1.00 64.91	C
ATOM	3978	N	ARG	B	7	10.974	-23.502	49.990	1.00 66.10	N
ATOM	3979	CA	ARG	B	7	9.684	-23.617	49.312	1.00 67.03	C
ATOM	3980	C	ARG	B	7	9.731	-22.916	47.946	1.00 68.01	C
ATOM	3981	O	ARG	B	7	10.170	-21.770	47.867	1.00 68.71	O
ATOM	3982	CB	ARG	B	7	8.569	-23.027	50.175	1.00 66.69	C
ATOM	3983	N	PRO	B	8	9.291	-23.608	46.867	1.00 69.25	N
ATOM	3984	CA	PRO	B	8	9.319	-23.108	45.482	1.00 68.04	C
ATOM	3985	C	PRO	B	8	8.727	-21.718	45.308	1.00 65.41	C
ATOM	3986	O	PRO	B	8	7.684	-21.418	45.882	1.00 65.53	O
ATOM	3987	CB	PRO	B	8	8.459	-24.125	44.729	1.00 69.69	C
ATOM	3988	CG	PRO	B	8	8.617	-25.371	45.482	1.00 70.09	C
ATOM	3989	CD	PRO	B	8	8.740	-24.976	46.925	1.00 70.09	C
ATOM	3990	N	ASN	B	9	9.380	-20.895	44.496	1.00 61.75	N
ATOM	3991	CA	ASN	B	9	9.024	-19.485	44.371	1.00 59.47	C
ATOM	3992	C	ASN	B	9	9.314	-18.965	42.971	1.00 57.32	C
ATOM	3993	O	ASN	B	9	10.259	-19.421	42.323	1.00 58.28	O
ATOM	3994	CB	ASN	B	9	9.813	-18.677	45.403	1.00 58.70	C
ATOM	3995	CG	ASN	B	9	9.274	-17.282	45.591	1.00 58.42	C
ATOM	3996	OD1	ASN	B	9	9.323	-16.450	44.683	1.00 58.97	O
ATOM	3997	ND2	ASN	B	9	8.772	-17.008	46.782	1.00 58.35	N
ATOM	3998	N	HIS	B	10	8.510	-18.000	42.522	1.00 53.80	N
ATOM	3999	CA	HIS	B	10	8.680	-17.374	41.200	1.00 51.48	C
ATOM	4000	C	HIS	B	10	10.041	-16.706	41.021	1.00 49.23	C
ATOM	4001	O	HIS	B	10	10.514	-16.554	39.897	1.00 46.92	O
ATOM	4002	CB	HIS	B	10	7.613	-16.308	40.963	1.00 51.71	C
ATOM	4003	CG	HIS	B	10	6.250	-16.860	40.714	1.00 52.52	C
ATOM	4004	ND1	HIS	B	10	5.321	-17.025	41.718	1.00 52.35	N
ATOM	4005	CD2	HIS	B	10	5.654	-17.278	39.573	1.00 52.54	C
ATOM	4006	CE1	HIS	B	10	4.211	-17.526	41.205	1.00 53.02	C
ATOM	4007	NE2	HIS	B	10	4.388	-17.690	39.905	1.00 52.76	N
ATOM	4008	N	THR	B	11	10.641	-16.286	42.130	1.00 46.60	N
ATOM	4009	CA	THR	B	11	11.922	-15.602	42.113	1.00 45.04	C
ATOM	4010	C	THR	B	11	13.031	-16.526	42.602	1.00 43.66	C
ATOM	4011	O	THR	B	11	12.861	-17.210	43.606	1.00 44.65	O
ATOM	4012	CB	THR	B	11	11.876	-14.375	43.027	1.00 43.45	C
ATOM	4013	OG1	THR	B	11	10.824	-13.506	42.604	1.00 41.43	O
ATOM	4014	CG2	THR	B	11	13.200	-13.634	42.992	1.00 44.37	C
ATOM	4015	N	ILE	B	12	14.162	-16.547	41.902	1.00 41.37	N
ATOM	4016	CA	ILE	B	12	15.344	-17.249	42.410	1.00 40.04	C
ATOM	4017	C	ILE	B	12	16.362	-16.244	42.912	1.00 39.82	C

ATOM	4018	O	ILE	B	12	16.573	-15.197	42.312	1.00	40.67	O
ATOM	4019	CB	ILE	B	12	16.021	-18.205	41.374	1.00	40.25	C
ATOM	4020	CG1	ILE	B	12	16.288	-17.509	40.028	1.00	39.91	C
ATOM	4021	CG2	ILE	B	12	15.180	-19.456	41.164	1.00	38.80	C
ATOM	4022	CD1	ILE	B	12	17.247	-18.295	39.128	1.00	39.85	C
ATOM	4023	N	TYR	B	13	16.989	-16.583	44.026	1.00	41.20	N
ATOM	4024	CA	TYR	B	13	18.020	-15.771	44.631	1.00	40.85	C
ATOM	4025	C	TYR	B	13	19.398	-16.326	44.298	1.00	39.78	C
ATOM	4026	O	TYR	B	13	19.812	-17.347	44.845	1.00	38.77	O
ATOM	4027	CB	TYR	B	13	17.800	-15.756	46.135	1.00	43.16	C
ATOM	4028	CG	TYR	B	13	18.886	-15.092	46.937	1.00	43.64	C
ATOM	4029	CD1	TYR	B	13	18.986	-13.714	47.003	1.00	43.09	C
ATOM	4030	CD2	TYR	B	13	19.796	-15.850	47.655	1.00	44.24	C
ATOM	4031	CE1	TYR	B	13	19.967	-13.105	47.768	1.00	44.71	C
ATOM	4032	CE2	TYR	B	13	20.781	-15.255	48.411	1.00	45.22	C
ATOM	4033	CZ	TYR	B	13	20.863	-13.885	48.472	1.00	44.81	C
ATOM	4034	OH	TYR	B	13	21.861	-13.320	49.228	1.00	44.66	O
ATOM	4035	N	ILE	B	14	20.100	-15.649	43.390	1.00	39.83	N
ATOM	4036	CA	ILE	B	14	21.476	-16.003	43.027	1.00	40.41	C
ATOM	4037	C	ILE	B	14	22.458	-15.215	43.886	1.00	40.13	C
ATOM	4038	O	ILE	B	14	22.310	-14.018	44.007	1.00	41.24	O
ATOM	4039	CB	ILE	B	14	21.785	-15.640	41.571	1.00	40.32	C
ATOM	4040	CG1	ILE	B	14	20.795	-16.298	40.611	1.00	40.57	C
ATOM	4041	CG2	ILE	B	14	23.217	-16.038	41.224	1.00	41.69	C
ATOM	4042	CD1	ILE	B	14	21.049	-15.936	39.144	1.00	40.06	C
ATOM	4043	N	ASN	B	15	23.444	-15.875	44.491	1.00	41.89	N
ATOM	4044	CA	ASN	B	15	24.530	-15.162	45.175	1.00	40.76	C
ATOM	4045	C	ASN	B	15	25.887	-15.789	44.890	1.00	40.36	C
ATOM	4046	O	ASN	B	15	25.984	-16.701	44.081	1.00	43.67	O
ATOM	4047	CB	ASN	B	15	24.250	-15.007	46.666	1.00	41.52	C
ATOM	4048	CG	ASN	B	15	24.565	-16.242	47.464	1.00	42.91	C
ATOM	4049	OD1	ASN	B	15	24.532	-17.373	46.958	1.00	43.54	O
ATOM	4050	ND2	ASN	B	15	24.857	-16.037	48.739	1.00	41.14	N
ATOM	4051	N	ASN	B	16	26.936	-15.281	45.518	1.00	41.29	N
ATOM	4052	CA	ASN	B	16	28.318	-15.554	45.080	1.00	42.78	C
ATOM	4053	C	ASN	B	16	28.574	-15.045	43.661	1.00	43.52	C
ATOM	4054	O	ASN	B	16	29.330	-15.652	42.905	1.00	44.16	O
ATOM	4055	CB	ASN	B	16	28.677	-17.046	45.167	1.00	43.17	C
ATOM	4056	CG	ASN	B	16	30.174	-17.297	45.019	1.00	43.43	C
ATOM	4057	OD1	ASN	B	16	30.988	-16.564	45.576	1.00	44.34	O
ATOM	4058	ND2	ASN	B	16	30.542	-18.331	44.261	1.00	43.70	N
ATOM	4059	N	LEU	B	17	27.943	-13.932	43.289	1.00	43.86	N
ATOM	4060	CA	LEU	B	17	28.236	-13.330	41.999	1.00	43.08	C
ATOM	4061	C	LEU	B	17	29.470	-12.443	42.133	1.00	43.79	C
ATOM	4062	O	LEU	B	17	29.760	-11.913	43.215	1.00	42.69	O
ATOM	4063	CB	LEU	B	17	27.045	-12.538	41.464	1.00	43.83	C
ATOM	4064	CG	LEU	B	17	25.784	-13.341	41.110	1.00	44.14	C
ATOM	4065	CD1	LEU	B	17	24.559	-12.424	40.995	1.00	43.65	C
ATOM	4066	CD2	LEU	B	17	25.973	-14.173	39.831	1.00	42.93	C
ATOM	4067	N	ASN	B	18	30.196	-12.310	41.026	1.00	44.06	N
ATOM	4068	CA	ASN	B	18	31.327	-11.395	40.922	1.00	43.37	C
ATOM	4069	C	ASN	B	18	30.876	-9.951	41.121	1.00	42.67	C
ATOM	4070	O	ASN	B	18	30.041	-9.451	40.391	1.00	41.60	O
ATOM	4071	CB	ASN	B	18	32.005	-11.541	39.556	1.00	43.40	C
ATOM	4072	CG	ASN	B	18	33.361	-10.881	39.505	1.00	42.07	C
ATOM	4073	OD1	ASN	B	18	33.595	-9.876	40.157	1.00	42.23	O
ATOM	4074	ND2	ASN	B	18	34.261	-11.446	38.722	1.00	43.23	N
ATOM	4075	N	GLU	B	19	31.461	-9.290	42.109	1.00	44.78	N
ATOM	4076	CA	GLU	B	19	31.028	-7.964	42.534	1.00	44.57	C

ATOM	4077	C	GLU	B	19	31.667	-6.835	41.752	1.00	44.27	C
ATOM	4078	O	GLU	B	19	31.287	-5.693	41.943	1.00	43.13	O
ATOM	4079	CB	GLU	B	19	31.328	-7.771	44.013	1.00	43.78	C
ATOM	4080	CG	GLU	B	19	30.638	-8.766	44.914	1.00	44.28	C
ATOM	4081	CD	GLU	B	19	31.151	-8.712	46.333	1.00	44.83	C
ATOM	4082	OE1	GLU	B	19	31.747	-7.671	46.693	1.00	44.35	O
ATOM	4083	OE2	GLU	B	19	30.972	-9.706	47.082	1.00	44.30	O
ATOM	4084	N	LYS	B	20	32.634	-7.144	40.890	1.00	45.70	N
ATOM	4085	CA	LYS	B	20	33.267	-6.133	40.034	1.00	46.82	C
ATOM	4086	C	LYS	B	20	32.433	-5.743	38.804	1.00	45.89	C
ATOM	4087	O	LYS	B	20	32.702	-4.741	38.162	1.00	46.10	O
ATOM	4088	CB	LYS	B	20	34.644	-6.610	39.575	1.00	48.67	C
ATOM	4089	CG	LYS	B	20	35.645	-6.785	40.708	1.00	50.86	C
ATOM	4090	CD	LYS	B	20	37.041	-6.236	40.329	1.00	51.82	C
ATOM	4091	CE	LYS	B	20	38.147	-6.858	41.167	1.00	52.18	C
ATOM	4092	NZ	LYS	B	20	38.211	-8.353	40.991	1.00	52.95	N
ATOM	4093	N	ILE	B	21	31.426	-6.541	38.481	1.00	46.80	N
ATOM	4094	CA	ILE	B	21	30.626	-6.333	37.287	1.00	45.35	C
ATOM	4095	C	ILE	B	21	29.555	-5.287	37.558	1.00	45.54	C
ATOM	4096	O	ILE	B	21	28.929	-5.290	38.613	1.00	44.91	O
ATOM	4097	CB	ILE	B	21	29.968	-7.648	36.844	1.00	44.58	C
ATOM	4098	CG1	ILE	B	21	31.041	-8.706	36.590	1.00	45.24	C
ATOM	4099	CG2	ILE	B	21	29.130	-7.441	35.579	1.00	43.75	C
ATOM	4100	CD1	ILE	B	21	32.027	-8.332	35.469	1.00	45.26	C
ATOM	4101	N	LYS	B	22	29.338	-4.406	36.590	1.00	47.39	N
ATOM	4102	CA	LYS	B	22	28.397	-3.299	36.750	1.00	48.52	C
ATOM	4103	C	LYS	B	22	26.954	-3.774	36.618	1.00	48.07	C
ATOM	4104	O	LYS	B	22	26.685	-4.800	36.022	1.00	47.33	O
ATOM	4105	CB	LYS	B	22	28.703	-2.195	35.743	1.00	48.28	C
ATOM	4106	CG	LYS	B	22	30.115	-1.692	35.860	1.00	49.15	C
ATOM	4107	CD	LYS	B	22	30.379	-0.503	34.963	1.00	49.88	C
ATOM	4108	CE	LYS	B	22	30.559	-0.876	33.507	1.00	50.08	C
ATOM	4109	NZ	LYS	B	22	31.044	0.305	32.723	1.00	51.35	N
ATOM	4110	N	LYS	B	23	26.042	-2.985	37.167	1.00	50.97	N
ATOM	4111	CA	LYS	B	23	24.649	-3.381	37.411	1.00	53.58	C
ATOM	4112	C	LYS	B	23	23.913	-3.800	36.153	1.00	52.03	C
ATOM	4113	O	LYS	B	23	23.245	-4.821	36.121	1.00	53.52	O
ATOM	4114	CB	LYS	B	23	23.892	-2.211	38.064	1.00	55.81	C
ATOM	4115	CG	LYS	B	23	22.715	-2.622	38.911	1.00	57.55	C
ATOM	4116	CD	LYS	B	23	21.869	-1.427	39.355	1.00	58.04	C
ATOM	4117	CE	LYS	B	23	20.484	-1.419	38.684	1.00	59.26	C
ATOM	4118	NZ	LYS	B	23	19.600	-0.301	39.184	1.00	60.01	N
ATOM	4119	N	ASP	B	24	24.039	-2.984	35.122	1.00	53.25	N
ATOM	4120	CA	ASP	B	24	23.294	-3.155	33.886	1.00	52.69	C
ATOM	4121	C	ASP	B	24	23.885	-4.302	33.093	1.00	49.43	C
ATOM	4122	O	ASP	B	24	23.165	-5.050	32.434	1.00	47.96	O
ATOM	4123	CB	ASP	B	24	23.351	-1.861	33.053	1.00	54.92	C
ATOM	4124	CG	ASP	B	24	22.216	-1.760	32.043	1.00	56.96	C
ATOM	4125	OD1	ASP	B	24	22.489	-1.528	30.838	1.00	57.63	O
ATOM	4126	OD2	ASP	B	24	21.045	-1.919	32.457	1.00	58.32	O
ATOM	4127	N	GLU	B	25	25.208	-4.415	33.154	1.00	46.05	N
ATOM	4128	CA	GLU	B	25	25.920	-5.454	32.455	1.00	42.99	C
ATOM	4129	C	GLU	B	25	25.556	-6.784	33.067	1.00	41.84	C
ATOM	4130	O	GLU	B	25	25.230	-7.725	32.350	1.00	42.68	O
ATOM	4131	CB	GLU	B	25	27.420	-5.251	32.567	1.00	43.51	C
ATOM	4132	CG	GLU	B	25	28.161	-5.922	31.473	1.00	44.13	C
ATOM	4133	CD	GLU	B	25	29.584	-6.285	31.836	1.00	45.25	C
ATOM	4134	OE1	GLU	B	25	30.442	-5.375	31.941	1.00	43.25	O
ATOM	4135	OE2	GLU	B	25	29.833	-7.499	31.993	1.00	45.94	O

ATOM	4136	N	LEU	B	26	25.605	-6.847	34.395	1.00	39.55	N
ATOM	4137	CA	LEU	B	26	25.269	-8.057	35.136	1.00	39.58	C
ATOM	4138	C	LEU	B	26	23.868	-8.556	34.808	1.00	41.83	C
ATOM	4139	O	LEU	B	26	23.677	-9.756	34.621	1.00	42.62	O
ATOM	4140	CB	LEU	B	26	25.383	-7.811	36.637	1.00	39.92	C
ATOM	4141	CG	LEU	B	26	25.218	-9.021	37.553	1.00	39.67	C
ATOM	4142	CD1	LEU	B	26	26.182	-10.137	37.172	1.00	38.96	C
ATOM	4143	CD2	LEU	B	26	25.439	-8.577	38.985	1.00	38.04	C
ATOM	4144	N	LYS	B	27	22.905	-7.637	34.717	1.00	42.73	N
ATOM	4145	CA	LYS	B	27	21.502	-7.989	34.451	1.00	45.62	C
ATOM	4146	C	LYS	B	27	21.332	-8.580	33.066	1.00	44.65	C
ATOM	4147	O	LYS	B	27	20.614	-9.564	32.876	1.00	45.26	O
ATOM	4148	CB	LYS	B	27	20.590	-6.763	34.607	1.00	47.19	C
ATOM	4149	CG	LYS	B	27	20.288	-6.409	36.059	1.00	48.86	C
ATOM	4150	CD	LYS	B	27	19.931	-4.943	36.247	1.00	49.09	C
ATOM	4151	CE	LYS	B	27	18.525	-4.625	35.815	1.00	50.22	C
ATOM	4152	NZ	LYS	B	27	18.176	-3.211	36.182	1.00	51.90	N
ATOM	4153	N	LYS	B	28	21.992	-7.963	32.098	1.00	44.83	N
ATOM	4154	CA	LYS	B	28	21.962	-8.445	30.739	1.00	44.85	C
ATOM	4155	C	LYS	B	28	22.562	-9.843	30.651	1.00	44.00	C
ATOM	4156	O	LYS	B	28	21.986	-10.724	30.029	1.00	44.22	O
ATOM	4157	CB	LYS	B	28	22.701	-7.472	29.818	1.00	45.85	C
ATOM	4158	CG	LYS	B	28	21.845	-6.275	29.423	1.00	46.24	C
ATOM	4159	CD	LYS	B	28	22.670	-5.057	29.057	1.00	46.43	C
ATOM	4160	CE	LYS	B	28	21.761	-3.881	28.710	1.00	46.73	C
ATOM	4161	NZ	LYS	B	28	22.519	-2.731	28.157	1.00	46.57	N
ATOM	4162	N	SER	B	29	23.710	-10.047	31.288	1.00	43.42	N
ATOM	4163	CA	SER	B	29	24.414	-11.319	31.194	1.00	43.08	C
ATOM	4164	C	SER	B	29	23.609	-12.426	31.865	1.00	43.06	C
ATOM	4165	O	SER	B	29	23.571	-13.567	31.400	1.00	41.03	O
ATOM	4166	CB	SER	B	29	25.802	-11.204	31.819	1.00	42.40	C
ATOM	4167	OG	SER	B	29	26.622	-10.340	31.063	1.00	42.55	O
ATOM	4168	N	LEU	B	30	22.959	-12.066	32.961	1.00	43.49	N
ATOM	4169	CA	LEU	B	30	22.057	-12.968	33.647	1.00	43.87	C
ATOM	4170	C	LEU	B	30	20.864	-13.331	32.787	1.00	43.81	C
ATOM	4171	O	LEU	B	30	20.484	-14.499	32.705	1.00	41.89	O
ATOM	4172	CB	LEU	B	30	21.583	-12.334	34.946	1.00	43.74	C
ATOM	4173	CG	LEU	B	30	22.637	-12.331	36.043	1.00	43.23	C
ATOM	4174	CD1	LEU	B	30	22.164	-11.436	37.175	1.00	42.78	C
ATOM	4175	CD2	LEU	B	30	22.937	-13.765	36.506	1.00	42.23	C
ATOM	4176	N	HIS	B	31	20.271	-12.328	32.156	1.00	45.53	N
ATOM	4177	CA	HIS	B	31	19.161	-12.562	31.228	1.00	46.45	C
ATOM	4178	C	HIS	B	31	19.635	-13.447	30.073	1.00	45.02	C
ATOM	4179	O	HIS	B	31	18.948	-14.393	29.682	1.00	45.95	O
ATOM	4180	CB	HIS	B	31	18.586	-11.229	30.717	1.00	47.94	C
ATOM	4181	CG	HIS	B	31	17.231	-11.355	30.099	1.00	48.87	C
ATOM	4182	ND1	HIS	B	31	17.044	-11.603	28.753	1.00	49.53	N
ATOM	4183	CD2	HIS	B	31	15.994	-11.277	30.643	1.00	49.00	C
ATOM	4184	CE1	HIS	B	31	15.749	-11.676	28.497	1.00	48.68	C
ATOM	4185	NE2	HIS	B	31	15.091	-11.483	29.626	1.00	49.30	N
ATOM	4186	N	ALA	B	32	20.828	-13.166	29.561	1.00	44.17	N
ATOM	4187	CA	ALA	B	32	21.422	-13.968	28.491	1.00	44.97	C
ATOM	4188	C	ALA	B	32	21.367	-15.469	28.769	1.00	44.99	C
ATOM	4189	O	ALA	B	32	21.009	-16.245	27.892	1.00	48.25	O
ATOM	4190	CB	ALA	B	32	22.864	-13.534	28.235	1.00	45.24	C
ATOM	4191	N	ILE	B	33	21.707	-15.875	29.984	1.00	45.70	N
ATOM	4192	CA	ILE	B	33	21.742	-17.297	30.334	1.00	48.40	C
ATOM	4193	C	ILE	B	33	20.428	-17.839	30.895	1.00	46.47	C
ATOM	4194	O	ILE	B	33	20.181	-19.030	30.814	1.00	46.15	O

ATOM	4195	CB	ILE	B	33	22.760	-17.620	31.434	1.00	50.17	C
ATOM	4196	CG1	ILE	B	33	24.102	-16.949	31.228	1.00	50.82	C
ATOM	4197	CG2	ILE	B	33	22.999	-19.116	31.490	1.00	51.28	C
ATOM	4198	CD1	ILE	B	33	24.937	-17.051	32.506	1.00	50.82	C
ATOM	4199	N	PHE	B	34	19.610	-16.985	31.495	1.00	46.37	N
ATOM	4200	CA	PHE	B	34	18.458	-17.458	32.257	1.00	46.60	C
ATOM	4201	C	PHE	B	34	17.129	-17.373	31.539	1.00	45.59	C
ATOM	4202	O	PHE	B	34	16.157	-17.964	31.999	1.00	47.76	O
ATOM	4203	CB	PHE	B	34	18.362	-16.714	33.592	1.00	47.21	C
ATOM	4204	CG	PHE	B	34	19.155	-17.352	34.686	1.00	46.35	C
ATOM	4205	CD1	PHE	B	34	18.714	-18.526	35.264	1.00	46.91	C
ATOM	4206	CD2	PHE	B	34	20.332	-16.794	35.127	1.00	46.45	C
ATOM	4207	CE1	PHE	B	34	19.424	-19.127	36.266	1.00	46.67	C
ATOM	4208	CE2	PHE	B	34	21.058	-17.395	36.120	1.00	46.80	C
ATOM	4209	CZ	PHE	B	34	20.595	-18.569	36.696	1.00	47.46	C
ATOM	4210	N	SER	B	35	17.079	-16.654	30.424	1.00	44.62	N
ATOM	4211	CA	SER	B	35	15.818	-16.437	29.714	1.00	44.06	C
ATOM	4212	C	SER	B	35	15.305	-17.688	29.028	1.00	45.37	C
ATOM	4213	O	SER	B	35	14.106	-17.806	28.784	1.00	45.14	O
ATOM	4214	CB	SER	B	35	15.977	-15.349	28.661	1.00	42.18	C
ATOM	4215	OG	SER	B	35	16.642	-15.870	27.547	1.00	41.64	O
ATOM	4216	N	ARG	B	36	16.209	-18.606	28.689	1.00	47.60	N
ATOM	4217	CA	ARG	B	36	15.817	-19.858	28.023	1.00	47.82	C
ATOM	4218	C	ARG	B	36	14.874	-20.736	28.863	1.00	46.28	C
ATOM	4219	O	ARG	B	36	14.150	-21.551	28.307	1.00	44.44	O
ATOM	4220	CB	ARG	B	36	17.048	-20.643	27.540	1.00	49.57	C
ATOM	4221	CG	ARG	B	36	18.072	-20.996	28.605	1.00	50.82	C
ATOM	4222	CD	ARG	B	36	18.158	-22.495	28.892	1.00	51.87	C
ATOM	4223	NE	ARG	B	36	19.437	-22.860	29.520	1.00	52.95	N
ATOM	4224	CZ	ARG	B	36	19.704	-24.051	30.061	1.00	53.10	C
ATOM	4225	NH1	ARG	B	36	18.789	-25.010	30.070	1.00	52.30	N
ATOM	4226	NH2	ARG	B	36	20.898	-24.288	30.606	1.00	53.91	N
ATOM	4227	N	PHE	B	37	14.854	-20.541	30.183	1.00	46.30	N
ATOM	4228	CA	PHE	B	37	13.928	-21.264	31.059	1.00	46.99	C
ATOM	4229	C	PHE	B	37	12.490	-20.721	31.034	1.00	48.93	C
ATOM	4230	O	PHE	B	37	11.572	-21.383	31.515	1.00	50.80	O
ATOM	4231	CB	PHE	B	37	14.450	-21.266	32.495	1.00	46.96	C
ATOM	4232	CG	PHE	B	37	15.797	-21.912	32.647	1.00	47.18	C
ATOM	4233	CD1	PHE	B	37	15.916	-23.292	32.692	1.00	47.24	C
ATOM	4234	CD2	PHE	B	37	16.945	-21.147	32.739	1.00	47.30	C
ATOM	4235	CE1	PHE	B	37	17.149	-23.893	32.826	1.00	46.83	C
ATOM	4236	CE2	PHE	B	37	18.187	-21.746	32.881	1.00	47.51	C
ATOM	4237	CZ	PHE	B	37	18.289	-23.119	32.921	1.00	47.23	C
ATOM	4238	N	GLY	B	38	12.290	-19.527	30.478	1.00	50.02	N
ATOM	4239	CA	GLY	B	38	10.960	-18.934	30.377	1.00	49.61	C
ATOM	4240	C	GLY	B	38	10.980	-17.419	30.417	1.00	51.03	C
ATOM	4241	O	GLY	B	38	12.032	-16.794	30.268	1.00	51.82	O
ATOM	4242	N	GLN	B	39	9.807	-16.825	30.627	1.00	51.16	N
ATOM	4243	CA	GLN	B	39	9.682	-15.369	30.645	1.00	50.86	C
ATOM	4244	C	GLN	B	39	10.241	-14.796	31.956	1.00	50.12	C
ATOM	4245	O	GLN	B	39	9.841	-15.221	33.036	1.00	48.64	O
ATOM	4246	CB	GLN	B	39	8.218	-14.965	30.468	1.00	50.97	C
ATOM	4247	CG	GLN	B	39	7.990	-13.471	30.246	1.00	51.40	C
ATOM	4248	CD	GLN	B	39	6.510	-13.102	30.223	1.00	52.01	C
ATOM	4249	OE1	GLN	B	39	5.635	-13.963	30.054	1.00	52.29	O
ATOM	4250	NE2	GLN	B	39	6.225	-11.817	30.396	1.00	51.74	N
ATOM	4251	N	ILE	B	40	11.167	-13.841	31.844	1.00	48.19	N
ATOM	4252	CA	ILE	B	40	11.722	-13.139	32.997	1.00	47.74	C
ATOM	4253	C	ILE	B	40	10.999	-11.798	33.142	1.00	47.41	C

ATOM	4254	O	ILE	B	40	11.012	-10.978	32.223	1.00	44.95	O
ATOM	4255	CB	ILE	B	40	13.256	-12.913	32.845	1.00	47.88	C
ATOM	4256	CG1	ILE	B	40	13.986	-14.256	32.855	1.00	48.03	C
ATOM	4257	CG2	ILE	B	40	13.802	-12.012	33.959	1.00	46.46	C
ATOM	4258	CD1	ILE	B	40	15.434	-14.177	32.445	1.00	48.21	C
ATOM	4259	N	LEU	B	41	10.354	-11.590	34.287	1.00	47.60	N
ATOM	4260	CA	LEU	B	41	9.632	-10.346	34.546	1.00	49.69	C
ATOM	4261	C	LEU	B	41	10.609	-9.211	34.868	1.00	50.65	C
ATOM	4262	O	LEU	B	41	10.449	-8.091	34.370	1.00	51.16	O
ATOM	4263	CB	LEU	B	41	8.600	-10.526	35.676	1.00	49.52	C
ATOM	4264	CG	LEU	B	41	7.371	-11.393	35.344	1.00	49.58	C
ATOM	4265	CD1	LEU	B	41	6.455	-11.573	36.562	1.00	48.19	C
ATOM	4266	CD2	LEU	B	41	6.597	-10.792	34.180	1.00	48.70	C
ATOM	4267	N	ASP	B	42	11.608	-9.503	35.702	1.00	50.45	N
ATOM	4268	CA	ASP	B	42	12.668	-8.547	36.007	1.00	51.32	C
ATOM	4269	C	ASP	B	42	13.852	-9.245	36.661	1.00	49.44	C
ATOM	4270	O	ASP	B	42	13.700	-10.294	37.259	1.00	50.55	O
ATOM	4271	CB	ASP	B	42	12.148	-7.445	36.939	1.00	54.57	C
ATOM	4272	CG	ASP	B	42	13.020	-6.184	36.915	1.00	55.51	C
ATOM	4273	OD1	ASP	B	42	14.243	-6.294	36.681	1.00	55.65	O
ATOM	4274	OD2	ASP	B	42	12.472	-5.079	37.134	1.00	56.16	O
ATOM	4275	N	ILE	B	43	15.031	-8.655	36.523	1.00	48.04	N
ATOM	4276	CA	ILE	B	43	16.217	-9.068	37.270	1.00	47.26	C
ATOM	4277	C	ILE	B	43	16.619	-7.904	38.174	1.00	46.49	C
ATOM	4278	O	ILE	B	43	16.987	-6.839	37.675	1.00	47.69	O
ATOM	4279	CB	ILE	B	43	17.401	-9.386	36.334	1.00	46.29	C
ATOM	4280	CG1	ILE	B	43	17.056	-10.533	35.397	1.00	46.31	C
ATOM	4281	CG2	ILE	B	43	18.651	-9.740	37.138	1.00	46.88	C
ATOM	4282	CD1	ILE	B	43	18.069	-10.715	34.288	1.00	46.16	C
ATOM	4283	N	LEU	B	44	16.543	-8.091	39.487	1.00	43.71	N
ATOM	4284	CA	LEU	B	44	16.890	-7.023	40.413	1.00	43.98	C
ATOM	4285	C	LEU	B	44	18.319	-7.190	40.922	1.00	44.52	C
ATOM	4286	O	LEU	B	44	18.722	-8.267	41.356	1.00	45.29	O
ATOM	4287	CB	LEU	B	44	15.889	-6.945	41.567	1.00	44.74	C
ATOM	4288	CG	LEU	B	44	14.479	-6.477	41.159	1.00	46.04	C
ATOM	4289	CD1	LEU	B	44	13.468	-6.747	42.274	1.00	45.86	C
ATOM	4290	CD2	LEU	B	44	14.454	-4.991	40.759	1.00	45.84	C
ATOM	4291	N	VAL	B	45	19.080	-6.106	40.846	1.00	45.46	N
ATOM	4292	CA	VAL	B	45	20.476	-6.099	41.250	1.00	45.37	C
ATOM	4293	C	VAL	B	45	20.874	-4.774	41.894	1.00	44.69	C
ATOM	4294	O	VAL	B	45	20.619	-3.706	41.349	1.00	42.53	O
ATOM	4295	CB	VAL	B	45	21.375	-6.381	40.053	1.00	45.27	C
ATOM	4296	CG1	VAL	B	45	22.740	-5.744	40.234	1.00	44.65	C
ATOM	4297	CG2	VAL	B	45	21.483	-7.878	39.856	1.00	45.14	C
ATOM	4298	N	SER	B	46	21.502	-4.881	43.063	1.00	45.47	N
ATOM	4299	CA	SER	B	46	22.001	-3.739	43.809	1.00	45.95	C
ATOM	4300	C	SER	B	46	23.459	-3.967	44.221	1.00	45.63	C
ATOM	4301	O	SER	B	46	23.862	-5.084	44.531	1.00	44.07	O
ATOM	4302	CB	SER	B	46	21.144	-3.523	45.053	1.00	45.67	C
ATOM	4303	OG	SER	B	46	21.653	-2.460	45.843	1.00	47.54	O
ATOM	4304	N	ARG	B	47	24.231	-2.888	44.264	1.00	45.94	N
ATOM	4305	CA	ARG	B	47	25.640	-2.975	44.602	1.00	44.88	C
ATOM	4306	C	ARG	B	47	25.971	-2.402	45.973	1.00	43.62	C
ATOM	4307	O	ARG	B	47	27.139	-2.233	46.297	1.00	43.15	O
ATOM	4308	CB	ARG	B	47	26.450	-2.287	43.522	1.00	45.98	C
ATOM	4309	CG	ARG	B	47	26.216	-2.910	42.160	1.00	46.89	C
ATOM	4310	CD	ARG	B	47	27.163	-2.327	41.141	1.00	47.42	C
ATOM	4311	NE	ARG	B	47	28.494	-2.898	41.266	1.00	46.90	N
ATOM	4312	CZ	ARG	B	47	29.575	-2.410	40.679	1.00	46.76	C

ATOM	4313	NH1	ARG	B	47	29.513	-1.320	39.923	1.00	47.41	N
ATOM	4314	NH2	ARG	B	47	30.730	-3.024	40.854	1.00	47.59	N
ATOM	4315	N	SER	B	48	24.949	-2.141	46.789	1.00	42.97	N
ATOM	4316	CA	SER	B	48	25.161	-1.739	48.181	1.00	43.85	C
ATOM	4317	C	SER	B	48	25.912	-2.797	48.971	1.00	43.33	C
ATOM	4318	O	SER	B	48	25.989	-3.957	48.557	1.00	43.95	O
ATOM	4319	CB	SER	B	48	23.829	-1.496	48.877	1.00	44.40	C
ATOM	4320	OG	SER	B	48	23.044	-2.674	48.862	1.00	45.33	O
ATOM	4321	N	LEU	B	49	26.448	-2.393	50.121	1.00	42.66	N
ATOM	4322	CA	LEU	B	49	27.159	-3.309	51.007	1.00	42.00	C
ATOM	4323	C	LEU	B	49	26.356	-4.585	51.245	1.00	43.60	C
ATOM	4324	O	LEU	B	49	26.875	-5.685	51.066	1.00	45.06	O
ATOM	4325	CB	LEU	B	49	27.472	-2.639	52.348	1.00	41.05	C
ATOM	4326	CG	LEU	B	49	28.307	-3.460	53.342	1.00	40.84	C
ATOM	4327	CD1	LEU	B	49	29.601	-3.944	52.687	1.00	39.27	C
ATOM	4328	CD2	LEU	B	49	28.593	-2.665	54.608	1.00	38.05	C
ATOM	4329	N	LYS	B	50	25.089	-4.438	51.622	1.00	45.02	N
ATOM	4330	CA	LYS	B	50	24.263	-5.597	51.964	1.00	48.54	C
ATOM	4331	C	LYS	B	50	23.981	-6.479	50.744	1.00	47.89	C
ATOM	4332	O	LYS	B	50	24.007	-7.704	50.844	1.00	46.05	O
ATOM	4333	CB	LYS	B	50	22.929	-5.170	52.602	1.00	51.13	C
ATOM	4334	CG	LYS	B	50	23.038	-4.317	53.877	1.00	53.62	C
ATOM	4335	CD	LYS	B	50	22.996	-5.128	55.192	1.00	54.60	C
ATOM	4336	CE	LYS	B	50	24.398	-5.350	55.797	1.00	54.81	C
ATOM	4337	NZ	LYS	B	50	24.350	-6.021	57.136	1.00	54.25	N
ATOM	4338	N	MET	B	51	23.728	-5.851	49.597	1.00	47.28	N
ATOM	4339	CA	MET	B	51	23.117	-6.542	48.463	1.00	48.32	C
ATOM	4340	C	MET	B	51	24.058	-6.908	47.318	1.00	47.51	C
ATOM	4341	O	MET	B	51	23.659	-7.636	46.425	1.00	49.21	O
ATOM	4342	CB	MET	B	51	21.943	-5.717	47.906	1.00	49.49	C
ATOM	4343	CG	MET	B	51	20.785	-5.536	48.863	1.00	49.36	C
ATOM	4344	SD	MET	B	51	20.370	-7.051	49.737	1.00	51.85	S
ATOM	4345	CE	MET	B	51	20.016	-8.136	48.354	1.00	50.25	C
ATOM	4346	N	ARG	B	52	25.293	-6.428	47.324	1.00	46.81	N
ATOM	4347	CA	ARG	B	52	26.220	-6.801	46.258	1.00	46.50	C
ATOM	4348	C	ARG	B	52	26.454	-8.305	46.272	1.00	45.66	C
ATOM	4349	O	ARG	B	52	26.256	-8.964	47.298	1.00	45.27	O
ATOM	4350	CB	ARG	B	52	27.554	-6.048	46.362	1.00	45.56	C
ATOM	4351	CG	ARG	B	52	28.402	-6.449	47.541	1.00	45.90	C
ATOM	4352	CD	ARG	B	52	29.593	-5.546	47.717	1.00	45.71	C
ATOM	4353	NE	ARG	B	52	29.205	-4.157	47.892	1.00	45.48	N
ATOM	4354	CZ	ARG	B	52	30.028	-3.197	48.275	1.00	45.40	C
ATOM	4355	NH1	ARG	B	52	31.289	-3.467	48.556	1.00	46.12	N
ATOM	4356	NH2	ARG	B	52	29.579	-1.964	48.395	1.00	45.67	N
ATOM	4357	N	GLY	B	53	26.860	-8.826	45.117	1.00	44.35	N
ATOM	4358	CA	GLY	B	53	27.163	-10.237	44.952	1.00	44.61	C
ATOM	4359	C	GLY	B	53	25.952	-11.126	44.783	1.00	46.27	C
ATOM	4360	O	GLY	B	53	26.085	-12.351	44.732	1.00	48.84	O
ATOM	4361	N	GLN	B	54	24.777	-10.511	44.666	1.00	45.26	N
ATOM	4362	CA	GLN	B	54	23.509	-11.213	44.719	1.00	43.65	C
ATOM	4363	C	GLN	B	54	22.642	-10.726	43.586	1.00	44.01	C
ATOM	4364	O	GLN	B	54	22.890	-9.661	43.055	1.00	46.36	O
ATOM	4365	CB	GLN	B	54	22.808	-10.936	46.047	1.00	43.99	C
ATOM	4366	CG	GLN	B	54	23.635	-11.278	47.260	1.00	44.42	C
ATOM	4367	CD	GLN	B	54	23.137	-10.611	48.518	1.00	44.21	C
ATOM	4368	OE1	GLN	B	54	22.046	-10.900	48.988	1.00	45.51	O
ATOM	4369	NE2	GLN	B	54	23.947	-9.731	49.085	1.00	44.49	N
ATOM	4370	N	ALA	B	55	21.638	-11.514	43.210	1.00	43.16	N
ATOM	4371	CA	ALA	B	55	20.669	-11.108	42.198	1.00	42.98	C

ATOM	4372	C	ALA	B	55	19.354	-11.846	42.411	1.00	42.85	C
ATOM	4373	O	ALA	B	55	19.332	-12.969	42.890	1.00	40.90	O
ATOM	4374	CB	ALA	B	55	21.194	-11.374	40.805	1.00	41.26	C
ATOM	4375	N	PHE	B	56	18.256	-11.189	42.074	1.00	43.62	N
ATOM	4376	CA	PHE	B	56	16.950	-11.813	42.125	1.00	43.85	C
ATOM	4377	C	PHE	B	56	16.419	-11.845	40.705	1.00	44.68	C
ATOM	4378	O	PHE	B	56	16.275	-10.796	40.082	1.00	45.82	O
ATOM	4379	CB	PHE	B	56	16.011	-11.001	43.000	1.00	43.34	C
ATOM	4380	CG	PHE	B	56	16.449	-10.892	44.431	1.00	43.15	C
ATOM	4381	CD1	PHE	B	56	17.448	-10.000	44.800	1.00	43.30	C
ATOM	4382	CD2	PHE	B	56	15.831	-11.644	45.419	1.00	43.33	C
ATOM	4383	CE1	PHE	B	56	17.841	-9.887	46.116	1.00	42.26	C
ATOM	4384	CE2	PHE	B	56	16.214	-11.528	46.741	1.00	42.19	C
ATOM	4385	CZ	PHE	B	56	17.220	-10.652	47.087	1.00	43.01	C
ATOM	4386	N	VAL	B	57	16.161	-13.042	40.189	1.00	44.65	N
ATOM	4387	CA	VAL	B	57	15.561	-13.207	38.870	1.00	43.94	C
ATOM	4388	C	VAL	B	57	14.109	-13.636	39.068	1.00	45.15	C
ATOM	4389	O	VAL	B	57	13.864	-14.671	39.684	1.00	46.56	O
ATOM	4390	CB	VAL	B	57	16.304	-14.286	38.058	1.00	42.86	C
ATOM	4391	CG1	VAL	B	57	15.827	-14.292	36.616	1.00	40.34	C
ATOM	4392	CG2	VAL	B	57	17.800	-14.062	38.127	1.00	40.02	C
ATOM	4393	N	ILE	B	58	13.162	-12.832	38.569	1.00	45.15	N
ATOM	4394	CA	ILE	B	58	11.720	-13.092	38.722	1.00	44.09	C
ATOM	4395	C	ILE	B	58	11.120	-13.635	37.432	1.00	44.57	C
ATOM	4396	O	ILE	B	58	10.907	-12.887	36.479	1.00	45.39	O
ATOM	4397	CB	ILE	B	58	10.913	-11.811	39.067	1.00	44.54	C
ATOM	4398	CG1	ILE	B	58	11.539	-11.033	40.221	1.00	44.50	C
ATOM	4399	CG2	ILE	B	58	9.459	-12.169	39.409	1.00	44.49	C
ATOM	4400	CD1	ILE	B	58	11.010	-9.624	40.322	1.00	43.52	C
ATOM	4401	N	PHE	B	59	10.835	-14.932	37.414	1.00	45.53	N
ATOM	4402	CA	PHE	B	59	10.156	-15.570	36.291	1.00	46.29	C
ATOM	4403	C	PHE	B	59	8.649	-15.434	36.456	1.00	46.72	C
ATOM	4404	O	PHE	B	59	8.150	-15.405	37.572	1.00	46.35	O
ATOM	4405	CB	PHE	B	59	10.493	-17.065	36.237	1.00	46.58	C
ATOM	4406	CG	PHE	B	59	11.941	-17.366	35.970	1.00	46.35	C
ATOM	4407	CD1	PHE	B	59	12.389	-17.574	34.674	1.00	46.58	C
ATOM	4408	CD2	PHE	B	59	12.847	-17.488	37.014	1.00	46.39	C
ATOM	4409	CE1	PHE	B	59	13.720	-17.872	34.419	1.00	46.38	C
ATOM	4410	CE2	PHE	B	59	14.185	-17.783	36.765	1.00	45.98	C
ATOM	4411	CZ	PHE	B	59	14.620	-17.973	35.469	1.00	46.33	C
ATOM	4412	N	LYS	B	60	7.926	-15.381	35.344	1.00	49.71	N
ATOM	4413	CA	LYS	B	60	6.457	-15.362	35.369	1.00	51.27	C
ATOM	4414	C	LYS	B	60	5.856	-16.627	35.988	1.00	50.38	C
ATOM	4415	O	LYS	B	60	4.812	-16.556	36.632	1.00	50.92	O
ATOM	4416	CB	LYS	B	60	5.893	-15.174	33.953	1.00	52.14	C
ATOM	4417	CG	LYS	B	60	4.390	-14.917	33.903	1.00	52.15	C
ATOM	4418	CD	LYS	B	60	3.879	-14.905	32.465	1.00	52.91	C
ATOM	4419	CE	LYS	B	60	2.361	-15.127	32.383	1.00	52.88	C
ATOM	4420	NZ	LYS	B	60	1.916	-15.388	30.983	1.00	52.75	N
ATOM	4421	N	GLU	B	61	6.518	-17.768	35.792	1.00	50.26	N
ATOM	4422	CA	GLU	B	61	6.011	-19.064	36.250	1.00	50.24	C
ATOM	4423	C	GLU	B	61	7.026	-19.781	37.130	1.00	48.87	C
ATOM	4424	O	GLU	B	61	8.215	-19.772	36.839	1.00	49.13	O
ATOM	4425	CB	GLU	B	61	5.670	-19.949	35.046	1.00	51.75	C
ATOM	4426	CG	GLU	B	61	4.626	-19.354	34.096	1.00	52.20	C
ATOM	4427	CD	GLU	B	61	3.303	-19.066	34.792	1.00	53.16	C
ATOM	4428	OE1	GLU	B	61	2.923	-19.859	35.678	1.00	53.96	O
ATOM	4429	OE2	GLU	B	61	2.646	-18.050	34.463	1.00	53.68	O
ATOM	4430	N	VAL	B	62	6.544	-20.427	38.189	1.00	48.19	N

ATOM	4431	CA	VAL	B	62	7.406	-21.133	39.133	1.00	47.58	C
ATOM	4432	C	VAL	B	62	8.171	-22.277	38.472	1.00	48.40	C
ATOM	4433	O	VAL	B	62	9.361	-22.452	38.719	1.00	49.34	O
ATOM	4434	CB	VAL	B	62	6.601	-21.684	40.321	1.00	47.70	C
ATOM	4435	CG1	VAL	B	62	7.518	-22.431	41.301	1.00	47.60	C
ATOM	4436	CG2	VAL	B	62	5.868	-20.550	41.031	1.00	47.58	C
ATOM	4437	N	SER	B	63	7.500	-23.053	37.627	1.00	48.17	N
ATOM	4438	CA	SER	B	63	8.179	-24.113	36.875	1.00	48.16	C
ATOM	4439	C	SER	B	63	9.460	-23.613	36.186	1.00	47.68	C
ATOM	4440	O	SER	B	63	10.466	-24.316	36.147	1.00	47.66	O
ATOM	4441	CB	SER	B	63	7.243	-24.714	35.831	1.00	47.63	C
ATOM	4442	OG	SER	B	63	6.940	-23.764	34.830	1.00	48.25	O
ATOM	4443	N	SER	B	64	9.414	-22.404	35.636	1.00	47.79	N
ATOM	4444	CA	SER	B	64	10.587	-21.823	34.998	1.00	48.22	C
ATOM	4445	C	SER	B	64	11.647	-21.617	36.062	1.00	47.57	C
ATOM	4446	O	SER	B	64	12.784	-22.062	35.902	1.00	49.07	O
ATOM	4447	CB	SER	B	64	10.266	-20.491	34.298	1.00	48.33	C
ATOM	4448	OG	SER	B	64	9.381	-20.668	33.196	1.00	48.34	O
ATOM	4449	N	ALA	B	65	11.258	-20.966	37.155	1.00	44.69	N
ATOM	4450	CA	ALA	B	65	12.160	-20.731	38.276	1.00	42.39	C
ATOM	4451	C	ALA	B	65	12.795	-22.022	38.751	1.00	41.27	C
ATOM	4452	O	ALA	B	65	14.003	-22.064	38.971	1.00	42.24	O
ATOM	4453	CB	ALA	B	65	11.434	-20.051	39.427	1.00	42.10	C
ATOM	4454	N	THR	B	66	11.990	-23.071	38.889	1.00	40.67	N
ATOM	4455	CA	THR	B	66	12.481	-24.352	39.409	1.00	42.02	C
ATOM	4456	C	THR	B	66	13.473	-25.033	38.465	1.00	41.27	C
ATOM	4457	O	THR	B	66	14.444	-25.628	38.911	1.00	41.84	O
ATOM	4458	CB	THR	B	66	11.320	-25.323	39.760	1.00	42.06	C
ATOM	4459	OG1	THR	B	66	10.678	-24.869	40.956	1.00	42.35	O
ATOM	4460	CG2	THR	B	66	11.833	-26.738	40.003	1.00	41.38	C
ATOM	4461	N	ASN	B	67	13.246	-24.934	37.167	1.00	41.25	N
ATOM	4462	CA	ASN	B	67	14.171	-25.529	36.215	1.00	43.46	C
ATOM	4463	C	ASN	B	67	15.505	-24.793	36.174	1.00	43.45	C
ATOM	4464	O	ASN	B	67	16.561	-25.423	36.106	1.00	41.51	O
ATOM	4465	CB	ASN	B	67	13.541	-25.586	34.829	1.00	45.50	C
ATOM	4466	CG	ASN	B	67	12.282	-26.442	34.802	1.00	47.43	C
ATOM	4467	OD1	ASN	B	67	12.215	-27.518	35.429	1.00	47.46	O
ATOM	4468	ND2	ASN	B	67	11.265	-25.957	34.091	1.00	48.18	N
ATOM	4469	N	ALA	B	68	15.442	-23.464	36.225	1.00	44.17	N
ATOM	4470	CA	ALA	B	68	16.631	-22.622	36.225	1.00	45.12	C
ATOM	4471	C	ALA	B	68	17.533	-22.941	37.406	1.00	44.88	C
ATOM	4472	O	ALA	B	68	18.747	-23.011	37.258	1.00	44.54	O
ATOM	4473	CB	ALA	B	68	16.242	-21.161	36.250	1.00	45.18	C
ATOM	4474	N	LEU	B	69	16.927	-23.150	38.568	1.00	45.99	N
ATOM	4475	CA	LEU	B	69	17.668	-23.436	39.787	1.00	46.70	C
ATOM	4476	C	LEU	B	69	18.445	-24.739	39.663	1.00	48.25	C
ATOM	4477	O	LEU	B	69	19.652	-24.777	39.889	1.00	49.20	O
ATOM	4478	CB	LEU	B	69	16.707	-23.500	40.968	1.00	47.50	C
ATOM	4479	CG	LEU	B	69	17.282	-23.835	42.343	1.00	48.38	C
ATOM	4480	CD1	LEU	B	69	16.416	-23.228	43.431	1.00	48.87	C
ATOM	4481	CD2	LEU	B	69	17.404	-25.346	42.550	1.00	48.83	C
ATOM	4482	N	ARG	B	70	17.743	-25.801	39.294	1.00	49.22	N
ATOM	4483	CA	ARG	B	70	18.342	-27.126	39.190	1.00	50.58	C
ATOM	4484	C	ARG	B	70	19.406	-27.188	38.080	1.00	49.43	C
ATOM	4485	O	ARG	B	70	20.473	-27.787	38.261	1.00	50.47	O
ATOM	4486	CB	ARG	B	70	17.244	-28.192	39.012	1.00	51.21	C
ATOM	4487	CG	ARG	B	70	16.447	-28.469	40.313	1.00	52.23	C
ATOM	4488	CD	ARG	B	70	14.965	-28.854	40.061	1.00	52.96	C
ATOM	4489	NE	ARG	B	70	14.339	-29.532	41.213	1.00	53.71	N

ATOM	4490	CZ	ARG	B	70	13.090	-30.030	41.244	1.00	54.05	C
ATOM	4491	NH1	ARG	B	70	12.272	-29.944	40.192	1.00	53.39	N
ATOM	4492	NH2	ARG	B	70	12.650	-30.637	42.346	1.00	54.42	N
ATOM	4493	N	SER	B	71	19.140	-26.533	36.954	1.00	48.00	N
ATOM	4494	CA	SER	B	71	20.025	-26.628	35.797	1.00	46.76	C
ATOM	4495	C	SER	B	71	21.290	-25.813	35.963	1.00	46.66	C
ATOM	4496	O	SER	B	71	22.354	-26.232	35.520	1.00	47.88	O
ATOM	4497	CB	SER	B	71	19.299	-26.190	34.529	1.00	46.77	C
ATOM	4498	OG	SER	B	71	18.150	-26.994	34.318	1.00	47.75	O
ATOM	4499	N	MET	B	72	21.176	-24.655	36.608	1.00	45.59	N
ATOM	4500	CA	MET	B	72	22.261	-23.682	36.635	1.00	44.34	C
ATOM	4501	C	MET	B	72	23.053	-23.670	37.938	1.00	44.14	C
ATOM	4502	O	MET	B	72	23.964	-22.863	38.103	1.00	44.52	O
ATOM	4503	CB	MET	B	72	21.697	-22.290	36.358	1.00	45.25	C
ATOM	4504	CG	MET	B	72	20.988	-22.169	35.007	1.00	45.87	C
ATOM	4505	SD	MET	B	72	22.079	-22.483	33.599	1.00	45.05	S
ATOM	4506	CE	MET	B	72	23.179	-21.061	33.726	1.00	46.93	C
ATOM	4507	N	GLN	B	73	22.730	-24.575	38.851	1.00	43.15	N
ATOM	4508	CA	GLN	B	73	23.384	-24.617	40.148	1.00	42.82	C
ATOM	4509	C	GLN	B	73	24.906	-24.700	39.963	1.00	42.56	C
ATOM	4510	O	GLN	B	73	25.388	-25.531	39.226	1.00	44.66	O
ATOM	4511	CB	GLN	B	73	22.844	-25.824	40.934	1.00	43.90	C
ATOM	4512	CG	GLN	B	73	23.146	-25.825	42.420	1.00	43.90	C
ATOM	4513	CD	GLN	B	73	22.679	-24.577	43.106	1.00	43.13	C
ATOM	4514	OE1	GLN	B	73	23.480	-23.721	43.457	1.00	43.76	O
ATOM	4515	NE2	GLN	B	73	21.376	-24.451	43.283	1.00	44.62	N
ATOM	4516	N	GLY	B	74	25.658	-23.810	40.596	1.00	43.71	N
ATOM	4517	CA	GLY	B	74	27.126	-23.821	40.502	1.00	42.37	C
ATOM	4518	C	GLY	B	74	27.770	-23.452	39.171	1.00	41.61	C
ATOM	4519	O	GLY	B	74	28.972	-23.662	38.987	1.00	42.35	O
ATOM	4520	N	PHE	B	75	26.992	-22.905	38.245	1.00	41.88	N
ATOM	4521	CA	PHE	B	75	27.483	-22.581	36.900	1.00	43.59	C
ATOM	4522	C	PHE	B	75	28.491	-21.441	36.925	1.00	44.51	C
ATOM	4523	O	PHE	B	75	28.160	-20.360	37.373	1.00	47.70	O
ATOM	4524	CB	PHE	B	75	26.307	-22.164	36.030	1.00	45.15	C
ATOM	4525	CG	PHE	B	75	26.690	-21.737	34.633	1.00	45.71	C
ATOM	4526	CD1	PHE	B	75	26.791	-20.395	34.305	1.00	45.10	C
ATOM	4527	CD2	PHE	B	75	26.900	-22.679	33.639	1.00	44.98	C
ATOM	4528	CE1	PHE	B	75	27.120	-20.015	33.035	1.00	44.36	C
ATOM	4529	CE2	PHE	B	75	27.221	-22.296	32.373	1.00	44.54	C
ATOM	4530	CZ	PHE	B	75	27.338	-20.965	32.071	1.00	45.00	C
ATOM	4531	N	PRO	B	76	29.732	-21.679	36.464	1.00	46.35	N
ATOM	4532	CA	PRO	B	76	30.735	-20.606	36.443	1.00	46.00	C
ATOM	4533	C	PRO	B	76	30.323	-19.358	35.657	1.00	43.84	C
ATOM	4534	O	PRO	B	76	29.921	-19.436	34.507	1.00	42.57	O
ATOM	4535	CB	PRO	B	76	31.953	-21.285	35.798	1.00	46.14	C
ATOM	4536	CG	PRO	B	76	31.795	-22.720	36.155	1.00	45.59	C
ATOM	4537	CD	PRO	B	76	30.316	-22.952	36.001	1.00	46.65	C
ATOM	4538	N	PHE	B	77	30.448	-18.209	36.297	1.00	44.15	N
ATOM	4539	CA	PHE	B	77	29.880	-16.982	35.770	1.00	44.39	C
ATOM	4540	C	PHE	B	77	30.736	-15.841	36.256	1.00	42.45	C
ATOM	4541	O	PHE	B	77	30.857	-15.628	37.456	1.00	46.20	O
ATOM	4542	CB	PHE	B	77	28.439	-16.824	36.271	1.00	42.93	C
ATOM	4543	CG	PHE	B	77	27.652	-15.752	35.565	1.00	42.53	C
ATOM	4544	CD1	PHE	B	77	27.455	-15.800	34.195	1.00	42.03	C
ATOM	4545	CD2	PHE	B	77	27.072	-14.720	36.279	1.00	41.94	C
ATOM	4546	CE1	PHE	B	77	26.711	-14.819	33.558	1.00	42.82	C
ATOM	4547	CE2	PHE	B	77	26.316	-13.747	35.643	1.00	42.01	C
ATOM	4548	CZ	PHE	B	77	26.137	-13.791	34.297	1.00	41.85	C

ATOM	4549	N	TYR	B	78	31.339	-15.116	35.324	1.00	42.17	N
ATOM	4550	CA	TYR	B	78	32.326	-14.111	35.668	1.00	42.51	C
ATOM	4551	C	TYR	B	78	33.364	-14.694	36.638	1.00	43.93	C
ATOM	4552	O	TYR	B	78	33.740	-14.059	37.623	1.00	44.27	O
ATOM	4553	CB	TYR	B	78	31.640	-12.886	36.264	1.00	43.02	C
ATOM	4554	CG	TYR	B	78	30.856	-12.070	35.274	1.00	42.94	C
ATOM	4555	CD1	TYR	B	78	31.509	-11.334	34.285	1.00	42.82	C
ATOM	4556	CD2	TYR	B	78	29.467	-11.996	35.342	1.00	42.52	C
ATOM	4557	CE1	TYR	B	78	30.806	-10.555	33.384	1.00	42.57	C
ATOM	4558	CE2	TYR	B	78	28.752	-11.209	34.441	1.00	43.21	C
ATOM	4559	CZ	TYR	B	78	29.431	-10.493	33.466	1.00	42.55	C
ATOM	4560	OH	TYR	B	78	28.733	-9.730	32.556	1.00	43.61	O
ATOM	4561	N	ASP	B	79	33.787	-15.926	36.350	1.00	46.19	N
ATOM	4562	CA	ASP	B	79	34.841	-16.636	37.081	1.00	48.39	C
ATOM	4563	C	ASP	B	79	34.426	-17.296	38.397	1.00	47.90	C
ATOM	4564	O	ASP	B	79	35.274	-17.893	39.067	1.00	49.71	O
ATOM	4565	CB	ASP	B	79	36.053	-15.728	37.332	1.00	49.77	C
ATOM	4566	CG	ASP	B	79	36.525	-15.035	36.079	1.00	50.82	C
ATOM	4567	OD1	ASP	B	79	36.513	-15.684	35.012	1.00	51.34	O
ATOM	4568	OD2	ASP	B	79	36.901	-13.845	36.164	1.00	52.07	O
ATOM	4569	N	LYS	B	80	33.156	-17.203	38.778	1.00	46.20	N
ATOM	4570	CA	LYS	B	80	32.730	-17.757	40.063	1.00	46.33	C
ATOM	4571	C	LYS	B	80	31.479	-18.606	39.918	1.00	45.66	C
ATOM	4572	O	LYS	B	80	30.521	-18.206	39.234	1.00	43.52	O
ATOM	4573	CB	LYS	B	80	32.489	-16.651	41.103	1.00	47.40	C
ATOM	4574	CG	LYS	B	80	33.444	-15.447	41.039	1.00	47.24	C
ATOM	4575	CD	LYS	B	80	33.778	-14.870	42.408	1.00	47.54	C
ATOM	4576	CE	LYS	B	80	32.565	-14.696	43.313	1.00	48.44	C
ATOM	4577	NZ	LYS	B	80	32.990	-14.431	44.705	1.00	48.10	N
ATOM	4578	N	PRO	B	81	31.474	-19.787	40.561	1.00	46.60	N
ATOM	4579	CA	PRO	B	81	30.303	-20.658	40.466	1.00	47.96	C
ATOM	4580	C	PRO	B	81	29.133	-20.038	41.203	1.00	46.83	C
ATOM	4581	O	PRO	B	81	29.261	-19.743	42.387	1.00	46.73	O
ATOM	4582	CB	PRO	B	81	30.764	-21.941	41.173	1.00	46.58	C
ATOM	4583	CG	PRO	B	81	31.816	-21.513	42.095	1.00	45.92	C
ATOM	4584	CD	PRO	B	81	32.521	-20.381	41.408	1.00	46.35	C
ATOM	4585	N	MET	B	82	28.015	-19.815	40.525	1.00	47.39	N
ATOM	4586	CA	MET	B	82	26.871	-19.196	41.216	1.00	49.90	C
ATOM	4587	C	MET	B	82	26.096	-20.179	42.090	1.00	49.35	C
ATOM	4588	O	MET	B	82	25.942	-21.343	41.748	1.00	48.52	O
ATOM	4589	CB	MET	B	82	25.936	-18.449	40.260	1.00	50.27	C
ATOM	4590	CG	MET	B	82	25.333	-19.232	39.128	1.00	50.73	C
ATOM	4591	SD	MET	B	82	24.615	-18.111	37.898	1.00	49.93	S
ATOM	4592	CE	MET	B	82	23.626	-19.311	37.034	1.00	52.49	C
ATOM	4593	N	ARG	B	83	25.651	-19.703	43.243	1.00	49.34	N
ATOM	4594	CA	ARG	B	83	24.784	-20.473	44.112	1.00	51.12	C
ATOM	4595	C	ARG	B	83	23.381	-19.938	43.905	1.00	50.76	C
ATOM	4596	O	ARG	B	83	23.172	-18.722	43.940	1.00	52.13	O
ATOM	4597	CB	ARG	B	83	25.215	-20.314	45.561	1.00	52.84	C
ATOM	4598	CG	ARG	B	83	24.355	-21.050	46.575	1.00	55.00	C
ATOM	4599	CD	ARG	B	83	24.988	-21.051	47.969	1.00	56.26	C
ATOM	4600	NE	ARG	B	83	25.762	-19.827	48.226	1.00	58.74	N
ATOM	4601	CZ	ARG	B	83	27.093	-19.714	48.142	1.00	58.64	C
ATOM	4602	NH1	ARG	B	83	27.868	-20.752	47.830	1.00	59.77	N
ATOM	4603	NH2	ARG	B	83	27.656	-18.541	48.379	1.00	57.93	N
ATOM	4604	N	ILE	B	84	22.430	-20.839	43.672	1.00	49.60	N
ATOM	4605	CA	ILE	B	84	21.055	-20.458	43.394	1.00	49.12	C
ATOM	4606	C	ILE	B	84	20.133	-21.080	44.426	1.00	50.48	C
ATOM	4607	O	ILE	B	84	20.209	-22.276	44.696	1.00	51.23	O

ATOM	4608	CB	ILE	B	84	20.604	-20.891	41.977	1.00	48.21	C
ATOM	4609	CG1	ILE	B	84	21.665	-20.537	40.942	1.00	47.95	C
ATOM	4610	CG2	ILE	B	84	19.286	-20.220	41.594	1.00	47.03	C
ATOM	4611	CD1	ILE	B	84	21.206	-20.732	39.522	1.00	48.62	C
ATOM	4612	N	GLN	B	85	19.273	-20.250	45.002	1.00	52.08	N
ATOM	4613	CA	GLN	B	85	18.217	-20.700	45.891	1.00	53.25	C
ATOM	4614	C	GLN	B	85	16.895	-20.106	45.423	1.00	53.66	C
ATOM	4615	O	GLN	B	85	16.871	-19.216	44.578	1.00	53.38	O
ATOM	4616	CB	GLN	B	85	18.484	-20.223	47.315	1.00	53.59	C
ATOM	4617	CG	GLN	B	85	19.837	-20.588	47.882	1.00	53.57	C
ATOM	4618	CD	GLN	B	85	20.138	-19.836	49.166	1.00	53.41	C
ATOM	4619	OE1	GLN	B	85	21.163	-19.144	49.277	1.00	52.01	O
ATOM	4620	NE2	GLN	B	85	19.234	-19.950	50.139	1.00	51.81	N
ATOM	4621	N	TYR	B	86	15.797	-20.607	45.972	1.00	54.61	N
ATOM	4622	CA	TYR	B	86	14.516	-19.934	45.829	1.00	56.00	C
ATOM	4623	C	TYR	B	86	14.544	-18.713	46.736	1.00	57.20	C
ATOM	4624	O	TYR	B	86	15.244	-18.704	47.747	1.00	55.80	O
ATOM	4625	CB	TYR	B	86	13.361	-20.854	46.232	1.00	55.87	C
ATOM	4626	CG	TYR	B	86	13.123	-22.009	45.284	1.00	55.97	C
ATOM	4627	CD1	TYR	B	86	12.733	-21.782	43.971	1.00	55.47	C
ATOM	4628	CD2	TYR	B	86	13.270	-23.330	45.705	1.00	56.22	C
ATOM	4629	CE1	TYR	B	86	12.510	-22.823	43.099	1.00	55.53	C
ATOM	4630	CE2	TYR	B	86	13.043	-24.385	44.835	1.00	56.32	C
ATOM	4631	CZ	TYR	B	86	12.662	-24.121	43.530	1.00	55.93	C
ATOM	4632	OH	TYR	B	86	12.430	-25.153	42.655	1.00	55.81	O
ATOM	4633	N	ALA	B	87	13.798	-17.677	46.369	1.00	59.61	N
ATOM	4634	CA	ALA	B	87	13.677	-16.505	47.229	1.00	61.77	C
ATOM	4635	C	ALA	B	87	12.881	-16.911	48.456	1.00	63.24	C
ATOM	4636	O	ALA	B	87	11.963	-17.741	48.363	1.00	65.10	O
ATOM	4637	CB	ALA	B	87	12.996	-15.369	46.509	1.00	61.57	C
ATOM	4638	N	LYS	B	88	13.241	-16.350	49.605	1.00	62.87	N
ATOM	4639	CA	LYS	B	88	12.553	-16.691	50.840	1.00	64.09	C
ATOM	4640	C	LYS	B	88	11.095	-16.226	50.790	1.00	65.14	C
ATOM	4641	O	LYS	B	88	10.221	-16.848	51.400	1.00	66.09	O
ATOM	4642	CB	LYS	B	88	13.273	-16.111	52.059	1.00	63.64	C
ATOM	4643	CG	LYS	B	88	14.679	-16.673	52.293	1.00	63.93	C
ATOM	4644	CD	LYS	B	88	15.007	-16.844	53.786	1.00	63.97	C
ATOM	4645	CE	LYS	B	88	14.839	-15.539	54.585	1.00	64.30	C
ATOM	4646	NZ	LYS	B	88	15.260	-15.666	56.014	1.00	63.65	N
ATOM	4647	N	THR	B	89	10.840	-15.142	50.058	1.00	65.76	N
ATOM	4648	CA	THR	B	89	9.490	-14.595	49.919	1.00	66.49	C
ATOM	4649	C	THR	B	89	9.250	-14.087	48.505	1.00	66.97	C
ATOM	4650	O	THR	B	89	10.183	-13.908	47.726	1.00	66.96	O
ATOM	4651	CB	THR	B	89	9.231	-13.415	50.891	1.00	65.76	C
ATOM	4652	OG1	THR	B	89	9.883	-12.239	50.401	1.00	66.11	O
ATOM	4653	CG2	THR	B	89	9.738	-13.728	52.290	1.00	65.46	C
ATOM	4654	N	ASP	B	90	7.984	-13.842	48.192	1.00	68.27	N
ATOM	4655	CA	ASP	B	90	7.604	-13.330	46.891	1.00	68.17	C
ATOM	4656	C	ASP	B	90	8.130	-11.915	46.707	1.00	67.58	C
ATOM	4657	O	ASP	B	90	8.194	-11.127	47.654	1.00	66.52	O
ATOM	4658	CB	ASP	B	90	6.080	-13.348	46.720	1.00	68.85	C
ATOM	4659	CG	ASP	B	90	5.520	-14.757	46.536	1.00	69.04	C
ATOM	4660	OD1	ASP	B	90	6.303	-15.727	46.463	1.00	68.46	O
ATOM	4661	OD2	ASP	B	90	4.279	-14.892	46.461	1.00	69.80	O
ATOM	4662	N	SER	B	91	8.527	-11.621	45.475	1.00	67.53	N
ATOM	4663	CA	SER	B	91	8.859	-10.272	45.063	1.00	66.59	C
ATOM	4664	C	SER	B	91	7.564	-9.460	44.945	1.00	67.15	C
ATOM	4665	O	SER	B	91	6.489	-10.027	44.713	1.00	67.09	O
ATOM	4666	CB	SER	B	91	9.592	-10.305	43.721	1.00	66.49	C

ATOM	4667	OG	SER	B	91	10.733	-11.148	43.777	1.00	66.06	O
ATOM	4668	N	ASP	B	92	7.668	-8.143	45.096	1.00	66.49	N
ATOM	4669	CA	ASP	B	92	6.496	-7.271	45.111	1.00	67.82	C
ATOM	4670	C	ASP	B	92	5.546	-7.526	43.945	1.00	68.15	C
ATOM	4671	O	ASP	B	92	4.329	-7.637	44.139	1.00	66.87	O
ATOM	4672	CB	ASP	B	92	6.916	-5.798	45.077	1.00	68.58	C
ATOM	4673	CG	ASP	B	92	7.474	-5.315	46.396	1.00	69.26	C
ATOM	4674	OD1	ASP	B	92	7.708	-6.145	47.300	1.00	69.99	O
ATOM	4675	OD2	ASP	B	92	7.677	-4.089	46.526	1.00	69.80	O
ATOM	4676	N	ILE	B	93	6.110	-7.618	42.741	1.00	68.11	N
ATOM	4677	CA	ILE	B	93	5.303	-7.683	41.514	1.00	68.33	C
ATOM	4678	C	ILE	B	93	4.626	-9.037	41.302	1.00	67.30	C
ATOM	4679	O	ILE	B	93	3.739	-9.160	40.464	1.00	67.20	O
ATOM	4680	CB	ILE	B	93	6.123	-7.277	40.256	1.00	68.53	C
ATOM	4681	CG1	ILE	B	93	7.200	-8.313	39.927	1.00	68.49	C
ATOM	4682	CG2	ILE	B	93	6.737	-5.883	40.449	1.00	68.43	C
ATOM	4683	CD1	ILE	B	93	8.180	-7.849	38.868	1.00	68.55	C
ATOM	4684	N	ILE	B	94	5.059	-10.042	42.060	1.00	67.76	N
ATOM	4685	CA	ILE	B	94	4.405	-11.353	42.108	1.00	67.45	C
ATOM	4686	C	ILE	B	94	3.295	-11.343	43.171	1.00	67.79	C
ATOM	4687	O	ILE	B	94	2.162	-11.732	42.882	1.00	68.64	O
ATOM	4688	CB	ILE	B	94	5.440	-12.488	42.384	1.00	65.85	C
ATOM	4689	CG1	ILE	B	94	6.364	-12.672	41.171	1.00	65.34	C
ATOM	4690	CG2	ILE	B	94	4.757	-13.805	42.723	1.00	65.01	C
ATOM	4691	CD1	ILE	B	94	5.675	-13.154	39.912	1.00	65.10	C
ATOM	4692	N	ALA	B	95	3.619	-10.884	44.383	1.00	67.84	N
ATOM	4693	CA	ALA	B	95	2.629	-10.745	45.462	1.00	68.35	C
ATOM	4694	C	ALA	B	95	1.399	-9.956	45.009	1.00	69.47	C
ATOM	4695	O	ALA	B	95	0.275	-10.310	45.362	1.00	68.26	O
ATOM	4696	CB	ALA	B	95	3.251	-10.087	46.693	1.00	67.23	C
ATOM	4697	N	LYS	B	96	1.625	-8.909	44.211	1.00	71.60	N
ATOM	4698	CA	LYS	B	96	0.549	-8.037	43.712	1.00	74.02	C
ATOM	4699	C	LYS	B	96	-0.284	-8.649	42.571	1.00	75.40	C
ATOM	4700	O	LYS	B	96	-1.452	-8.273	42.390	1.00	75.30	O
ATOM	4701	CB	LYS	B	96	1.116	-6.681	43.264	1.00	72.86	C
ATOM	4702	N	MET	B	97	0.302	-9.579	41.811	1.00	76.37	N
ATOM	4703	CA	MET	B	97	-0.407	-10.228	40.691	1.00	76.69	C
ATOM	4704	C	MET	B	97	-1.713	-10.922	41.121	1.00	77.84	C
ATOM	4705	O	MET	B	97	-2.665	-10.985	40.340	1.00	79.41	O
ATOM	4706	CB	MET	B	97	0.518	-11.194	39.930	1.00	76.39	C
ATOM	4707	CG	MET	B	97	1.186	-10.559	38.700	1.00	76.52	C
ATOM	4708	SD	MET	B	97	2.651	-11.424	38.075	1.00	76.65	S
ATOM	4709	CE	MET	B	97	2.709	-10.835	36.379	1.00	76.38	C
ATOM	4710	N	LYS	B	98	-1.745	-11.440	42.351	1.00	78.49	N
ATOM	4711	CA	LYS	B	98	-2.994	-11.868	43.014	1.00	78.13	C
ATOM	4712	C	LYS	B	98	-2.682	-12.581	44.328	1.00	78.16	C
ATOM	4713	O	LYS	B	98	-1.553	-13.036	44.542	1.00	77.08	O
ATOM	4714	CB	LYS	B	98	-3.837	-12.780	42.114	1.00	78.32	C
TER	4715		LYS	B	98						
ATOM	4716	O5*	A	F	-1	19.332	37.993	24.130	1.00	36.94	O
ATOM	4717	C5*	A	F	-1	18.634	39.097	24.730	1.00	36.63	C
ATOM	4718	C4*	A	F	-1	17.181	38.761	24.962	1.00	35.99	C
ATOM	4719	O4*	A	F	-1	16.565	38.628	23.655	1.00	34.29	O
ATOM	4720	C3*	A	F	-1	17.017	37.446	25.720	1.00	35.93	C
ATOM	4721	O3*	A	F	-1	16.001	37.493	26.753	1.00	37.26	O
ATOM	4722	C2*	A	F	-1	16.641	36.488	24.605	1.00	35.94	C
ATOM	4723	O2*	A	F	-1	15.823	35.421	25.037	1.00	37.91	O
ATOM	4724	C1*	A	F	-1	15.882	37.402	23.645	1.00	34.73	C
ATOM	4725	N9	A	F	-1	15.843	36.825	22.317	1.00	34.43	N

ATOM	4726	C8	A F	-1	14.734	36.453	21.610	1.00	34.31	C
ATOM	4727	N7	A F	-1	15.004	35.943	20.431	1.00	33.98	N
ATOM	4728	C5	A F	-1	16.391	35.970	20.378	1.00	34.22	C
ATOM	4729	C6	A F	-1	17.315	35.564	19.393	1.00	34.18	C
ATOM	4730	N6	A F	-1	16.957	35.021	18.221	1.00	34.39	N
ATOM	4731	N1	A F	-1	18.624	35.752	19.658	1.00	33.67	N
ATOM	4732	C2	A F	-1	18.990	36.295	20.823	1.00	33.44	C
ATOM	4733	N3	A F	-1	18.224	36.712	21.825	1.00	33.54	N
ATOM	4734	C4	A F	-1	16.924	36.515	21.534	1.00	34.36	C
HETATM	4735	P	A2M F	0	16.143	36.592	28.105	1.00	39.01	P
HETATM	4736	O1P	A2M F	0	16.701	35.227	27.743	1.00	37.81	O
HETATM	4737	O2P	A2M F	0	14.908	36.704	28.997	1.00	37.75	O
HETATM	4738	O5*	A2M F	0	17.360	37.361	28.847	1.00	35.98	O
HETATM	4739	C5*	A2M F	0	17.320	38.760	29.194	1.00	31.41	C
HETATM	4740	C4*	A2M F	0	18.397	38.871	30.240	1.00	29.16	C
HETATM	4741	O4*	A2M F	0	19.637	38.756	29.521	1.00	28.67	O
HETATM	4742	C3*	A2M F	0	18.457	40.153	31.060	1.00	27.55	C
HETATM	4743	O3*	A2M F	0	18.927	39.811	32.373	1.00	25.10	O
HETATM	4744	C2*	A2M F	0	19.487	40.945	30.277	1.00	27.34	C
HETATM	4745	O2*	A2M F	0	20.143	41.968	31.007	1.00	27.41	O
HETATM	4746	C1*	A2M F	0	20.472	39.846	29.900	1.00	26.48	C
HETATM	4747	CM*	A2M F	0	20.510	43.056	30.168	1.00	26.36	C
HETATM	4748	N9	A2M F	0	21.376	40.297	28.837	1.00	25.03	N
HETATM	4749	C8	A2M F	0	21.002	40.754	27.644	1.00	25.65	C
HETATM	4750	N7	A2M F	0	22.080	41.117	26.939	1.00	24.81	N
HETATM	4751	C5	A2M F	0	23.143	40.849	27.734	1.00	26.25	C
HETATM	4752	C6	A2M F	0	24.510	40.999	27.553	1.00	24.90	C
HETATM	4753	N6	A2M F	0	24.963	41.484	26.382	1.00	25.75	N
HETATM	4754	N1	A2M F	0	25.352	40.672	28.545	1.00	25.02	N
HETATM	4755	C2	A2M F	0	24.875	40.173	29.703	1.00	25.97	C
HETATM	4756	N3	A2M F	0	23.553	40.006	29.902	1.00	25.62	N
HETATM	4757	C4	A2M F	0	22.681	40.346	28.930	1.00	23.96	C
ATOM	4758	P	G F	1	19.217	40.791	33.585	1.00	24.69	P
ATOM	4759	O1P	G F	1	18.301	41.909	33.331	1.00	25.18	O
ATOM	4760	O2P	G F	1	20.659	40.998	33.911	1.00	22.94	O
ATOM	4761	O5*	G F	1	18.719	39.922	34.822	1.00	26.63	O
ATOM	4762	C5*	G F	1	17.485	39.177	34.737	1.00	27.84	C
ATOM	4763	C4*	G F	1	17.703	37.683	34.650	1.00	27.03	C
ATOM	4764	O4*	G F	1	18.438	37.230	35.815	1.00	27.91	O
ATOM	4765	C3*	G F	1	16.413	36.864	34.622	1.00	26.72	C
ATOM	4766	O3*	G F	1	16.568	35.665	33.910	1.00	25.08	O
ATOM	4767	C2*	G F	1	16.202	36.522	36.087	1.00	26.98	C
ATOM	4768	O2*	G F	1	15.482	35.335	36.301	1.00	25.81	O
ATOM	4769	C1*	G F	1	17.630	36.342	36.588	1.00	28.42	C
ATOM	4770	N9	G F	1	17.831	36.772	37.959	1.00	29.31	N
ATOM	4771	C8	G F	1	16.901	37.333	38.795	1.00	29.96	C
ATOM	4772	N7	G F	1	17.373	37.649	39.956	1.00	30.43	N
ATOM	4773	C5	G F	1	18.699	37.306	39.874	1.00	28.99	C
ATOM	4774	C6	G F	1	19.686	37.466	40.850	1.00	28.88	C
ATOM	4775	O6	G F	1	19.540	37.927	42.004	1.00	29.61	O
ATOM	4776	N1	G F	1	20.900	36.978	40.399	1.00	29.41	N
ATOM	4777	C2	G F	1	21.124	36.423	39.149	1.00	30.60	C
ATOM	4778	N2	G F	1	22.376	36.030	38.873	1.00	29.72	N
ATOM	4779	N3	G F	1	20.187	36.304	38.214	1.00	29.77	N
ATOM	4780	C4	G F	1	19.003	36.760	38.658	1.00	28.94	C
ATOM	4781	P	C F	2	16.243	35.507	32.362	1.00	25.65	P
ATOM	4782	O1P	C F	2	15.404	36.604	31.873	1.00	24.56	O
ATOM	4783	O2P	C F	2	15.812	34.099	32.143	1.00	24.61	O
ATOM	4784	O5*	C F	2	17.678	35.742	31.733	1.00	26.10	O

ATOM	4785	C5*	C F	2	18.800	35.083	32.248	1.00	25.95	C
ATOM	4786	C4*	C F	2	19.957	35.389	31.330	1.00	27.34	C
ATOM	4787	O4*	C F	2	20.527	36.680	31.671	1.00	27.25	O
ATOM	4788	C3*	C F	2	21.119	34.420	31.422	1.00	27.24	C
ATOM	4789	O3*	C F	2	20.879	33.314	30.601	1.00	27.06	O
ATOM	4790	C2*	C F	2	22.248	35.280	30.902	1.00	26.55	C
ATOM	4791	O2*	C F	2	22.189	35.401	29.500	1.00	27.40	O
ATOM	4792	C1*	C F	2	21.930	36.597	31.577	1.00	24.85	C
ATOM	4793	N1	C F	2	22.514	36.790	32.920	1.00	24.44	N
ATOM	4794	C2	C F	2	23.900	36.956	33.000	1.00	25.13	C
ATOM	4795	O2	C F	2	24.548	36.892	31.942	1.00	24.79	O
ATOM	4796	N3	C F	2	24.472	37.175	34.221	1.00	23.23	N
ATOM	4797	C4	C F	2	23.720	37.245	35.315	1.00	24.28	C
ATOM	4798	N4	C F	2	24.320	37.455	36.485	1.00	24.01	N
ATOM	4799	C5	C F	2	22.305	37.092	35.257	1.00	23.44	C
ATOM	4800	C6	C F	2	21.754	36.889	34.053	1.00	23.86	C
ATOM	4801	P	G F	3	21.283	31.852	31.089	1.00	29.54	P
ATOM	4802	O1P	G F	3	20.462	30.954	30.254	1.00	26.88	O
ATOM	4803	O2P	G F	3	21.248	31.736	32.573	1.00	27.32	O
ATOM	4804	O5*	G F	3	22.825	31.800	30.668	1.00	29.11	O
ATOM	4805	C5*	G F	3	23.223	32.068	29.346	1.00	31.70	C
ATOM	4806	C4*	G F	3	24.746	32.122	29.199	1.00	33.40	C
ATOM	4807	O4*	G F	3	25.303	33.388	29.653	1.00	34.09	O
ATOM	4808	C3*	G F	3	25.554	31.074	29.956	1.00	34.01	C
ATOM	4809	O3*	G F	3	25.510	29.848	29.263	1.00	35.49	O
ATOM	4810	C2*	G F	3	26.922	31.745	29.928	1.00	35.07	C
ATOM	4811	O2*	G F	3	27.550	31.721	28.651	1.00	33.13	O
ATOM	4812	C1*	G F	3	26.529	33.163	30.324	1.00	34.72	C
ATOM	4813	N9	G F	3	26.337	33.437	31.761	1.00	35.37	N
ATOM	4814	C8	G F	3	25.137	33.552	32.436	1.00	35.63	C
ATOM	4815	N7	G F	3	25.261	33.812	33.708	1.00	35.47	N
ATOM	4816	C5	G F	3	26.626	33.877	33.897	1.00	34.48	C
ATOM	4817	C6	G F	3	27.345	34.145	35.076	1.00	35.43	C
ATOM	4818	O6	G F	3	26.903	34.375	36.217	1.00	35.69	O
ATOM	4819	N1	G F	3	28.706	34.117	34.845	1.00	35.09	N
ATOM	4820	C2	G F	3	29.304	33.869	33.637	1.00	36.01	C
ATOM	4821	N2	G F	3	30.642	33.885	33.612	1.00	35.36	N
ATOM	4822	N3	G F	3	28.633	33.641	32.516	1.00	36.52	N
ATOM	4823	C4	G F	3	27.298	33.663	32.720	1.00	34.73	C
ATOM	4824	P	C F	4	25.662	28.444	29.984	1.00	38.76	P
ATOM	4825	O1P	C F	4	25.486	27.402	28.952	1.00	39.93	O
ATOM	4826	O2P	C F	4	24.893	28.388	31.235	1.00	39.77	O
ATOM	4827	O5*	C F	4	27.194	28.450	30.459	1.00	41.96	O
ATOM	4828	C5*	C F	4	28.264	28.457	29.521	1.00	41.21	C
ATOM	4829	C4*	C F	4	29.565	28.783	30.223	1.00	41.68	C
ATOM	4830	O4*	C F	4	29.414	30.017	30.949	1.00	41.95	O
ATOM	4831	C3*	C F	4	29.999	27.810	31.303	1.00	42.11	C
ATOM	4832	O3*	C F	4	30.709	26.728	30.747	1.00	42.67	O
ATOM	4833	C2*	C F	4	30.922	28.672	32.134	1.00	41.65	C
ATOM	4834	O2*	C F	4	32.168	28.843	31.494	1.00	42.09	O
ATOM	4835	C1*	C F	4	30.171	29.987	32.144	1.00	41.07	C
ATOM	4836	N1	C F	4	29.273	30.268	33.312	1.00	40.87	N
ATOM	4837	C2	C F	4	29.841	30.632	34.529	1.00	40.91	C
ATOM	4838	O2	C F	4	31.076	30.664	34.616	1.00	41.42	O
ATOM	4839	N3	C F	4	29.029	30.921	35.585	1.00	40.13	N
ATOM	4840	C4	C F	4	27.701	30.866	35.482	1.00	40.75	C
ATOM	4841	N4	C F	4	26.945	31.166	36.550	1.00	39.37	N
ATOM	4842	C5	C F	4	27.099	30.500	34.251	1.00	41.21	C
ATOM	4843	C6	C F	4	27.906	30.217	33.210	1.00	42.01	C

ATOM	4844	P	C F	5	30.559	25.280	31.381	1.00	42.92	P
ATOM	4845	O1P	C F	5	31.345	24.396	30.501	1.00	45.74	O
ATOM	4846	O2P	C F	5	29.139	24.993	31.669	1.00	43.22	O
ATOM	4847	O5*	C F	5	31.330	25.393	32.763	1.00	45.19	O
ATOM	4848	C5*	C F	5	32.696	25.748	32.804	1.00	47.16	C
ATOM	4849	C4*	C F	5	33.102	25.818	34.258	1.00	48.77	C
ATOM	4850	O4*	C F	5	32.244	26.757	34.961	1.00	49.62	O
ATOM	4851	C3*	C F	5	32.929	24.494	34.977	1.00	49.96	C
ATOM	4852	O3*	C F	5	34.000	24.242	35.852	1.00	53.20	O
ATOM	4853	C2*	C F	5	31.689	24.685	35.809	1.00	49.87	C
ATOM	4854	O2*	C F	5	31.771	23.838	36.937	1.00	50.97	O
ATOM	4855	C1*	C F	5	31.816	26.170	36.164	1.00	48.86	C
ATOM	4856	N1	C F	5	30.539	26.823	36.647	1.00	47.68	N
ATOM	4857	C2	C F	5	30.429	27.340	37.942	1.00	46.64	C
ATOM	4858	O2	C F	5	31.372	27.313	38.723	1.00	47.08	O
ATOM	4859	N3	C F	5	29.264	27.900	38.330	1.00	47.52	N
ATOM	4860	C4	C F	5	28.222	27.955	37.521	1.00	47.15	C
ATOM	4861	N4	C F	5	27.126	28.517	38.005	1.00	47.13	N
ATOM	4862	C5	C F	5	28.283	27.423	36.205	1.00	47.52	C
ATOM	4863	C6	C F	5	29.449	26.875	35.816	1.00	48.18	C
ATOM	4864	P	A F	6	34.611	22.774	35.997	1.00	55.03	P
ATOM	4865	O1P	A F	6	35.538	22.619	34.859	1.00	54.60	O
ATOM	4866	O2P	A F	6	33.555	21.767	36.284	1.00	54.73	O
ATOM	4867	O5*	A F	6	35.415	22.942	37.348	1.00	56.27	O
ATOM	4868	C5*	A F	6	36.505	23.814	37.452	1.00	58.21	C
ATOM	4869	C4*	A F	6	37.186	23.485	38.762	1.00	59.34	C
ATOM	4870	O4*	A F	6	38.110	24.554	39.096	1.00	61.36	O
ATOM	4871	C3*	A F	6	36.240	23.368	39.956	1.00	59.60	C
ATOM	4872	O3*	A F	6	36.839	22.574	40.979	1.00	57.05	O
ATOM	4873	C2*	A F	6	36.102	24.843	40.314	1.00	60.94	C
ATOM	4874	O2*	A F	6	35.628	25.112	41.622	1.00	62.55	O
ATOM	4875	C1*	A F	6	37.558	25.283	40.169	1.00	62.07	C
ATOM	4876	N9	A F	6	37.683	26.705	39.908	1.00	62.53	N
ATOM	4877	C8	A F	6	36.986	27.473	39.011	1.00	62.77	C
ATOM	4878	N7	A F	6	37.333	28.739	39.037	1.00	62.95	N
ATOM	4879	C5	A F	6	38.321	28.804	40.019	1.00	62.90	C
ATOM	4880	C6	A F	6	39.110	29.860	40.549	1.00	62.88	C
ATOM	4881	N6	A F	6	39.029	31.133	40.141	1.00	62.85	N
ATOM	4882	N1	A F	6	40.003	29.558	41.530	1.00	63.07	N
ATOM	4883	C2	A F	6	40.105	28.287	41.956	1.00	62.99	C
ATOM	4884	N3	A F	6	39.425	27.211	41.539	1.00	63.03	N
ATOM	4885	C4	A F	6	38.544	27.546	40.566	1.00	63.26	C
ATOM	4886	P	G F	7	36.006	21.557	41.899	1.00	56.15	P
ATOM	4887	O1P	G F	7	36.959	20.516	42.332	1.00	55.89	O
ATOM	4888	O2P	G F	7	34.746	21.153	41.234	1.00	54.34	O
ATOM	4889	O5*	G F	7	35.610	22.461	43.165	1.00	53.91	O
ATOM	4890	C5*	G F	7	36.489	22.695	44.260	1.00	50.72	C
ATOM	4891	C4*	G F	7	35.777	23.522	45.315	1.00	49.73	C
ATOM	4892	O4*	G F	7	35.131	24.670	44.706	1.00	49.23	O
ATOM	4893	C3*	G F	7	34.631	22.819	46.012	1.00	48.76	C
ATOM	4894	O3*	G F	7	35.090	21.981	47.033	1.00	47.80	O
ATOM	4895	C2*	G F	7	33.834	24.006	46.542	1.00	48.88	C
ATOM	4896	O2*	G F	7	34.373	24.638	47.674	1.00	49.37	O
ATOM	4897	C1*	G F	7	33.906	24.969	45.366	1.00	49.69	C
ATOM	4898	N9	G F	7	32.721	24.906	44.472	1.00	49.94	N
ATOM	4899	C8	G F	7	32.670	24.611	43.131	1.00	49.53	C
ATOM	4900	N7	G F	7	31.470	24.646	42.622	1.00	49.70	N
ATOM	4901	C5	G F	7	30.664	24.994	43.694	1.00	49.67	C
ATOM	4902	C6	G F	7	29.258	25.192	43.758	1.00	50.22	C

ATOM	4903	O6	G F	7	28.420	25.090	42.839	1.00	50.20	O
ATOM	4904	N1	G F	7	28.834	25.527	45.048	1.00	49.42	N
ATOM	4905	C2	G F	7	29.655	25.668	46.140	1.00	49.93	C
ATOM	4906	N2	G F	7	29.064	26.000	47.301	1.00	49.16	N
ATOM	4907	N3	G F	7	30.976	25.494	46.084	1.00	50.17	N
ATOM	4908	C4	G F	7	31.411	25.158	44.837	1.00	49.69	C
ATOM	4909	P	A F	8	34.520	20.498	47.238	1.00	49.54	P
ATOM	4910	O1P	A F	8	35.283	19.896	48.353	1.00	48.26	O
ATOM	4911	O2P	A F	8	34.435	19.824	45.917	1.00	48.83	O
ATOM	4912	O5*	A F	8	33.018	20.668	47.729	1.00	48.64	O
ATOM	4913	C5*	A F	8	32.697	21.471	48.852	1.00	48.51	C
ATOM	4914	C4*	A F	8	31.195	21.692	48.885	1.00	48.19	C
ATOM	4915	O4*	A F	8	30.770	22.671	47.902	1.00	47.41	O
ATOM	4916	C3*	A F	8	30.394	20.450	48.541	1.00	48.34	C
ATOM	4917	O3*	A F	8	30.335	19.644	49.696	1.00	49.34	O
ATOM	4918	C2*	A F	8	29.078	21.088	48.133	1.00	48.02	C
ATOM	4919	O2*	A F	8	28.350	21.550	49.251	1.00	47.57	O
ATOM	4920	C1*	A F	8	29.559	22.265	47.296	1.00	47.24	C
ATOM	4921	N9	A F	8	29.862	22.044	45.883	1.00	47.04	N
ATOM	4922	C8	A F	8	31.096	21.835	45.333	1.00	47.55	C
ATOM	4923	N7	A F	8	31.097	21.689	44.028	1.00	47.73	N
ATOM	4924	C5	A F	8	29.770	21.825	43.681	1.00	46.58	C
ATOM	4925	C6	A F	8	29.111	21.780	42.438	1.00	47.06	C
ATOM	4926	N6	A F	8	29.730	21.578	41.271	1.00	47.76	N
ATOM	4927	N1	A F	8	27.773	21.946	42.428	1.00	47.62	N
ATOM	4928	C2	A F	8	27.145	22.151	43.596	1.00	47.55	C
ATOM	4929	N3	A F	8	27.666	22.219	44.828	1.00	48.03	N
ATOM	4930	C4	A F	8	28.998	22.044	44.810	1.00	47.43	C
ATOM	4931	P	A F	9	29.921	18.113	49.629	1.00	50.31	P
ATOM	4932	O1P	A F	9	29.835	17.607	51.017	1.00	50.42	O
ATOM	4933	O2P	A F	9	30.776	17.442	48.628	1.00	52.12	O
ATOM	4934	O5*	A F	9	28.463	18.170	48.994	1.00	50.93	O
ATOM	4935	C5*	A F	9	27.293	18.309	49.772	1.00	50.99	C
ATOM	4936	C4*	A F	9	26.096	18.271	48.845	1.00	50.94	C
ATOM	4937	O4*	A F	9	26.270	19.230	47.767	1.00	50.68	O
ATOM	4938	C3*	A F	9	25.906	16.943	48.133	1.00	50.72	C
ATOM	4939	O3*	A F	9	25.207	16.024	48.943	1.00	50.95	O
ATOM	4940	C2*	A F	9	25.106	17.377	46.921	1.00	50.74	C
ATOM	4941	O2*	A F	9	23.762	17.696	47.219	1.00	50.31	O
ATOM	4942	C1*	A F	9	25.859	18.637	46.540	1.00	49.85	C
ATOM	4943	N9	A F	9	27.015	18.473	45.647	1.00	49.47	N
ATOM	4944	C8	A F	9	28.338	18.325	45.950	1.00	48.74	C
ATOM	4945	N7	A F	9	29.123	18.251	44.906	1.00	48.61	N
ATOM	4946	C5	A F	9	28.263	18.370	43.837	1.00	48.14	C
ATOM	4947	C6	A F	9	28.448	18.373	42.441	1.00	48.20	C
ATOM	4948	N6	A F	9	29.618	18.241	41.830	1.00	48.41	N
ATOM	4949	N1	A F	9	27.359	18.501	41.659	1.00	49.45	N
ATOM	4950	C2	A F	9	26.154	18.627	42.225	1.00	49.18	C
ATOM	4951	N3	A F	9	25.860	18.639	43.525	1.00	49.81	N
ATOM	4952	C4	A F	9	26.965	18.506	44.279	1.00	49.04	C
ATOM	4953	P	C F	10	25.396	14.460	48.684	1.00	51.68	P
ATOM	4954	O1P	C F	10	24.555	13.753	49.682	1.00	51.39	O
ATOM	4955	O2P	C F	10	26.838	14.145	48.519	1.00	50.44	O
ATOM	4956	O5*	C F	10	24.738	14.266	47.256	1.00	50.86	O
ATOM	4957	C5*	C F	10	23.353	14.145	47.111	1.00	50.78	C
ATOM	4958	C4*	C F	10	23.055	14.021	45.636	1.00	50.59	C
ATOM	4959	O4*	C F	10	23.617	15.130	44.886	1.00	49.67	O
ATOM	4960	C3*	C F	10	23.688	12.802	44.992	1.00	50.56	C
ATOM	4961	O3*	C F	10	22.963	11.659	45.348	1.00	50.05	O

ATOM	4962	C2*	C F	10	23.540	13.206	43.534	1.00	50.71	C
ATOM	4963	O2*	C F	10	22.207	13.116	43.087	1.00	50.15	O
ATOM	4964	C1*	C F	10	24.000	14.663	43.609	1.00	49.33	C
ATOM	4965	N1	C F	10	25.483	14.824	43.430	1.00	48.73	N
ATOM	4966	C2	C F	10	25.999	14.978	42.137	1.00	48.98	C
ATOM	4967	O2	C F	10	25.240	14.983	41.161	1.00	49.33	O
ATOM	4968	N3	C F	10	27.335	15.136	41.978	1.00	48.45	N
ATOM	4969	C4	C F	10	28.159	15.120	43.026	1.00	48.09	C
ATOM	4970	N4	C F	10	29.455	15.267	42.779	1.00	47.70	N
ATOM	4971	C5	C F	10	27.669	14.956	44.350	1.00	48.19	C
ATOM	4972	C6	C F	10	26.340	14.814	44.499	1.00	48.49	C
ATOM	4973	P	U F	11	23.645	10.224	45.358	1.00	49.72	P
ATOM	4974	O1P	U F	11	22.608	9.254	45.785	1.00	49.66	O
ATOM	4975	O2P	U F	11	24.909	10.325	46.105	1.00	49.98	O
ATOM	4976	O5*	U F	11	23.992	9.978	43.817	1.00	48.06	O
ATOM	4977	C5*	U F	11	22.935	9.679	42.939	1.00	46.88	C
ATOM	4978	C4*	U F	11	23.368	9.519	41.492	1.00	46.04	C
ATOM	4979	O4*	U F	11	24.117	10.676	41.068	1.00	44.81	O
ATOM	4980	C3*	U F	11	24.255	8.325	41.178	1.00	44.80	C
ATOM	4981	O3*	U F	11	23.456	7.192	40.921	1.00	44.41	O
ATOM	4982	C2*	U F	11	25.004	8.783	39.934	1.00	44.97	C
ATOM	4983	O2*	U F	11	24.318	8.578	38.708	1.00	43.16	O
ATOM	4984	C1*	U F	11	25.143	10.275	40.185	1.00	44.29	C
ATOM	4985	N1	U F	11	26.448	10.700	40.750	1.00	43.92	N
ATOM	4986	C2	U F	11	27.532	10.764	39.917	1.00	43.71	C
ATOM	4987	O2	U F	11	27.475	10.452	38.746	1.00	45.05	O
ATOM	4988	N3	U F	11	28.688	11.210	40.503	1.00	43.94	N
ATOM	4989	C4	U F	11	28.873	11.589	41.822	1.00	44.80	C
ATOM	4990	O4	U F	11	29.970	11.958	42.232	1.00	44.89	O
ATOM	4991	C5	U F	11	27.689	11.500	42.632	1.00	45.02	C
ATOM	4992	C6	U F	11	26.550	11.079	42.072	1.00	44.79	C
TER	4993		U F	11						
HETATM	4994	PG	GTP Q	12	22.467	3.519	42.267	1.00	66.45	P
HETATM	4995	O1G	GTP Q	12	22.195	4.938	41.841	1.00	65.96	O
HETATM	4996	O2G	GTP Q	12	21.302	2.580	42.025	1.00	65.89	O
HETATM	4997	O3G	GTP Q	12	23.087	3.381	43.644	1.00	65.62	O
HETATM	4998	O3B	GTP Q	12	23.617	3.074	41.221	1.00	64.45	O
HETATM	4999	PB	GTP Q	12	24.885	2.134	41.601	1.00	64.24	P
HETATM	5000	O1B	GTP Q	12	24.450	1.135	42.659	1.00	62.98	O
HETATM	5001	O2B	GTP Q	12	25.411	1.550	40.307	1.00	62.39	O
HETATM	5002	O3A	GTP Q	12	25.992	3.172	42.238	1.00	59.83	O
HETATM	5003	PA	GTP Q	12	25.980	4.810	42.286	1.00	55.87	P
HETATM	5004	O1A	GTP Q	12	24.649	5.326	42.768	1.00	56.38	O
HETATM	5005	O2A	GTP Q	12	27.238	5.279	42.974	1.00	55.12	O
HETATM	5006	O5*	GTP Q	12	26.113	5.265	40.765	1.00	53.07	O
HETATM	5007	C5*	GTP Q	12	27.207	4.681	40.101	1.00	50.06	C
HETATM	5008	C4*	GTP Q	12	27.279	5.142	38.671	1.00	48.28	C
HETATM	5009	O4*	GTP Q	12	27.245	6.558	38.590	1.00	47.00	O
HETATM	5010	C3*	GTP Q	12	28.611	4.682	38.132	1.00	46.96	C
HETATM	5011	O3*	GTP Q	12	28.428	3.474	37.381	1.00	47.34	O
HETATM	5012	C2*	GTP Q	12	29.175	5.870	37.392	1.00	46.14	C
HETATM	5013	O2*	GTP Q	12	28.875	5.900	36.000	1.00	45.53	O
HETATM	5014	C1*	GTP Q	12	28.487	7.033	38.076	1.00	44.67	C
HETATM	5015	N9	GTP Q	12	29.302	7.594	39.183	1.00	44.40	N
HETATM	5016	C8	GTP Q	12	28.946	7.753	40.474	1.00	43.68	C
HETATM	5017	N7	GTP Q	12	29.969	8.326	41.156	1.00	42.57	N
HETATM	5018	C5	GTP Q	12	30.961	8.522	40.268	1.00	43.07	C
HETATM	5019	C6	GTP Q	12	32.230	9.061	40.368	1.00	43.01	C
HETATM	5020	O6	GTP Q	12	32.620	9.494	41.475	1.00	43.11	O

HETATM	5021	N1	GTP	Q	12	33.016	9.107	39.260	1.00	43.07	N
HETATM	5022	C2	GTP	Q	12	32.576	8.648	38.066	1.00	42.96	C
HETATM	5023	N2	GTP	Q	12	33.350	8.708	36.961	1.00	43.01	N
HETATM	5024	N3	GTP	Q	12	31.332	8.135	37.948	1.00	43.51	N
HETATM	5025	C4	GTP	Q	12	30.532	8.062	39.034	1.00	43.41	C
ATOM	5026	P	G	Q	13	29.160	2.383	38.282	1.00	43.93	P
ATOM	5027	O1P	G	Q	13	28.566	1.326	37.438	1.00	44.41	O
ATOM	5028	O2P	G	Q	13	29.274	2.181	39.742	1.00	43.19	O
ATOM	5029	O5*	G	Q	13	30.593	2.766	37.669	1.00	44.26	O
ATOM	5030	C5*	G	Q	13	30.770	2.931	36.260	1.00	44.72	C
ATOM	5031	C4*	G	Q	13	32.196	3.295	35.922	1.00	45.50	C
ATOM	5032	O4*	G	Q	13	32.420	4.669	36.289	1.00	45.91	O
ATOM	5033	C3*	G	Q	13	33.307	2.568	36.662	1.00	45.69	C
ATOM	5034	O3*	G	Q	13	33.529	1.303	36.090	1.00	46.76	O
ATOM	5035	C2*	G	Q	13	34.468	3.515	36.417	1.00	45.64	C
ATOM	5036	O2*	G	Q	13	34.964	3.478	35.094	1.00	45.84	O
ATOM	5037	C1*	G	Q	13	33.765	4.827	36.686	1.00	45.34	C
ATOM	5038	N9	G	Q	13	33.747	5.225	38.081	1.00	45.52	N
ATOM	5039	C8	G	Q	13	32.714	5.089	38.977	1.00	45.57	C
ATOM	5040	N7	G	Q	13	32.991	5.556	40.161	1.00	45.30	N
ATOM	5041	C5	G	Q	13	34.281	6.028	40.030	1.00	44.68	C
ATOM	5042	C6	G	Q	13	35.095	6.652	40.985	1.00	45.56	C
ATOM	5043	O6	G	Q	13	34.815	6.910	42.169	1.00	46.02	O
ATOM	5044	N1	G	Q	13	36.339	6.990	40.449	1.00	45.49	N
ATOM	5045	C2	G	Q	13	36.750	6.764	39.161	1.00	45.08	C
ATOM	5046	N2	G	Q	13	37.988	7.176	38.863	1.00	45.04	N
ATOM	5047	N3	G	Q	13	35.985	6.178	38.247	1.00	45.38	N
ATOM	5048	C4	G	Q	13	34.768	5.842	38.759	1.00	45.21	C
ATOM	5049	P	C	Q	14	34.251	0.153	36.929	1.00	47.30	P
ATOM	5050	O1P	C	Q	14	34.320	-0.989	35.991	1.00	47.68	O
ATOM	5051	O2P	C	Q	14	33.602	0.032	38.246	1.00	47.85	O
ATOM	5052	O5*	C	Q	14	35.718	0.711	37.240	1.00	48.24	O
ATOM	5053	C5*	C	Q	14	36.755	0.644	36.294	1.00	48.81	C
ATOM	5054	C4*	C	Q	14	38.012	1.278	36.852	1.00	49.42	C
ATOM	5055	O4*	C	Q	14	37.757	2.642	37.270	1.00	50.34	O
ATOM	5056	C3*	C	Q	14	38.576	0.657	38.120	1.00	49.59	C
ATOM	5057	O3*	C	Q	14	39.237	-0.577	37.859	1.00	49.76	O
ATOM	5058	C2*	C	Q	14	39.510	1.782	38.563	1.00	49.70	C
ATOM	5059	O2*	C	Q	14	40.636	1.971	37.734	1.00	49.66	O
ATOM	5060	C1*	C	Q	14	38.560	2.954	38.405	1.00	49.70	C
ATOM	5061	N1	C	Q	14	37.698	3.220	39.615	1.00	49.28	N
ATOM	5062	C2	C	Q	14	38.214	3.958	40.694	1.00	49.15	C
ATOM	5063	O2	C	Q	14	39.368	4.381	40.652	1.00	49.26	O
ATOM	5064	N3	C	Q	14	37.431	4.203	41.774	1.00	49.68	N
ATOM	5065	C4	C	Q	14	36.161	3.759	41.821	1.00	50.78	C
ATOM	5066	N4	C	Q	14	35.412	4.039	42.908	1.00	49.17	N
ATOM	5067	C5	C	Q	14	35.613	3.010	40.729	1.00	49.37	C
ATOM	5068	C6	C	Q	14	36.406	2.772	39.671	1.00	49.28	C
ATOM	5069	P	A	Q	15	39.263	-1.778	38.919	1.00	47.44	P
ATOM	5070	O1P	A	Q	15	39.821	-2.939	38.192	1.00	50.44	O
ATOM	5071	O2P	A	Q	15	37.984	-1.885	39.623	1.00	48.39	O
ATOM	5072	O5*	A	Q	15	40.343	-1.354	40.001	1.00	49.89	O
ATOM	5073	C5*	A	Q	15	41.706	-1.167	39.625	1.00	51.12	C
ATOM	5074	C4*	A	Q	15	42.469	-0.496	40.756	1.00	51.44	C
ATOM	5075	O4*	A	Q	15	41.941	0.837	41.012	1.00	53.02	O
ATOM	5076	C3*	A	Q	15	42.329	-1.189	42.098	1.00	51.24	C
ATOM	5077	O3*	A	Q	15	43.215	-2.292	42.178	1.00	49.35	O
ATOM	5078	C2*	A	Q	15	42.670	-0.062	43.058	1.00	51.38	C
ATOM	5079	O2*	A	Q	15	44.052	0.224	43.110	1.00	52.60	O

ATOM	5080	C1*	A Q	15	41.930	1.094	42.409	1.00	51.84	C
ATOM	5081	N9	A Q	15	40.553	1.302	42.860	1.00	51.51	N
ATOM	5082	C8	A Q	15	39.388	0.912	42.273	1.00	51.55	C
ATOM	5083	N7	A Q	15	38.310	1.280	42.932	1.00	51.89	N
ATOM	5084	C5	A Q	15	38.795	1.966	44.024	1.00	51.53	C
ATOM	5085	C6	A Q	15	38.178	2.622	45.114	1.00	51.49	C
ATOM	5086	N6	A Q	15	36.861	2.722	45.336	1.00	50.97	N
ATOM	5087	N1	A Q	15	38.996	3.195	46.010	1.00	51.55	N
ATOM	5088	C2	A Q	15	40.315	3.133	45.842	1.00	51.63	C
ATOM	5089	N3	A Q	15	40.999	2.554	44.870	1.00	51.80	N
ATOM	5090	C4	A Q	15	40.175	1.985	43.986	1.00	51.72	C
ATOM	5091	P	C Q	16	42.742	-3.584	42.989	1.00	48.87	P
ATOM	5092	O1P	C Q	16	43.676	-4.685	42.671	1.00	47.45	O
ATOM	5093	O2P	C Q	16	41.278	-3.744	42.790	1.00	46.88	O
ATOM	5094	O5*	C Q	16	42.980	-3.188	44.515	1.00	48.29	O
ATOM	5095	C5*	C Q	16	44.263	-2.968	45.058	1.00	48.47	C
ATOM	5096	C4*	C Q	16	44.121	-2.219	46.365	1.00	48.97	C
ATOM	5097	O4*	C Q	16	43.446	-0.955	46.127	1.00	48.50	O
ATOM	5098	C3*	C Q	16	43.234	-2.878	47.406	1.00	49.13	C
ATOM	5099	O3*	C Q	16	43.891	-3.916	48.092	1.00	49.48	O
ATOM	5100	C2*	C Q	16	42.949	-1.697	48.308	1.00	49.03	C
ATOM	5101	O2*	C Q	16	44.036	-1.336	49.122	1.00	50.44	O
ATOM	5102	C1*	C Q	16	42.677	-0.625	47.268	1.00	48.91	C
ATOM	5103	N1	C Q	16	41.205	-0.559	46.972	1.00	48.65	N
ATOM	5104	C2	C Q	16	40.374	0.185	47.821	1.00	47.91	C
ATOM	5105	O2	C Q	16	40.853	0.790	48.793	1.00	47.69	O
ATOM	5106	N3	C Q	16	39.052	0.219	47.554	1.00	47.41	N
ATOM	5107	C4	C Q	16	38.536	-0.419	46.511	1.00	48.49	C
ATOM	5108	N4	C Q	16	37.221	-0.332	46.302	1.00	47.68	N
ATOM	5109	C5	C Q	16	39.358	-1.184	45.638	1.00	48.73	C
ATOM	5110	C6	C Q	16	40.669	-1.230	45.909	1.00	49.17	C
ATOM	5111	P	C Q	17A	43.066	-5.092	48.800	1.00	50.27	P
ATOM	5112	O1P	C Q	17A	44.090	-6.042	49.291	1.00	51.60	O
ATOM	5113	O2P	C Q	17A	41.953	-5.555	47.937	1.00	48.88	O
ATOM	5114	O5*	C Q	17A	42.418	-4.377	50.067	1.00	49.99	O
ATOM	5115	C5*	C Q	17A	43.194	-4.003	51.178	1.00	51.03	C
ATOM	5116	C4*	C Q	17A	42.283	-3.329	52.172	1.00	51.00	C
ATOM	5117	O4*	C Q	17A	41.562	-2.271	51.494	1.00	51.73	O
ATOM	5118	C3*	C Q	17A	41.150	-4.185	52.699	1.00	51.09	C
ATOM	5119	O3*	C Q	17A	41.553	-5.071	53.719	1.00	50.77	O
ATOM	5120	C2*	C Q	17A	40.222	-3.115	53.227	1.00	50.68	C
ATOM	5121	O2*	C Q	17A	40.719	-2.626	54.443	1.00	50.13	O
ATOM	5122	C1*	C Q	17A	40.292	-2.089	52.101	1.00	50.90	C
ATOM	5123	N1	C Q	17A	39.191	-2.203	51.062	1.00	50.11	N
ATOM	5124	C2	C Q	17A	37.885	-1.817	51.387	1.00	50.40	C
ATOM	5125	O2	C Q	17A	37.640	-1.404	52.521	1.00	50.95	O
ATOM	5126	N3	C Q	17A	36.899	-1.917	50.457	1.00	50.48	N
ATOM	5127	C4	C Q	17A	37.167	-2.363	49.232	1.00	50.52	C
ATOM	5128	N4	C Q	17A	36.166	-2.431	48.355	1.00	50.24	N
ATOM	5129	C5	C Q	17A	38.486	-2.750	48.865	1.00	50.13	C
ATOM	5130	C6	C Q	17A	39.446	-2.651	49.799	1.00	50.24	C
ATOM	5131	P	A Q	17B	40.916	-6.551	53.767	1.00	51.11	P
ATOM	5132	O1P	A Q	17B	41.596	-7.251	54.890	1.00	51.24	O
ATOM	5133	O2P	A Q	17B	40.901	-7.143	52.411	1.00	48.89	O
ATOM	5134	O5*	A Q	17B	39.413	-6.261	54.196	1.00	48.03	O
ATOM	5135	C5*	A Q	17B	39.112	-5.960	55.510	1.00	46.88	C
ATOM	5136	C4*	A Q	17B	37.656	-5.606	55.552	1.00	47.36	C
ATOM	5137	O4*	A Q	17B	37.400	-4.501	54.651	1.00	47.87	O
ATOM	5138	C3*	A Q	17B	36.698	-6.677	55.055	1.00	47.57	C

ATOM	5139	O3*	A Q	17B	36.546	-7.723	56.020	1.00	48.25	O
ATOM	5140	C2*	A Q	17B	35.469	-5.791	54.867	1.00	47.78	C
ATOM	5141	O2*	A Q	17B	34.876	-5.367	56.077	1.00	48.64	O
ATOM	5142	C1*	A Q	17B	36.086	-4.601	54.142	1.00	46.95	C
ATOM	5143	N9	A Q	17B	36.094	-4.846	52.709	1.00	46.86	N
ATOM	5144	C8	A Q	17B	37.134	-5.211	51.889	1.00	47.67	C
ATOM	5145	N7	A Q	17B	36.788	-5.382	50.625	1.00	48.14	N
ATOM	5146	C5	A Q	17B	35.420	-5.118	50.630	1.00	47.14	C
ATOM	5147	C6	A Q	17B	34.437	-5.132	49.630	1.00	46.23	C
ATOM	5148	N6	A Q	17B	34.654	-5.412	48.347	1.00	45.56	N
ATOM	5149	N1	A Q	17B	33.192	-4.808	49.995	1.00	47.03	N
ATOM	5150	C2	A Q	17B	32.929	-4.511	51.262	1.00	47.23	C
ATOM	5151	N3	A Q	17B	33.759	-4.475	52.299	1.00	46.85	N
ATOM	5152	C4	A Q	17B	34.994	-4.788	51.903	1.00	46.88	C
ATOM	5153	P	U Q	17C	36.031	-9.181	55.631	1.00	47.42	P
ATOM	5154	O1P	U Q	17C	35.861	-9.951	56.874	1.00	47.93	O
ATOM	5155	O2P	U Q	17C	36.886	-9.691	54.541	1.00	49.03	O
ATOM	5156	O5*	U Q	17C	34.594	-8.891	55.023	1.00	48.83	O
ATOM	5157	C5*	U Q	17C	33.509	-8.541	55.859	1.00	49.43	C
ATOM	5158	C4*	U Q	17C	32.271	-8.315	55.009	1.00	50.16	C
ATOM	5159	O4*	U Q	17C	32.562	-7.307	54.017	1.00	49.85	O
ATOM	5160	C3*	U Q	17C	31.791	-9.499	54.178	1.00	49.82	C
ATOM	5161	O3*	U Q	17C	31.032	-10.409	54.952	1.00	50.15	O
ATOM	5162	C2*	U Q	17C	30.931	-8.771	53.156	1.00	50.20	C
ATOM	5163	O2*	U Q	17C	29.669	-8.425	53.674	1.00	50.72	O
ATOM	5164	C1*	U Q	17C	31.797	-7.550	52.853	1.00	49.31	C
ATOM	5165	N1	U Q	17C	32.673	-7.844	51.691	1.00	49.17	N
ATOM	5166	C2	U Q	17C	32.126	-7.737	50.432	1.00	49.09	C
ATOM	5167	O2	U Q	17C	30.989	-7.374	50.246	1.00	48.59	O
ATOM	5168	N3	U Q	17C	32.974	-8.050	49.397	1.00	49.23	N
ATOM	5169	C4	U Q	17C	34.292	-8.469	49.487	1.00	49.00	C
ATOM	5170	O4	U Q	17C	34.917	-8.720	48.465	1.00	48.71	O
ATOM	5171	C5	U Q	17C	34.798	-8.578	50.827	1.00	48.66	C
ATOM	5172	C6	U Q	17C	33.985	-8.272	51.854	1.00	49.22	C
ATOM	5173	P	U Q	17D	31.065	-11.990	54.713	1.00	51.18	P
ATOM	5174	O1P	U Q	17D	30.396	-12.503	55.914	1.00	49.77	O
ATOM	5175	O2P	U Q	17D	32.434	-12.395	54.332	1.00	51.87	O
ATOM	5176	O5*	U Q	17D	30.168	-12.272	53.415	1.00	51.19	O
ATOM	5177	C5*	U Q	17D	28.759	-12.018	53.441	1.00	52.26	C
ATOM	5178	C4*	U Q	17D	27.981	-13.135	52.781	1.00	52.66	C
ATOM	5179	O4*	U Q	17D	28.388	-13.226	51.390	1.00	53.37	O
ATOM	5180	C3*	U Q	17D	28.195	-14.515	53.388	1.00	53.24	C
ATOM	5181	O3*	U Q	17D	26.980	-15.252	53.430	1.00	52.97	O
ATOM	5182	C2*	U Q	17D	29.195	-15.145	52.427	1.00	53.11	C
ATOM	5183	O2*	U Q	17D	29.087	-16.546	52.405	1.00	53.76	O
ATOM	5184	C1*	U Q	17D	28.768	-14.544	51.091	1.00	53.44	C
ATOM	5185	N1	U Q	17D	29.846	-14.543	50.037	1.00	53.54	N
ATOM	5186	C2	U Q	17D	29.739	-15.389	48.943	1.00	53.54	C
ATOM	5187	O2	U Q	17D	28.797	-16.130	48.767	1.00	53.19	O
ATOM	5188	N3	U Q	17D	30.771	-15.329	48.047	1.00	53.16	N
ATOM	5189	C4	U Q	17D	31.893	-14.519	48.130	1.00	53.79	C
ATOM	5190	O4	U Q	17D	32.758	-14.561	47.265	1.00	53.46	O
ATOM	5191	C5	U Q	17D	31.941	-13.669	49.290	1.00	53.36	C
ATOM	5192	C6	U Q	17D	30.939	-13.714	50.176	1.00	53.15	C
ATOM	5193	P	G Q	17E	25.908	-15.036	54.601	1.00	54.90	P
ATOM	5194	O1P	G Q	17E	26.636	-14.809	55.871	1.00	53.64	O
ATOM	5195	O2P	G Q	17E	24.908	-16.119	54.495	1.00	55.71	O
ATOM	5196	O5*	G Q	17E	25.124	-13.716	54.148	1.00	53.52	O
ATOM	5197	C5*	G Q	17E	24.824	-12.669	55.043	1.00	51.83	C

ATOM	5198	C4*	G Q	17E	24.483	-11.415	54.262	1.00	51.73	C
ATOM	5199	O4*	G Q	17E	25.536	-11.125	53.308	1.00	51.47	O
ATOM	5200	C3*	G Q	17E	23.222	-11.501	53.416	1.00	51.77	C
ATOM	5201	O3*	G Q	17E	22.059	-11.241	54.202	1.00	49.64	O
ATOM	5202	C2*	G Q	17E	23.495	-10.449	52.341	1.00	51.80	C
ATOM	5203	O2*	G Q	17E	23.159	-9.140	52.742	1.00	51.14	O
ATOM	5204	C1*	G Q	17E	25.008	-10.570	52.130	1.00	52.50	C
ATOM	5205	N9	G Q	17E	25.410	-11.423	51.006	1.00	53.55	N
ATOM	5206	C8	G Q	17E	24.755	-12.540	50.548	1.00	53.43	C
ATOM	5207	N7	G Q	17E	25.344	-13.107	49.533	1.00	54.05	N
ATOM	5208	C5	G Q	17E	26.456	-12.325	49.296	1.00	53.24	C
ATOM	5209	C6	G Q	17E	27.459	-12.462	48.317	1.00	53.22	C
ATOM	5210	O6	G Q	17E	27.564	-13.318	47.440	1.00	53.04	O
ATOM	5211	N1	G Q	17E	28.416	-11.463	48.412	1.00	53.59	N
ATOM	5212	C2	G Q	17E	28.407	-10.462	49.342	1.00	53.06	C
ATOM	5213	N2	G Q	17E	29.426	-9.607	49.261	1.00	53.07	N
ATOM	5214	N3	G Q	17E	27.468	-10.319	50.269	1.00	53.48	N
ATOM	5215	C4	G Q	17E	26.518	-11.280	50.188	1.00	53.25	C
ATOM	5216	P	C Q	17F	20.731	-12.112	53.990	1.00	49.97	P
ATOM	5217	O1P	C Q	17F	19.702	-11.487	54.858	1.00	51.12	O
ATOM	5218	O2P	C Q	17F	21.035	-13.548	54.149	1.00	50.65	O
ATOM	5219	O5*	C Q	17F	20.358	-11.905	52.460	1.00	49.71	O
ATOM	5220	C5*	C Q	17F	20.083	-10.623	51.966	1.00	50.05	C
ATOM	5221	C4*	C Q	17F	18.633	-10.514	51.521	1.00	50.21	C
ATOM	5222	O4*	C Q	17F	18.305	-11.568	50.578	1.00	49.54	O
ATOM	5223	C3*	C Q	17F	17.576	-10.625	52.613	1.00	50.11	C
ATOM	5224	O3*	C Q	17F	16.473	-9.846	52.234	1.00	49.25	O
ATOM	5225	C2*	C Q	17F	17.208	-12.096	52.551	1.00	50.87	C
ATOM	5226	O2*	C Q	17F	15.952	-12.404	53.126	1.00	50.69	O
ATOM	5227	C1*	C Q	17F	17.170	-12.271	51.036	1.00	51.13	C
ATOM	5228	N1	C Q	17F	17.209	-13.707	50.598	1.00	51.99	N
ATOM	5229	C2	C Q	17F	16.170	-14.285	49.848	1.00	51.98	C
ATOM	5230	O2	C Q	17F	15.182	-13.613	49.525	1.00	53.20	O
ATOM	5231	N3	C Q	17F	16.267	-15.590	49.494	1.00	51.97	N
ATOM	5232	C4	C Q	17F	17.334	-16.310	49.856	1.00	52.48	C
ATOM	5233	N4	C Q	17F	17.413	-17.596	49.497	1.00	52.98	N
ATOM	5234	C5	C Q	17F	18.393	-15.745	50.612	1.00	53.01	C
ATOM	5235	C6	C Q	17F	18.291	-14.460	50.956	1.00	52.90	C
ATOM	5236	P	A Q	17G	15.774	-8.746	53.129	1.00	49.66	P
ATOM	5237	O1P	A Q	17G	16.612	-8.299	54.271	1.00	49.07	O
ATOM	5238	O2P	A Q	17G	14.394	-9.252	53.313	1.00	50.27	O
ATOM	5239	O5*	A Q	17G	15.759	-7.514	52.118	1.00	49.10	O
ATOM	5240	C5*	A Q	17G	16.965	-6.868	51.744	1.00	47.88	C
ATOM	5241	C4*	A Q	17G	16.845	-6.470	50.292	1.00	47.18	C
ATOM	5242	O4*	A Q	17G	16.803	-7.667	49.486	1.00	46.62	O
ATOM	5243	C3*	A Q	17G	15.558	-5.750	49.934	1.00	47.21	C
ATOM	5244	O3*	A Q	17G	15.614	-4.368	50.288	1.00	46.51	O
ATOM	5245	C2*	A Q	17G	15.501	-6.021	48.434	1.00	47.23	C
ATOM	5246	O2*	A Q	17G	16.372	-5.209	47.674	1.00	47.80	O
ATOM	5247	C1*	A Q	17G	15.968	-7.465	48.364	1.00	46.31	C
ATOM	5248	N9	A Q	17G	14.916	-8.484	48.346	1.00	46.03	N
ATOM	5249	C8	A Q	17G	14.482	-9.296	49.358	1.00	45.96	C
ATOM	5250	N7	A Q	17G	13.535	-10.142	49.015	1.00	45.05	N
ATOM	5251	C5	A Q	17G	13.339	-9.871	47.684	1.00	45.33	C
ATOM	5252	C6	A Q	17G	12.479	-10.428	46.727	1.00	45.32	C
ATOM	5253	N6	A Q	17G	11.611	-11.406	46.983	1.00	46.00	N
ATOM	5254	N1	A Q	17G	12.537	-9.928	45.477	1.00	46.37	N
ATOM	5255	C2	A Q	17G	13.412	-8.951	45.203	1.00	46.04	C
ATOM	5256	N3	A Q	17G	14.281	-8.356	46.020	1.00	46.26	N

ATOM	5257	C4	A Q	17G	14.185	-8.864	47.255	1.00	45.75	C
ATOM	5258	P	C Q	17H	14.268	-3.546	50.582	1.00	47.05	P
ATOM	5259	O1P	C Q	17H	14.668	-2.174	50.955	1.00	47.67	O
ATOM	5260	O2P	C Q	17H	13.365	-4.313	51.457	1.00	46.46	O
ATOM	5261	O5*	C Q	17H	13.590	-3.481	49.153	1.00	48.82	O
ATOM	5262	C5*	C Q	17H	14.165	-2.756	48.086	1.00	50.93	C
ATOM	5263	C4*	C Q	17H	13.293	-2.982	46.873	1.00	52.71	C
ATOM	5264	O4*	C Q	17H	13.336	-4.377	46.475	1.00	52.82	O
ATOM	5265	C3*	C Q	17H	11.818	-2.722	47.135	1.00	53.94	C
ATOM	5266	O3*	C Q	17H	11.555	-1.338	47.016	1.00	57.49	O
ATOM	5267	C2*	C Q	17H	11.154	-3.554	46.050	1.00	53.22	C
ATOM	5268	O2*	C Q	17H	11.153	-2.914	44.794	1.00	53.40	O
ATOM	5269	C1*	C Q	17H	12.056	-4.776	45.999	1.00	52.51	C
ATOM	5270	N1	C Q	17H	11.519	-5.936	46.783	1.00	52.04	N
ATOM	5271	C2	C Q	17H	10.635	-6.832	46.160	1.00	51.56	C
ATOM	5272	O2	C Q	17H	10.286	-6.666	44.982	1.00	51.47	O
ATOM	5273	N3	C Q	17H	10.162	-7.880	46.872	1.00	51.11	N
ATOM	5274	C4	C Q	17H	10.529	-8.066	48.136	1.00	51.53	C
ATOM	5275	N4	C Q	17H	10.029	-9.126	48.781	1.00	51.63	N
ATOM	5276	C5	C Q	17H	11.424	-7.172	48.788	1.00	51.57	C
ATOM	5277	C6	C Q	17H	11.887	-6.136	48.084	1.00	51.65	C
ATOM	5278	P	U Q	17I	10.623	-0.550	48.049	1.00	59.68	P
ATOM	5279	O1P	U Q	17I	10.663	-1.184	49.387	1.00	59.59	O
ATOM	5280	O2P	U Q	17I	9.323	-0.334	47.382	1.00	59.48	O
ATOM	5281	O5*	U Q	17I	11.446	0.818	48.143	1.00	63.02	O
ATOM	5282	C5*	U Q	17I	11.360	1.803	47.116	1.00	66.77	C
ATOM	5283	C4*	U Q	17I	12.721	2.382	46.756	1.00	68.59	C
ATOM	5284	O4*	U Q	17I	12.522	3.714	46.214	1.00	69.92	O
ATOM	5285	C3*	U Q	17I	13.712	2.568	47.916	1.00	70.41	C
ATOM	5286	O3*	U Q	17I	14.767	1.572	48.005	1.00	70.44	O
ATOM	5287	C2*	U Q	17I	14.226	4.000	47.715	1.00	70.93	C
ATOM	5288	O2*	U Q	17I	15.266	4.150	46.769	1.00	72.04	O
ATOM	5289	C1*	U Q	17I	12.985	4.671	47.150	1.00	71.35	C
ATOM	5290	N1	U Q	17I	11.833	5.038	48.072	1.00	72.18	N
ATOM	5291	C2	U Q	17I	11.912	5.047	49.473	1.00	72.49	C
ATOM	5292	O2	U Q	17I	12.900	4.750	50.138	1.00	71.73	O
ATOM	5293	N3	U Q	17I	10.733	5.434	50.097	1.00	72.77	N
ATOM	5294	C4	U Q	17I	9.524	5.802	49.499	1.00	72.24	C
ATOM	5295	O4	U Q	17I	8.552	6.117	50.182	1.00	71.89	O
ATOM	5296	C5	U Q	17I	9.527	5.774	48.059	1.00	72.20	C
ATOM	5297	C6	U Q	17I	10.651	5.406	47.427	1.00	72.46	C
ATOM	5298	P	C Q	17J	15.761	1.055	46.848	1.00	71.84	P
ATOM	5299	O1P	C Q	17J	15.046	0.955	45.551	1.00	71.02	O
ATOM	5300	O2P	C Q	17J	16.446	-0.145	47.403	1.00	70.68	O
ATOM	5301	O5*	C Q	17J	16.825	2.235	46.707	1.00	70.23	O
ATOM	5302	C5*	C Q	17J	17.761	2.180	45.647	1.00	69.99	C
ATOM	5303	C4*	C Q	17J	18.713	3.352	45.719	1.00	69.69	C
ATOM	5304	O4*	C Q	17J	18.021	4.542	46.170	1.00	69.48	O
ATOM	5305	C3*	C Q	17J	19.829	3.175	46.730	1.00	69.18	C
ATOM	5306	O3*	C Q	17J	20.830	2.302	46.210	1.00	68.02	O
ATOM	5307	C2*	C Q	17J	20.271	4.623	46.919	1.00	69.29	C
ATOM	5308	O2*	C Q	17J	21.122	5.107	45.893	1.00	69.62	O
ATOM	5309	C1*	C Q	17J	18.924	5.351	46.907	1.00	69.57	C
ATOM	5310	N1	C Q	17J	18.376	5.647	48.287	1.00	69.67	N
ATOM	5311	C2	C Q	17J	18.825	6.796	48.973	1.00	69.80	C
ATOM	5312	O2	C Q	17J	19.655	7.547	48.446	1.00	69.91	O
ATOM	5313	N3	C Q	17J	18.337	7.068	50.213	1.00	69.88	N
ATOM	5314	C4	C Q	17J	17.440	6.253	50.774	1.00	69.88	C
ATOM	5315	N4	C Q	17J	16.993	6.569	51.995	1.00	69.71	N

ATOM	5316	C5	C Q	17J	16.969	5.079	50.103	1.00	70.06	C
ATOM	5317	C6	C Q	17J	17.457	4.817	48.881	1.00	69.61	C
ATOM	5318	P	C Q	17K	21.445	1.145	47.139	1.00	67.61	P
ATOM	5319	O1P	C Q	17K	22.434	0.369	46.351	1.00	67.30	O
ATOM	5320	O2P	C Q	17K	20.332	0.463	47.838	1.00	67.61	O
ATOM	5321	O5*	C Q	17K	22.269	1.977	48.218	1.00	65.75	O
ATOM	5322	C5*	C Q	17K	23.402	2.733	47.830	1.00	63.30	C
ATOM	5323	C4*	C Q	17K	23.778	3.677	48.953	1.00	62.20	C
ATOM	5324	O4*	C Q	17K	22.657	4.530	49.296	1.00	62.33	O
ATOM	5325	C3*	C Q	17K	24.098	3.040	50.298	1.00	60.64	C
ATOM	5326	O3*	C Q	17K	25.358	2.401	50.287	1.00	57.93	O
ATOM	5327	C2*	C Q	17K	24.077	4.274	51.178	1.00	61.19	C
ATOM	5328	O2*	C Q	17K	25.194	5.126	51.002	1.00	61.00	O
ATOM	5329	C1*	C Q	17K	22.806	4.931	50.650	1.00	62.40	C
ATOM	5330	N1	C Q	17K	21.620	4.542	51.483	1.00	62.88	N
ATOM	5331	C2	C Q	17K	21.347	5.305	52.633	1.00	63.04	C
ATOM	5332	O2	C Q	17K	22.073	6.263	52.913	1.00	62.72	O
ATOM	5333	N3	C Q	17K	20.287	4.980	53.417	1.00	63.32	N
ATOM	5334	C4	C Q	17K	19.519	3.940	53.092	1.00	63.05	C
ATOM	5335	N4	C Q	17K	18.494	3.681	53.907	1.00	63.00	N
ATOM	5336	C5	C Q	17K	19.776	3.137	51.931	1.00	63.14	C
ATOM	5337	C6	C Q	17K	20.829	3.466	51.163	1.00	62.88	C
ATOM	5338	P	G Q	17L	25.653	1.112	51.180	1.00	54.04	P
ATOM	5339	O1P	G Q	17L	26.671	0.330	50.449	1.00	53.01	O
ATOM	5340	O2P	G Q	17L	24.378	0.500	51.595	1.00	54.42	O
ATOM	5341	O5*	G Q	17L	26.311	1.743	52.493	1.00	53.21	O
ATOM	5342	C5*	G Q	17L	27.453	2.589	52.395	1.00	51.69	C
ATOM	5343	C4*	G Q	17L	28.444	2.309	53.513	1.00	51.13	C
ATOM	5344	O4*	G Q	17L	28.729	0.886	53.611	1.00	50.49	O
ATOM	5345	C3*	G Q	17L	29.808	2.968	53.342	1.00	49.83	C
ATOM	5346	O3*	G Q	17L	29.772	4.256	53.905	1.00	48.62	O
ATOM	5347	C2*	G Q	17L	30.687	2.042	54.152	1.00	50.09	C
ATOM	5348	O2*	G Q	17L	30.552	2.271	55.540	1.00	50.18	O
ATOM	5349	C1*	G Q	17L	30.117	0.686	53.739	1.00	49.95	C
ATOM	5350	N9	G Q	17L	30.665	0.238	52.465	1.00	49.95	N
ATOM	5351	C8	G Q	17L	30.052	0.149	51.235	1.00	49.81	C
ATOM	5352	N7	G Q	17L	30.842	-0.267	50.282	1.00	49.12	N
ATOM	5353	C5	G Q	17L	32.060	-0.463	50.925	1.00	50.18	C
ATOM	5354	C6	G Q	17L	33.311	-0.914	50.430	1.00	50.10	C
ATOM	5355	O6	G Q	17L	33.636	-1.251	49.281	1.00	50.13	O
ATOM	5356	N1	G Q	17L	34.263	-0.957	51.433	1.00	49.60	N
ATOM	5357	C2	G Q	17L	34.068	-0.617	52.741	1.00	49.36	C
ATOM	5358	N2	G Q	17L	35.141	-0.731	53.540	1.00	49.21	N
ATOM	5359	N3	G Q	17L	32.909	-0.200	53.220	1.00	49.15	N
ATOM	5360	C4	G Q	17L	31.961	-0.156	52.264	1.00	49.62	C
ATOM	5361	P	G Q	18	30.523	5.486	53.239	1.00	46.18	P
ATOM	5362	O1P	G Q	18	30.133	6.691	54.011	1.00	47.26	O
ATOM	5363	O2P	G Q	18	30.385	5.417	51.771	1.00	46.29	O
ATOM	5364	O5*	G Q	18	32.041	5.174	53.608	1.00	48.37	O
ATOM	5365	C5*	G Q	18	32.398	4.998	54.976	1.00	48.39	C
ATOM	5366	C4*	G Q	18	33.835	4.546	55.120	1.00	48.98	C
ATOM	5367	O4*	G Q	18	34.006	3.181	54.667	1.00	49.17	O
ATOM	5368	C3*	G Q	18	34.845	5.358	54.312	1.00	49.11	C
ATOM	5369	O3*	G Q	18	35.203	6.495	55.053	1.00	48.86	O
ATOM	5370	C2*	G Q	18	35.996	4.375	54.160	1.00	48.91	C
ATOM	5371	O2*	G Q	18	36.831	4.332	55.300	1.00	48.74	O
ATOM	5372	C1*	G Q	18	35.236	3.064	53.957	1.00	49.07	C
ATOM	5373	N9	G Q	18	34.994	2.736	52.542	1.00	48.72	N
ATOM	5374	C8	G Q	18	33.824	2.820	51.817	1.00	49.05	C

ATOM	5375	N7	G Q	18	33.938	2.456	50.568	1.00	48.68	N
ATOM	5376	C5	G Q	18	35.274	2.102	50.454	1.00	48.94	C
ATOM	5377	C6	G Q	18	36.005	1.615	49.347	1.00	48.66	C
ATOM	5378	O6	G Q	18	35.632	1.379	48.191	1.00	49.14	O
ATOM	5379	N1	G Q	18	37.333	1.399	49.667	1.00	48.98	N
ATOM	5380	C2	G Q	18	37.907	1.594	50.889	1.00	48.92	C
ATOM	5381	N2	G Q	18	39.210	1.294	50.971	1.00	49.55	N
ATOM	5382	N3	G Q	18	37.243	2.039	51.944	1.00	49.44	N
ATOM	5383	C4	G Q	18	35.934	2.269	51.655	1.00	48.95	C
ATOM	5384	P	U Q	19	35.661	7.850	54.361	1.00	48.59	P
ATOM	5385	O1P	U Q	19	36.035	8.762	55.473	1.00	48.99	O
ATOM	5386	O2P	U Q	19	34.645	8.225	53.360	1.00	50.31	O
ATOM	5387	O5*	U Q	19	37.002	7.458	53.583	1.00	50.86	O
ATOM	5388	C5*	U Q	19	38.214	7.396	54.317	1.00	51.68	C
ATOM	5389	C4*	U Q	19	39.399	7.142	53.425	1.00	52.55	C
ATOM	5390	O4*	U Q	19	39.356	5.791	52.901	1.00	53.80	O
ATOM	5391	C3*	U Q	19	39.469	8.024	52.194	1.00	53.51	C
ATOM	5392	O3*	U Q	19	39.963	9.288	52.531	1.00	52.67	O
ATOM	5393	C2*	U Q	19	40.435	7.211	51.348	1.00	54.17	C
ATOM	5394	O2*	U Q	19	41.778	7.366	51.766	1.00	55.71	O
ATOM	5395	C1*	U Q	19	39.907	5.796	51.592	1.00	54.18	C
ATOM	5396	N1	U Q	19	38.854	5.413	50.592	1.00	55.06	N
ATOM	5397	C2	U Q	19	39.239	5.007	49.318	1.00	55.60	C
ATOM	5398	O2	U Q	19	40.399	4.934	48.947	1.00	55.84	O
ATOM	5399	N3	U Q	19	38.201	4.694	48.466	1.00	54.98	N
ATOM	5400	C4	U Q	19	36.845	4.731	48.737	1.00	54.31	C
ATOM	5401	O4	U Q	19	36.044	4.413	47.864	1.00	54.21	O
ATOM	5402	C5	U Q	19	36.516	5.165	50.072	1.00	54.58	C
ATOM	5403	C6	U Q	19	37.504	5.485	50.922	1.00	54.73	C
ATOM	5404	P	G Q	20	39.742	10.534	51.557	1.00	54.48	P
ATOM	5405	O1P	G Q	20	40.486	11.636	52.211	1.00	53.29	O
ATOM	5406	O2P	G Q	20	38.295	10.661	51.250	1.00	53.62	O
ATOM	5407	O5*	G Q	20	40.473	10.123	50.187	1.00	54.61	O
ATOM	5408	C5*	G Q	20	41.885	10.260	50.061	1.00	55.42	C
ATOM	5409	C4*	G Q	20	42.441	9.609	48.807	1.00	55.07	C
ATOM	5410	O4*	G Q	20	41.969	8.241	48.689	1.00	55.87	O
ATOM	5411	C3*	G Q	20	42.025	10.258	47.499	1.00	55.00	C
ATOM	5412	O3*	G Q	20	42.783	11.422	47.237	1.00	54.38	O
ATOM	5413	C2*	G Q	20	42.321	9.126	46.523	1.00	55.26	C
ATOM	5414	O2*	G Q	20	43.694	8.974	46.231	1.00	55.69	O
ATOM	5415	C1*	G Q	20	41.804	7.924	47.310	1.00	55.39	C
ATOM	5416	N9	G Q	20	40.401	7.601	47.019	1.00	55.46	N
ATOM	5417	C8	G Q	20	39.276	7.872	47.771	1.00	55.17	C
ATOM	5418	N7	G Q	20	38.164	7.459	47.228	1.00	54.69	N
ATOM	5419	C5	G Q	20	38.576	6.874	46.036	1.00	55.21	C
ATOM	5420	C6	G Q	20	37.828	6.236	45.012	1.00	55.14	C
ATOM	5421	O6	G Q	20	36.601	6.050	44.937	1.00	54.99	O
ATOM	5422	N1	G Q	20	38.653	5.797	43.976	1.00	55.42	N
ATOM	5423	C2	G Q	20	40.019	5.936	43.927	1.00	54.76	C
ATOM	5424	N2	G Q	20	40.637	5.438	42.853	1.00	54.81	N
ATOM	5425	N3	G Q	20	40.726	6.522	44.877	1.00	55.12	N
ATOM	5426	C4	G Q	20	39.945	6.963	45.893	1.00	55.23	C
ATOM	5427	P	C Q	21	42.117	12.675	46.487	1.00	55.61	P
ATOM	5428	O1P	C Q	21	43.031	13.826	46.675	1.00	55.57	O
ATOM	5429	O2P	C Q	21	40.707	12.811	46.917	1.00	54.52	O
ATOM	5430	O5*	C Q	21	42.140	12.258	44.938	1.00	54.64	O
ATOM	5431	C5*	C Q	21	43.368	12.069	44.222	1.00	53.63	C
ATOM	5432	C4*	C Q	21	43.190	11.279	42.926	1.00	52.72	C
ATOM	5433	O4*	C Q	21	42.666	9.952	43.199	1.00	52.38	O

ATOM	5434	C3*	C Q	21	42.205	11.836	41.900	1.00	51.80	C
ATOM	5435	O3*	C Q	21	42.742	12.927	41.171	1.00	50.06	O
ATOM	5436	C2*	C Q	21	41.992	10.603	41.034	1.00	51.85	C
ATOM	5437	O2*	C Q	21	43.073	10.300	40.177	1.00	51.59	O
ATOM	5438	C1*	C Q	21	41.847	9.540	42.116	1.00	52.03	C
ATOM	5439	N1	C Q	21	40.420	9.399	42.542	1.00	52.25	N
ATOM	5440	C2	C Q	21	39.533	8.667	41.734	1.00	52.74	C
ATOM	5441	O2	C Q	21	39.945	8.133	40.690	1.00	52.44	O
ATOM	5442	N3	C Q	21	38.238	8.557	42.129	1.00	51.97	N
ATOM	5443	C4	C Q	21	37.810	9.130	43.254	1.00	51.78	C
ATOM	5444	N4	C Q	21	36.527	8.986	43.600	1.00	51.27	N
ATOM	5445	C5	C Q	21	38.693	9.879	44.080	1.00	51.95	C
ATOM	5446	C6	C Q	21	39.967	9.987	43.690	1.00	51.93	C
ATOM	5447	P	C Q	22	41.805	14.006	40.444	1.00	48.97	P
ATOM	5448	O1P	C Q	22	42.720	14.923	39.721	1.00	50.28	O
ATOM	5449	O2P	C Q	22	40.801	14.521	41.393	1.00	48.13	O
ATOM	5450	O5*	C Q	22	40.996	13.167	39.355	1.00	47.77	O
ATOM	5451	C5*	C Q	22	41.657	12.641	38.214	1.00	45.26	C
ATOM	5452	C4*	C Q	22	40.692	11.842	37.367	1.00	43.19	C
ATOM	5453	O4*	C Q	22	40.162	10.713	38.107	1.00	41.71	O
ATOM	5454	C3*	C Q	22	39.453	12.604	36.927	1.00	41.50	C
ATOM	5455	O3*	C Q	22	39.751	13.491	35.863	1.00	40.30	O
ATOM	5456	C2*	C Q	22	38.586	11.428	36.507	1.00	41.13	C
ATOM	5457	O2*	C Q	22	38.987	10.837	35.282	1.00	40.72	O
ATOM	5458	C1*	C Q	22	38.831	10.483	37.676	1.00	40.08	C
ATOM	5459	N1	C Q	22	37.861	10.693	38.800	1.00	39.21	N
ATOM	5460	C2	C Q	22	36.568	10.144	38.708	1.00	38.62	C
ATOM	5461	O2	C Q	22	36.246	9.496	37.709	1.00	38.09	O
ATOM	5462	N3	C Q	22	35.700	10.329	39.728	1.00	37.40	N
ATOM	5463	C4	C Q	22	36.071	11.034	40.798	1.00	38.20	C
ATOM	5464	N4	C Q	22	35.187	11.196	41.784	1.00	38.01	N
ATOM	5465	C5	C Q	22	37.370	11.605	40.914	1.00	37.97	C
ATOM	5466	C6	C Q	22	38.221	11.410	39.905	1.00	38.41	C
ATOM	5467	P	A Q	23	38.848	14.777	35.564	1.00	39.59	P
ATOM	5468	O1P	A Q	23	39.423	15.415	34.354	1.00	39.96	O
ATOM	5469	O2P	A Q	23	38.653	15.572	36.791	1.00	38.12	O
ATOM	5470	O5*	A Q	23	37.447	14.103	35.194	1.00	37.54	O
ATOM	5471	C5*	A Q	23	37.267	13.631	33.879	1.00	35.42	C
ATOM	5472	C4*	A Q	23	35.972	12.870	33.750	1.00	34.19	C
ATOM	5473	O4*	A Q	23	35.812	12.017	34.910	1.00	32.96	O
ATOM	5474	C3*	A Q	23	34.688	13.689	33.739	1.00	33.01	C
ATOM	5475	O3*	A Q	23	34.409	14.318	32.491	1.00	32.53	O
ATOM	5476	C2*	A Q	23	33.723	12.560	34.005	1.00	32.11	C
ATOM	5477	O2*	A Q	23	33.631	11.709	32.893	1.00	32.05	O
ATOM	5478	C1*	A Q	23	34.431	11.836	35.136	1.00	31.55	C
ATOM	5479	N9	A Q	23	34.114	12.279	36.495	1.00	31.19	N
ATOM	5480	C8	A Q	23	34.903	12.965	37.375	1.00	30.31	C
ATOM	5481	N7	A Q	23	34.333	13.181	38.540	1.00	30.18	N
ATOM	5482	C5	A Q	23	33.096	12.589	38.416	1.00	29.37	C
ATOM	5483	C6	A Q	23	32.017	12.458	39.303	1.00	30.36	C
ATOM	5484	N6	A Q	23	32.019	12.950	40.549	1.00	30.04	N
ATOM	5485	N1	A Q	23	30.918	11.811	38.851	1.00	30.52	N
ATOM	5486	C2	A Q	23	30.910	11.317	37.606	1.00	30.53	C
ATOM	5487	N3	A Q	23	31.871	11.370	36.690	1.00	30.56	N
ATOM	5488	C4	A Q	23	32.944	12.025	37.166	1.00	30.50	C
ATOM	5489	P	G Q	24	33.634	15.725	32.429	1.00	35.17	P
ATOM	5490	O1P	G Q	24	33.904	16.285	31.076	1.00	31.76	O
ATOM	5491	O2P	G Q	24	33.919	16.505	33.672	1.00	32.99	O
ATOM	5492	O5*	G Q	24	32.087	15.358	32.615	1.00	32.14	O

ATOM	5493	C5*	G Q	24	31.490	14.382	31.809	1.00	33.15	C
ATOM	5494	C4*	G Q	24	30.221	13.884	32.458	1.00	32.49	C
ATOM	5495	O4*	G Q	24	30.531	13.182	33.676	1.00	32.48	O
ATOM	5496	C3*	G Q	24	29.274	14.970	32.911	1.00	33.14	C
ATOM	5497	O3*	G Q	24	28.555	15.457	31.817	1.00	33.95	O
ATOM	5498	C2*	G Q	24	28.422	14.202	33.898	1.00	33.04	C
ATOM	5499	O2*	G Q	24	27.514	13.309	33.299	1.00	32.18	O
ATOM	5500	C1*	G Q	24	29.522	13.453	34.621	1.00	32.28	C
ATOM	5501	N9	G Q	24	30.101	14.151	35.771	1.00	31.80	N
ATOM	5502	C8	G Q	24	31.320	14.766	35.922	1.00	31.55	C
ATOM	5503	N7	G Q	24	31.515	15.249	37.119	1.00	31.20	N
ATOM	5504	C5	G Q	24	30.343	14.932	37.795	1.00	30.88	C
ATOM	5505	C6	G Q	24	29.943	15.183	39.128	1.00	31.64	C
ATOM	5506	O6	G Q	24	30.566	15.769	40.044	1.00	30.89	O
ATOM	5507	N1	G Q	24	28.660	14.664	39.369	1.00	32.11	N
ATOM	5508	C2	G Q	24	27.861	13.986	38.478	1.00	31.71	C
ATOM	5509	N2	G Q	24	26.658	13.570	38.918	1.00	31.60	N
ATOM	5510	N3	G Q	24	28.231	13.750	37.232	1.00	31.42	N
ATOM	5511	C4	G Q	24	29.470	14.250	36.977	1.00	31.64	C
ATOM	5512	P	U Q	25	27.971	16.932	31.860	1.00	33.08	P
ATOM	5513	O1P	U Q	25	27.265	17.120	30.576	1.00	32.33	O
ATOM	5514	O2P	U Q	25	29.034	17.865	32.296	1.00	33.52	O
ATOM	5515	O5*	U Q	25	26.923	16.816	33.059	1.00	34.62	O
ATOM	5516	C5*	U Q	25	25.654	16.218	32.835	1.00	34.24	C
ATOM	5517	C4*	U Q	25	24.848	16.196	34.122	1.00	34.52	C
ATOM	5518	O4*	U Q	25	25.625	15.629	35.207	1.00	33.69	O
ATOM	5519	C3*	U Q	25	24.471	17.552	34.687	1.00	34.33	C
ATOM	5520	O3*	U Q	25	23.413	18.168	33.947	1.00	34.70	O
ATOM	5521	C2*	U Q	25	24.112	17.159	36.122	1.00	33.96	C
ATOM	5522	O2*	U Q	25	22.902	16.442	36.266	1.00	33.43	O
ATOM	5523	C1*	U Q	25	25.286	16.252	36.429	1.00	32.78	C
ATOM	5524	N1	U Q	25	26.501	16.928	36.972	1.00	32.88	N
ATOM	5525	C2	U Q	25	26.501	17.279	38.299	1.00	33.50	C
ATOM	5526	O2	U Q	25	25.538	17.085	39.030	1.00	33.91	O
ATOM	5527	N3	U Q	25	27.663	17.863	38.748	1.00	32.35	N
ATOM	5528	C4	U Q	25	28.805	18.138	38.032	1.00	32.68	C
ATOM	5529	O4	U Q	25	29.764	18.672	38.585	1.00	32.92	O
ATOM	5530	C5	U Q	25	28.736	17.746	36.654	1.00	32.80	C
ATOM	5531	C6	U Q	25	27.616	17.171	36.193	1.00	33.02	C
ATOM	5532	P	U Q	26	23.347	19.767	33.797	1.00	34.34	P
ATOM	5533	O1P	U Q	26	22.328	20.040	32.765	1.00	35.96	O
ATOM	5534	O2P	U Q	26	24.710	20.319	33.659	1.00	35.04	O
ATOM	5535	O5*	U Q	26	22.797	20.252	35.201	1.00	34.79	O
ATOM	5536	C5*	U Q	26	21.534	19.797	35.663	1.00	35.71	C
ATOM	5537	C4*	U Q	26	21.351	20.169	37.125	1.00	35.59	C
ATOM	5538	O4*	U Q	26	22.354	19.527	37.940	1.00	36.46	O
ATOM	5539	C3*	U Q	26	21.527	21.645	37.432	1.00	35.98	C
ATOM	5540	O3*	U Q	26	20.327	22.330	37.181	1.00	35.76	O
ATOM	5541	C2*	U Q	26	21.864	21.620	38.913	1.00	36.39	C
ATOM	5542	O2*	U Q	26	20.744	21.460	39.748	1.00	35.53	O
ATOM	5543	C1*	U Q	26	22.756	20.400	38.982	1.00	36.61	C
ATOM	5544	N1	U Q	26	24.192	20.688	38.816	1.00	36.05	N
ATOM	5545	C2	U Q	26	24.912	21.074	39.923	1.00	37.02	C
ATOM	5546	O2	U Q	26	24.396	21.208	41.030	1.00	37.33	O
ATOM	5547	N3	U Q	26	26.259	21.284	39.681	1.00	36.54	N
ATOM	5548	C4	U Q	26	26.914	21.155	38.463	1.00	37.15	C
ATOM	5549	O4	U Q	26	28.123	21.364	38.370	1.00	38.74	O
ATOM	5550	C5	U Q	26	26.083	20.757	37.362	1.00	36.93	C
ATOM	5551	C6	U Q	26	24.785	20.540	37.582	1.00	36.25	C

ATOM	5552	P	G Q	27	20.347	23.694	36.369	1.00	35.31	P
ATOM	5553	O1P	G Q	27	18.923	24.109	36.343	1.00	36.43	O
ATOM	5554	O2P	G Q	27	21.191	23.630	35.162	1.00	32.72	O
ATOM	5555	O5*	G Q	27	21.115	24.679	37.339	1.00	34.66	O
ATOM	5556	C5*	G Q	27	20.638	24.985	38.604	1.00	33.77	C
ATOM	5557	C4*	G Q	27	21.783	25.642	39.345	1.00	33.95	C
ATOM	5558	O4*	G Q	27	22.837	24.680	39.493	1.00	33.37	O
ATOM	5559	C3*	G Q	27	22.447	26.827	38.645	1.00	33.67	C
ATOM	5560	O3*	G Q	27	21.710	28.051	38.877	1.00	33.15	O
ATOM	5561	C2*	G Q	27	23.791	26.816	39.346	1.00	33.45	C
ATOM	5562	O2*	G Q	27	23.730	27.332	40.660	1.00	33.90	O
ATOM	5563	C1*	G Q	27	24.084	25.328	39.410	1.00	33.22	C
ATOM	5564	N9	G Q	27	24.855	24.890	38.254	1.00	32.64	N
ATOM	5565	C8	G Q	27	24.437	24.630	36.978	1.00	32.43	C
ATOM	5566	N7	G Q	27	25.416	24.276	36.177	1.00	32.84	N
ATOM	5567	C5	G Q	27	26.548	24.302	36.980	1.00	32.57	C
ATOM	5568	C6	G Q	27	27.903	24.026	36.687	1.00	32.97	C
ATOM	5569	O6	G Q	27	28.391	23.681	35.605	1.00	32.90	O
ATOM	5570	N1	G Q	27	28.737	24.197	37.797	1.00	32.37	N
ATOM	5571	C2	G Q	27	28.294	24.582	39.037	1.00	32.42	C
ATOM	5572	N2	G Q	27	29.208	24.696	39.997	1.00	32.93	N
ATOM	5573	N3	G Q	27	27.032	24.845	39.322	1.00	32.51	N
ATOM	5574	C4	G Q	27	26.216	24.683	38.256	1.00	32.66	C
ATOM	5575	P	A Q	28	21.324	29.061	37.699	1.00	32.51	P
ATOM	5576	O1P	A Q	28	21.062	28.266	36.482	1.00	30.89	O
ATOM	5577	O2P	A Q	28	22.399	30.099	37.694	1.00	31.45	O
ATOM	5578	O5*	A Q	28	19.961	29.705	38.213	1.00	30.19	O
ATOM	5579	C5*	A Q	28	18.761	28.993	38.257	1.00	29.16	C
ATOM	5580	C4*	A Q	28	17.610	29.881	37.796	1.00	29.83	C
ATOM	5581	O4*	A Q	28	17.443	31.120	38.554	1.00	30.22	O
ATOM	5582	C3*	A Q	28	17.738	30.405	36.393	1.00	29.93	C
ATOM	5583	O3*	A Q	28	16.426	30.609	35.945	1.00	30.82	O
ATOM	5584	C2*	A Q	28	18.499	31.731	36.556	1.00	29.44	C
ATOM	5585	O2*	A Q	28	18.162	32.613	35.514	1.00	29.15	O
ATOM	5586	C1*	A Q	28	18.017	32.251	37.904	1.00	26.86	C
ATOM	5587	N9	A Q	28	18.997	32.741	38.885	1.00	27.36	N
ATOM	5588	C8	A Q	28	20.353	32.593	38.931	1.00	25.56	C
ATOM	5589	N7	A Q	28	20.909	33.131	39.995	1.00	25.43	N
ATOM	5590	C5	A Q	28	19.873	33.662	40.711	1.00	25.01	C
ATOM	5591	C6	A Q	28	19.804	34.370	41.928	1.00	25.91	C
ATOM	5592	N6	A Q	28	20.864	34.675	42.682	1.00	26.23	N
ATOM	5593	N1	A Q	28	18.591	34.753	42.377	1.00	25.85	N
ATOM	5594	C2	A Q	28	17.529	34.461	41.618	1.00	26.21	C
ATOM	5595	N3	A Q	28	17.471	33.802	40.460	1.00	25.60	N
ATOM	5596	C4	A Q	28	18.686	33.419	40.053	1.00	26.53	C
ATOM	5597	P	C Q	29	15.601	29.559	35.083	1.00	30.79	P
ATOM	5598	O1P	C Q	29	16.295	28.257	35.028	1.00	33.49	O
ATOM	5599	O2P	C Q	29	15.201	30.221	33.814	1.00	30.44	O
ATOM	5600	O5*	C Q	29	14.302	29.397	35.998	1.00	31.68	O
ATOM	5601	C5*	C Q	29	13.135	28.893	35.379	1.00	31.24	C
ATOM	5602	C4*	C Q	29	11.964	29.768	35.707	1.00	31.69	C
ATOM	5603	O4*	C Q	29	11.980	30.064	37.129	1.00	32.85	O
ATOM	5604	C3*	C Q	29	11.972	31.137	35.063	1.00	31.46	C
ATOM	5605	O3*	C Q	29	11.553	31.063	33.718	1.00	31.85	O
ATOM	5606	C2*	C Q	29	10.930	31.797	35.939	1.00	30.74	C
ATOM	5607	O2*	C Q	29	9.642	31.382	35.568	1.00	32.29	O
ATOM	5608	C1*	C Q	29	11.299	31.292	37.326	1.00	31.29	C
ATOM	5609	N1	C Q	29	12.216	32.206	37.998	1.00	31.72	N
ATOM	5610	C2	C Q	29	11.766	33.431	38.467	1.00	31.19	C

ATOM	5611	O2	C Q	29	10.580	33.748	38.337	1.00	31.30	O
ATOM	5612	N3	C Q	29	12.666	34.246	39.061	1.00	31.94	N
ATOM	5613	C4	C Q	29	13.945	33.910	39.206	1.00	30.81	C
ATOM	5614	N4	C Q	29	14.785	34.751	39.803	1.00	29.58	N
ATOM	5615	C5	C Q	29	14.408	32.668	38.730	1.00	31.75	C
ATOM	5616	C6	C Q	29	13.531	31.858	38.135	1.00	31.82	C
ATOM	5617	P	G Q	30	12.216	31.857	32.495	1.00	31.88	P
ATOM	5618	O1P	G Q	30	12.514	30.891	31.419	1.00	29.55	O
ATOM	5619	O2P	G Q	30	13.297	32.725	33.021	1.00	31.53	O
ATOM	5620	O5*	G Q	30	10.956	32.659	31.927	1.00	30.98	O
ATOM	5621	C5*	G Q	30	10.773	34.059	31.921	1.00	31.44	C
ATOM	5622	C4*	G Q	30	9.528	34.424	32.693	1.00	31.17	C
ATOM	5623	O4*	G Q	30	9.803	34.037	34.050	1.00	31.13	O
ATOM	5624	C3*	G Q	30	9.219	35.906	32.794	1.00	32.10	C
ATOM	5625	O3*	G Q	30	8.369	36.371	31.763	1.00	32.01	O
ATOM	5626	C2*	G Q	30	8.579	36.043	34.173	1.00	31.47	C
ATOM	5627	O2*	G Q	30	7.225	35.684	34.221	1.00	33.76	O
ATOM	5628	C1*	G Q	30	9.421	35.065	34.956	1.00	30.05	C
ATOM	5629	N9	G Q	30	10.637	35.644	35.501	1.00	29.15	N
ATOM	5630	C8	G Q	30	11.892	35.177	35.286	1.00	28.22	C
ATOM	5631	N7	G Q	30	12.798	35.852	35.917	1.00	28.92	N
ATOM	5632	C5	G Q	30	12.109	36.822	36.588	1.00	27.76	C
ATOM	5633	C6	G Q	30	12.596	37.840	37.420	1.00	28.75	C
ATOM	5634	O6	G Q	30	13.747	38.117	37.764	1.00	28.21	O
ATOM	5635	N1	G Q	30	11.558	38.605	37.906	1.00	30.31	N
ATOM	5636	C2	G Q	30	10.231	38.432	37.646	1.00	29.30	C
ATOM	5637	N2	G Q	30	9.440	39.339	38.242	1.00	29.35	N
ATOM	5638	N3	G Q	30	9.768	37.486	36.849	1.00	28.25	N
ATOM	5639	C4	G Q	30	10.767	36.719	36.350	1.00	28.39	C
ATOM	5640	P	A Q	31	8.706	37.783	31.078	1.00	31.13	P
ATOM	5641	O1P	A Q	31	7.757	37.955	29.974	1.00	33.25	O
ATOM	5642	O2P	A Q	31	10.159	37.889	30.778	1.00	33.09	O
ATOM	5643	O5*	A Q	31	8.307	38.802	32.230	1.00	32.41	O
ATOM	5644	C5*	A Q	31	6.973	39.233	32.313	1.00	31.82	C
ATOM	5645	C4*	A Q	31	6.858	40.421	33.242	1.00	32.37	C
ATOM	5646	O4*	A Q	31	7.353	40.056	34.544	1.00	31.01	O
ATOM	5647	C3*	A Q	31	7.636	41.671	32.870	1.00	32.79	C
ATOM	5648	O3*	A Q	31	6.916	42.452	31.969	1.00	32.06	O
ATOM	5649	C2*	A Q	31	7.720	42.352	34.221	1.00	33.51	C
ATOM	5650	O2*	A Q	31	6.517	42.896	34.706	1.00	37.31	O
ATOM	5651	C1*	A Q	31	8.036	41.158	35.089	1.00	33.81	C
ATOM	5652	N9	A Q	31	9.463	40.878	35.146	1.00	34.51	N
ATOM	5653	C8	A Q	31	10.134	39.835	34.575	1.00	32.89	C
ATOM	5654	N7	A Q	31	11.399	39.872	34.841	1.00	34.34	N
ATOM	5655	C5	A Q	31	11.569	40.996	35.628	1.00	34.14	C
ATOM	5656	C6	A Q	31	12.702	41.571	36.225	1.00	34.26	C
ATOM	5657	N6	A Q	31	13.920	41.040	36.095	1.00	35.01	N
ATOM	5658	N1	A Q	31	12.537	42.690	36.952	1.00	33.23	N
ATOM	5659	C2	A Q	31	11.309	43.211	37.054	1.00	34.06	C
ATOM	5660	N3	A Q	31	10.169	42.757	36.524	1.00	33.96	N
ATOM	5661	C4	A Q	31	10.380	41.634	35.825	1.00	33.11	C
ATOM	5662	P	G Q	32	7.657	43.190	30.771	1.00	33.65	P
ATOM	5663	O1P	G Q	32	6.633	43.921	30.010	1.00	34.85	O
ATOM	5664	O2P	G Q	32	8.507	42.223	30.044	1.00	33.44	O
ATOM	5665	O5*	G Q	32	8.590	44.253	31.493	1.00	33.52	O
ATOM	5666	C5*	G Q	32	8.097	45.237	32.362	1.00	33.50	C
ATOM	5667	C4*	G Q	32	9.264	45.952	33.029	1.00	33.64	C
ATOM	5668	O4*	G Q	32	9.908	45.051	33.954	1.00	33.88	O
ATOM	5669	C3*	G Q	32	10.413	46.405	32.137	1.00	33.54	C

ATOM	5670	O3*	G Q	32	10.118	47.662	31.547	1.00	33.41	O
ATOM	5671	C2*	G Q	32	11.549	46.499	33.151	1.00	33.93	C
ATOM	5672	O2*	G Q	32	11.496	47.601	34.045	1.00	34.13	O
ATOM	5673	C1*	G Q	32	11.305	45.247	33.954	1.00	33.67	C
ATOM	5674	N9	G Q	32	11.994	44.079	33.428	1.00	34.08	N
ATOM	5675	C8	G Q	32	11.471	43.058	32.678	1.00	34.44	C
ATOM	5676	N7	G Q	32	12.345	42.132	32.370	1.00	34.81	N
ATOM	5677	C5	G Q	32	13.514	42.586	32.944	1.00	33.82	C
ATOM	5678	C6	G Q	32	14.785	41.993	32.934	1.00	34.34	C
ATOM	5679	O6	G Q	32	15.101	40.932	32.389	1.00	34.33	O
ATOM	5680	N1	G Q	32	15.719	42.755	33.635	1.00	34.37	N
ATOM	5681	C2	G Q	32	15.443	43.944	34.274	1.00	34.58	C
ATOM	5682	N2	G Q	32	16.475	44.530	34.902	1.00	33.38	N
ATOM	5683	N3	G Q	32	14.226	44.503	34.299	1.00	34.80	N
ATOM	5684	C4	G Q	32	13.320	43.771	33.608	1.00	33.98	C
ATOM	5685	P	G Q	33	10.409	47.979	30.021	1.00	31.91	P
ATOM	5686	O1P	G Q	33	9.492	49.036	29.566	1.00	34.95	O
ATOM	5687	O2P	G Q	33	10.533	46.752	29.242	1.00	33.99	O
ATOM	5688	O5*	G Q	33	11.844	48.636	30.106	1.00	32.72	O
ATOM	5689	C5*	G Q	33	12.005	49.844	30.784	1.00	32.59	C
ATOM	5690	C4*	G Q	33	13.427	49.899	31.245	1.00	32.58	C
ATOM	5691	O4*	G Q	33	13.656	48.654	31.936	1.00	33.68	O
ATOM	5692	C3*	G Q	33	14.450	49.952	30.122	1.00	32.42	C
ATOM	5693	O3*	G Q	33	14.732	51.293	29.793	1.00	32.70	O
ATOM	5694	C2*	G Q	33	15.642	49.277	30.769	1.00	32.46	C
ATOM	5695	O2*	G Q	33	16.399	50.180	31.548	1.00	33.16	O
ATOM	5696	C1*	G Q	33	14.988	48.232	31.675	1.00	33.26	C
ATOM	5697	N9	G Q	33	15.035	46.891	31.092	1.00	32.81	N
ATOM	5698	C8	G Q	33	14.165	46.281	30.214	1.00	32.24	C
ATOM	5699	N7	G Q	33	14.524	45.077	29.874	1.00	31.70	N
ATOM	5700	C5	G Q	33	15.718	44.891	30.575	1.00	32.59	C
ATOM	5701	C6	G Q	33	16.608	43.793	30.634	1.00	32.46	C
ATOM	5702	O6	G Q	33	16.523	42.705	30.070	1.00	31.98	O
ATOM	5703	N1	G Q	33	17.695	44.018	31.466	1.00	32.89	N
ATOM	5704	C2	G Q	33	17.945	45.162	32.172	1.00	32.45	C
ATOM	5705	N2	G Q	33	19.059	45.172	32.929	1.00	31.23	N
ATOM	5706	N3	G Q	33	17.118	46.198	32.129	1.00	32.46	N
ATOM	5707	C4	G Q	33	16.042	45.993	31.325	1.00	32.60	C
ATOM	5708	P	U Q	34	15.073	51.768	28.302	1.00	35.36	P
ATOM	5709	O1P	U Q	34	14.599	53.170	28.168	1.00	32.39	O
ATOM	5710	O2P	U Q	34	14.623	50.770	27.303	1.00	33.05	O
ATOM	5711	O5*	U Q	34	16.672	51.746	28.355	1.00	35.16	O
ATOM	5712	C5*	U Q	34	17.411	52.524	29.305	1.00	37.95	C
ATOM	5713	C4*	U Q	34	18.734	52.990	28.712	1.00	38.95	C
ATOM	5714	O4*	U Q	34	19.600	51.857	28.419	1.00	40.08	O
ATOM	5715	C3*	U Q	34	18.576	53.715	27.388	1.00	40.20	C
ATOM	5716	O3*	U Q	34	19.511	54.754	27.256	1.00	40.06	O
ATOM	5717	C2*	U Q	34	18.820	52.622	26.364	1.00	40.60	C
ATOM	5718	O2*	U Q	34	19.237	53.118	25.104	1.00	42.09	O
ATOM	5719	C1*	U Q	34	19.929	51.847	27.057	1.00	40.63	C
ATOM	5720	N1	U Q	34	20.138	50.430	26.585	1.00	41.10	N
ATOM	5721	C2	U Q	34	21.400	49.892	26.724	1.00	40.94	C
ATOM	5722	O2	U Q	34	22.327	50.493	27.230	1.00	40.84	O
ATOM	5723	N3	U Q	34	21.541	48.606	26.267	1.00	41.34	N
ATOM	5724	C4	U Q	34	20.566	47.813	25.681	1.00	42.06	C
ATOM	5725	O4	U Q	34	20.843	46.672	25.321	1.00	41.95	O
ATOM	5726	C5	U Q	34	19.270	48.437	25.554	1.00	41.24	C
ATOM	5727	C6	U Q	34	19.117	49.691	25.999	1.00	41.05	C
ATOM	5728	P	G Q	35	19.134	56.239	27.707	1.00	41.00	P

ATOM	5729	O1P	G Q	35	19.558	56.386	29.118	1.00	40.90	O
ATOM	5730	O2P	G Q	35	17.780	56.624	27.231	1.00	39.95	O
ATOM	5731	O5*	G Q	35	20.171	57.081	26.860	1.00	40.22	O
ATOM	5732	C5*	G Q	35	20.198	56.993	25.460	1.00	38.99	C
ATOM	5733	C4*	G Q	35	21.155	58.060	25.000	1.00	38.61	C
ATOM	5734	O4*	G Q	35	20.592	59.355	25.343	1.00	37.65	O
ATOM	5735	C3*	G Q	35	22.525	58.006	25.681	1.00	38.10	C
ATOM	5736	O3*	G Q	35	23.391	57.054	25.067	1.00	37.95	O
ATOM	5737	C2*	G Q	35	22.964	59.441	25.473	1.00	38.07	C
ATOM	5738	O2*	G Q	35	23.475	59.654	24.172	1.00	38.90	O
ATOM	5739	C1*	G Q	35	21.653	60.204	25.714	1.00	37.43	C
ATOM	5740	N9	G Q	35	21.481	60.582	27.100	1.00	36.84	N
ATOM	5741	C8	G Q	35	20.569	60.112	28.009	1.00	37.34	C
ATOM	5742	N7	G Q	35	20.682	60.657	29.194	1.00	37.43	N
ATOM	5743	C5	G Q	35	21.737	61.538	29.053	1.00	37.15	C
ATOM	5744	C6	G Q	35	22.310	62.414	29.992	1.00	36.77	C
ATOM	5745	O6	G Q	35	21.991	62.574	31.172	1.00	37.30	O
ATOM	5746	N1	G Q	35	23.353	63.138	29.438	1.00	36.93	N
ATOM	5747	C2	G Q	35	23.793	63.035	28.135	1.00	37.21	C
ATOM	5748	N2	G Q	35	24.821	63.819	27.773	1.00	37.35	N
ATOM	5749	N3	G Q	35	23.255	62.217	27.243	1.00	37.18	N
ATOM	5750	C4	G Q	35	22.238	61.503	27.773	1.00	37.26	C
ATOM	5751	P	G Q	36	24.625	56.403	25.861	1.00	40.45	P
ATOM	5752	O1P	G Q	36	25.273	55.355	25.041	1.00	39.29	O
ATOM	5753	O2P	G Q	36	24.182	56.114	27.238	1.00	39.71	O
ATOM	5754	O5*	G Q	36	25.638	57.626	25.961	1.00	40.27	O
ATOM	5755	C5*	G Q	36	26.593	57.901	24.977	1.00	39.38	C
ATOM	5756	C4*	G Q	36	27.485	58.976	25.540	1.00	39.12	C
ATOM	5757	O4*	G Q	36	26.662	60.074	26.006	1.00	39.13	O
ATOM	5758	C3*	G Q	36	28.250	58.543	26.776	1.00	38.71	C
ATOM	5759	O3*	G Q	36	29.402	57.778	26.431	1.00	37.08	O
ATOM	5760	C2*	G Q	36	28.565	59.887	27.410	1.00	38.47	C
ATOM	5761	O2*	G Q	36	29.671	60.514	26.813	1.00	39.61	O
ATOM	5762	C1*	G Q	36	27.268	60.657	27.147	1.00	38.48	C
ATOM	5763	N9	G Q	36	26.371	60.556	28.288	1.00	38.49	N
ATOM	5764	C8	G Q	36	25.239	59.788	28.404	1.00	38.15	C
ATOM	5765	N7	G Q	36	24.655	59.904	29.558	1.00	38.32	N
ATOM	5766	C5	G Q	36	25.460	60.782	30.255	1.00	37.33	C
ATOM	5767	C6	G Q	36	25.339	61.268	31.565	1.00	37.51	C
ATOM	5768	O6	G Q	36	24.476	61.041	32.420	1.00	38.02	O
ATOM	5769	N1	G Q	36	26.368	62.133	31.865	1.00	38.26	N
ATOM	5770	C2	G Q	36	27.378	62.500	31.038	1.00	37.86	C
ATOM	5771	N2	G Q	36	28.252	63.371	31.560	1.00	38.68	N
ATOM	5772	N3	G Q	36	27.510	62.042	29.810	1.00	37.93	N
ATOM	5773	C4	G Q	36	26.515	61.195	29.490	1.00	37.39	C
ATOM	5774	P	G Q	37	29.974	56.705	27.478	1.00	37.53	P
ATOM	5775	O1P	G Q	37	31.139	56.028	26.851	1.00	38.09	O
ATOM	5776	O2P	G Q	37	28.875	55.898	28.039	1.00	34.73	O
ATOM	5777	O5*	G Q	37	30.538	57.670	28.623	1.00	36.64	O
ATOM	5778	C5*	G Q	37	31.734	58.375	28.355	1.00	35.47	C
ATOM	5779	C4*	G Q	37	32.198	59.235	29.512	1.00	34.54	C
ATOM	5780	O4*	G Q	37	31.206	60.256	29.741	1.00	33.52	O
ATOM	5781	C3*	G Q	37	32.395	58.586	30.886	1.00	33.65	C
ATOM	5782	O3*	G Q	37	33.588	57.809	30.949	1.00	32.25	O
ATOM	5783	C2*	G Q	37	32.458	59.866	31.720	1.00	33.67	C
ATOM	5784	O2*	G Q	37	33.643	60.651	31.593	1.00	33.65	O
ATOM	5785	C1*	G Q	37	31.277	60.614	31.108	1.00	32.93	C
ATOM	5786	N9	G Q	37	30.034	60.244	31.750	1.00	33.24	N
ATOM	5787	C8	G Q	37	29.017	59.458	31.243	1.00	32.93	C

ATOM	5788	N7	G Q	37	28.030	59.292	32.072	1.00	32.30	N
ATOM	5789	C5	G Q	37	28.432	60.009	33.177	1.00	32.09	C
ATOM	5790	C6	G Q	37	27.758	60.188	34.376	1.00	32.85	C
ATOM	5791	O6	G Q	37	26.649	59.707	34.648	1.00	32.93	O
ATOM	5792	N1	G Q	37	28.497	60.982	35.264	1.00	33.11	N
ATOM	5793	C2	G Q	37	29.732	61.530	35.018	1.00	31.43	C
ATOM	5794	N2	G Q	37	30.283	62.254	35.994	1.00	31.29	N
ATOM	5795	N3	G Q	37	30.369	61.369	33.881	1.00	31.44	N
ATOM	5796	C4	G Q	37	29.656	60.604	33.018	1.00	32.59	C
ATOM	5797	P	G Q	38	33.857	56.563	31.933	1.00	34.46	P
ATOM	5798	O1P	G Q	38	35.282	56.173	31.685	1.00	33.76	O
ATOM	5799	O2P	G Q	38	32.802	55.550	31.719	1.00	33.19	O
ATOM	5800	O5*	G Q	38	33.721	57.116	33.429	1.00	32.31	O
ATOM	5801	C5*	G Q	38	34.620	58.109	33.893	1.00	32.67	C
ATOM	5802	C4*	G Q	38	34.219	58.618	35.262	1.00	32.79	C
ATOM	5803	O4*	G Q	38	32.958	59.321	35.181	1.00	32.69	O
ATOM	5804	C3*	G Q	38	33.957	57.542	36.307	1.00	33.08	C
ATOM	5805	O3*	G Q	38	35.182	57.008	36.796	1.00	31.42	O
ATOM	5806	C2*	G Q	38	33.126	58.330	37.333	1.00	33.23	C
ATOM	5807	O2*	G Q	38	33.835	59.196	38.209	1.00	31.97	O
ATOM	5808	C1*	G Q	38	32.245	59.139	36.392	1.00	33.31	C
ATOM	5809	N9	G Q	38	30.965	58.500	36.111	1.00	33.98	N
ATOM	5810	C8	G Q	38	30.530	57.917	34.943	1.00	34.41	C
ATOM	5811	N7	G Q	38	29.314	57.443	35.014	1.00	33.82	N
ATOM	5812	C5	G Q	38	28.932	57.734	36.304	1.00	33.29	C
ATOM	5813	C6	G Q	38	27.716	57.461	36.955	1.00	33.84	C
ATOM	5814	O6	G Q	38	26.713	56.887	36.509	1.00	34.02	O
ATOM	5815	N1	G Q	38	27.735	57.920	38.262	1.00	33.59	N
ATOM	5816	C2	G Q	38	28.780	58.556	38.868	1.00	34.30	C
ATOM	5817	N2	G Q	38	28.568	58.910	40.143	1.00	34.49	N
ATOM	5818	N3	G Q	38	29.937	58.822	38.268	1.00	34.24	N
ATOM	5819	C4	G Q	38	29.927	58.382	36.991	1.00	33.30	C
ATOM	5820	P	U Q	39	35.249	55.535	37.423	1.00	34.36	P
ATOM	5821	O1P	U Q	39	36.659	55.340	37.819	1.00	33.88	O
ATOM	5822	O2P	U Q	39	34.582	54.504	36.567	1.00	31.48	O
ATOM	5823	O5*	U Q	39	34.382	55.697	38.751	1.00	33.11	O
ATOM	5824	C5*	U Q	39	34.902	56.224	39.957	1.00	32.50	C
ATOM	5825	C4*	U Q	39	33.797	56.184	40.993	1.00	32.42	C
ATOM	5826	O4*	U Q	39	32.599	56.795	40.449	1.00	32.51	O
ATOM	5827	C3*	U Q	39	33.310	54.799	41.364	1.00	32.26	C
ATOM	5828	O3*	U Q	39	34.211	54.199	42.252	1.00	31.90	O
ATOM	5829	C2*	U Q	39	31.965	55.152	41.983	1.00	32.54	C
ATOM	5830	O2*	U Q	39	32.052	55.787	43.251	1.00	33.25	O
ATOM	5831	C1*	U Q	39	31.458	56.131	40.938	1.00	31.76	C
ATOM	5832	N1	U Q	39	30.701	55.526	39.790	1.00	32.03	N
ATOM	5833	C2	U Q	39	29.417	55.130	40.031	1.00	31.41	C
ATOM	5834	O2	U Q	39	28.905	55.238	41.128	1.00	32.65	O
ATOM	5835	N3	U Q	39	28.757	54.609	38.955	1.00	30.74	N
ATOM	5836	C4	U Q	39	29.218	54.433	37.664	1.00	32.06	C
ATOM	5837	O4	U Q	39	28.489	53.931	36.792	1.00	32.08	O
ATOM	5838	C5	U Q	39	30.580	54.864	37.486	1.00	31.77	C
ATOM	5839	C6	U Q	39	31.242	55.386	38.527	1.00	31.58	C
ATOM	5840	P	U Q	40	34.387	52.619	42.278	1.00	30.97	P
ATOM	5841	O1P	U Q	40	35.372	52.337	43.347	1.00	31.87	O
ATOM	5842	O2P	U Q	40	34.570	52.102	40.905	1.00	30.27	O
ATOM	5843	O5*	U Q	40	32.962	52.117	42.773	1.00	32.04	O
ATOM	5844	C5*	U Q	40	32.396	52.427	44.036	1.00	31.93	C
ATOM	5845	C4*	U Q	40	30.949	51.925	44.093	1.00	31.99	C
ATOM	5846	O4*	U Q	40	30.089	52.623	43.159	1.00	31.05	O

ATOM	5847	C3*	U Q	40	30.740	50.482	43.669	1.00	32.10	C
ATOM	5848	O3*	U Q	40	31.127	49.635	44.694	1.00	33.41	O
ATOM	5849	C2*	U Q	40	29.235	50.477	43.452	1.00	31.94	C
ATOM	5850	O2*	U Q	40	28.518	50.562	44.668	1.00	32.11	O
ATOM	5851	C1*	U Q	40	29.090	51.750	42.644	1.00	29.96	C
ATOM	5852	N1	U Q	40	29.271	51.603	41.162	1.00	29.39	N
ATOM	5853	C2	U Q	40	28.179	51.423	40.353	1.00	29.75	C
ATOM	5854	O2	U Q	40	27.053	51.351	40.795	1.00	32.19	O
ATOM	5855	N3	U Q	40	28.427	51.328	39.007	1.00	28.43	N
ATOM	5856	C4	U Q	40	29.661	51.380	38.389	1.00	29.76	C
ATOM	5857	O4	U Q	40	29.740	51.282	37.166	1.00	30.70	O
ATOM	5858	C5	U Q	40	30.766	51.572	39.276	1.00	28.73	C
ATOM	5859	C6	U Q	40	30.527	51.678	40.589	1.00	30.12	C
ATOM	5860	P	U Q	41	31.234	48.068	44.462	1.00	35.34	P
ATOM	5861	O1P	U Q	41	31.848	47.628	45.730	1.00	34.34	O
ATOM	5862	O2P	U Q	41	31.842	47.769	43.145	1.00	35.00	O
ATOM	5863	O5*	U Q	41	29.736	47.505	44.411	1.00	35.23	O
ATOM	5864	C5*	U Q	41	29.566	46.078	44.379	1.00	38.60	C
ATOM	5865	C4*	U Q	41	28.206	45.622	44.884	1.00	40.85	C
ATOM	5866	O4*	U Q	41	28.257	45.359	46.306	1.00	42.91	O
ATOM	5867	C3*	U Q	41	27.068	46.628	44.731	1.00	42.82	C
ATOM	5868	O3*	U Q	41	25.846	45.981	44.591	1.00	42.29	O
ATOM	5869	C2*	U Q	41	27.095	47.380	46.056	1.00	43.62	C
ATOM	5870	O2*	U Q	41	25.851	47.967	46.352	1.00	44.19	O
ATOM	5871	C1*	U Q	41	27.415	46.246	47.019	1.00	45.92	C
ATOM	5872	N1	U Q	41	28.177	46.599	48.256	1.00	47.96	N
ATOM	5873	C2	U Q	41	27.692	46.237	49.502	1.00	48.70	C
ATOM	5874	O2	U Q	41	26.634	45.666	49.672	1.00	49.41	O
ATOM	5875	N3	U Q	41	28.495	46.600	50.566	1.00	49.72	N
ATOM	5876	C4	U Q	41	29.727	47.260	50.515	1.00	49.26	C
ATOM	5877	O4	U Q	41	30.341	47.514	51.557	1.00	49.14	O
ATOM	5878	C5	U Q	41	30.177	47.593	49.180	1.00	48.92	C
ATOM	5879	C6	U Q	41	29.403	47.253	48.133	1.00	49.13	C
ATOM	5880	P	A Q	42	25.415	45.179	43.282	1.00	44.01	P
ATOM	5881	O1P	A Q	42	24.617	44.039	43.774	1.00	42.17	O
ATOM	5882	O2P	A Q	42	26.561	44.984	42.358	1.00	44.49	O
ATOM	5883	O5*	A Q	42	24.506	46.242	42.537	1.00	39.04	O
ATOM	5884	C5*	A Q	42	23.513	46.954	43.202	1.00	35.69	C
ATOM	5885	C4*	A Q	42	22.390	47.074	42.204	1.00	34.84	C
ATOM	5886	O4*	A Q	42	22.939	47.706	41.017	1.00	32.82	O
ATOM	5887	C3*	A Q	42	21.813	45.737	41.747	1.00	32.44	C
ATOM	5888	O3*	A Q	42	20.432	45.835	41.657	1.00	32.66	O
ATOM	5889	C2*	A Q	42	22.463	45.550	40.378	1.00	32.05	C
ATOM	5890	O2*	A Q	42	21.754	44.699	39.505	1.00	30.88	O
ATOM	5891	C1*	A Q	42	22.507	46.989	39.888	1.00	30.86	C
ATOM	5892	N9	A Q	42	23.478	47.202	38.829	1.00	31.38	N
ATOM	5893	C8	A Q	42	24.834	47.320	38.960	1.00	30.39	C
ATOM	5894	N7	A Q	42	25.458	47.491	37.817	1.00	30.20	N
ATOM	5895	C5	A Q	42	24.451	47.483	36.877	1.00	29.58	C
ATOM	5896	C6	A Q	42	24.436	47.603	35.485	1.00	29.43	C
ATOM	5897	N6	A Q	42	25.517	47.778	34.750	1.00	30.83	N
ATOM	5898	N1	A Q	42	23.260	47.549	34.840	1.00	30.38	N
ATOM	5899	C2	A Q	42	22.159	47.360	35.559	1.00	30.62	C
ATOM	5900	N3	A Q	42	22.038	47.236	36.877	1.00	31.54	N
ATOM	5901	C4	A Q	42	23.227	47.302	37.483	1.00	30.98	C
ATOM	5902	P	U Q	43	19.462	45.058	42.653	1.00	33.86	P
ATOM	5903	O1P	U Q	43	19.853	45.392	44.039	1.00	32.70	O
ATOM	5904	O2P	U Q	43	19.334	43.658	42.202	1.00	31.56	O
ATOM	5905	O5*	U Q	43	18.095	45.808	42.295	1.00	33.58	O

ATOM	5906	C5*	U Q	43	17.801	47.120	42.743	1.00	32.18	C
ATOM	5907	C4*	U Q	43	16.452	47.510	42.198	1.00	31.66	C
ATOM	5908	O4*	U Q	43	16.534	47.447	40.767	1.00	31.58	O
ATOM	5909	C3*	U Q	43	15.329	46.553	42.524	1.00	32.46	C
ATOM	5910	O3*	U Q	43	14.780	46.839	43.799	1.00	30.20	O
ATOM	5911	C2*	U Q	43	14.355	46.795	41.378	1.00	32.47	C
ATOM	5912	O2*	U Q	43	13.532	47.926	41.536	1.00	34.68	O
ATOM	5913	C1*	U Q	43	15.319	46.994	40.219	1.00	33.58	C
ATOM	5914	N1	U Q	43	15.546	45.719	39.484	1.00	34.81	N
ATOM	5915	C2	U Q	43	14.503	45.185	38.780	1.00	34.95	C
ATOM	5916	O2	U Q	43	13.404	45.706	38.702	1.00	35.25	O
ATOM	5917	N3	U Q	43	14.787	44.002	38.154	1.00	36.19	N
ATOM	5918	C4	U Q	43	15.955	43.276	38.150	1.00	35.28	C
ATOM	5919	O4	U Q	43	16.038	42.207	37.523	1.00	34.60	O
ATOM	5920	C5	U Q	43	16.985	43.896	38.925	1.00	35.34	C
ATOM	5921	C6	U Q	43	16.747	45.055	39.544	1.00	34.83	C
ATOM	5922	P	C Q	44	14.368	45.579	44.677	1.00	30.97	P
ATOM	5923	O1P	C Q	44	13.912	46.078	45.987	1.00	27.96	O
ATOM	5924	O2P	C Q	44	15.436	44.542	44.630	1.00	28.55	O
ATOM	5925	O5*	C Q	44	13.124	45.035	43.836	1.00	28.03	O
ATOM	5926	C5*	C Q	44	11.873	45.645	44.018	1.00	29.70	C
ATOM	5927	C4*	C Q	44	10.776	45.020	43.173	1.00	28.64	C
ATOM	5928	O4*	C Q	44	11.204	44.954	41.791	1.00	28.16	O
ATOM	5929	C3*	C Q	44	10.403	43.596	43.526	1.00	27.46	C
ATOM	5930	O3*	C Q	44	9.525	43.514	44.656	1.00	27.53	O
ATOM	5931	C2*	C Q	44	9.746	43.172	42.230	1.00	27.82	C
ATOM	5932	O2*	C Q	44	8.457	43.689	42.013	1.00	26.99	O
ATOM	5933	C1*	C Q	44	10.720	43.755	41.225	1.00	27.71	C
ATOM	5934	N1	C Q	44	11.813	42.808	40.902	1.00	27.09	N
ATOM	5935	C2	C Q	44	11.484	41.723	40.109	1.00	28.64	C
ATOM	5936	O2	C Q	44	10.319	41.583	39.719	1.00	29.94	O
ATOM	5937	N3	C Q	44	12.442	40.832	39.776	1.00	28.58	N
ATOM	5938	C4	C Q	44	13.693	40.985	40.172	1.00	28.01	C
ATOM	5939	N4	C Q	44	14.547	40.051	39.772	1.00	26.58	N
ATOM	5940	C5	C Q	44	14.077	42.089	40.989	1.00	27.93	C
ATOM	5941	C6	C Q	44	13.106	42.963	41.324	1.00	28.27	C
ATOM	5942	P	G Q	45	10.065	42.858	46.011	1.00	28.17	P
ATOM	5943	O1P	G Q	45	9.871	43.797	47.110	1.00	29.33	O
ATOM	5944	O2P	G Q	45	11.428	42.342	45.769	1.00	31.21	O
ATOM	5945	O5*	G Q	45	9.290	41.484	46.227	1.00	29.79	O
ATOM	5946	C5*	G Q	45	7.919	41.248	46.298	1.00	29.31	C
ATOM	5947	C4*	G Q	45	7.431	40.587	45.026	1.00	29.09	C
ATOM	5948	O4*	G Q	45	8.355	40.906	43.965	1.00	28.54	O
ATOM	5949	C3*	G Q	45	7.387	39.071	44.985	1.00	29.90	C
ATOM	5950	O3*	G Q	45	6.242	38.534	45.606	1.00	28.31	O
ATOM	5951	C2*	G Q	45	7.352	38.833	43.485	1.00	28.88	C
ATOM	5952	O2*	G Q	45	6.124	39.152	42.892	1.00	29.17	O
ATOM	5953	C1*	G Q	45	8.360	39.861	43.006	1.00	29.90	C
ATOM	5954	N9	G Q	45	9.727	39.371	42.769	1.00	30.50	N
ATOM	5955	C8	G Q	45	10.909	39.885	43.259	1.00	30.52	C
ATOM	5956	N7	G Q	45	11.967	39.243	42.853	1.00	30.31	N
ATOM	5957	C5	G Q	45	11.464	38.237	42.042	1.00	29.86	C
ATOM	5958	C6	G Q	45	12.126	37.228	41.303	1.00	29.69	C
ATOM	5959	O6	G Q	45	13.327	36.979	41.201	1.00	29.82	O
ATOM	5960	N1	G Q	45	11.234	36.421	40.619	1.00	30.99	N
ATOM	5961	C2	G Q	45	9.876	36.553	40.644	1.00	30.39	C
ATOM	5962	N2	G Q	45	9.200	35.674	39.915	1.00	31.32	N
ATOM	5963	N3	G Q	45	9.238	37.498	41.311	1.00	30.44	N
ATOM	5964	C4	G Q	45	10.092	38.304	41.987	1.00	29.93	C

ATOM	5965	P	A Q	46	6.325	37.205	46.508	1.00	29.92	P
ATOM	5966	O1P	A Q	46	5.032	37.151	47.262	1.00	27.28	O
ATOM	5967	O2P	A Q	46	7.628	37.121	47.215	1.00	26.77	O
ATOM	5968	O5*	A Q	46	6.338	36.085	45.375	1.00	27.42	O
ATOM	5969	C5*	A Q	46	5.119	35.729	44.735	1.00	28.84	C
ATOM	5970	C4*	A Q	46	5.362	34.577	43.794	1.00	27.87	C
ATOM	5971	O4*	A Q	46	6.326	35.038	42.836	1.00	27.91	O
ATOM	5972	C3*	A Q	46	6.048	33.364	44.396	1.00	29.43	C
ATOM	5973	O3*	A Q	46	5.145	32.510	45.056	1.00	29.43	O
ATOM	5974	C2*	A Q	46	6.687	32.752	43.156	1.00	28.67	C
ATOM	5975	O2*	A Q	46	5.825	32.153	42.223	1.00	28.65	O
ATOM	5976	C1*	A Q	46	7.233	34.006	42.530	1.00	28.36	C
ATOM	5977	N9	A Q	46	8.580	34.362	42.947	1.00	27.87	N
ATOM	5978	C8	A Q	46	9.030	35.405	43.692	1.00	29.05	C
ATOM	5979	N7	A Q	46	10.335	35.421	43.835	1.00	29.89	N
ATOM	5980	C5	A Q	46	10.752	34.312	43.119	1.00	29.14	C
ATOM	5981	C6	A Q	46	12.012	33.746	42.851	1.00	28.33	C
ATOM	5982	N6	A Q	46	13.172	34.224	43.290	1.00	29.71	N
ATOM	5983	N1	A Q	46	12.058	32.641	42.115	1.00	28.09	N
ATOM	5984	C2	A Q	46	10.918	32.123	41.668	1.00	30.09	C
ATOM	5985	N3	A Q	46	9.676	32.564	41.837	1.00	29.44	N
ATOM	5986	C4	A Q	46	9.676	33.669	42.575	1.00	27.91	C
ATOM	5987	P	G Q	47	5.539	31.851	46.454	1.00	31.15	P
ATOM	5988	O1P	G Q	47	4.285	31.233	46.939	1.00	28.93	O
ATOM	5989	O2P	G Q	47	6.243	32.809	47.334	1.00	28.80	O
ATOM	5990	O5*	G Q	47	6.601	30.729	46.002	1.00	29.43	O
ATOM	5991	C5*	G Q	47	6.262	29.719	45.110	1.00	30.24	C
ATOM	5992	C4*	G Q	47	7.489	29.002	44.609	1.00	31.47	C
ATOM	5993	O4*	G Q	47	8.364	29.947	43.955	1.00	32.99	O
ATOM	5994	C3*	G Q	47	8.394	28.346	45.649	1.00	33.24	C
ATOM	5995	O3*	G Q	47	7.943	27.048	45.912	1.00	33.98	O
ATOM	5996	C2*	G Q	47	9.716	28.317	44.887	1.00	32.71	C
ATOM	5997	O2*	G Q	47	9.710	27.383	43.834	1.00	32.29	O
ATOM	5998	C1*	G Q	47	9.728	29.676	44.239	1.00	31.93	C
ATOM	5999	N9	G Q	47	10.264	30.781	44.999	1.00	31.04	N
ATOM	6000	C8	G Q	47	9.574	31.818	45.580	1.00	32.83	C
ATOM	6001	N7	G Q	47	10.330	32.702	46.169	1.00	32.25	N
ATOM	6002	C5	G Q	47	11.603	32.241	45.932	1.00	31.50	C
ATOM	6003	C6	G Q	47	12.827	32.791	46.336	1.00	32.15	C
ATOM	6004	O6	G Q	47	13.035	33.820	46.995	1.00	33.03	O
ATOM	6005	N1	G Q	47	13.893	32.014	45.915	1.00	32.87	N
ATOM	6006	C2	G Q	47	13.791	30.847	45.195	1.00	32.53	C
ATOM	6007	N2	G Q	47	14.961	30.262	44.893	1.00	32.72	N
ATOM	6008	N3	G Q	47	12.638	30.305	44.804	1.00	32.30	N
ATOM	6009	C4	G Q	47	11.586	31.061	45.214	1.00	32.43	C
ATOM	6010	P	A Q	48	8.048	26.395	47.346	1.00	36.80	P
ATOM	6011	O1P	A Q	48	7.425	25.056	47.259	1.00	36.41	O
ATOM	6012	O2P	A Q	48	7.542	27.316	48.391	1.00	38.32	O
ATOM	6013	O5*	A Q	48	9.627	26.259	47.460	1.00	38.38	O
ATOM	6014	C5*	A Q	48	10.276	25.336	46.623	1.00	40.22	C
ATOM	6015	C4*	A Q	48	11.752	25.430	46.873	1.00	41.48	C
ATOM	6016	O4*	A Q	48	12.150	26.803	46.699	1.00	39.87	O
ATOM	6017	C3*	A Q	48	12.100	25.022	48.291	1.00	43.37	C
ATOM	6018	O3*	A Q	48	13.327	24.329	48.383	1.00	47.30	O
ATOM	6019	C2*	A Q	48	12.177	26.349	48.995	1.00	42.46	C
ATOM	6020	O2*	A Q	48	13.008	26.247	50.143	1.00	42.77	O
ATOM	6021	C1*	A Q	48	12.672	27.309	47.889	1.00	39.84	C
ATOM	6022	N9	A Q	48	12.200	28.636	48.293	1.00	38.89	N
ATOM	6023	C8	A Q	48	10.910	29.036	48.537	1.00	38.43	C

ATOM	6024	N7	A Q	48	10.801	30.256	48.991	1.00	38.05	N
ATOM	6025	C5	A Q	48	12.116	30.683	49.088	1.00	39.10	C
ATOM	6026	C6	A Q	48	12.717	31.892	49.521	1.00	38.87	C
ATOM	6027	N6	A Q	48	12.021	32.941	49.946	1.00	37.97	N
ATOM	6028	N1	A Q	48	14.076	31.997	49.491	1.00	39.44	N
ATOM	6029	C2	A Q	48	14.784	30.951	49.057	1.00	38.73	C
ATOM	6030	N3	A Q	48	14.331	29.766	48.631	1.00	40.14	N
ATOM	6031	C4	A Q	48	12.985	29.693	48.669	1.00	38.91	C
ATOM	6032	P	U Q	49	13.612	23.528	49.729	1.00	51.10	P
ATOM	6033	O1P	U Q	49	12.753	22.314	49.712	1.00	50.08	O
ATOM	6034	O2P	U Q	49	13.544	24.502	50.844	1.00	49.52	O
ATOM	6035	O5*	U Q	49	15.162	23.127	49.562	1.00	53.30	O
ATOM	6036	C5*	U Q	49	15.668	21.817	49.840	1.00	55.07	C
ATOM	6037	C4*	U Q	49	17.183	21.861	50.005	1.00	56.51	C
ATOM	6038	O4*	U Q	49	17.684	20.499	50.061	1.00	56.84	O
ATOM	6039	C3*	U Q	49	17.966	22.573	48.888	1.00	57.83	C
ATOM	6040	O3*	U Q	49	18.868	23.614	49.394	1.00	58.67	O
ATOM	6041	C2*	U Q	49	18.743	21.440	48.185	1.00	58.35	C
ATOM	6042	O2*	U Q	49	20.156	21.514	48.355	1.00	58.37	O
ATOM	6043	C1*	U Q	49	18.196	20.146	48.796	1.00	57.44	C
ATOM	6044	P	U Q	50	18.563	25.199	49.362	1.00	58.77	P
ATOM	6045	O1P	U Q	50	19.547	25.837	50.253	1.00	59.54	O
ATOM	6046	O2P	U Q	50	17.124	25.360	49.673	1.00	58.40	O
ATOM	6047	O5*	U Q	50	18.885	25.661	47.848	1.00	57.18	O
ATOM	6048	C5*	U Q	50	19.952	26.571	47.548	1.00	54.88	C
ATOM	6049	C4*	U Q	50	20.395	26.555	46.088	1.00	54.31	C
ATOM	6050	O4*	U Q	50	21.824	26.313	46.013	1.00	55.02	O
ATOM	6051	C3*	U Q	50	19.866	25.475	45.153	1.00	53.66	C
ATOM	6052	O3*	U Q	50	20.115	25.851	43.810	1.00	50.12	O
ATOM	6053	C2*	U Q	50	20.754	24.294	45.467	1.00	53.76	C
ATOM	6054	O2*	U Q	50	20.687	23.318	44.448	1.00	54.17	O
ATOM	6055	C1*	U Q	50	22.092	25.027	45.466	1.00	54.00	C
ATOM	6056	N1	U Q	50	23.207	24.460	46.266	1.00	53.62	N
ATOM	6057	C2	U Q	50	24.322	23.954	45.621	1.00	53.94	C
ATOM	6058	O2	U Q	50	24.446	23.905	44.409	1.00	53.61	O
ATOM	6059	N3	U Q	50	25.303	23.490	46.469	1.00	54.25	N
ATOM	6060	C4	U Q	50	25.293	23.480	47.854	1.00	54.00	C
ATOM	6061	O4	U Q	50	26.251	23.024	48.469	1.00	54.19	O
ATOM	6062	C5	U Q	50	24.102	24.029	48.451	1.00	54.13	C
ATOM	6063	C6	U Q	50	23.129	24.488	47.648	1.00	53.91	C
ATOM	6064	P	U Q	51	18.944	26.281	42.837	1.00	48.48	P
ATOM	6065	O1P	U Q	51	17.661	25.926	43.479	1.00	47.29	O
ATOM	6066	O2P	U Q	51	19.348	25.824	41.489	1.00	47.38	O
ATOM	6067	O5*	U Q	51	18.996	27.866	42.793	1.00	47.34	O
ATOM	6068	C5*	U Q	51	20.178	28.552	42.426	1.00	46.54	C
ATOM	6069	C4*	U Q	51	20.042	30.030	42.726	1.00	44.98	C
ATOM	6070	O4*	U Q	51	18.940	30.569	41.953	1.00	46.26	O
ATOM	6071	C3*	U Q	51	19.709	30.365	44.168	1.00	44.51	C
ATOM	6072	O3*	U Q	51	20.208	31.644	44.509	1.00	44.40	O
ATOM	6073	C2*	U Q	51	18.183	30.334	44.132	1.00	44.18	C
ATOM	6074	O2*	U Q	51	17.552	31.003	45.185	1.00	43.05	O
ATOM	6075	C1*	U Q	51	17.903	31.016	42.803	1.00	44.73	C
ATOM	6076	N1	U Q	51	16.572	30.647	42.183	1.00	45.54	N
ATOM	6077	C2	U Q	51	15.496	31.512	42.270	1.00	44.30	C
ATOM	6078	O2	U Q	51	15.512	32.596	42.827	1.00	44.74	O
ATOM	6079	N3	U Q	51	14.354	31.069	41.672	1.00	43.78	N
ATOM	6080	C4	U Q	51	14.142	29.881	41.021	1.00	44.42	C
ATOM	6081	O4	U Q	51	13.037	29.663	40.548	1.00	45.14	O
ATOM	6082	C5	U Q	51	15.292	29.022	40.941	1.00	44.88	C

ATOM	6083	C6	U Q	51	16.437	29.431	41.518	1.00	45.64	C
ATOM	6084	P	C Q	52	21.755	31.941	44.802	1.00	43.62	P
ATOM	6085	O1P	C Q	52	21.760	33.261	45.494	1.00	42.45	O
ATOM	6086	O2P	C Q	52	22.572	31.702	43.592	1.00	40.70	O
ATOM	6087	O5*	C Q	52	22.145	30.837	45.859	1.00	41.69	O
ATOM	6088	C5*	C Q	52	21.954	31.047	47.262	1.00	41.60	C
ATOM	6089	C4*	C Q	52	23.001	30.254	48.003	1.00	40.77	C
ATOM	6090	O4*	C Q	52	22.920	28.864	47.587	1.00	39.31	O
ATOM	6091	C3*	C Q	52	24.443	30.642	47.691	1.00	40.49	C
ATOM	6092	O3*	C Q	52	24.857	31.799	48.399	1.00	39.29	O
ATOM	6093	C2*	C Q	52	25.142	29.394	48.183	1.00	39.71	C
ATOM	6094	O2*	C Q	52	25.192	29.419	49.590	1.00	40.69	O
ATOM	6095	C1*	C Q	52	24.218	28.304	47.627	1.00	40.05	C
ATOM	6096	N1	C Q	52	24.630	27.867	46.251	1.00	40.20	N
ATOM	6097	C2	C Q	52	25.795	27.120	46.085	1.00	40.72	C
ATOM	6098	O2	C Q	52	26.475	26.783	47.069	1.00	41.38	O
ATOM	6099	N3	C Q	52	26.157	26.759	44.838	1.00	40.60	N
ATOM	6100	C4	C Q	52	25.449	27.096	43.784	1.00	39.38	C
ATOM	6101	N4	C Q	52	25.879	26.689	42.587	1.00	40.22	N
ATOM	6102	C5	C Q	52	24.265	27.844	43.926	1.00	40.14	C
ATOM	6103	C6	C Q	52	23.904	28.208	45.157	1.00	40.04	C
ATOM	6104	P	G Q	53	25.906	32.808	47.759	1.00	38.56	P
ATOM	6105	O1P	G Q	53	26.087	33.934	48.683	1.00	40.50	O
ATOM	6106	O2P	G Q	53	25.531	33.117	46.373	1.00	42.06	O
ATOM	6107	O5*	G Q	53	27.251	31.957	47.609	1.00	41.19	O
ATOM	6108	C5*	G Q	53	28.024	31.416	48.665	1.00	40.38	C
ATOM	6109	C4*	G Q	53	29.274	30.781	48.077	1.00	41.03	C
ATOM	6110	O4*	G Q	53	28.992	29.517	47.402	1.00	41.77	O
ATOM	6111	C3*	G Q	53	29.929	31.596	46.983	1.00	41.03	C
ATOM	6112	O3*	G Q	53	30.648	32.633	47.568	1.00	41.61	O
ATOM	6113	C2*	G Q	53	30.782	30.542	46.281	1.00	41.37	C
ATOM	6114	O2*	G Q	53	31.951	30.153	46.971	1.00	40.44	O
ATOM	6115	C1*	G Q	53	29.778	29.399	46.224	1.00	40.74	C
ATOM	6116	N9	G Q	53	28.929	29.499	45.043	1.00	40.78	N
ATOM	6117	C8	G Q	53	27.669	30.052	44.960	1.00	41.29	C
ATOM	6118	N7	G Q	53	27.138	30.015	43.768	1.00	40.49	N
ATOM	6119	C5	G Q	53	28.118	29.416	43.006	1.00	40.88	C
ATOM	6120	C6	G Q	53	28.114	29.117	41.628	1.00	40.43	C
ATOM	6121	O6	G Q	53	27.233	29.316	40.779	1.00	40.03	O
ATOM	6122	N1	G Q	53	29.306	28.512	41.256	1.00	40.99	N
ATOM	6123	C2	G Q	53	30.362	28.222	42.080	1.00	41.01	C
ATOM	6124	N2	G Q	53	31.399	27.627	41.463	1.00	40.81	N
ATOM	6125	N3	G Q	53	30.384	28.503	43.382	1.00	40.48	N
ATOM	6126	C4	G Q	53	29.229	29.091	43.770	1.00	40.73	C
ATOM	6127	P	G Q	54	30.966	33.944	46.727	1.00	42.40	P
ATOM	6128	O1P	G Q	54	31.773	34.796	47.629	1.00	41.08	O
ATOM	6129	O2P	G Q	54	29.721	34.455	46.124	1.00	41.30	O
ATOM	6130	O5*	G Q	54	31.822	33.375	45.496	1.00	40.83	O
ATOM	6131	C5*	G Q	54	33.176	33.105	45.630	1.00	40.83	C
ATOM	6132	C4*	G Q	54	33.746	32.556	44.333	1.00	41.22	C
ATOM	6133	O4*	G Q	54	32.923	31.508	43.764	1.00	42.17	O
ATOM	6134	C3*	G Q	54	33.786	33.514	43.168	1.00	42.04	C
ATOM	6135	O3*	G Q	54	34.763	34.499	43.340	1.00	41.26	O
ATOM	6136	C2*	G Q	54	34.087	32.561	42.025	1.00	41.62	C
ATOM	6137	O2*	G Q	54	35.416	32.084	42.050	1.00	45.26	O
ATOM	6138	C1*	G Q	54	33.085	31.469	42.352	1.00	40.92	C
ATOM	6139	N9	G Q	54	31.795	31.688	41.720	1.00	40.37	N
ATOM	6140	C8	G Q	54	30.666	32.204	42.307	1.00	40.71	C
ATOM	6141	N7	G Q	54	29.641	32.283	41.499	1.00	41.04	N

ATOM	6142	C5	G Q	54	30.133	31.807	40.298	1.00	40.15	C
ATOM	6143	C6	G Q	54	29.493	31.662	39.058	1.00	39.92	C
ATOM	6144	O6	G Q	54	28.338	31.932	38.746	1.00	40.85	O
ATOM	6145	N1	G Q	54	30.332	31.129	38.100	1.00	40.83	N
ATOM	6146	C2	G Q	54	31.638	30.781	38.295	1.00	40.15	C
ATOM	6147	N2	G Q	54	32.261	30.291	37.226	1.00	40.08	N
ATOM	6148	N3	G Q	54	32.256	30.908	39.451	1.00	40.75	N
ATOM	6149	C4	G Q	54	31.450	31.428	40.413	1.00	40.62	C
ATOM	6150	P	C Q	55	34.445	35.984	42.855	1.00	41.43	P
ATOM	6151	O1P	C Q	55	35.616	36.832	43.220	1.00	40.65	O
ATOM	6152	O2P	C Q	55	33.094	36.349	43.351	1.00	40.34	O
ATOM	6153	O5*	C Q	55	34.429	35.750	41.269	1.00	39.68	O
ATOM	6154	C5*	C Q	55	35.663	35.433	40.641	1.00	40.67	C
ATOM	6155	C4*	C Q	55	35.517	35.136	39.163	1.00	40.37	C
ATOM	6156	O4*	C Q	55	34.621	34.012	39.014	1.00	40.86	O
ATOM	6157	C3*	C Q	55	34.887	36.222	38.307	1.00	41.07	C
ATOM	6158	O3*	C Q	55	35.798	37.273	37.948	1.00	40.99	O
ATOM	6159	C2*	C Q	55	34.468	35.353	37.127	1.00	41.26	C
ATOM	6160	O2*	C Q	55	35.526	34.949	36.300	1.00	41.96	O
ATOM	6161	C1*	C Q	55	33.879	34.136	37.825	1.00	40.51	C
ATOM	6162	N1	C Q	55	32.425	34.367	38.047	1.00	39.81	N
ATOM	6163	C2	C Q	55	31.562	34.166	36.965	1.00	40.48	C
ATOM	6164	O2	C Q	55	31.985	33.767	35.877	1.00	41.23	O
ATOM	6165	N3	C Q	55	30.244	34.388	37.117	1.00	40.77	N
ATOM	6166	C4	C Q	55	29.755	34.816	38.261	1.00	40.11	C
ATOM	6167	N4	C Q	55	28.442	35.003	38.278	1.00	39.51	N
ATOM	6168	C5	C Q	55	30.603	35.049	39.387	1.00	40.82	C
ATOM	6169	C6	C Q	55	31.921	34.815	39.231	1.00	40.18	C
ATOM	6170	P	G Q	56	35.292	38.770	37.644	1.00	42.17	P
ATOM	6171	O1P	G Q	56	36.457	39.647	37.377	1.00	41.46	O
ATOM	6172	O2P	G Q	56	34.317	39.152	38.678	1.00	42.98	O
ATOM	6173	O5*	G Q	56	34.524	38.555	36.268	1.00	41.57	O
ATOM	6174	C5*	G Q	56	35.301	38.211	35.113	1.00	40.98	C
ATOM	6175	C4*	G Q	56	34.386	37.907	33.953	1.00	39.99	C
ATOM	6176	O4*	G Q	56	33.419	36.926	34.374	1.00	38.91	O
ATOM	6177	C3*	G Q	56	33.500	39.057	33.518	1.00	40.56	C
ATOM	6178	O3*	G Q	56	34.248	39.999	32.748	1.00	42.39	O
ATOM	6179	C2*	G Q	56	32.438	38.293	32.735	1.00	39.01	C
ATOM	6180	O2*	G Q	56	32.870	37.823	31.472	1.00	38.87	O
ATOM	6181	C1*	G Q	56	32.214	37.120	33.672	1.00	36.28	C
ATOM	6182	N9	G Q	56	31.148	37.368	34.622	1.00	36.00	N
ATOM	6183	C8	G Q	56	31.244	37.673	35.956	1.00	34.63	C
ATOM	6184	N7	G Q	56	30.096	37.850	36.522	1.00	32.83	N
ATOM	6185	C5	G Q	56	29.184	37.635	35.514	1.00	33.56	C
ATOM	6186	C6	G Q	56	27.770	37.685	35.543	1.00	34.69	C
ATOM	6187	O6	G Q	56	27.035	37.937	36.515	1.00	32.81	O
ATOM	6188	N1	G Q	56	27.237	37.412	34.283	1.00	34.14	N
ATOM	6189	C2	G Q	56	27.954	37.129	33.149	1.00	34.08	C
ATOM	6190	N2	G Q	56	27.255	36.889	32.029	1.00	33.20	N
ATOM	6191	N3	G Q	56	29.284	37.085	33.121	1.00	34.76	N
ATOM	6192	C4	G Q	56	29.814	37.342	34.336	1.00	34.49	C
ATOM	6193	P	G Q	57	33.799	41.534	32.631	1.00	45.91	P
ATOM	6194	O1P	G Q	57	34.553	42.058	31.453	1.00	44.06	O
ATOM	6195	O2P	G Q	57	33.896	42.188	33.961	1.00	42.73	O
ATOM	6196	O5*	G Q	57	32.238	41.434	32.306	1.00	41.87	O
ATOM	6197	C5*	G Q	57	31.605	42.257	31.351	1.00	40.18	C
ATOM	6198	C4*	G Q	57	30.291	41.616	30.930	1.00	39.25	C
ATOM	6199	O4*	G Q	57	29.878	40.576	31.865	1.00	38.52	O
ATOM	6200	C3*	G Q	57	29.093	42.543	30.930	1.00	37.73	C

ATOM	6201	O3*	G Q	57	29.119	43.409	29.815	1.00	35.79	O
ATOM	6202	C2*	G Q	57	27.985	41.512	30.884	1.00	37.37	C
ATOM	6203	O2*	G Q	57	27.890	40.926	29.614	1.00	39.14	O
ATOM	6204	C1*	G Q	57	28.473	40.485	31.887	1.00	37.19	C
ATOM	6205	N9	G Q	57	28.031	40.667	33.265	1.00	37.50	N
ATOM	6206	C8	G Q	57	28.815	40.895	34.374	1.00	37.74	C
ATOM	6207	N7	G Q	57	28.143	40.986	35.489	1.00	37.39	N
ATOM	6208	C5	G Q	57	26.833	40.808	35.081	1.00	36.72	C
ATOM	6209	C6	G Q	57	25.653	40.821	35.849	1.00	37.59	C
ATOM	6210	O6	G Q	57	25.570	40.997	37.068	1.00	37.17	O
ATOM	6211	N1	G Q	57	24.513	40.608	35.075	1.00	37.61	N
ATOM	6212	C2	G Q	57	24.525	40.414	33.710	1.00	37.87	C
ATOM	6213	N2	G Q	57	23.353	40.220	33.106	1.00	37.09	N
ATOM	6214	N3	G Q	57	25.636	40.410	32.978	1.00	38.43	N
ATOM	6215	C4	G Q	57	26.747	40.607	33.731	1.00	36.31	C
ATOM	6216	P	A Q	58	28.917	44.978	30.061	1.00	36.19	P
ATOM	6217	O1P	A Q	58	28.918	45.708	28.769	1.00	35.65	O
ATOM	6218	O2P	A Q	58	29.821	45.425	31.133	1.00	35.06	O
ATOM	6219	O5*	A Q	58	27.445	44.931	30.649	1.00	34.97	O
ATOM	6220	C5*	A Q	58	26.374	44.538	29.820	1.00	34.41	C
ATOM	6221	C4*	A Q	58	25.112	44.528	30.656	1.00	34.98	C
ATOM	6222	O4*	A Q	58	25.226	43.499	31.668	1.00	34.44	O
ATOM	6223	C3*	A Q	58	24.833	45.762	31.500	1.00	34.71	C
ATOM	6224	O3*	A Q	58	24.265	46.800	30.744	1.00	35.74	O
ATOM	6225	C2*	A Q	58	23.813	45.185	32.446	1.00	34.32	C
ATOM	6226	O2*	A Q	58	22.571	44.999	31.796	1.00	35.95	O
ATOM	6227	C1*	A Q	58	24.480	43.872	32.799	1.00	33.44	C
ATOM	6228	N9	A Q	58	25.368	44.024	33.922	1.00	33.15	N
ATOM	6229	C8	A Q	58	26.718	44.205	33.906	1.00	33.26	C
ATOM	6230	N7	A Q	58	27.243	44.324	35.105	1.00	32.79	N
ATOM	6231	C5	A Q	58	26.168	44.203	35.945	1.00	32.00	C
ATOM	6232	C6	A Q	58	26.070	44.238	37.338	1.00	32.75	C
ATOM	6233	N6	A Q	58	27.148	44.420	38.102	1.00	33.46	N
ATOM	6234	N1	A Q	58	24.843	44.099	37.901	1.00	32.26	N
ATOM	6235	C2	A Q	58	23.795	43.935	37.078	1.00	32.79	C
ATOM	6236	N3	A Q	58	23.772	43.865	35.741	1.00	33.08	N
ATOM	6237	C4	A Q	58	25.003	44.013	35.237	1.00	32.81	C
ATOM	6238	P	U Q	59	24.939	48.251	30.645	1.00	36.96	P
ATOM	6239	O1P	U Q	59	25.717	48.262	29.388	1.00	36.17	O
ATOM	6240	O2P	U Q	59	25.544	48.626	31.941	1.00	35.61	O
ATOM	6241	O5*	U Q	59	23.667	49.169	30.449	1.00	34.86	O
ATOM	6242	C5*	U Q	59	22.779	49.245	31.515	1.00	35.79	C
ATOM	6243	C4*	U Q	59	21.578	50.049	31.103	1.00	34.92	C
ATOM	6244	O4*	U Q	59	21.128	49.544	29.833	1.00	35.42	O
ATOM	6245	C3*	U Q	59	20.403	49.897	32.038	1.00	34.84	C
ATOM	6246	O3*	U Q	59	19.548	51.001	31.870	1.00	34.31	O
ATOM	6247	C2*	U Q	59	19.785	48.606	31.536	1.00	34.80	C
ATOM	6248	O2*	U Q	59	18.414	48.505	31.790	1.00	36.52	O
ATOM	6249	C1*	U Q	59	19.933	48.801	30.047	1.00	36.46	C
ATOM	6250	N1	U Q	59	19.949	47.530	29.303	1.00	35.98	N
ATOM	6251	C2	U Q	59	18.791	47.021	28.765	1.00	35.45	C
ATOM	6252	O2	U Q	59	17.714	47.548	28.883	1.00	37.46	O
ATOM	6253	N3	U Q	59	18.925	45.846	28.076	1.00	35.69	N
ATOM	6254	C4	U Q	59	20.098	45.139	27.882	1.00	35.88	C
ATOM	6255	O4	U Q	59	20.095	44.094	27.249	1.00	36.73	O
ATOM	6256	C5	U Q	59	21.272	45.729	28.458	1.00	36.79	C
ATOM	6257	C6	U Q	59	21.153	46.878	29.135	1.00	37.85	C
ATOM	6258	P	G Q	60	19.721	52.254	32.854	1.00	36.62	P
ATOM	6259	O1P	G Q	60	18.617	53.184	32.523	1.00	32.61	O

ATOM	6260	O2P	G Q	60	21.152	52.663	32.843	1.00	34.77	O
ATOM	6261	O5*	G Q	60	19.513	51.690	34.328	1.00	34.33	O
ATOM	6262	C5*	G Q	60	18.272	51.173	34.696	1.00	35.52	C
ATOM	6263	C4*	G Q	60	18.355	50.683	36.114	1.00	34.96	C
ATOM	6264	O4*	G Q	60	19.488	49.813	36.237	1.00	36.36	O
ATOM	6265	C3*	G Q	60	18.632	51.763	37.121	1.00	35.87	C
ATOM	6266	O3*	G Q	60	17.434	52.322	37.517	1.00	34.88	O
ATOM	6267	C2*	G Q	60	19.264	51.007	38.272	1.00	36.87	C
ATOM	6268	O2*	G Q	60	18.301	50.436	39.139	1.00	36.42	O
ATOM	6269	C1*	G Q	60	20.059	49.956	37.516	1.00	36.94	C
ATOM	6270	N9	G Q	60	21.472	50.265	37.333	1.00	38.00	N
ATOM	6271	C8	G Q	60	22.193	50.423	36.165	1.00	37.71	C
ATOM	6272	N7	G Q	60	23.461	50.675	36.380	1.00	37.30	N
ATOM	6273	C5	G Q	60	23.566	50.676	37.759	1.00	36.48	C
ATOM	6274	C6	G Q	60	24.680	50.875	38.579	1.00	38.03	C
ATOM	6275	O6	G Q	60	25.832	51.121	38.196	1.00	39.53	O
ATOM	6276	N1	G Q	60	24.372	50.798	39.940	1.00	37.47	N
ATOM	6277	C2	G Q	60	23.119	50.552	40.435	1.00	37.74	C
ATOM	6278	N2	G Q	60	22.979	50.512	41.771	1.00	37.91	N
ATOM	6279	N3	G Q	60	22.060	50.356	39.660	1.00	38.02	N
ATOM	6280	C4	G Q	60	22.366	50.434	38.352	1.00	36.93	C
ATOM	6281	P	A Q	61	17.382	53.878	37.802	1.00	35.40	P
ATOM	6282	O1P	A Q	61	15.957	54.199	38.088	1.00	36.88	O
ATOM	6283	O2P	A Q	61	18.082	54.580	36.697	1.00	35.60	O
ATOM	6284	O5*	A Q	61	18.273	54.014	39.112	1.00	33.58	O
ATOM	6285	C5*	A Q	61	17.838	53.614	40.376	1.00	33.81	C
ATOM	6286	C4*	A Q	61	18.960	53.824	41.373	1.00	34.28	C
ATOM	6287	O4*	A Q	61	20.100	53.007	40.992	1.00	33.78	O
ATOM	6288	C3*	A Q	61	19.564	55.215	41.413	1.00	34.56	C
ATOM	6289	O3*	A Q	61	18.775	56.106	42.173	1.00	35.06	O
ATOM	6290	C2*	A Q	61	20.901	54.904	42.069	1.00	33.81	C
ATOM	6291	O2*	A Q	61	20.807	54.575	43.444	1.00	32.44	O
ATOM	6292	C1*	A Q	61	21.307	53.668	41.292	1.00	32.20	C
ATOM	6293	N9	A Q	61	22.054	53.808	40.041	1.00	31.73	N
ATOM	6294	C8	A Q	61	21.612	53.797	38.744	1.00	31.82	C
ATOM	6295	N7	A Q	61	22.572	53.881	37.840	1.00	30.90	N
ATOM	6296	C5	A Q	61	23.710	53.924	38.596	1.00	30.04	C
ATOM	6297	C6	A Q	61	25.062	54.014	38.249	1.00	31.10	C
ATOM	6298	N6	A Q	61	25.520	54.078	36.995	1.00	31.30	N
ATOM	6299	N1	A Q	61	25.944	54.039	39.260	1.00	31.02	N
ATOM	6300	C2	A Q	61	25.513	53.983	40.521	1.00	31.54	C
ATOM	6301	N3	A Q	61	24.259	53.885	40.965	1.00	32.53	N
ATOM	6302	C4	A Q	61	23.409	53.867	39.938	1.00	30.38	C
ATOM	6303	P	C Q	62	18.595	57.634	41.735	1.00	37.72	P
ATOM	6304	O1P	C Q	62	17.593	58.131	42.714	1.00	36.98	O
ATOM	6305	O2P	C Q	62	18.397	57.780	40.276	1.00	34.57	O
ATOM	6306	O5*	C Q	62	19.999	58.292	42.098	1.00	36.80	O
ATOM	6307	C5*	C Q	62	20.360	58.280	43.474	1.00	37.82	C
ATOM	6308	C4*	C Q	62	21.819	58.635	43.655	1.00	37.96	C
ATOM	6309	O4*	C Q	62	22.681	57.553	43.207	1.00	37.87	O
ATOM	6310	C3*	C Q	62	22.275	59.849	42.855	1.00	38.44	C
ATOM	6311	O3*	C Q	62	21.869	61.050	43.501	1.00	38.59	O
ATOM	6312	C2*	C Q	62	23.786	59.602	42.856	1.00	38.19	C
ATOM	6313	O2*	C Q	62	24.413	59.874	44.088	1.00	39.08	O
ATOM	6314	C1*	C Q	62	23.825	58.107	42.577	1.00	36.98	C
ATOM	6315	N1	C Q	62	23.823	57.823	41.119	1.00	35.59	N
ATOM	6316	C2	C Q	62	25.037	57.750	40.457	1.00	35.02	C
ATOM	6317	O2	C Q	62	26.088	57.911	41.082	1.00	35.42	O
ATOM	6318	N3	C Q	62	25.035	57.488	39.136	1.00	35.39	N

ATOM	6319	C4	C Q	62	23.908	57.327	38.468	1.00	35.48	C
ATOM	6320	N4	C Q	62	23.996	57.080	37.168	1.00	35.54	N
ATOM	6321	C5	C Q	62	22.647	57.412	39.110	1.00	35.84	C
ATOM	6322	C6	C Q	62	22.657	57.658	40.425	1.00	36.25	C
ATOM	6323	P	U Q	63	21.786	62.422	42.700	1.00	38.11	P
ATOM	6324	O1P	U Q	63	21.479	63.453	43.705	1.00	38.05	O
ATOM	6325	O2P	U Q	63	20.972	62.242	41.480	1.00	38.74	O
ATOM	6326	O5*	U Q	63	23.287	62.607	42.189	1.00	39.68	O
ATOM	6327	C5*	U Q	63	24.342	62.885	43.079	1.00	40.50	C
ATOM	6328	C4*	U Q	63	25.632	63.079	42.312	1.00	41.14	C
ATOM	6329	O4*	U Q	63	26.056	61.823	41.737	1.00	40.46	O
ATOM	6330	C3*	U Q	63	25.553	64.035	41.124	1.00	41.59	C
ATOM	6331	O3*	U Q	63	25.625	65.381	41.546	1.00	43.27	O
ATOM	6332	C2*	U Q	63	26.780	63.576	40.352	1.00	41.20	C
ATOM	6333	O2*	U Q	63	28.007	63.981	40.915	1.00	41.69	O
ATOM	6334	C1*	U Q	63	26.619	62.072	40.462	1.00	39.75	C
ATOM	6335	N1	U Q	63	25.756	61.523	39.368	1.00	39.06	N
ATOM	6336	C2	U Q	63	26.346	61.239	38.159	1.00	39.20	C
ATOM	6337	O2	U Q	63	27.532	61.412	37.936	1.00	38.51	O
ATOM	6338	N3	U Q	63	25.494	60.736	37.205	1.00	39.45	N
ATOM	6339	C4	U Q	63	24.143	60.482	37.318	1.00	39.37	C
ATOM	6340	O4	U Q	63	23.523	60.027	36.363	1.00	38.78	O
ATOM	6341	C5	U Q	63	23.591	60.808	38.606	1.00	39.17	C
ATOM	6342	C6	U Q	63	24.403	61.309	39.551	1.00	38.69	C
ATOM	6343	P	C Q	64	25.220	66.586	40.563	1.00	46.60	P
ATOM	6344	O1P	C Q	64	25.493	67.841	41.311	1.00	45.05	O
ATOM	6345	O2P	C Q	64	23.897	66.334	39.953	1.00	43.42	O
ATOM	6346	O5*	C Q	64	26.309	66.458	39.399	1.00	45.76	O
ATOM	6347	C5*	C Q	64	27.253	67.480	39.146	1.00	45.19	C
ATOM	6348	C4*	C Q	64	28.162	67.071	37.996	1.00	45.12	C
ATOM	6349	O4*	C Q	64	28.268	65.624	37.879	1.00	44.18	O
ATOM	6350	C3*	C Q	64	27.700	67.512	36.615	1.00	44.68	C
ATOM	6351	O3*	C Q	64	28.019	68.869	36.421	1.00	45.47	O
ATOM	6352	C2*	C Q	64	28.520	66.578	35.736	1.00	44.35	C
ATOM	6353	O2*	C Q	64	29.898	66.894	35.629	1.00	45.06	O
ATOM	6354	C1*	C Q	64	28.350	65.279	36.509	1.00	42.82	C
ATOM	6355	N1	C Q	64	27.138	64.547	36.091	1.00	42.22	N
ATOM	6356	C2	C Q	64	27.148	63.928	34.846	1.00	41.79	C
ATOM	6357	O2	C Q	64	28.143	63.997	34.120	1.00	41.64	O
ATOM	6358	N3	C Q	64	26.045	63.254	34.461	1.00	42.07	N
ATOM	6359	C4	C Q	64	24.969	63.167	35.234	1.00	41.97	C
ATOM	6360	N4	C Q	64	23.930	62.470	34.761	1.00	41.06	N
ATOM	6361	C5	C Q	64	24.933	63.800	36.509	1.00	41.58	C
ATOM	6362	C6	C Q	64	26.024	64.469	36.887	1.00	41.96	C
ATOM	6363	P	C Q	65	27.058	69.893	35.664	1.00	46.27	P
ATOM	6364	O1P	C Q	65	27.587	71.230	36.015	1.00	47.21	O
ATOM	6365	O2P	C Q	65	25.636	69.580	35.932	1.00	46.36	O
ATOM	6366	O5*	C Q	65	27.360	69.602	34.122	1.00	46.48	O
ATOM	6367	C5*	C Q	65	28.697	69.511	33.642	1.00	46.93	C
ATOM	6368	C4*	C Q	65	28.737	68.826	32.284	1.00	47.70	C
ATOM	6369	O4*	C Q	65	28.597	67.383	32.419	1.00	47.10	O
ATOM	6370	C3*	C Q	65	27.618	69.209	31.316	1.00	48.10	C
ATOM	6371	O3*	C Q	65	27.881	70.460	30.700	1.00	48.81	O
ATOM	6372	C2*	C Q	65	27.661	68.026	30.349	1.00	47.78	C
ATOM	6373	O2*	C Q	65	28.744	68.033	29.437	1.00	47.84	O
ATOM	6374	C1*	C Q	65	27.792	66.889	31.356	1.00	46.41	C
ATOM	6375	N1	C Q	65	26.444	66.406	31.853	1.00	45.75	N
ATOM	6376	C2	C Q	65	25.648	65.651	30.987	1.00	44.97	C
ATOM	6377	O2	C Q	65	26.059	65.405	29.850	1.00	45.38	O

ATOM	6378	N3	C Q	65	24.440	65.207	31.406	1.00	44.33	N
ATOM	6379	C4	C Q	65	24.003	65.488	32.625	1.00	44.64	C
ATOM	6380	N4	C Q	65	22.810	65.015	32.972	1.00	44.26	N
ATOM	6381	C5	C Q	65	24.781	66.260	33.533	1.00	45.28	C
ATOM	6382	C6	C Q	65	25.981	66.694	33.111	1.00	45.53	C
ATOM	6383	P	C Q	66	26.704	71.452	30.254	1.00	49.55	P
ATOM	6384	O1P	C Q	66	27.394	72.701	29.866	1.00	50.22	O
ATOM	6385	O2P	C Q	66	25.642	71.486	31.285	1.00	49.31	O
ATOM	6386	O5*	C Q	66	26.116	70.773	28.928	1.00	49.11	O
ATOM	6387	C5*	C Q	66	26.964	70.448	27.818	1.00	48.14	C
ATOM	6388	C4*	C Q	66	26.248	69.554	26.819	1.00	47.45	C
ATOM	6389	O4*	C Q	66	26.018	68.235	27.377	1.00	46.47	O
ATOM	6390	C3*	C Q	66	24.857	70.036	26.428	1.00	47.36	C
ATOM	6391	O3*	C Q	66	24.943	71.000	25.388	1.00	47.80	O
ATOM	6392	C2*	C Q	66	24.151	68.749	26.002	1.00	46.55	C
ATOM	6393	O2*	C Q	66	24.394	68.345	24.671	1.00	47.37	O
ATOM	6394	C1*	C Q	66	24.735	67.749	26.983	1.00	45.08	C
ATOM	6395	N1	C Q	66	23.812	67.547	28.154	1.00	43.87	N
ATOM	6396	C2	C Q	66	22.675	66.746	27.995	1.00	43.15	C
ATOM	6397	O2	C Q	66	22.438	66.218	26.900	1.00	42.75	O
ATOM	6398	N3	C Q	66	21.844	66.565	29.053	1.00	42.38	N
ATOM	6399	C4	C Q	66	22.096	67.140	30.226	1.00	43.02	C
ATOM	6400	N4	C Q	66	21.244	66.927	31.232	1.00	42.62	N
ATOM	6401	C5	C Q	66	23.243	67.963	30.411	1.00	43.52	C
ATOM	6402	C6	C Q	66	24.058	68.137	29.363	1.00	43.94	C
ATOM	6403	P	G Q	67	24.184	72.413	25.472	1.00	49.02	P
ATOM	6404	O1P	G Q	67	24.932	73.360	24.618	1.00	46.66	O
ATOM	6405	O2P	G Q	67	23.910	72.741	26.896	1.00	48.11	O
ATOM	6406	O5*	G Q	67	22.806	72.070	24.737	1.00	47.69	O
ATOM	6407	C5*	G Q	67	22.799	71.318	23.516	1.00	47.27	C
ATOM	6408	C4*	G Q	67	21.531	70.493	23.402	1.00	46.67	C
ATOM	6409	O4*	G Q	67	21.577	69.332	24.271	1.00	45.89	O
ATOM	6410	C3*	G Q	67	20.271	71.183	23.893	1.00	46.55	C
ATOM	6411	O3*	G Q	67	19.817	72.192	23.008	1.00	46.18	O
ATOM	6412	C2*	G Q	67	19.322	69.997	24.004	1.00	45.67	C
ATOM	6413	O2*	G Q	67	18.844	69.540	22.755	1.00	46.26	O
ATOM	6414	C1*	G Q	67	20.254	68.992	24.663	1.00	44.46	C
ATOM	6415	N9	G Q	67	20.114	69.030	26.118	1.00	43.84	N
ATOM	6416	C8	G Q	67	20.812	69.786	27.036	1.00	43.25	C
ATOM	6417	N7	G Q	67	20.433	69.585	28.267	1.00	42.96	N
ATOM	6418	C5	G Q	67	19.416	68.645	28.153	1.00	42.66	C
ATOM	6419	C6	G Q	67	18.615	68.028	29.143	1.00	42.95	C
ATOM	6420	O6	G Q	67	18.647	68.206	30.367	1.00	42.58	O
ATOM	6421	N1	G Q	67	17.695	67.130	28.585	1.00	43.43	N
ATOM	6422	C2	G Q	67	17.560	66.850	27.239	1.00	43.57	C
ATOM	6423	N2	G Q	67	16.623	65.955	26.875	1.00	42.94	N
ATOM	6424	N3	G Q	67	18.317	67.420	26.309	1.00	43.55	N
ATOM	6425	C4	G Q	67	19.208	68.299	26.838	1.00	43.09	C
ATOM	6426	P	G Q	68	18.606	73.073	23.552	1.00	47.14	P
ATOM	6427	O1P	G Q	68	18.383	74.212	22.631	1.00	46.65	O
ATOM	6428	O2P	G Q	68	18.821	73.314	25.005	1.00	46.46	O
ATOM	6429	O5*	G Q	68	17.392	72.053	23.375	1.00	43.91	O
ATOM	6430	C5*	G Q	68	16.171	72.389	23.975	1.00	41.51	C
ATOM	6431	C4*	G Q	68	15.301	71.168	24.095	1.00	40.10	C
ATOM	6432	O4*	G Q	68	16.022	70.102	24.748	1.00	39.36	O
ATOM	6433	C3*	G Q	68	14.089	71.396	24.972	1.00	39.18	C
ATOM	6434	O3*	G Q	68	13.075	71.962	24.182	1.00	38.21	O
ATOM	6435	C2*	G Q	68	13.814	69.985	25.457	1.00	38.30	C
ATOM	6436	O2*	G Q	68	13.305	69.150	24.442	1.00	38.25	O

ATOM	6437	C1*	G Q	68	15.233	69.571	25.804	1.00	37.48	C
ATOM	6438	N9	G Q	68	15.753	70.049	27.090	1.00	36.67	N
ATOM	6439	C8	G Q	68	16.772	70.952	27.306	1.00	36.05	C
ATOM	6440	N7	G Q	68	17.031	71.165	28.568	1.00	35.66	N
ATOM	6441	C5	G Q	68	16.121	70.357	29.237	1.00	35.97	C
ATOM	6442	C6	G Q	68	15.908	70.160	30.627	1.00	35.88	C
ATOM	6443	O6	G Q	68	16.499	70.679	31.579	1.00	35.72	O
ATOM	6444	N1	G Q	68	14.884	69.249	30.881	1.00	35.86	N
ATOM	6445	C2	G Q	68	14.149	68.606	29.916	1.00	35.84	C
ATOM	6446	N2	G Q	68	13.207	67.762	30.352	1.00	35.97	N
ATOM	6447	N3	G Q	68	14.340	68.779	28.612	1.00	35.79	N
ATOM	6448	C4	G Q	68	15.335	69.659	28.341	1.00	36.09	C
ATOM	6449	P	U Q	69	11.981	72.884	24.873	1.00	38.89	P
ATOM	6450	O1P	U Q	69	11.089	73.387	23.805	1.00	38.40	O
ATOM	6451	O2P	U Q	69	12.675	73.819	25.787	1.00	37.93	O
ATOM	6452	O5*	U Q	69	11.147	71.836	25.756	1.00	38.00	O
ATOM	6453	C5*	U Q	69	10.165	70.955	25.219	1.00	36.84	C
ATOM	6454	C4*	U Q	69	9.398	70.267	26.337	1.00	36.71	C
ATOM	6455	O4*	U Q	69	10.293	69.539	27.220	1.00	35.47	O
ATOM	6456	C3*	U Q	69	8.676	71.205	27.285	1.00	36.18	C
ATOM	6457	O3*	U Q	69	7.483	71.660	26.712	1.00	36.39	O
ATOM	6458	C2*	U Q	69	8.478	70.330	28.520	1.00	35.92	C
ATOM	6459	O2*	U Q	69	7.430	69.378	28.430	1.00	36.25	O
ATOM	6460	C1*	U Q	69	9.837	69.648	28.565	1.00	35.37	C
ATOM	6461	N1	U Q	69	10.863	70.372	29.397	1.00	35.15	N
ATOM	6462	C2	U Q	69	10.929	70.147	30.766	1.00	35.00	C
ATOM	6463	O2	U Q	69	10.194	69.398	31.386	1.00	34.54	O
ATOM	6464	N3	U Q	69	11.914	70.849	31.410	1.00	34.74	N
ATOM	6465	C4	U Q	69	12.820	71.733	30.859	1.00	34.27	C
ATOM	6466	O4	U Q	69	13.643	72.281	31.574	1.00	34.75	O
ATOM	6467	C5	U Q	69	12.700	71.921	29.443	1.00	34.36	C
ATOM	6468	C6	U Q	69	11.749	71.247	28.788	1.00	34.59	C
ATOM	6469	P	U Q	70	6.838	73.020	27.253	1.00	36.76	P
ATOM	6470	O1P	U Q	70	5.574	73.210	26.506	1.00	36.92	O
ATOM	6471	O2P	U Q	70	7.871	74.080	27.287	1.00	36.36	O
ATOM	6472	O5*	U Q	70	6.477	72.668	28.767	1.00	37.13	O
ATOM	6473	C5*	U Q	70	5.313	71.945	29.137	1.00	37.67	C
ATOM	6474	C4*	U Q	70	5.264	71.816	30.647	1.00	37.95	C
ATOM	6475	O4*	U Q	70	6.504	71.238	31.119	1.00	38.83	O
ATOM	6476	C3*	U Q	70	5.197	73.114	31.428	1.00	38.60	C
ATOM	6477	O3*	U Q	70	3.864	73.673	31.421	1.00	40.07	O
ATOM	6478	C2*	U Q	70	5.689	72.633	32.790	1.00	37.96	C
ATOM	6479	O2*	U Q	70	4.829	71.752	33.473	1.00	36.91	O
ATOM	6480	C1*	U Q	70	6.888	71.830	32.348	1.00	38.19	C
ATOM	6481	N1	U Q	70	8.145	72.643	32.216	1.00	38.49	N
ATOM	6482	C2	U Q	70	8.875	72.892	33.362	1.00	38.47	C
ATOM	6483	O2	U Q	70	8.540	72.488	34.469	1.00	38.06	O
ATOM	6484	N3	U Q	70	10.016	73.633	33.152	1.00	38.03	N
ATOM	6485	C4	U Q	70	10.493	74.140	31.957	1.00	37.67	C
ATOM	6486	O4	U Q	70	11.532	74.780	31.931	1.00	37.74	O
ATOM	6487	C5	U Q	70	9.685	73.843	30.812	1.00	37.62	C
ATOM	6488	C6	U Q	70	8.572	73.122	30.988	1.00	38.26	C
ATOM	6489	P	G Q	71	3.626	75.244	31.214	1.00	39.79	P
ATOM	6490	O1P	G Q	71	2.174	75.447	31.002	1.00	40.74	O
ATOM	6491	O2P	G Q	71	4.567	75.762	30.193	1.00	40.19	O
ATOM	6492	O5*	G Q	71	4.049	75.813	32.643	1.00	41.17	O
ATOM	6493	C5*	G Q	71	3.155	75.665	33.723	1.00	43.99	C
ATOM	6494	C4*	G Q	71	3.867	75.888	35.036	1.00	45.90	C
ATOM	6495	O4*	G Q	71	5.084	75.111	35.027	1.00	46.19	O

ATOM	6496	C3*	G Q	71	4.369	77.293	35.328	1.00	47.69	C
ATOM	6497	O3*	G Q	71	3.313	78.175	35.728	1.00	51.22	O
ATOM	6498	C2*	G Q	71	5.378	76.963	36.431	1.00	47.11	C
ATOM	6499	O2*	G Q	71	4.840	76.551	37.676	1.00	47.85	O
ATOM	6500	C1*	G Q	71	6.071	75.779	35.785	1.00	45.84	C
ATOM	6501	N9	G Q	71	7.164	76.195	34.922	1.00	45.66	N
ATOM	6502	C8	G Q	71	7.192	76.306	33.549	1.00	45.31	C
ATOM	6503	N7	G Q	71	8.344	76.709	33.087	1.00	45.14	N
ATOM	6504	C5	G Q	71	9.114	76.881	34.228	1.00	44.83	C
ATOM	6505	C6	G Q	71	10.450	77.317	34.359	1.00	44.83	C
ATOM	6506	O6	G Q	71	11.239	77.643	33.461	1.00	44.76	O
ATOM	6507	N1	G Q	71	10.839	77.352	35.698	1.00	44.95	N
ATOM	6508	C2	G Q	71	10.043	77.010	36.773	1.00	45.06	C
ATOM	6509	N2	G Q	71	10.600	77.108	37.989	1.00	45.23	N
ATOM	6510	N3	G Q	71	8.784	76.605	36.663	1.00	44.44	N
ATOM	6511	C4	G Q	71	8.401	76.568	35.365	1.00	44.85	C
ATOM	6512	P	U Q	72	2.927	79.512	34.913	1.00	56.40	P
ATOM	6513	O1P	U Q	72	4.008	79.839	33.959	1.00	55.63	O
ATOM	6514	O2P	U Q	72	2.536	80.523	35.919	1.00	54.15	O
ATOM	6515	O5*	U Q	72	1.602	79.086	34.102	1.00	58.36	O
ATOM	6516	C5*	U Q	72	1.104	79.901	33.029	1.00	61.69	C
ATOM	6517	C4*	U Q	72	-0.359	79.621	32.696	1.00	63.32	C
ATOM	6518	O4*	U Q	72	-0.536	78.189	32.640	1.00	64.70	O
ATOM	6519	C3*	U Q	72	-1.414	80.126	33.689	1.00	65.33	C
ATOM	6520	O3*	U Q	72	-2.181	81.230	33.171	1.00	66.32	O
ATOM	6521	C2*	U Q	72	-2.349	78.947	33.962	1.00	65.44	C
ATOM	6522	O2*	U Q	72	-3.708	79.257	33.704	1.00	66.20	O
ATOM	6523	C1*	U Q	72	-1.854	77.853	33.024	1.00	65.69	C
ATOM	6524	N1	U Q	72	-1.839	76.490	33.656	1.00	66.33	N
ATOM	6525	C2	U Q	72	-1.030	76.239	34.761	1.00	66.81	C
ATOM	6526	O2	U Q	72	-0.304	77.085	35.280	1.00	66.53	O
ATOM	6527	N3	U Q	72	-1.109	74.942	35.242	1.00	66.49	N
ATOM	6528	C4	U Q	72	-1.893	73.906	34.745	1.00	66.30	C
ATOM	6529	O4	U Q	72	-1.872	72.801	35.275	1.00	66.03	O
ATOM	6530	C5	U Q	72	-2.702	74.248	33.600	1.00	66.51	C
ATOM	6531	C6	U Q	72	-2.643	75.496	33.113	1.00	66.36	C
ATOM	6532	P	U Q	73	-1.519	82.667	32.976	1.00	67.39	P
ATOM	6533	O1P	U Q	73	-0.269	82.692	33.772	1.00	67.10	O
ATOM	6534	O2P	U Q	73	-2.559	83.689	33.223	1.00	68.03	O
ATOM	6535	O5*	U Q	73	-1.137	82.689	31.415	1.00	68.92	O
ATOM	6536	C5*	U Q	73	-2.059	82.260	30.401	1.00	70.05	C
ATOM	6537	C4*	U Q	73	-1.874	82.996	29.078	1.00	70.80	C
ATOM	6538	O4*	U Q	73	-2.446	84.330	29.153	1.00	71.34	O
ATOM	6539	C3*	U Q	73	-0.446	83.266	28.617	1.00	71.41	C
ATOM	6540	O3*	U Q	73	0.169	82.121	28.054	1.00	72.47	O
ATOM	6541	C2*	U Q	73	-0.714	84.353	27.586	1.00	71.60	C
ATOM	6542	O2*	U Q	73	-1.346	83.876	26.411	1.00	71.82	O
ATOM	6543	C1*	U Q	73	-1.645	85.239	28.410	1.00	71.53	C
ATOM	6544	N1	U Q	73	-0.903	86.191	29.329	1.00	71.66	N
ATOM	6545	C2	U Q	73	-0.232	87.273	28.777	1.00	71.84	C
ATOM	6546	O2	U Q	73	-0.206	87.519	27.580	1.00	71.80	O
ATOM	6547	N3	U Q	73	0.423	88.077	29.685	1.00	71.80	N
ATOM	6548	C4	U Q	73	0.484	87.927	31.062	1.00	71.52	C
ATOM	6549	O4	U Q	73	1.112	88.736	31.742	1.00	71.26	O
ATOM	6550	C5	U Q	73	-0.231	86.781	31.566	1.00	71.48	C
ATOM	6551	C6	U Q	73	-0.877	85.981	30.703	1.00	71.59	C
ATOM	6552	P	C Q	74	1.722	81.829	28.304	1.00	73.47	P
ATOM	6553	O1P	C Q	74	1.974	80.446	27.838	1.00	73.75	O
ATOM	6554	O2P	C Q	74	2.050	82.207	29.700	1.00	72.87	O

ATOM	6555	O5*	C Q	74	2.463	82.827	27.287	1.00	74.07	O
ATOM	6556	C5*	C Q	74	2.249	82.747	25.873	1.00	74.83	C
ATOM	6557	C4*	C Q	74	2.738	83.984	25.128	1.00	75.30	C
ATOM	6558	O4*	C Q	74	2.072	85.189	25.604	1.00	75.47	O
ATOM	6559	C3*	C Q	74	4.220	84.306	25.269	1.00	75.60	C
ATOM	6560	O3*	C Q	74	5.009	83.511	24.396	1.00	76.43	O
ATOM	6561	C2*	C Q	74	4.221	85.780	24.882	1.00	75.57	C
ATOM	6562	O2*	C Q	74	4.066	86.008	23.494	1.00	75.31	O
ATOM	6563	C1*	C Q	74	3.002	86.261	25.671	1.00	75.34	C
ATOM	6564	N1	C Q	74	3.324	86.588	27.109	1.00	75.26	N
ATOM	6565	C2	C Q	74	4.119	87.707	27.410	1.00	75.21	C
ATOM	6566	O2	C Q	74	4.540	88.428	26.497	1.00	75.16	O
ATOM	6567	N3	C Q	74	4.409	87.976	28.710	1.00	75.23	N
ATOM	6568	C4	C Q	74	3.946	87.192	29.688	1.00	75.21	C
ATOM	6569	N4	C Q	74	4.256	87.501	30.951	1.00	75.07	N
ATOM	6570	C5	C Q	74	3.140	86.051	29.410	1.00	75.18	C
ATOM	6571	C6	C Q	74	2.861	85.793	28.127	1.00	75.21	C
ATOM	6572	P	A Q	75	5.980	82.352	24.931	1.00	77.77	P
ATOM	6573	O1P	A Q	75	5.952	81.266	23.922	1.00	77.36	O
ATOM	6574	O2P	A Q	75	5.673	82.063	26.350	1.00	76.98	O
ATOM	6575	O5*	A Q	75	7.419	83.048	24.866	1.00	78.16	O
ATOM	6576	C5*	A Q	75	7.908	83.567	23.622	1.00	78.74	C
ATOM	6577	C4*	A Q	75	8.616	84.896	23.825	1.00	79.03	C
ATOM	6578	O4*	A Q	75	7.740	85.894	24.421	1.00	79.24	O
ATOM	6579	C3*	A Q	75	9.799	84.833	24.777	1.00	79.12	C
ATOM	6580	O3*	A Q	75	10.915	84.240	24.120	1.00	78.66	O
ATOM	6581	C2*	A Q	75	9.966	86.312	25.108	1.00	79.30	C
ATOM	6582	O2*	A Q	75	10.597	87.062	24.086	1.00	79.68	O
ATOM	6583	C1*	A Q	75	8.505	86.736	25.273	1.00	79.50	C
ATOM	6584	N9	A Q	75	8.035	86.624	26.657	1.00	79.72	N
ATOM	6585	C8	A Q	75	7.067	85.797	27.164	1.00	79.76	C
ATOM	6586	N7	A Q	75	6.869	85.929	28.458	1.00	79.66	N
ATOM	6587	C5	A Q	75	7.773	86.907	28.833	1.00	79.64	C
ATOM	6588	C6	A Q	75	8.071	87.510	30.075	1.00	79.57	C
ATOM	6589	N6	A Q	75	7.464	87.194	31.223	1.00	79.55	N
ATOM	6590	N1	A Q	75	9.036	88.455	30.094	1.00	79.65	N
ATOM	6591	C2	A Q	75	9.656	88.781	28.948	1.00	79.77	C
ATOM	6592	N3	A Q	75	9.463	88.288	27.722	1.00	79.85	N
ATOM	6593	C4	A Q	75	8.499	87.346	27.734	1.00	79.91	C
ATOM	6594	P	U Q	76	12.213	83.792	24.941	1.00	78.65	P
ATOM	6595	O1P	U Q	76	13.009	82.891	24.072	1.00	78.33	O
ATOM	6596	O2P	U Q	76	11.789	83.339	26.287	1.00	77.85	O
ATOM	6597	O5*	U Q	76	12.994	85.183	25.091	1.00	78.24	O
ATOM	6598	C5*	U Q	76	14.421	85.245	25.140	1.00	77.68	C
ATOM	6599	C4*	U Q	76	14.895	86.297	26.132	1.00	77.41	C
ATOM	6600	O4*	U Q	76	13.814	87.198	26.511	1.00	77.39	O
ATOM	6601	C3*	U Q	76	15.380	85.755	27.466	1.00	77.07	C
ATOM	6602	O3*	U Q	76	16.699	85.246	27.363	1.00	76.98	O
ATOM	6603	C2*	U Q	76	15.280	86.997	28.339	1.00	77.04	C
ATOM	6604	O2*	U Q	76	16.301	87.946	28.115	1.00	77.00	O
ATOM	6605	C1*	U Q	76	13.915	87.510	27.893	1.00	77.22	C
ATOM	6606	N1	U Q	76	12.808	86.866	28.683	1.00	77.37	N
ATOM	6607	C2	U Q	76	12.610	87.246	30.001	1.00	77.39	C
ATOM	6608	O2	U Q	76	13.279	88.094	30.567	1.00	77.40	O
ATOM	6609	N3	U Q	76	11.586	86.594	30.648	1.00	77.51	N
ATOM	6610	C4	U Q	76	10.751	85.615	30.136	1.00	77.37	C
ATOM	6611	O4	U Q	76	9.877	85.123	30.845	1.00	77.21	O
ATOM	6612	C5	U Q	76	11.016	85.263	28.763	1.00	77.48	C
ATOM	6613	C6	U Q	76	12.012	85.886	28.114	1.00	77.35	C

ATOM	6614	P	C Q	77	17.070	83.839	28.032	1.00	77.34	P
ATOM	6615	O1P	C Q	77	18.353	83.380	27.453	1.00	77.03	O
ATOM	6616	O2P	C Q	77	15.880	82.961	27.984	1.00	77.14	O
ATOM	6617	O5*	C Q	77	17.339	84.232	29.554	1.00	76.86	O
ATOM	6618	C5*	C Q	77	18.380	85.134	29.888	1.00	76.39	C
ATOM	6619	C4*	C Q	77	18.086	85.791	31.220	1.00	76.02	C
ATOM	6620	O4*	C Q	77	16.790	86.440	31.212	1.00	76.10	O
ATOM	6621	C3*	C Q	77	17.980	84.824	32.379	1.00	75.48	C
ATOM	6622	O3*	C Q	77	19.263	84.441	32.811	1.00	74.18	O
ATOM	6623	C2*	C Q	77	17.232	85.667	33.394	1.00	75.79	C
ATOM	6624	O2*	C Q	77	18.002	86.688	33.993	1.00	75.97	O
ATOM	6625	C1*	C Q	77	16.168	86.251	32.475	1.00	76.72	C
ATOM	6626	N1	C Q	77	14.951	85.367	32.361	1.00	77.48	N
ATOM	6627	C2	C Q	77	14.148	85.165	33.502	1.00	78.01	C
ATOM	6628	O2	C Q	77	14.446	85.704	34.579	1.00	78.13	O
ATOM	6629	N3	C Q	77	13.048	84.373	33.403	1.00	78.14	N
ATOM	6630	C4	C Q	77	12.732	83.789	32.246	1.00	77.94	C
ATOM	6631	N4	C Q	77	11.637	83.021	32.218	1.00	77.92	N
ATOM	6632	C5	C Q	77	13.529	83.974	31.074	1.00	77.81	C
ATOM	6633	C6	C Q	77	14.613	84.758	31.176	1.00	77.61	C
ATOM	6634	P	A Q	78	19.794	82.952	32.563	1.00	73.13	P
ATOM	6635	O1P	A Q	78	20.768	82.979	31.446	1.00	73.00	O
ATOM	6636	O2P	A Q	78	18.631	82.035	32.502	1.00	72.98	O
ATOM	6637	O5*	A Q	78	20.630	82.720	33.906	1.00	71.53	O
ATOM	6638	C5*	A Q	78	20.143	81.903	34.953	1.00	70.19	C
ATOM	6639	C4*	A Q	78	19.449	82.704	36.038	1.00	69.49	C
ATOM	6640	O4*	A Q	78	18.317	83.486	35.564	1.00	69.05	O
ATOM	6641	C3*	A Q	78	18.842	81.800	37.090	1.00	68.86	C
ATOM	6642	O3*	A Q	78	19.875	81.286	37.909	1.00	67.29	O
ATOM	6643	C2*	A Q	78	17.872	82.750	37.775	1.00	68.96	C
ATOM	6644	O2*	A Q	78	18.492	83.671	38.652	1.00	69.77	O
ATOM	6645	C1*	A Q	78	17.284	83.451	36.545	1.00	69.10	C
ATOM	6646	N9	A Q	78	16.101	82.781	35.988	1.00	69.19	N
ATOM	6647	C8	A Q	78	15.896	82.403	34.686	1.00	69.21	C
ATOM	6648	N7	A Q	78	14.741	81.825	34.462	1.00	68.89	N
ATOM	6649	C5	A Q	78	14.138	81.819	35.704	1.00	69.05	C
ATOM	6650	C6	A Q	78	12.886	81.337	36.140	1.00	68.85	C
ATOM	6651	N6	A Q	78	12.006	80.752	35.323	1.00	68.87	N
ATOM	6652	N1	A Q	78	12.579	81.486	37.447	1.00	68.82	N
ATOM	6653	C2	A Q	78	13.466	82.071	38.261	1.00	69.15	C
ATOM	6654	N3	A Q	78	14.674	82.562	37.965	1.00	69.33	N
ATOM	6655	C4	A Q	78	14.956	82.404	36.657	1.00	69.14	C
ATOM	6656	P	C Q	79	20.155	79.711	37.898	1.00	66.96	P
ATOM	6657	O1P	C Q	79	21.441	79.443	38.589	1.00	66.75	O
ATOM	6658	O2P	C Q	79	19.950	79.202	36.521	1.00	66.75	O
ATOM	6659	O5*	C Q	79	18.974	79.201	38.851	1.00	66.00	O
ATOM	6660	C5*	C Q	79	18.744	79.826	40.124	1.00	64.93	C
ATOM	6661	C4*	C Q	79	17.401	79.431	40.708	1.00	64.02	C
ATOM	6662	O4*	C Q	79	16.328	80.120	40.015	1.00	63.58	O
ATOM	6663	C3*	C Q	79	17.046	77.962	40.563	1.00	63.51	C
ATOM	6664	O3*	C Q	79	17.748	77.184	41.533	1.00	63.13	O
ATOM	6665	C2*	C Q	79	15.528	78.013	40.719	1.00	63.20	C
ATOM	6666	O2*	C Q	79	15.063	78.192	42.039	1.00	63.65	O
ATOM	6667	C1*	C Q	79	15.222	79.242	39.867	1.00	62.73	C
ATOM	6668	N1	C Q	79	15.011	78.908	38.413	1.00	62.35	N
ATOM	6669	C2	C Q	79	13.825	78.262	38.024	1.00	62.08	C
ATOM	6670	O2	C Q	79	12.967	77.973	38.873	1.00	61.70	O
ATOM	6671	N3	C Q	79	13.650	77.966	36.709	1.00	61.68	N
ATOM	6672	C4	C Q	79	14.579	78.276	35.804	1.00	61.72	C

ATOM	6673	N4	C Q	79	14.339	77.956	34.531	1.00	61.51	N
ATOM	6674	C5	C Q	79	15.792	78.927	36.174	1.00	61.67	C
ATOM	6675	C6	C Q	79	15.961	79.221	37.470	1.00	62.04	C
ATOM	6676	P	A Q	80	18.216	75.695	41.158	1.00	63.51	P
ATOM	6677	O1P	A Q	80	19.101	75.157	42.218	1.00	63.15	O
ATOM	6678	O2P	A Q	80	18.693	75.726	39.754	1.00	63.37	O
ATOM	6679	O5*	A Q	80	16.839	74.888	41.257	1.00	61.42	O
ATOM	6680	C5*	A Q	80	16.076	74.927	42.469	1.00	59.52	C
ATOM	6681	C4*	A Q	80	14.710	74.288	42.286	1.00	58.09	C
ATOM	6682	O4*	A Q	80	13.887	75.131	41.440	1.00	57.34	O
ATOM	6683	C3*	A Q	80	14.734	72.929	41.600	1.00	56.76	C
ATOM	6684	O3*	A Q	80	14.947	71.895	42.552	1.00	55.81	O
ATOM	6685	C2*	A Q	80	13.354	72.866	40.961	1.00	56.34	C
ATOM	6686	O2*	A Q	80	12.337	72.425	41.835	1.00	57.14	O
ATOM	6687	C1*	A Q	80	13.131	74.314	40.559	1.00	55.83	C
ATOM	6688	N9	A Q	80	13.514	74.564	39.170	1.00	55.42	N
ATOM	6689	C8	A Q	80	14.688	75.069	38.677	1.00	55.17	C
ATOM	6690	N7	A Q	80	14.717	75.180	37.369	1.00	55.00	N
ATOM	6691	C5	A Q	80	13.474	74.711	36.975	1.00	55.04	C
ATOM	6692	C6	A Q	80	12.859	74.564	35.712	1.00	54.87	C
ATOM	6693	N6	A Q	80	13.450	74.885	34.558	1.00	54.71	N
ATOM	6694	N1	A Q	80	11.605	74.064	35.678	1.00	54.62	N
ATOM	6695	C2	A Q	80	11.001	73.730	36.825	1.00	55.01	C
ATOM	6696	N3	A Q	80	11.472	73.823	38.069	1.00	55.36	N
ATOM	6697	C4	A Q	80	12.723	74.326	38.074	1.00	55.33	C
ATOM	6698	P	A Q	81	15.536	70.465	42.123	1.00	55.01	P
ATOM	6699	O1P	A Q	81	15.787	69.711	43.372	1.00	54.48	O
ATOM	6700	O2P	A Q	81	16.628	70.690	41.144	1.00	54.36	O
ATOM	6701	O5*	A Q	81	14.307	69.749	41.401	1.00	52.53	O
ATOM	6702	C5*	A Q	81	13.306	69.081	42.172	1.00	51.10	C
ATOM	6703	C4*	A Q	81	12.159	68.594	41.307	1.00	49.33	C
ATOM	6704	O4*	A Q	81	11.593	69.712	40.583	1.00	48.42	O
ATOM	6705	C3*	A Q	81	12.550	67.611	40.215	1.00	48.37	C
ATOM	6706	O3*	A Q	81	12.663	66.287	40.700	1.00	47.66	O
ATOM	6707	C2*	A Q	81	11.406	67.802	39.227	1.00	48.00	C
ATOM	6708	O2*	A Q	81	10.189	67.168	39.590	1.00	48.78	O
ATOM	6709	C1*	A Q	81	11.298	69.316	39.255	1.00	47.30	C
ATOM	6710	N9	A Q	81	12.215	69.959	38.308	1.00	47.25	N
ATOM	6711	C8	A Q	81	13.496	70.389	38.508	1.00	46.61	C
ATOM	6712	N7	A Q	81	14.055	70.931	37.459	1.00	46.68	N
ATOM	6713	C5	A Q	81	13.078	70.851	36.496	1.00	46.20	C
ATOM	6714	C6	A Q	81	13.047	71.249	35.149	1.00	46.38	C
ATOM	6715	N6	A Q	81	14.074	71.836	34.527	1.00	45.97	N
ATOM	6716	N1	A Q	81	11.905	71.027	34.468	1.00	46.52	N
ATOM	6717	C2	A Q	81	10.875	70.433	35.085	1.00	46.92	C
ATOM	6718	N3	A Q	81	10.788	70.012	36.345	1.00	46.76	N
ATOM	6719	C4	A Q	81	11.938	70.253	36.997	1.00	46.98	C
ATOM	6720	P	C Q	82	13.565	65.265	39.863	1.00	48.15	P
ATOM	6721	O1P	C Q	82	13.460	63.889	40.417	1.00	46.60	O
ATOM	6722	O2P	C Q	82	14.878	65.927	39.665	1.00	47.10	O
ATOM	6723	O5*	C Q	82	12.807	65.249	38.465	1.00	45.48	O
ATOM	6724	C5*	C Q	82	11.573	64.605	38.300	1.00	42.63	C
ATOM	6725	C4*	C Q	82	11.049	64.956	36.924	1.00	41.35	C
ATOM	6726	O4*	C Q	82	11.197	66.363	36.634	1.00	38.39	O
ATOM	6727	C3*	C Q	82	11.825	64.295	35.803	1.00	40.38	C
ATOM	6728	O3*	C Q	82	11.444	62.943	35.690	1.00	40.14	O
ATOM	6729	C2*	C Q	82	11.391	65.155	34.628	1.00	39.51	C
ATOM	6730	O2*	C Q	82	10.081	64.888	34.169	1.00	40.60	O
ATOM	6731	C1*	C Q	82	11.462	66.535	35.260	1.00	38.04	C

ATOM	6732	N1	C Q	82	12.784	67.197	35.059	1.00	37.57	N
ATOM	6733	C2	C Q	82	13.121	67.671	33.781	1.00	37.14	C
ATOM	6734	O2	C Q	82	12.335	67.532	32.842	1.00	36.35	O
ATOM	6735	N3	C Q	82	14.329	68.264	33.597	1.00	37.14	N
ATOM	6736	C4	C Q	82	15.179	68.409	34.609	1.00	36.39	C
ATOM	6737	N4	C Q	82	16.333	69.016	34.358	1.00	36.74	N
ATOM	6738	C5	C Q	82	14.868	67.941	35.914	1.00	36.78	C
ATOM	6739	C6	C Q	82	13.680	67.343	36.088	1.00	37.52	C
ATOM	6740	P	C Q	83	12.493	61.864	35.180	1.00	40.04	P
ATOM	6741	O1P	C Q	83	11.834	60.546	35.328	1.00	41.81	O
ATOM	6742	O2P	C Q	83	13.798	62.136	35.801	1.00	39.34	O
ATOM	6743	O5*	C Q	83	12.563	62.151	33.623	1.00	39.87	O
ATOM	6744	C5*	C Q	83	11.416	61.894	32.846	1.00	39.24	C
ATOM	6745	C4*	C Q	83	11.639	62.419	31.451	1.00	38.95	C
ATOM	6746	O4*	C Q	83	12.032	63.798	31.526	1.00	38.36	O
ATOM	6747	C3*	C Q	83	12.788	61.783	30.710	1.00	38.83	C
ATOM	6748	O3*	C Q	83	12.334	60.565	30.181	1.00	41.34	O
ATOM	6749	C2*	C Q	83	13.080	62.826	29.651	1.00	38.24	C
ATOM	6750	O2*	C Q	83	12.147	62.825	28.586	1.00	37.39	O
ATOM	6751	C1*	C Q	83	12.916	64.097	30.472	1.00	36.98	C
ATOM	6752	N1	C Q	83	14.154	64.708	31.067	1.00	36.21	N
ATOM	6753	C2	C Q	83	15.040	65.331	30.202	1.00	34.99	C
ATOM	6754	O2	C Q	83	14.771	65.324	28.995	1.00	34.79	O
ATOM	6755	N3	C Q	83	16.148	65.922	30.718	1.00	34.96	N
ATOM	6756	C4	C Q	83	16.385	65.909	32.031	1.00	35.19	C
ATOM	6757	N4	C Q	83	17.494	66.503	32.486	1.00	34.56	N
ATOM	6758	C5	C Q	83	15.488	65.276	32.934	1.00	34.64	C
ATOM	6759	C6	C Q	83	14.400	64.701	32.416	1.00	35.49	C
ATOM	6760	P	G Q	84	13.295	59.300	30.107	1.00	42.07	P
ATOM	6761	O1P	G Q	84	12.368	58.153	29.905	1.00	42.01	O
ATOM	6762	O2P	G Q	84	14.257	59.302	31.242	1.00	40.40	O
ATOM	6763	O5*	G Q	84	14.093	59.600	28.762	1.00	41.16	O
ATOM	6764	C5*	G Q	84	13.372	59.803	27.576	1.00	42.07	C
ATOM	6765	C4*	G Q	84	14.309	60.129	26.436	1.00	42.42	C
ATOM	6766	O4*	G Q	84	15.059	61.321	26.748	1.00	41.53	O
ATOM	6767	C3*	G Q	84	15.328	59.040	26.141	1.00	43.36	C
ATOM	6768	O3*	G Q	84	15.457	58.896	24.742	1.00	46.59	O
ATOM	6769	C2*	G Q	84	16.636	59.538	26.760	1.00	43.76	C
ATOM	6770	O2*	G Q	84	17.792	59.170	26.012	1.00	44.27	O
ATOM	6771	C1*	G Q	84	16.449	61.059	26.765	1.00	41.30	C
ATOM	6772	N9	G Q	84	17.000	61.755	27.933	1.00	40.28	N
ATOM	6773	C8	G Q	84	16.642	61.637	29.261	1.00	39.82	C
ATOM	6774	N7	G Q	84	17.320	62.404	30.066	1.00	39.35	N
ATOM	6775	C5	G Q	84	18.169	63.081	29.210	1.00	38.95	C
ATOM	6776	C6	G Q	84	19.144	64.054	29.484	1.00	39.32	C
ATOM	6777	O6	G Q	84	19.454	64.529	30.577	1.00	39.82	O
ATOM	6778	N1	G Q	84	19.803	64.473	28.333	1.00	39.68	N
ATOM	6779	C2	G Q	84	19.541	64.020	27.063	1.00	39.71	C
ATOM	6780	N2	G Q	84	20.266	64.543	26.070	1.00	39.89	N
ATOM	6781	N3	G Q	84	18.621	63.114	26.787	1.00	39.62	N
ATOM	6782	C4	G Q	84	17.987	62.693	27.905	1.00	39.39	C
ATOM	6783	P	C Q	85	14.437	57.976	23.937	1.00	49.12	P
ATOM	6784	O1P	C Q	85	14.325	56.732	24.744	1.00	49.17	O
ATOM	6785	O2P	C Q	85	14.868	57.914	22.518	1.00	48.82	O
ATOM	6786	O5*	C Q	85	13.059	58.815	24.000	1.00	50.38	O
ATOM	6787	C5*	C Q	85	12.019	58.614	23.046	1.00	52.07	C
ATOM	6788	C4*	C Q	85	11.146	59.840	22.832	1.00	53.53	C
ATOM	6789	O4*	C Q	85	11.923	61.030	22.504	1.00	54.66	O
ATOM	6790	C3*	C Q	85	10.185	59.679	21.666	1.00	54.93	C

ATOM	6791	O3*	C Q	85	8.968	60.330	21.932	1.00	56.47	O
ATOM	6792	C2*	C Q	85	10.913	60.346	20.504	1.00	55.29	C
ATOM	6793	O2*	C Q	85	10.016	60.770	19.498	1.00	54.99	O
ATOM	6794	C1*	C Q	85	11.614	61.510	21.202	1.00	54.46	C
ATOM	6795	P	A Q	86	7.699	59.537	22.506	1.00	59.62	P
ATOM	6796	O1P	A Q	86	7.751	58.088	22.182	1.00	58.04	O
ATOM	6797	O2P	A Q	86	6.536	60.377	22.113	1.00	58.75	O
ATOM	6798	O5*	A Q	86	7.909	59.604	24.089	1.00	58.27	O
ATOM	6799	C5*	A Q	86	7.154	60.540	24.855	1.00	57.55	C
ATOM	6800	C4*	A Q	86	7.909	60.893	26.116	1.00	56.69	C
ATOM	6801	O4*	A Q	86	9.335	60.754	25.877	1.00	55.00	O
ATOM	6802	C3*	A Q	86	7.754	62.334	26.581	1.00	56.47	C
ATOM	6803	O3*	A Q	86	6.451	62.641	27.135	1.00	57.38	O
ATOM	6804	C2*	A Q	86	9.003	62.420	27.466	1.00	55.43	C
ATOM	6805	O2*	A Q	86	9.002	61.619	28.631	1.00	55.11	O
ATOM	6806	C1*	A Q	86	10.009	61.841	26.476	1.00	53.68	C
ATOM	6807	N9	A Q	86	10.454	62.737	25.413	1.00	52.48	N
ATOM	6808	C8	A Q	86	9.786	63.082	24.273	1.00	52.06	C
ATOM	6809	N7	A Q	86	10.443	63.901	23.492	1.00	52.37	N
ATOM	6810	C5	A Q	86	11.636	64.097	24.156	1.00	52.21	C
ATOM	6811	C6	A Q	86	12.773	64.869	23.843	1.00	52.08	C
ATOM	6812	N6	A Q	86	12.867	65.598	22.734	1.00	51.93	N
ATOM	6813	N1	A Q	86	13.803	64.862	24.718	1.00	52.34	N
ATOM	6814	C2	A Q	86	13.685	64.120	25.832	1.00	52.38	C
ATOM	6815	N3	A Q	86	12.662	63.355	26.231	1.00	51.95	N
ATOM	6816	C4	A Q	86	11.659	63.387	25.341	1.00	52.15	C
ATOM	6817	P	A Q	87	5.996	62.291	28.619	1.00	58.31	P
ATOM	6818	O1P	A Q	87	6.612	60.978	28.967	1.00	56.54	O
ATOM	6819	O2P	A Q	87	4.533	62.536	28.717	1.00	56.48	O
ATOM	6820	O5*	A Q	87	6.726	63.436	29.465	1.00	55.25	O
ATOM	6821	C5*	A Q	87	7.227	63.130	30.762	1.00	52.57	C
ATOM	6822	C4*	A Q	87	8.211	64.193	31.188	1.00	50.69	C
ATOM	6823	O4*	A Q	87	9.223	64.365	30.172	1.00	49.25	O
ATOM	6824	C3*	A Q	87	7.567	65.551	31.380	1.00	49.28	C
ATOM	6825	O3*	A Q	87	7.066	65.589	32.715	1.00	49.15	O
ATOM	6826	C2*	A Q	87	8.743	66.480	31.114	1.00	48.47	C
ATOM	6827	O2*	A Q	87	9.486	66.674	32.302	1.00	46.60	O
ATOM	6828	C1*	A Q	87	9.559	65.730	30.048	1.00	47.88	C
ATOM	6829	N9	A Q	87	9.352	66.047	28.628	1.00	47.31	N
ATOM	6830	C8	A Q	87	8.186	65.970	27.915	1.00	47.24	C
ATOM	6831	N7	A Q	87	8.306	66.299	26.648	1.00	46.82	N
ATOM	6832	C5	A Q	87	9.651	66.594	26.510	1.00	46.88	C
ATOM	6833	C6	A Q	87	10.436	67.012	25.409	1.00	47.12	C
ATOM	6834	N6	A Q	87	9.947	67.208	24.181	1.00	47.20	N
ATOM	6835	N1	A Q	87	11.760	67.226	25.608	1.00	47.34	N
ATOM	6836	C2	A Q	87	12.260	67.034	26.833	1.00	47.17	C
ATOM	6837	N3	A Q	87	11.621	66.647	27.943	1.00	47.44	N
ATOM	6838	C4	A Q	87	10.309	66.435	27.717	1.00	46.94	C
ATOM	6839	P	G Q	88	5.958	66.639	33.183	1.00	50.27	P
ATOM	6840	O1P	G Q	88	4.613	66.031	33.020	1.00	48.16	O
ATOM	6841	O2P	G Q	88	6.289	67.943	32.549	1.00	49.10	O
ATOM	6842	O5*	G Q	88	6.275	66.753	34.751	1.00	49.19	O
ATOM	6843	C5*	G Q	88	7.628	66.911	35.144	1.00	49.20	C
ATOM	6844	C4*	G Q	88	7.776	67.736	36.399	1.00	49.24	C
ATOM	6845	O4*	G Q	88	7.231	69.060	36.202	1.00	49.06	O
ATOM	6846	C3*	G Q	88	7.043	67.190	37.605	1.00	49.66	C
ATOM	6847	O3*	G Q	88	7.831	66.196	38.220	1.00	50.89	O
ATOM	6848	C2*	G Q	88	6.916	68.444	38.446	1.00	49.71	C
ATOM	6849	O2*	G Q	88	8.130	68.804	39.070	1.00	50.13	O

ATOM	6850	C1*	G Q	88	6.528	69.454	37.366	1.00	49.53	C
ATOM	6851	N9	G Q	88	5.095	69.500	37.047	1.00	49.83	N
ATOM	6852	C8	G Q	88	4.515	69.370	35.800	1.00	49.55	C
ATOM	6853	N7	G Q	88	3.219	69.457	35.811	1.00	49.30	N
ATOM	6854	C5	G Q	88	2.912	69.659	37.148	1.00	49.66	C
ATOM	6855	C6	G Q	88	1.653	69.821	37.767	1.00	49.54	C
ATOM	6856	O6	G Q	88	0.542	69.815	37.220	1.00	49.47	O
ATOM	6857	N1	G Q	88	1.772	69.994	39.149	1.00	49.62	N
ATOM	6858	C2	G Q	88	2.958	70.013	39.854	1.00	49.55	C
ATOM	6859	N2	G Q	88	2.874	70.190	41.184	1.00	49.18	N
ATOM	6860	N3	G Q	88	4.147	69.861	39.280	1.00	49.70	N
ATOM	6861	C4	G Q	88	4.050	69.687	37.930	1.00	49.82	C
ATOM	6862	P	C Q	89	7.224	64.752	38.554	1.00	52.09	P
ATOM	6863	O1P	C Q	89	8.399	63.891	38.810	1.00	51.63	O
ATOM	6864	O2P	C Q	89	6.214	64.400	37.525	1.00	50.71	O
ATOM	6865	O5*	C Q	89	6.475	64.953	39.960	1.00	52.26	O
ATOM	6866	C5*	C Q	89	7.049	65.720	41.036	1.00	52.93	C
ATOM	6867	C4*	C Q	89	6.019	66.077	42.098	1.00	52.94	C
ATOM	6868	O4*	C Q	89	5.241	67.223	41.662	1.00	53.10	O
ATOM	6869	C3*	C Q	89	4.973	65.009	42.394	1.00	53.33	C
ATOM	6870	O3*	C Q	89	5.450	64.019	43.311	1.00	52.88	O
ATOM	6871	C2*	C Q	89	3.847	65.843	42.981	1.00	53.25	C
ATOM	6872	O2*	C Q	89	4.068	66.191	44.333	1.00	53.98	O
ATOM	6873	C1*	C Q	89	3.890	67.066	42.071	1.00	53.47	C
ATOM	6874	N1	C Q	89	2.969	66.918	40.884	1.00	53.53	N
ATOM	6875	C2	C Q	89	1.584	67.143	41.041	1.00	53.35	C
ATOM	6876	O2	C Q	89	1.131	67.457	42.148	1.00	52.86	O
ATOM	6877	N3	C Q	89	0.765	67.011	39.961	1.00	53.50	N
ATOM	6878	C4	C Q	89	1.268	66.660	38.769	1.00	53.83	C
ATOM	6879	N4	C Q	89	0.428	66.535	37.734	1.00	53.32	N
ATOM	6880	C5	C Q	89	2.668	66.424	38.589	1.00	53.39	C
ATOM	6881	C6	C Q	89	3.469	66.561	39.656	1.00	53.39	C
ATOM	6882	P	U Q	90	4.871	62.525	43.249	1.00	53.85	P
ATOM	6883	O1P	U Q	90	5.810	61.679	44.031	1.00	53.36	O
ATOM	6884	O2P	U Q	90	4.546	62.197	41.841	1.00	52.18	O
ATOM	6885	O5*	U Q	90	3.467	62.601	44.028	1.00	53.36	O
ATOM	6886	C5*	U Q	90	3.368	63.067	45.371	1.00	52.89	C
ATOM	6887	C4*	U Q	90	1.923	63.332	45.781	1.00	52.57	C
ATOM	6888	O4*	U Q	90	1.390	64.467	45.057	1.00	52.31	O
ATOM	6889	C3*	U Q	90	0.905	62.237	45.493	1.00	52.00	C
ATOM	6890	O3*	U Q	90	0.958	61.232	46.467	1.00	52.23	O
ATOM	6891	C2*	U Q	90	-0.389	63.019	45.601	1.00	51.88	C
ATOM	6892	O2*	U Q	90	-0.746	63.346	46.929	1.00	51.67	O
ATOM	6893	C1*	U Q	90	0.011	64.254	44.821	1.00	51.46	C
ATOM	6894	N1	U Q	90	-0.252	64.119	43.355	1.00	51.44	N
ATOM	6895	C2	U Q	90	-1.535	64.357	42.926	1.00	50.99	C
ATOM	6896	O2	U Q	90	-2.443	64.654	43.685	1.00	50.89	O
ATOM	6897	N3	U Q	90	-1.711	64.235	41.571	1.00	50.96	N
ATOM	6898	C4	U Q	90	-0.773	63.902	40.612	1.00	50.73	C
ATOM	6899	O4	U Q	90	-1.107	63.840	39.437	1.00	50.44	O
ATOM	6900	C5	U Q	90	0.546	63.663	41.128	1.00	50.72	C
ATOM	6901	C6	U Q	90	0.748	63.778	42.451	1.00	51.41	C
ATOM	6902	P	U Q	91	0.707	59.702	46.100	1.00	51.92	P
ATOM	6903	O1P	U Q	91	1.118	58.942	47.304	1.00	52.09	O
ATOM	6904	O2P	U Q	91	1.321	59.430	44.778	1.00	51.49	O
ATOM	6905	O5*	U Q	91	-0.889	59.584	45.991	1.00	51.24	O
ATOM	6906	C5*	U Q	91	-1.686	59.969	47.103	1.00	50.54	C
ATOM	6907	C4*	U Q	91	-3.139	60.212	46.731	1.00	50.24	C
ATOM	6908	O4*	U Q	91	-3.314	61.378	45.882	1.00	50.15	O

ATOM	6909	C3*	U Q	91	-3.812	59.103	45.935	1.00	49.59	C
ATOM	6910	O3*	U Q	91	-4.115	58.034	46.774	1.00	48.39	O
ATOM	6911	C2*	U Q	91	-5.047	59.842	45.454	1.00	49.39	C
ATOM	6912	O2*	U Q	91	-5.970	60.125	46.490	1.00	49.34	O
ATOM	6913	C1*	U Q	91	-4.379	61.120	44.969	1.00	49.54	C
ATOM	6914	N1	U Q	91	-3.839	61.050	43.566	1.00	49.23	N
ATOM	6915	C2	U Q	91	-4.692	61.240	42.490	1.00	49.15	C
ATOM	6916	O2	U Q	91	-5.894	61.446	42.581	1.00	48.86	O
ATOM	6917	N3	U Q	91	-4.076	61.170	41.266	1.00	49.16	N
ATOM	6918	C4	U Q	91	-2.736	60.944	40.997	1.00	49.40	C
ATOM	6919	O4	U Q	91	-2.337	60.911	39.834	1.00	49.76	O
ATOM	6920	C5	U Q	91	-1.909	60.761	42.159	1.00	49.09	C
ATOM	6921	C6	U Q	91	-2.484	60.819	43.365	1.00	49.30	C
ATOM	6922	P	U Q	92	-4.236	56.571	46.177	1.00	48.62	P
ATOM	6923	O1P	U Q	92	-4.553	55.714	47.340	1.00	50.47	O
ATOM	6924	O2P	U Q	92	-3.104	56.222	45.286	1.00	49.21	O
ATOM	6925	O5*	U Q	92	-5.522	56.723	45.246	1.00	48.67	O
ATOM	6926	C5*	U Q	92	-6.824	56.856	45.793	1.00	47.10	C
ATOM	6927	C4*	U Q	92	-7.816	56.988	44.657	1.00	46.20	C
ATOM	6928	O4*	U Q	92	-7.428	58.103	43.828	1.00	45.08	O
ATOM	6929	C3*	U Q	92	-7.867	55.815	43.683	1.00	45.67	C
ATOM	6930	O3*	U Q	92	-8.660	54.744	44.180	1.00	44.79	O
ATOM	6931	C2*	U Q	92	-8.462	56.472	42.441	1.00	45.21	C
ATOM	6932	O2*	U Q	92	-9.871	56.662	42.462	1.00	44.22	O
ATOM	6933	C1*	U Q	92	-7.727	57.809	42.476	1.00	44.97	C
ATOM	6934	N1	U Q	92	-6.478	57.831	41.653	1.00	44.84	N
ATOM	6935	C2	U Q	92	-6.621	57.887	40.286	1.00	44.64	C
ATOM	6936	O2	U Q	92	-7.683	57.903	39.710	1.00	45.40	O
ATOM	6937	N3	U Q	92	-5.456	57.924	39.581	1.00	45.62	N
ATOM	6938	C4	U Q	92	-4.171	57.912	40.075	1.00	44.91	C
ATOM	6939	O4	U Q	92	-3.248	57.950	39.277	1.00	44.91	O
ATOM	6940	C5	U Q	92	-4.079	57.850	41.513	1.00	45.04	C
ATOM	6941	C6	U Q	92	-5.214	57.813	42.228	1.00	44.78	C
ATOM	6942	P	U Q	93	-8.284	53.245	43.786	1.00	46.52	P
ATOM	6943	O1P	U Q	93	-9.401	52.426	44.332	1.00	45.39	O
ATOM	6944	O2P	U Q	93	-6.872	52.950	44.150	1.00	44.37	O
ATOM	6945	O5*	U Q	93	-8.389	53.242	42.184	1.00	44.54	O
ATOM	6946	C5*	U Q	93	-9.715	53.237	41.634	1.00	45.15	C
ATOM	6947	C4*	U Q	93	-9.745	53.484	40.136	1.00	44.29	C
ATOM	6948	O4*	U Q	93	-8.982	54.669	39.803	1.00	43.99	O
ATOM	6949	C3*	U Q	93	-9.134	52.384	39.287	1.00	43.50	C
ATOM	6950	O3*	U Q	93	-10.063	51.351	39.103	1.00	43.25	O
ATOM	6951	C2*	U Q	93	-8.864	53.152	38.006	1.00	43.70	C
ATOM	6952	O2*	U Q	93	-10.016	53.408	37.229	1.00	42.90	O
ATOM	6953	C1*	U Q	93	-8.337	54.470	38.562	1.00	43.74	C
ATOM	6954	N1	U Q	93	-6.836	54.546	38.721	1.00	43.70	N
ATOM	6955	C2	U Q	93	-6.091	54.620	37.569	1.00	43.66	C
ATOM	6956	O2	U Q	93	-6.612	54.602	36.470	1.00	43.08	O
ATOM	6957	N3	U Q	93	-4.726	54.712	37.757	1.00	43.93	N
ATOM	6958	C4	U Q	93	-4.042	54.738	38.964	1.00	43.98	C
ATOM	6959	O4	U Q	93	-2.811	54.828	38.979	1.00	44.00	O
ATOM	6960	C5	U Q	93	-4.894	54.653	40.128	1.00	43.44	C
ATOM	6961	C6	U Q	93	-6.220	54.566	39.963	1.00	43.49	C
ATOM	6962	P	A Q	94	-9.619	49.850	38.820	1.00	44.69	P
ATOM	6963	O1P	A Q	94	-10.864	49.050	38.944	1.00	44.42	O
ATOM	6964	O2P	A Q	94	-8.428	49.534	39.642	1.00	43.40	O
ATOM	6965	O5*	A Q	94	-9.234	49.848	37.269	1.00	44.66	O
ATOM	6966	C5*	A Q	94	-10.234	50.200	36.304	1.00	46.31	C
ATOM	6967	C4*	A Q	94	-9.692	50.148	34.888	1.00	46.83	C

ATOM	6968	O4*	A Q	94	-8.993	51.376	34.538	1.00	47.07	O
ATOM	6969	C3*	A Q	94	-8.663	49.046	34.661	1.00	47.20	C
ATOM	6970	O3*	A Q	94	-9.296	47.806	34.462	1.00	48.64	O
ATOM	6971	C2*	A Q	94	-7.927	49.568	33.433	1.00	46.82	C
ATOM	6972	O2*	A Q	94	-8.618	49.385	32.211	1.00	46.09	O
ATOM	6973	C1*	A Q	94	-7.818	51.039	33.809	1.00	45.99	C
ATOM	6974	N9	A Q	94	-6.643	51.280	34.634	1.00	45.76	N
ATOM	6975	C8	A Q	94	-6.497	51.105	35.987	1.00	45.67	C
ATOM	6976	N7	A Q	94	-5.307	51.401	36.447	1.00	45.10	N
ATOM	6977	C5	A Q	94	-4.628	51.794	35.314	1.00	44.72	C
ATOM	6978	C6	A Q	94	-3.319	52.244	35.122	1.00	44.80	C
ATOM	6979	N6	A Q	94	-2.433	52.369	36.111	1.00	45.02	N
ATOM	6980	N1	A Q	94	-2.963	52.556	33.859	1.00	45.29	N
ATOM	6981	C2	A Q	94	-3.842	52.428	32.859	1.00	45.12	C
ATOM	6982	N3	A Q	94	-5.105	52.024	32.919	1.00	45.41	N
ATOM	6983	C4	A Q	94	-5.430	51.723	34.188	1.00	45.32	C
ATOM	6984	P	C Q	95	-8.401	46.502	34.226	1.00	50.97	P
ATOM	6985	O1P	C Q	95	-9.336	45.358	34.237	1.00	50.96	O
ATOM	6986	O2P	C Q	95	-7.231	46.527	35.144	1.00	49.76	O
ATOM	6987	O5*	C Q	95	-7.915	46.731	32.711	1.00	48.96	O
ATOM	6988	C5*	C Q	95	-6.850	45.968	32.173	1.00	46.51	C
ATOM	6989	C4*	C Q	95	-5.898	46.764	31.285	1.00	45.50	C
ATOM	6990	O4*	C Q	95	-5.628	48.134	31.702	1.00	43.37	O
ATOM	6991	C3*	C Q	95	-4.525	46.107	31.255	1.00	44.19	C
ATOM	6992	O3*	C Q	95	-4.622	45.010	30.378	1.00	44.47	O
ATOM	6993	C2*	C Q	95	-3.637	47.250	30.787	1.00	43.03	C
ATOM	6994	O2*	C Q	95	-3.705	47.483	29.394	1.00	43.00	O
ATOM	6995	C1*	C Q	95	-4.235	48.409	31.578	1.00	41.71	C
ATOM	6996	N1	C Q	95	-3.606	48.597	32.948	1.00	41.15	N
ATOM	6997	C2	C Q	95	-2.303	49.137	33.082	1.00	41.17	C
ATOM	6998	O2	C Q	95	-1.648	49.468	32.083	1.00	40.68	O
ATOM	6999	N3	C Q	95	-1.768	49.291	34.325	1.00	39.90	N
ATOM	7000	C4	C Q	95	-2.458	48.942	35.405	1.00	39.96	C
ATOM	7001	N4	C Q	95	-1.893	49.124	36.597	1.00	38.75	N
ATOM	7002	C5	C Q	95	-3.773	48.394	35.298	1.00	40.54	C
ATOM	7003	C6	C Q	95	-4.300	48.240	34.076	1.00	40.53	C
ATOM	7004	P	U Q	96	-3.931	43.639	30.777	1.00	46.10	P
ATOM	7005	O1P	U Q	96	-4.248	42.682	29.703	1.00	47.05	O
ATOM	7006	O2P	U Q	96	-4.141	43.309	32.206	1.00	44.36	O
ATOM	7007	O5*	U Q	96	-2.400	44.011	30.552	1.00	45.51	O
ATOM	7008	C5*	U Q	96	-1.961	44.453	29.290	1.00	44.33	C
ATOM	7009	C4*	U Q	96	-0.554	44.971	29.469	1.00	44.85	C
ATOM	7010	O4*	U Q	96	-0.569	46.125	30.324	1.00	44.22	O
ATOM	7011	C3*	U Q	96	0.371	44.018	30.203	1.00	45.29	C
ATOM	7012	O3*	U Q	96	0.812	42.993	29.347	1.00	45.92	O
ATOM	7013	C2*	U Q	96	1.481	44.935	30.675	1.00	44.49	C
ATOM	7014	O2*	U Q	96	2.422	45.235	29.672	1.00	43.90	O
ATOM	7015	C1*	U Q	96	0.648	46.150	31.065	1.00	44.97	C
ATOM	7016	N1	U Q	96	0.367	46.232	32.546	1.00	44.30	N
ATOM	7017	C2	U Q	96	1.347	46.778	33.330	1.00	43.99	C
ATOM	7018	O2	U Q	96	2.394	47.176	32.881	1.00	43.93	O
ATOM	7019	N3	U Q	96	1.056	46.853	34.666	1.00	44.59	N
ATOM	7020	C4	U Q	96	-0.097	46.442	35.303	1.00	44.38	C
ATOM	7021	O4	U Q	96	-0.176	46.591	36.515	1.00	44.81	O
ATOM	7022	C5	U Q	96	-1.095	45.874	34.437	1.00	43.92	C
ATOM	7023	C6	U Q	96	-0.824	45.794	33.118	1.00	44.90	C
ATOM	7024	P	U Q	97	1.327	41.631	29.990	1.00	49.15	P
ATOM	7025	O1P	U Q	97	1.140	41.620	31.467	1.00	46.37	O
ATOM	7026	O2P	U Q	97	2.694	41.418	29.440	1.00	49.74	O

ATOM	7027	O5*	U Q	97	0.357	40.586	29.290	1.00	47.86	O
ATOM	7028	C5*	U Q	97	-0.994	40.431	29.659	1.00	50.19	C
ATOM	7029	C4*	U Q	97	-1.375	38.962	29.586	1.00	50.51	C
ATOM	7030	O4*	U Q	97	-1.321	38.487	28.210	1.00	52.63	O
ATOM	7031	C3*	U Q	97	-0.457	38.043	30.386	1.00	50.35	C
ATOM	7032	O3*	U Q	97	-1.217	37.035	30.978	1.00	45.45	O
ATOM	7033	C2*	U Q	97	0.492	37.477	29.336	1.00	52.41	C
ATOM	7034	O2*	U Q	97	1.027	36.214	29.664	1.00	51.98	O
ATOM	7035	C1*	U Q	97	-0.422	37.397	28.112	1.00	55.81	C
ATOM	7036	N1	U Q	97	0.340	37.513	26.848	1.00	57.75	N
ATOM	7037	C2	U Q	97	0.454	36.446	25.976	1.00	59.82	C
ATOM	7038	O2	U Q	97	-0.068	35.356	26.168	1.00	60.28	O
ATOM	7039	N3	U Q	97	1.210	36.717	24.845	1.00	60.89	N
ATOM	7040	C4	U Q	97	1.846	37.917	24.513	1.00	60.10	C
ATOM	7041	O4	U Q	97	2.491	38.042	23.474	1.00	60.27	O
ATOM	7042	C5	U Q	97	1.681	38.968	25.474	1.00	60.40	C
ATOM	7043	C6	U Q	97	0.955	38.723	26.574	1.00	59.74	C
ATOM	7044	P	A Q	98	-1.558	37.137	32.523	1.00	43.55	P
ATOM	7045	O1P	A Q	98	-2.398	35.971	32.860	1.00	43.41	O
ATOM	7046	O2P	A Q	98	-1.934	38.533	32.827	1.00	43.62	O
ATOM	7047	O5*	A Q	98	-0.154	36.910	33.245	1.00	43.14	O
ATOM	7048	C5*	A Q	98	0.486	35.653	33.101	1.00	40.51	C
ATOM	7049	C4*	A Q	98	1.982	35.820	33.040	1.00	38.14	C
ATOM	7050	O4*	A Q	98	2.398	36.579	34.185	1.00	37.04	O
ATOM	7051	C3*	A Q	98	2.736	34.523	33.175	1.00	37.22	C
ATOM	7052	O3*	A Q	98	2.808	33.864	31.931	1.00	36.87	O
ATOM	7053	C2*	A Q	98	4.076	35.030	33.661	1.00	36.61	C
ATOM	7054	O2*	A Q	98	4.834	35.585	32.621	1.00	34.69	O
ATOM	7055	C1*	A Q	98	3.668	36.129	34.611	1.00	36.39	C
ATOM	7056	N9	A Q	98	3.608	35.867	36.047	1.00	36.79	N
ATOM	7057	C8	A Q	98	2.521	35.624	36.842	1.00	36.84	C
ATOM	7058	N7	A Q	98	2.814	35.472	38.114	1.00	36.53	N
ATOM	7059	C5	A Q	98	4.191	35.650	38.159	1.00	35.45	C
ATOM	7060	C6	A Q	98	5.144	35.639	39.196	1.00	36.62	C
ATOM	7061	N6	A Q	98	4.838	35.428	40.477	1.00	37.05	N
ATOM	7062	N1	A Q	98	6.451	35.838	38.890	1.00	36.39	N
ATOM	7063	C2	A Q	98	6.767	36.059	37.620	1.00	36.04	C
ATOM	7064	N3	A Q	98	5.967	36.106	36.561	1.00	36.60	N
ATOM	7065	C4	A Q	98	4.687	35.893	36.898	1.00	37.05	C
ATOM	7066	P	A Q	99	2.372	32.331	31.791	1.00	38.33	P
ATOM	7067	O1P	A Q	99	2.086	32.111	30.347	1.00	38.06	O
ATOM	7068	O2P	A Q	99	1.406	32.000	32.856	1.00	37.97	O
ATOM	7069	O5*	A Q	99	3.705	31.543	32.113	1.00	36.99	O
ATOM	7070	C5*	A Q	99	4.778	31.645	31.205	1.00	36.86	C
ATOM	7071	C4*	A Q	99	6.073	31.454	31.951	1.00	35.83	C
ATOM	7072	O4*	A Q	99	6.158	32.494	32.949	1.00	36.33	O
ATOM	7073	C3*	A Q	99	6.163	30.182	32.750	1.00	35.40	C
ATOM	7074	O3*	A Q	99	6.477	29.108	31.881	1.00	37.15	O
ATOM	7075	C2*	A Q	99	7.256	30.575	33.740	1.00	34.67	C
ATOM	7076	O2*	A Q	99	8.563	30.615	33.220	1.00	36.05	O
ATOM	7077	C1*	A Q	99	6.852	32.000	34.083	1.00	33.93	C
ATOM	7078	N9	A Q	99	6.001	32.065	35.260	1.00	32.56	N
ATOM	7079	C8	A Q	99	4.652	31.924	35.317	1.00	31.48	C
ATOM	7080	N7	A Q	99	4.175	32.012	36.533	1.00	31.83	N
ATOM	7081	C5	A Q	99	5.285	32.211	37.313	1.00	30.56	C
ATOM	7082	C6	A Q	99	5.443	32.375	38.687	1.00	31.75	C
ATOM	7083	N6	A Q	99	4.415	32.371	39.542	1.00	31.83	N
ATOM	7084	N1	A Q	99	6.694	32.552	39.154	1.00	31.72	N
ATOM	7085	C2	A Q	99	7.702	32.552	38.294	1.00	31.53	C

ATOM	7086	N3	A Q	99	7.680	32.395	36.976	1.00	31.26	N
ATOM	7087	C4	A Q	99	6.423	32.239	36.548	1.00	31.68	C
ATOM	7088	P	A Q	100	6.225	27.580	32.321	1.00	39.75	P
ATOM	7089	O1P	A Q	100	6.737	26.756	31.213	1.00	36.70	O
ATOM	7090	O2P	A Q	100	4.859	27.428	32.892	1.00	39.39	O
ATOM	7091	O5*	A Q	100	7.105	27.405	33.632	1.00	36.76	O
ATOM	7092	C5*	A Q	100	8.260	26.624	33.664	1.00	36.80	C
ATOM	7093	C4*	A Q	100	8.967	26.973	34.945	1.00	35.65	C
ATOM	7094	O4*	A Q	100	8.448	28.220	35.438	1.00	36.33	O
ATOM	7095	C3*	A Q	100	8.695	26.094	36.125	1.00	35.06	C
ATOM	7096	O3*	A Q	100	9.420	24.886	35.982	1.00	36.19	O
ATOM	7097	C2*	A Q	100	9.251	27.000	37.208	1.00	34.53	C
ATOM	7098	O2*	A Q	100	10.659	27.014	37.215	1.00	34.67	O
ATOM	7099	C1*	A Q	100	8.687	28.356	36.807	1.00	32.82	C
ATOM	7100	N9	A Q	100	7.444	28.633	37.506	1.00	32.15	N
ATOM	7101	C8	A Q	100	6.162	28.488	37.059	1.00	31.22	C
ATOM	7102	N7	A Q	100	5.253	28.779	37.972	1.00	31.54	N
ATOM	7103	C5	A Q	100	5.998	29.136	39.078	1.00	30.84	C
ATOM	7104	C6	A Q	100	5.646	29.551	40.358	1.00	31.12	C
ATOM	7105	N6	A Q	100	4.388	29.672	40.751	1.00	31.72	N
ATOM	7106	N1	A Q	100	6.628	29.853	41.226	1.00	31.58	N
ATOM	7107	C2	A Q	100	7.889	29.721	40.816	1.00	31.68	C
ATOM	7108	N3	A Q	100	8.341	29.312	39.641	1.00	30.91	N
ATOM	7109	C4	A Q	100	7.339	29.049	38.811	1.00	30.99	C
ATOM	7110	P	U Q	101	8.847	23.571	36.638	1.00	34.20	P
ATOM	7111	O1P	U Q	101	9.866	22.513	36.451	1.00	34.34	O
ATOM	7112	O2P	U Q	101	7.478	23.432	36.076	1.00	36.19	O
ATOM	7113	O5*	U Q	101	8.684	23.970	38.184	1.00	35.73	O
ATOM	7114	C5*	U Q	101	9.800	24.031	39.075	1.00	36.93	C
ATOM	7115	C4*	U Q	101	9.448	24.534	40.468	1.00	37.11	C
ATOM	7116	O4*	U Q	101	8.692	25.760	40.355	1.00	38.46	O
ATOM	7117	C3*	U Q	101	8.526	23.669	41.317	1.00	38.79	C
ATOM	7118	O3*	U Q	101	9.196	22.549	41.951	1.00	38.97	O
ATOM	7119	C2*	U Q	101	8.047	24.717	42.314	1.00	38.90	C
ATOM	7120	O2*	U Q	101	9.044	25.080	43.246	1.00	41.00	O
ATOM	7121	C1*	U Q	101	7.756	25.904	41.411	1.00	38.50	C
ATOM	7122	N1	U Q	101	6.366	25.910	40.901	1.00	38.32	N
ATOM	7123	C2	U Q	101	5.336	26.107	41.794	1.00	38.76	C
ATOM	7124	O2	U Q	101	5.513	26.298	42.979	1.00	39.40	O
ATOM	7125	N3	U Q	101	4.072	26.073	41.259	1.00	38.83	N
ATOM	7126	C4	U Q	101	3.739	25.878	39.927	1.00	38.74	C
ATOM	7127	O4	U Q	101	2.560	25.879	39.584	1.00	39.03	O
ATOM	7128	C5	U Q	101	4.856	25.686	39.045	1.00	38.27	C
ATOM	7129	C6	U Q	101	6.097	25.702	39.557	1.00	39.03	C
ATOM	7130	P	C Q	102	8.828	21.035	41.564	1.00	38.02	P
ATOM	7131	O1P	C Q	102	9.690	20.170	42.364	1.00	38.90	O
ATOM	7132	O2P	C Q	102	8.893	20.874	40.094	1.00	39.42	O
ATOM	7133	O5*	C Q	102	7.288	20.888	41.999	1.00	39.31	O
ATOM	7134	C5*	C Q	102	6.846	21.229	43.278	1.00	41.39	C
ATOM	7135	C4*	C Q	102	5.325	21.223	43.375	1.00	43.83	C
ATOM	7136	O4*	C Q	102	4.741	22.405	42.767	1.00	45.22	O
ATOM	7137	C3*	C Q	102	4.596	20.069	42.701	1.00	45.65	C
ATOM	7138	O3*	C Q	102	4.557	18.958	43.577	1.00	47.40	O
ATOM	7139	C2*	C Q	102	3.201	20.637	42.488	1.00	45.98	C
ATOM	7140	O2*	C Q	102	2.415	20.577	43.665	1.00	45.84	O
ATOM	7141	C1*	C Q	102	3.544	22.068	42.087	1.00	44.93	C
ATOM	7142	N1	C Q	102	3.787	22.220	40.636	1.00	44.11	N
ATOM	7143	C2	C Q	102	2.725	22.217	39.731	1.00	45.13	C
ATOM	7144	O2	C Q	102	1.572	22.094	40.158	1.00	45.89	O

ATOM	7145	N3	C Q 102	2.983	22.363	38.406	1.00	44.34	N
ATOM	7146	C4	C Q 102	4.234	22.500	37.978	1.00	43.33	C
ATOM	7147	N4	C Q 102	4.466	22.639	36.680	1.00	43.73	N
ATOM	7148	C5	C Q 102	5.321	22.499	38.878	1.00	44.83	C
ATOM	7149	C6	C Q 102	5.056	22.353	40.180	1.00	44.51	C
ATOM	7150	P	A Q 103	4.994	17.503	43.076	1.00	48.41	P
ATOM	7151	O1P	A Q 103	4.876	16.691	44.320	1.00	47.31	O
ATOM	7152	O2P	A Q 103	6.292	17.565	42.350	1.00	45.76	O
ATOM	7153	O5*	A Q 103	3.833	17.140	42.028	1.00	47.13	O
ATOM	7154	C5*	A Q 103	2.582	16.703	42.545	1.00	49.38	C
ATOM	7155	C4*	A Q 103	1.482	16.676	41.500	1.00	50.17	C
ATOM	7156	O4*	A Q 103	1.327	18.008	40.967	1.00	50.25	O
ATOM	7157	C3*	A Q 103	1.708	15.835	40.250	1.00	51.36	C
ATOM	7158	O3*	A Q 103	1.485	14.448	40.453	1.00	53.89	O
ATOM	7159	C2*	A Q 103	0.685	16.458	39.315	1.00	50.96	C
ATOM	7160	O2*	A Q 103	-0.659	16.129	39.599	1.00	50.99	O
ATOM	7161	C1*	A Q 103	0.969	17.928	39.598	1.00	49.46	C
ATOM	7162	N9	A Q 103	2.037	18.455	38.742	1.00	49.14	N
ATOM	7163	C8	A Q 103	3.320	18.837	39.061	1.00	48.77	C
ATOM	7164	N7	A Q 103	4.023	19.259	38.037	1.00	47.74	N
ATOM	7165	C5	A Q 103	3.135	19.146	36.977	1.00	48.14	C
ATOM	7166	C6	A Q 103	3.234	19.435	35.608	1.00	47.87	C
ATOM	7167	N6	A Q 103	4.323	19.923	35.022	1.00	48.29	N
ATOM	7168	N1	A Q 103	2.153	19.207	34.844	1.00	48.72	N
ATOM	7169	C2	A Q 103	1.040	18.719	35.395	1.00	48.61	C
ATOM	7170	N3	A Q 103	0.820	18.413	36.666	1.00	48.30	N
ATOM	7171	C4	A Q 103	1.916	18.656	37.397	1.00	48.05	C
ATOM	7172	P	U Q 104	2.684	13.405	40.202	1.00	56.00	P
ATOM	7173	O1P	U Q 104	2.415	12.265	41.099	1.00	57.51	O
ATOM	7174	O2P	U Q 104	3.994	14.076	40.293	1.00	57.18	O
ATOM	7175	O5*	U Q 104	2.485	12.961	38.680	1.00	56.83	O
ATOM	7176	C5*	U Q 104	1.201	12.526	38.230	1.00	57.84	C
ATOM	7177	C4*	U Q 104	0.937	12.989	36.812	1.00	58.15	C
ATOM	7178	O4*	U Q 104	1.028	14.438	36.701	1.00	57.97	O
ATOM	7179	C3*	U Q 104	1.935	12.471	35.791	1.00	58.05	C
ATOM	7180	O3*	U Q 104	1.649	11.112	35.480	1.00	59.09	O
ATOM	7181	C2*	U Q 104	1.643	13.450	34.663	1.00	57.90	C
ATOM	7182	O2*	U Q 104	0.437	13.188	33.991	1.00	57.54	O
ATOM	7183	C1*	U Q 104	1.547	14.770	35.425	1.00	57.20	C
ATOM	7184	N1	U Q 104	2.884	15.454	35.530	1.00	56.70	N
ATOM	7185	C2	U Q 104	3.403	16.043	34.399	1.00	56.67	C
ATOM	7186	O2	U Q 104	2.825	16.049	33.336	1.00	56.65	O
ATOM	7187	N3	U Q 104	4.628	16.641	34.549	1.00	57.37	N
ATOM	7188	C4	U Q 104	5.393	16.715	35.700	1.00	57.21	C
ATOM	7189	O4	U Q 104	6.476	17.292	35.679	1.00	56.87	O
ATOM	7190	C5	U Q 104	4.801	16.072	36.842	1.00	56.91	C
ATOM	7191	C6	U Q 104	3.601	15.481	36.712	1.00	56.98	C
ATOM	7192	P	U Q 105	2.738	10.084	34.896	1.00	59.70	P
ATOM	7193	O1P	U Q 105	2.184	8.719	35.055	1.00	59.48	O
ATOM	7194	O2P	U Q 105	4.088	10.380	35.422	1.00	59.09	O
ATOM	7195	O5*	U Q 105	2.727	10.484	33.351	1.00	59.07	O
ATOM	7196	C5*	U Q 105	1.663	10.084	32.508	1.00	58.00	C
ATOM	7197	C4*	U Q 105	1.937	10.579	31.108	1.00	57.56	C
ATOM	7198	O4*	U Q 105	2.108	12.014	31.128	1.00	57.41	O
ATOM	7199	C3*	U Q 105	3.239	10.100	30.486	1.00	57.48	C
ATOM	7200	O3*	U Q 105	3.123	8.762	30.059	1.00	56.64	O
ATOM	7201	C2*	U Q 105	3.345	11.092	29.333	1.00	57.85	C
ATOM	7202	O2*	U Q 105	2.462	10.824	28.249	1.00	58.16	O
ATOM	7203	C1*	U Q 105	2.979	12.383	30.071	1.00	57.60	C

ATOM	7204	N1	U Q 105	4.189	13.126	30.598	1.00	57.38	N
ATOM	7205	C2	U Q 105	5.012	13.748	29.673	1.00	57.31	C
ATOM	7206	O2	U Q 105	4.819	13.733	28.469	1.00	57.92	O
ATOM	7207	N3	U Q 105	6.091	14.403	30.201	1.00	57.19	N
ATOM	7208	C4	U Q 105	6.442	14.504	31.533	1.00	57.54	C
ATOM	7209	O4	U Q 105	7.449	15.140	31.827	1.00	56.97	O
ATOM	7210	C5	U Q 105	5.541	13.835	32.451	1.00	57.34	C
ATOM	7211	C6	U Q 105	4.474	13.184	31.956	1.00	57.12	C
ATOM	7212	P	A Q 106	4.394	7.814	29.867	1.00	55.80	P
ATOM	7213	O1P	A Q 106	3.842	6.475	29.570	1.00	55.11	O
ATOM	7214	O2P	A Q 106	5.297	7.995	31.018	1.00	55.25	O
ATOM	7215	O5*	A Q 106	5.132	8.404	28.581	1.00	54.02	O
ATOM	7216	C5*	A Q 106	4.616	8.231	27.277	1.00	53.07	C
ATOM	7217	C4*	A Q 106	5.492	8.945	26.266	1.00	52.79	C
ATOM	7218	O4*	A Q 106	5.506	10.358	26.594	1.00	53.71	O
ATOM	7219	C3*	A Q 106	6.968	8.561	26.259	1.00	52.70	C
ATOM	7220	O3*	A Q 106	7.243	7.376	25.507	1.00	52.71	O
ATOM	7221	C2*	A Q 106	7.577	9.804	25.630	1.00	52.68	C
ATOM	7222	O2*	A Q 106	7.388	9.880	24.230	1.00	50.88	O
ATOM	7223	C1*	A Q 106	6.801	10.891	26.372	1.00	53.25	C
ATOM	7224	N9	A Q 106	7.354	11.336	27.657	1.00	53.10	N
ATOM	7225	C8	A Q 106	7.028	10.922	28.922	1.00	53.37	C
ATOM	7226	N7	A Q 106	7.691	11.518	29.888	1.00	53.11	N
ATOM	7227	C5	A Q 106	8.507	12.400	29.210	1.00	53.08	C
ATOM	7228	C6	A Q 106	9.454	13.341	29.659	1.00	52.96	C
ATOM	7229	N6	A Q 106	9.745	13.556	30.942	1.00	53.33	N
ATOM	7230	N1	A Q 106	10.097	14.064	28.723	1.00	53.74	N
ATOM	7231	C2	A Q 106	9.812	13.857	27.419	1.00	53.93	C
ATOM	7232	N3	A Q 106	8.938	13.003	26.874	1.00	53.47	N
ATOM	7233	C4	A Q 106	8.314	12.299	27.836	1.00	53.36	C
ATOM	7234	P	A Q 107	8.549	6.519	25.848	1.00	53.00	P
ATOM	7235	O1P	A Q 107	8.530	5.263	25.078	1.00	53.91	O
ATOM	7236	O2P	A Q 107	8.701	6.464	27.321	1.00	52.41	O
ATOM	7237	O5*	A Q 107	9.694	7.420	25.205	1.00	53.73	O
ATOM	7238	C5*	A Q 107	9.720	7.625	23.802	1.00	53.71	C
ATOM	7239	C4*	A Q 107	10.768	8.661	23.452	1.00	54.06	C
ATOM	7240	O4*	A Q 107	10.422	9.940	24.027	1.00	53.90	O
ATOM	7241	C3*	A Q 107	12.160	8.394	24.005	1.00	54.02	C
ATOM	7242	O3*	A Q 107	12.819	7.415	23.240	1.00	53.22	O
ATOM	7243	C2*	A Q 107	12.772	9.783	23.885	1.00	54.19	C
ATOM	7244	O2*	A Q 107	13.063	10.196	22.560	1.00	53.59	O
ATOM	7245	C1*	A Q 107	11.609	10.575	24.460	1.00	54.60	C
ATOM	7246	N9	A Q 107	11.627	10.607	25.914	1.00	55.16	N
ATOM	7247	C8	A Q 107	10.933	9.824	26.803	1.00	55.55	C
ATOM	7248	N7	A Q 107	11.164	10.099	28.065	1.00	55.76	N
ATOM	7249	C5	A Q 107	12.077	11.131	27.992	1.00	55.38	C
ATOM	7250	C6	A Q 107	12.722	11.866	28.989	1.00	55.07	C
ATOM	7251	N6	A Q 107	12.513	11.643	30.288	1.00	54.79	N
ATOM	7252	N1	A Q 107	13.576	12.829	28.582	1.00	55.26	N
ATOM	7253	C2	A Q 107	13.770	13.038	27.272	1.00	55.28	C
ATOM	7254	N3	A Q 107	13.218	12.408	26.236	1.00	55.10	N
ATOM	7255	C4	A Q 107	12.375	11.461	26.678	1.00	55.30	C
ATOM	7256	P	G Q 108	13.694	6.304	23.963	1.00	54.13	P
ATOM	7257	O1P	G Q 108	14.095	5.309	22.945	1.00	55.28	O
ATOM	7258	O2P	G Q 108	13.009	5.859	25.194	1.00	54.09	O
ATOM	7259	O5*	G Q 108	14.997	7.111	24.386	1.00	54.36	O
ATOM	7260	C5*	G Q 108	15.753	7.790	23.404	1.00	54.61	C
ATOM	7261	C4*	G Q 108	16.881	8.571	24.055	1.00	54.95	C
ATOM	7262	O4*	G Q 108	16.335	9.700	24.783	1.00	54.47	O

ATOM	7263	C3*	G Q 108	17.709	7.836	25.106	1.00	54.90	C
ATOM	7264	O3*	G Q 108	18.665	6.976	24.515	1.00	54.88	O
ATOM	7265	C2*	G Q 108	18.364	9.006	25.815	1.00	54.43	C
ATOM	7266	O2*	G Q 108	19.473	9.492	25.090	1.00	54.22	O
ATOM	7267	C1*	G Q 108	17.195	9.994	25.868	1.00	53.90	C
ATOM	7268	N9	G Q 108	16.432	9.861	27.109	1.00	54.03	N
ATOM	7269	C8	G Q 108	15.326	9.076	27.357	1.00	53.56	C
ATOM	7270	N7	G Q 108	14.884	9.169	28.578	1.00	53.31	N
ATOM	7271	C5	G Q 108	15.756	10.070	29.172	1.00	53.12	C
ATOM	7272	C6	G Q 108	15.791	10.571	30.488	1.00	53.31	C
ATOM	7273	O6	G Q 108	15.016	10.297	31.415	1.00	53.09	O
ATOM	7274	N1	G Q 108	16.853	11.464	30.678	1.00	53.33	N
ATOM	7275	C2	G Q 108	17.766	11.840	29.716	1.00	53.50	C
ATOM	7276	N2	G Q 108	18.720	12.722	30.060	1.00	53.35	N
ATOM	7277	N3	G Q 108	17.737	11.372	28.480	1.00	53.57	N
ATOM	7278	C4	G Q 108	16.713	10.502	28.287	1.00	53.53	C
ATOM	7279	P	G Q 109	19.101	5.633	25.260	1.00	56.34	P
ATOM	7280	O1P	G Q 109	20.103	4.980	24.381	1.00	57.15	O
ATOM	7281	O2P	G Q 109	17.911	4.887	25.710	1.00	54.93	O
ATOM	7282	O5*	G Q 109	19.850	6.152	26.575	1.00	56.76	O
ATOM	7283	C5*	G Q 109	21.141	6.748	26.487	1.00	56.85	C
ATOM	7284	C4*	G Q 109	21.596	7.286	27.832	1.00	56.45	C
ATOM	7285	O4*	G Q 109	20.716	8.360	28.256	1.00	56.18	O
ATOM	7286	C3*	G Q 109	21.548	6.304	28.995	1.00	56.49	C
ATOM	7287	O3*	G Q 109	22.639	5.373	28.989	1.00	56.83	O
ATOM	7288	C2*	G Q 109	21.644	7.304	30.129	1.00	56.25	C
ATOM	7289	O2*	G Q 109	22.954	7.802	30.275	1.00	57.63	O
ATOM	7290	C1*	G Q 109	20.667	8.386	29.667	1.00	56.26	C
ATOM	7291	N9	G Q 109	19.353	8.062	30.212	1.00	56.14	N
ATOM	7292	C8	G Q 109	18.344	7.338	29.624	1.00	56.00	C
ATOM	7293	N7	G Q 109	17.306	7.182	30.393	1.00	55.94	N
ATOM	7294	C5	G Q 109	17.653	7.828	31.570	1.00	55.56	C
ATOM	7295	C6	G Q 109	16.930	7.992	32.774	1.00	56.03	C
ATOM	7296	O6	G Q 109	15.798	7.582	33.057	1.00	56.37	O
ATOM	7297	N1	G Q 109	17.646	8.726	33.721	1.00	56.63	N
ATOM	7298	C2	G Q 109	18.911	9.238	33.541	1.00	55.88	C
ATOM	7299	N2	G Q 109	19.427	9.912	34.575	1.00	55.62	N
ATOM	7300	N3	G Q 109	19.605	9.089	32.417	1.00	56.02	N
ATOM	7301	C4	G Q 109	18.915	8.374	31.479	1.00	56.00	C
ATOM	7302	P	U Q 110	22.479	3.825	29.401	1.00	56.24	P
ATOM	7303	O1P	U Q 110	23.839	3.263	29.564	1.00	56.14	O
ATOM	7304	O2P	U Q 110	21.535	3.189	28.465	1.00	55.71	O
ATOM	7305	O5*	U Q 110	21.797	3.852	30.843	1.00	56.12	O
ATOM	7306	C5*	U Q 110	21.342	2.611	31.370	1.00	55.98	C
ATOM	7307	C4*	U Q 110	21.724	2.431	32.827	1.00	55.65	C
ATOM	7308	O4*	U Q 110	23.149	2.241	32.937	1.00	55.62	O
ATOM	7309	C3*	U Q 110	21.428	3.609	33.736	1.00	55.58	C
ATOM	7310	O3*	U Q 110	20.081	3.566	34.173	1.00	54.81	O
ATOM	7311	C2*	U Q 110	22.421	3.408	34.873	1.00	55.89	C
ATOM	7312	O2*	U Q 110	21.962	2.550	35.898	1.00	56.25	O
ATOM	7313	C1*	U Q 110	23.615	2.824	34.131	1.00	55.63	C
ATOM	7314	N1	U Q 110	24.618	3.877	33.821	1.00	55.78	N
ATOM	7315	C2	U Q 110	25.466	4.254	34.826	1.00	55.93	C
ATOM	7316	O2	U Q 110	25.419	3.753	35.929	1.00	56.40	O
ATOM	7317	N3	U Q 110	26.368	5.229	34.493	1.00	56.30	N
ATOM	7318	C4	U Q 110	26.513	5.869	33.275	1.00	56.04	C
ATOM	7319	O4	U Q 110	27.378	6.732	33.123	1.00	55.76	O
ATOM	7320	C5	U Q 110	25.582	5.430	32.271	1.00	56.08	C
ATOM	7321	C6	U Q 110	24.692	4.475	32.579	1.00	56.09	C

ATOM	7322	P	G Q 111	19.037	4.694	33.733	1.00	53.81	P
ATOM	7323	O1P	G Q 111	17.680	4.128	33.844	1.00	53.90	O
ATOM	7324	O2P	G Q 111	19.491	5.310	32.461	1.00	54.23	O
ATOM	7325	O5*	G Q 111	19.203	5.747	34.906	1.00	53.26	O
ATOM	7326	C5*	G Q 111	19.083	5.301	36.258	1.00	52.00	C
ATOM	7327	C4*	G Q 111	20.080	6.028	37.133	1.00	50.88	C
ATOM	7328	O4*	G Q 111	21.410	5.901	36.568	1.00	50.61	O
ATOM	7329	C3*	G Q 111	19.875	7.528	37.241	1.00	49.87	C
ATOM	7330	O3*	G Q 111	18.858	7.796	38.190	1.00	50.64	O
ATOM	7331	C2*	G Q 111	21.259	7.954	37.696	1.00	49.20	C
ATOM	7332	O2*	G Q 111	21.478	7.641	39.062	1.00	48.41	O
ATOM	7333	C1*	G Q 111	22.164	7.074	36.836	1.00	48.19	C
ATOM	7334	N9	G Q 111	22.663	7.530	35.533	1.00	47.55	N
ATOM	7335	C8	G Q 111	22.038	7.363	34.323	1.00	46.70	C
ATOM	7336	N7	G Q 111	22.724	7.822	33.321	1.00	47.08	N
ATOM	7337	C5	G Q 111	23.896	8.305	33.886	1.00	46.60	C
ATOM	7338	C6	G Q 111	25.019	8.912	33.271	1.00	46.18	C
ATOM	7339	O6	G Q 111	25.208	9.151	32.073	1.00	46.28	O
ATOM	7340	N1	G Q 111	25.994	9.263	34.191	1.00	46.64	N
ATOM	7341	C2	G Q 111	25.902	9.052	35.545	1.00	46.83	C
ATOM	7342	N2	G Q 111	26.956	9.467	36.262	1.00	46.47	N
ATOM	7343	N3	G Q 111	24.852	8.482	36.140	1.00	46.65	N
ATOM	7344	C4	G Q 111	23.882	8.127	35.251	1.00	46.89	C
ATOM	7345	P	A Q 112	18.044	9.169	38.186	1.00	50.01	P
ATOM	7346	O1P	A Q 112	17.121	9.109	39.338	1.00	51.33	O
ATOM	7347	O2P	A Q 112	17.529	9.488	36.842	1.00	48.76	O
ATOM	7348	O5*	A Q 112	19.201	10.174	38.565	1.00	50.32	O
ATOM	7349	C5*	A Q 112	19.565	10.282	39.910	1.00	50.84	C
ATOM	7350	C4*	A Q 112	20.621	11.348	39.997	1.00	51.29	C
ATOM	7351	O4*	A Q 112	21.746	10.965	39.173	1.00	51.27	O
ATOM	7352	C3*	A Q 112	20.193	12.709	39.472	1.00	50.98	C
ATOM	7353	O3*	A Q 112	19.507	13.377	40.505	1.00	51.08	O
ATOM	7354	C2*	A Q 112	21.546	13.336	39.169	1.00	51.37	C
ATOM	7355	O2*	A Q 112	22.154	13.875	40.331	1.00	50.60	O
ATOM	7356	C1*	A Q 112	22.347	12.132	38.650	1.00	50.84	C
ATOM	7357	N9	A Q 112	22.365	11.989	37.201	1.00	50.03	N
ATOM	7358	C8	A Q 112	21.319	11.680	36.384	1.00	50.19	C
ATOM	7359	N7	A Q 112	21.638	11.613	35.113	1.00	50.25	N
ATOM	7360	C5	A Q 112	22.992	11.892	35.112	1.00	50.02	C
ATOM	7361	C6	A Q 112	23.938	11.977	34.078	1.00	50.14	C
ATOM	7362	N6	A Q 112	23.622	11.782	32.800	1.00	50.51	N
ATOM	7363	N1	A Q 112	25.215	12.267	34.397	1.00	49.78	N
ATOM	7364	C2	A Q 112	25.521	12.460	35.683	1.00	50.08	C
ATOM	7365	N3	A Q 112	24.722	12.407	36.749	1.00	50.22	N
ATOM	7366	C4	A Q 112	23.458	12.120	36.387	1.00	49.85	C
ATOM	7367	P	C Q 113	18.321	14.404	40.209	1.00	51.27	P
ATOM	7368	O1P	C Q 113	17.949	14.990	41.519	1.00	50.41	O
ATOM	7369	O2P	C Q 113	17.299	13.713	39.393	1.00	49.87	O
ATOM	7370	O5*	C Q 113	19.073	15.513	39.345	1.00	49.08	O
ATOM	7371	C5*	C Q 113	18.462	16.070	38.204	1.00	49.81	C
ATOM	7372	C4*	C Q 113	19.419	16.043	37.037	1.00	48.69	C
ATOM	7373	O4*	C Q 113	19.747	14.676	36.747	1.00	49.30	O
ATOM	7374	C3*	C Q 113	18.830	16.553	35.752	1.00	49.31	C
ATOM	7375	O3*	C Q 113	18.918	17.969	35.683	1.00	49.01	O
ATOM	7376	C2*	C Q 113	19.684	15.808	34.737	1.00	48.94	C
ATOM	7377	O2*	C Q 113	20.982	16.335	34.640	1.00	49.54	O
ATOM	7378	C1*	C Q 113	19.700	14.419	35.360	1.00	48.96	C
ATOM	7379	N1	C Q 113	18.503	13.538	35.073	1.00	49.31	N
ATOM	7380	C2	C Q 113	18.230	13.114	33.754	1.00	49.74	C

ATOM	7381	O2	C Q 113	18.980	13.452	32.826	1.00	50.31	O
ATOM	7382	N3	C Q 113	17.139	12.341	33.520	1.00	48.62	N
ATOM	7383	C4	C Q 113	16.336	11.984	34.523	1.00	49.26	C
ATOM	7384	N4	C Q 113	15.279	11.219	34.238	1.00	49.57	N
ATOM	7385	C5	C Q 113	16.588	12.390	35.865	1.00	48.90	C
ATOM	7386	C6	C Q 113	17.664	13.157	36.089	1.00	48.95	C
ATOM	7387	P	U Q 114	17.785	18.798	34.910	1.00	49.87	P
ATOM	7388	O1P	U Q 114	18.079	20.226	35.160	1.00	49.38	O
ATOM	7389	O2P	U Q 114	16.456	18.253	35.259	1.00	49.42	O
ATOM	7390	O5*	U Q 114	18.038	18.479	33.376	1.00	49.15	O
ATOM	7391	C5*	U Q 114	19.263	18.762	32.757	1.00	51.29	C
ATOM	7392	C4*	U Q 114	19.209	18.340	31.296	1.00	52.31	C
ATOM	7393	O4*	U Q 114	19.075	16.906	31.182	1.00	52.24	O
ATOM	7394	C3*	U Q 114	18.025	18.861	30.514	1.00	53.61	C
ATOM	7395	O3*	U Q 114	18.265	20.191	30.088	1.00	55.65	O
ATOM	7396	C2*	U Q 114	17.951	17.853	29.371	1.00	53.60	C
ATOM	7397	O2*	U Q 114	18.935	18.013	28.374	1.00	52.89	O
ATOM	7398	C1*	U Q 114	18.212	16.565	30.117	1.00	52.43	C
ATOM	7399	N1	U Q 114	17.020	15.837	30.683	1.00	52.93	N
ATOM	7400	C2	U Q 114	16.218	15.099	29.840	1.00	52.93	C
ATOM	7401	O2	U Q 114	16.392	15.037	28.637	1.00	53.15	O
ATOM	7402	N3	U Q 114	15.190	14.437	30.463	1.00	52.12	N
ATOM	7403	C4	U Q 114	14.883	14.422	31.811	1.00	52.64	C
ATOM	7404	O4	U Q 114	13.925	13.776	32.224	1.00	53.02	O
ATOM	7405	C5	U Q 114	15.761	15.200	32.633	1.00	52.56	C
ATOM	7406	C6	U Q 114	16.769	15.851	32.048	1.00	53.30	C
ATOM	7407	P	U Q 115	17.018	21.170	29.881	1.00	57.64	P
ATOM	7408	O1P	U Q 115	17.603	22.460	29.438	1.00	57.56	O
ATOM	7409	O2P	U Q 115	16.105	21.118	31.053	1.00	55.59	O
ATOM	7410	O5*	U Q 115	16.315	20.464	28.636	1.00	57.84	O
ATOM	7411	C5*	U Q 115	16.890	20.572	27.332	1.00	59.70	C
ATOM	7412	C4*	U Q 115	16.071	19.842	26.275	1.00	59.79	C
ATOM	7413	O4*	U Q 115	16.032	18.414	26.557	1.00	60.14	O
ATOM	7414	C3*	U Q 115	14.599	20.223	26.196	1.00	60.30	C
ATOM	7415	O3*	U Q 115	14.396	21.475	25.536	1.00	60.67	O
ATOM	7416	C2*	U Q 115	14.079	19.008	25.434	1.00	60.69	C
ATOM	7417	O2*	U Q 115	14.506	18.936	24.081	1.00	61.12	O
ATOM	7418	C1*	U Q 115	14.752	17.897	26.228	1.00	60.41	C
ATOM	7419	N1	U Q 115	14.036	17.425	27.479	1.00	60.21	N
ATOM	7420	C2	U Q 115	13.142	16.367	27.397	1.00	60.65	C
ATOM	7421	O2	U Q 115	12.861	15.773	26.368	1.00	60.74	O
ATOM	7422	N3	U Q 115	12.562	16.003	28.588	1.00	60.45	N
ATOM	7423	C4	U Q 115	12.769	16.558	29.835	1.00	59.91	C
ATOM	7424	O4	U Q 115	12.170	16.107	30.806	1.00	59.94	O
ATOM	7425	C5	U Q 115	13.704	17.648	29.851	1.00	59.90	C
ATOM	7426	C6	U Q 115	14.286	18.021	28.704	1.00	60.09	C
ATOM	7427	P	A Q 116	13.084	22.355	25.829	1.00	60.26	P
ATOM	7428	O1P	A Q 116	13.236	23.643	25.119	1.00	60.12	O
ATOM	7429	O2P	A Q 116	12.847	22.371	27.279	1.00	59.79	O
ATOM	7430	O5*	A Q 116	11.925	21.508	25.119	1.00	58.43	O
ATOM	7431	C5*	A Q 116	11.973	21.255	23.721	1.00	57.96	C
ATOM	7432	C4*	A Q 116	10.813	20.377	23.273	1.00	57.41	C
ATOM	7433	O4*	A Q 116	11.019	19.015	23.745	1.00	56.96	O
ATOM	7434	C3*	A Q 116	9.439	20.756	23.817	1.00	56.93	C
ATOM	7435	O3*	A Q 116	8.810	21.811	23.072	1.00	56.55	O
ATOM	7436	C2*	A Q 116	8.729	19.410	23.702	1.00	56.39	C
ATOM	7437	O2*	A Q 116	8.416	19.042	22.383	1.00	56.52	O
ATOM	7438	C1*	A Q 116	9.798	18.474	24.232	1.00	55.18	C
ATOM	7439	N9	A Q 116	9.774	18.364	25.693	1.00	53.92	N

ATOM	7440	C8	A Q 116	10.491	19.066	26.619	1.00	53.74	C
ATOM	7441	N7	A Q 116	10.242	18.739	27.866	1.00	53.29	N
ATOM	7442	C5	A Q 116	9.287	17.753	27.760	1.00	53.58	C
ATOM	7443	C6	A Q 116	8.594	16.992	28.723	1.00	53.32	C
ATOM	7444	N6	A Q 116	8.757	17.096	30.040	1.00	52.85	N
ATOM	7445	N1	A Q 116	7.699	16.105	28.261	1.00	53.95	N
ATOM	7446	C2	A Q 116	7.506	15.986	26.939	1.00	54.20	C
ATOM	7447	N3	A Q 116	8.097	16.642	25.941	1.00	53.61	N
ATOM	7448	C4	A Q 116	8.984	17.519	26.425	1.00	53.70	C
ATOM	7449	P	G Q 117	7.638	22.671	23.767	1.00	57.08	P
ATOM	7450	O1P	G Q 117	6.994	23.528	22.745	1.00	57.03	O
ATOM	7451	O2P	G Q 117	8.139	23.248	25.030	1.00	55.64	O
ATOM	7452	O5*	G Q 117	6.624	21.498	24.108	1.00	55.81	O
ATOM	7453	C5*	G Q 117	5.504	21.675	24.921	1.00	54.97	C
ATOM	7454	C4*	G Q 117	4.711	20.394	24.807	1.00	54.61	C
ATOM	7455	O4*	G Q 117	5.528	19.256	25.208	1.00	54.97	O
ATOM	7456	C3*	G Q 117	3.475	20.340	25.672	1.00	53.41	C
ATOM	7457	O3*	G Q 117	2.429	20.958	24.975	1.00	53.09	O
ATOM	7458	C2*	G Q 117	3.298	18.841	25.833	1.00	53.89	C
ATOM	7459	O2*	G Q 117	2.741	18.219	24.693	1.00	52.91	O
ATOM	7460	C1*	G Q 117	4.755	18.418	26.046	1.00	54.81	C
ATOM	7461	N9	G Q 117	5.206	18.588	27.424	1.00	54.95	N
ATOM	7462	C8	G Q 117	6.210	19.411	27.892	1.00	55.30	C
ATOM	7463	N7	G Q 117	6.378	19.360	29.189	1.00	55.22	N
ATOM	7464	C5	G Q 117	5.417	18.446	29.596	1.00	55.00	C
ATOM	7465	C6	G Q 117	5.126	17.986	30.887	1.00	54.97	C
ATOM	7466	O6	G Q 117	5.695	18.325	31.937	1.00	55.10	O
ATOM	7467	N1	G Q 117	4.083	17.058	30.880	1.00	54.45	N
ATOM	7468	C2	G Q 117	3.409	16.628	29.765	1.00	54.69	C
ATOM	7469	N2	G Q 117	2.433	15.728	29.952	1.00	54.86	N
ATOM	7470	N3	G Q 117	3.671	17.065	28.543	1.00	54.79	N
ATOM	7471	C4	G Q 117	4.688	17.962	28.534	1.00	54.95	C
ATOM	7472	P	U Q 118	1.351	21.871	25.729	1.00	52.95	P
ATOM	7473	O1P	U Q 118	0.422	22.379	24.690	1.00	52.97	O
ATOM	7474	O2P	U Q 118	2.032	22.791	26.665	1.00	52.41	O
ATOM	7475	O5*	U Q 118	0.582	20.823	26.648	1.00	52.74	O
ATOM	7476	C5*	U Q 118	-0.290	19.854	26.102	1.00	52.47	C
ATOM	7477	C4*	U Q 118	-0.804	19.011	27.246	1.00	52.95	C
ATOM	7478	O4*	U Q 118	0.308	18.314	27.857	1.00	53.33	O
ATOM	7479	C3*	U Q 118	-1.421	19.776	28.408	1.00	53.28	C
ATOM	7480	O3*	U Q 118	-2.754	20.137	28.141	1.00	53.21	O
ATOM	7481	C2*	U Q 118	-1.305	18.727	29.500	1.00	53.99	C
ATOM	7482	O2*	U Q 118	-2.220	17.665	29.364	1.00	53.91	O
ATOM	7483	C1*	U Q 118	0.119	18.241	29.255	1.00	54.37	C
ATOM	7484	N1	U Q 118	1.126	19.068	29.993	1.00	54.54	N
ATOM	7485	C2	U Q 118	1.204	18.894	31.349	1.00	54.91	C
ATOM	7486	O2	U Q 118	0.493	18.097	31.938	1.00	54.93	O
ATOM	7487	N3	U Q 118	2.141	19.690	31.978	1.00	55.51	N
ATOM	7488	C4	U Q 118	3.004	20.623	31.414	1.00	55.61	C
ATOM	7489	O4	U Q 118	3.801	21.262	32.119	1.00	55.25	O
ATOM	7490	C5	U Q 118	2.861	20.745	29.986	1.00	55.13	C
ATOM	7491	C6	U Q 118	1.948	19.987	29.355	1.00	55.39	C
ATOM	7492	P	G Q 119	-3.387	21.484	28.720	1.00	54.88	P
ATOM	7493	O1P	G Q 119	-4.725	21.608	28.107	1.00	55.87	O
ATOM	7494	O2P	G Q 119	-2.433	22.609	28.605	1.00	54.24	O
ATOM	7495	O5*	G Q 119	-3.593	21.142	30.262	1.00	54.19	O
ATOM	7496	C5*	G Q 119	-4.293	19.985	30.653	1.00	53.68	C
ATOM	7497	C4*	G Q 119	-4.591	20.049	32.130	1.00	53.78	C
ATOM	7498	O4*	G Q 119	-3.525	19.478	32.923	1.00	54.20	O

ATOM	7499	C3*	G Q 119	-4.733	21.458	32.631	1.00	54.61	C
ATOM	7500	O3*	G Q 119	-6.031	21.858	32.288	1.00	56.57	O
ATOM	7501	C2*	G Q 119	-4.462	21.251	34.109	1.00	54.68	C
ATOM	7502	O2*	G Q 119	-5.528	20.635	34.783	1.00	55.97	O
ATOM	7503	C1*	G Q 119	-3.295	20.279	34.060	1.00	54.13	C
ATOM	7504	N9	G Q 119	-1.986	20.914	33.925	1.00	53.83	N
ATOM	7505	C8	G Q 119	-1.349	21.289	32.767	1.00	53.73	C
ATOM	7506	N7	G Q 119	-0.180	21.821	32.958	1.00	53.66	N
ATOM	7507	C5	G Q 119	-0.032	21.811	34.332	1.00	53.09	C
ATOM	7508	C6	G Q 119	1.040	22.266	35.129	1.00	53.42	C
ATOM	7509	O6	G Q 119	2.105	22.795	34.764	1.00	52.74	O
ATOM	7510	N1	G Q 119	0.771	22.058	36.484	1.00	54.01	N
ATOM	7511	C2	G Q 119	-0.377	21.488	37.001	1.00	53.81	C
ATOM	7512	N2	G Q 119	-0.469	21.363	38.337	1.00	54.04	N
ATOM	7513	N3	G Q 119	-1.377	21.061	36.256	1.00	52.94	N
ATOM	7514	C4	G Q 119	-1.135	21.258	34.941	1.00	53.25	C
ATOM	7515	P	G Q 120	-6.395	23.389	32.071	1.00	58.87	P
ATOM	7516	O1P	G Q 120	-7.859	23.419	31.823	1.00	58.48	O
ATOM	7517	O2P	G Q 120	-5.423	24.021	31.145	1.00	59.03	O
ATOM	7518	O5*	G Q 120	-6.116	23.989	33.521	1.00	60.33	O
ATOM	7519	C5*	G Q 120	-7.051	23.666	34.543	1.00	62.43	C
ATOM	7520	C4*	G Q 120	-6.569	24.082	35.920	1.00	62.64	C
ATOM	7521	O4*	G Q 120	-5.340	23.398	36.258	1.00	63.42	O
ATOM	7522	C3*	G Q 120	-6.178	25.534	36.080	1.00	63.33	C
ATOM	7523	O3*	G Q 120	-7.297	26.423	36.130	1.00	62.79	O
ATOM	7524	C2*	G Q 120	-5.424	25.415	37.395	1.00	63.53	C
ATOM	7525	O2*	G Q 120	-6.247	25.130	38.513	1.00	63.84	O
ATOM	7526	C1*	G Q 120	-4.529	24.237	37.058	1.00	62.97	C
ATOM	7527	N9	G Q 120	-3.308	24.588	36.328	1.00	62.87	N
ATOM	7528	C8	G Q 120	-3.125	24.710	34.965	1.00	62.96	C
ATOM	7529	N7	G Q 120	-1.898	25.023	34.617	1.00	62.83	N
ATOM	7530	C5	G Q 120	-1.219	25.115	35.826	1.00	62.91	C
ATOM	7531	C6	G Q 120	0.142	25.433	36.097	1.00	62.58	C
ATOM	7532	O6	G Q 120	1.053	25.703	35.301	1.00	62.49	O
ATOM	7533	N1	G Q 120	0.414	25.411	37.466	1.00	62.83	N
ATOM	7534	C2	G Q 120	-0.509	25.130	38.457	1.00	62.76	C
ATOM	7535	N2	G Q 120	-0.065	25.159	39.718	1.00	62.66	N
ATOM	7536	N3	G Q 120	-1.786	24.841	38.223	1.00	62.74	N
ATOM	7537	C4	G Q 120	-2.074	24.850	36.889	1.00	63.33	C
ATOM	7538	P	A Q 121	-7.084	27.957	35.725	1.00	62.33	P
ATOM	7539	O1P	A Q 121	-8.427	28.564	35.894	1.00	62.82	O
ATOM	7540	O2P	A Q 121	-6.325	28.097	34.458	1.00	61.33	O
ATOM	7541	O5*	A Q 121	-6.091	28.499	36.845	1.00	60.26	O
ATOM	7542	C5*	A Q 121	-6.539	28.469	38.170	1.00	58.93	C
ATOM	7543	C4*	A Q 121	-5.390	28.613	39.149	1.00	57.84	C
ATOM	7544	O4*	A Q 121	-4.241	27.787	38.839	1.00	55.75	O
ATOM	7545	C3*	A Q 121	-4.764	29.986	39.226	1.00	56.39	C
ATOM	7546	O3*	A Q 121	-5.696	30.869	39.772	1.00	55.65	O
ATOM	7547	C2*	A Q 121	-3.634	29.619	40.168	1.00	56.57	C
ATOM	7548	O2*	A Q 121	-4.059	29.385	41.501	1.00	58.52	O
ATOM	7549	C1*	A Q 121	-3.145	28.313	39.556	1.00	54.59	C
ATOM	7550	N9	A Q 121	-2.006	28.462	38.658	1.00	53.66	N
ATOM	7551	C8	A Q 121	-1.994	28.483	37.292	1.00	53.05	C
ATOM	7552	N7	A Q 121	-0.797	28.622	36.775	1.00	52.72	N
ATOM	7553	C5	A Q 121	0.033	28.698	37.876	1.00	53.06	C
ATOM	7554	C6	A Q 121	1.434	28.841	38.020	1.00	53.29	C
ATOM	7555	N6	A Q 121	2.287	28.954	36.996	1.00	51.84	N
ATOM	7556	N1	A Q 121	1.927	28.876	39.282	1.00	53.36	N
ATOM	7557	C2	A Q 121	1.086	28.778	40.316	1.00	52.99	C

ATOM	7558	N3	A Q 121	-0.242	28.639	40.298	1.00	53.98	N
ATOM	7559	C4	A Q 121	-0.703	28.602	39.040	1.00	53.07	C
ATOM	7560	P	C Q 122	-5.707	32.430	39.458	1.00	56.45	P
ATOM	7561	O1P	C Q 122	-6.972	32.978	39.989	1.00	56.02	O
ATOM	7562	O2P	C Q 122	-5.304	32.653	38.047	1.00	55.60	O
ATOM	7563	O5*	C Q 122	-4.551	32.966	40.409	1.00	54.25	O
ATOM	7564	C5*	C Q 122	-4.674	32.878	41.806	1.00	53.21	C
ATOM	7565	C4*	C Q 122	-3.303	32.919	42.455	1.00	51.76	C
ATOM	7566	O4*	C Q 122	-2.468	31.846	41.960	1.00	50.52	O
ATOM	7567	C3*	C Q 122	-2.485	34.162	42.152	1.00	50.17	C
ATOM	7568	O3*	C Q 122	-2.946	35.238	42.912	1.00	47.53	O
ATOM	7569	C2*	C Q 122	-1.116	33.668	42.578	1.00	50.16	C
ATOM	7570	O2*	C Q 122	-0.984	33.528	43.971	1.00	50.43	O
ATOM	7571	C1*	C Q 122	-1.123	32.293	41.937	1.00	49.82	C
ATOM	7572	N1	C Q 122	-0.571	32.284	40.548	1.00	49.52	N
ATOM	7573	C2	C Q 122	0.814	32.177	40.399	1.00	49.89	C
ATOM	7574	O2	C Q 122	1.502	32.103	41.418	1.00	50.44	O
ATOM	7575	N3	C Q 122	1.361	32.152	39.152	1.00	49.74	N
ATOM	7576	C4	C Q 122	0.576	32.232	38.068	1.00	48.86	C
ATOM	7577	N4	C Q 122	1.156	32.213	36.869	1.00	48.78	N
ATOM	7578	C5	C Q 122	-0.836	32.351	38.188	1.00	48.13	C
ATOM	7579	C6	C Q 122	-1.358	32.378	39.430	1.00	48.96	C
ATOM	7580	P	A Q 123	-2.811	36.714	42.333	1.00	48.98	P
ATOM	7581	O1P	A Q 123	-3.446	37.661	43.274	1.00	47.63	O
ATOM	7582	O2P	A Q 123	-3.101	36.765	40.882	1.00	47.27	O
ATOM	7583	O5*	A Q 123	-1.226	36.913	42.463	1.00	49.15	O
ATOM	7584	C5*	A Q 123	-0.650	38.172	42.143	1.00	46.77	C
ATOM	7585	C4*	A Q 123	0.758	38.256	42.687	1.00	46.39	C
ATOM	7586	O4*	A Q 123	1.643	37.551	41.790	1.00	45.68	O
ATOM	7587	C3*	A Q 123	1.335	39.655	42.745	1.00	45.49	C
ATOM	7588	O3*	A Q 123	0.935	40.292	43.933	1.00	48.39	O
ATOM	7589	C2*	A Q 123	2.834	39.398	42.660	1.00	44.25	C
ATOM	7590	O2*	A Q 123	3.455	38.997	43.858	1.00	42.42	O
ATOM	7591	C1*	A Q 123	2.882	38.235	41.696	1.00	41.52	C
ATOM	7592	N9	A Q 123	3.095	38.511	40.284	1.00	40.62	N
ATOM	7593	C8	A Q 123	2.172	38.547	39.270	1.00	39.47	C
ATOM	7594	N7	A Q 123	2.709	38.769	38.089	1.00	38.98	N
ATOM	7595	C5	A Q 123	4.070	38.893	38.357	1.00	38.52	C
ATOM	7596	C6	A Q 123	5.208	39.116	37.552	1.00	38.16	C
ATOM	7597	N6	A Q 123	5.149	39.286	36.236	1.00	39.08	N
ATOM	7598	N1	A Q 123	6.427	39.174	38.134	1.00	38.61	N
ATOM	7599	C2	A Q 123	6.507	39.005	39.457	1.00	39.71	C
ATOM	7600	N3	A Q 123	5.511	38.771	40.325	1.00	41.12	N
ATOM	7601	C4	A Q 123	4.314	38.721	39.702	1.00	39.93	C
ATOM	7602	P	A Q 124	0.501	41.831	43.861	1.00	53.64	P
ATOM	7603	O1P	A Q 124	-0.112	42.205	45.161	1.00	51.29	O
ATOM	7604	O2P	A Q 124	-0.223	42.050	42.586	1.00	51.54	O
ATOM	7605	O5*	A Q 124	1.964	42.488	43.772	1.00	51.87	O
ATOM	7606	C5*	A Q 124	2.718	42.601	44.964	1.00	52.47	C
ATOM	7607	C4*	A Q 124	4.161	42.952	44.647	1.00	51.31	C
ATOM	7608	O4*	A Q 124	4.642	42.020	43.663	1.00	51.64	O
ATOM	7609	C3*	A Q 124	4.372	44.276	43.960	1.00	51.41	C
ATOM	7610	O3*	A Q 124	4.356	45.326	44.907	1.00	52.79	O
ATOM	7611	C2*	A Q 124	5.729	44.055	43.283	1.00	50.18	C
ATOM	7612	O2*	A Q 124	6.834	44.171	44.148	1.00	48.80	O
ATOM	7613	C1*	A Q 124	5.572	42.625	42.783	1.00	47.86	C
ATOM	7614	N9	A Q 124	5.013	42.534	41.444	1.00	46.74	N
ATOM	7615	C8	A Q 124	3.692	42.561	41.114	1.00	46.44	C
ATOM	7616	N7	A Q 124	3.447	42.473	39.830	1.00	45.69	N

ATOM	7617	C5	A Q 124	4.682	42.385	39.282	1.00	44.06	C
ATOM	7618	C6	A Q 124	5.079	42.284	37.954	1.00	45.81	C
ATOM	7619	N6	A Q 124	4.222	42.234	36.947	1.00	43.84	N
ATOM	7620	N1	A Q 124	6.415	42.236	37.713	1.00	46.83	N
ATOM	7621	C2	A Q 124	7.249	42.249	38.768	1.00	46.26	C
ATOM	7622	N3	A Q 124	6.977	42.358	40.071	1.00	44.95	N
ATOM	7623	C4	A Q 124	5.663	42.433	40.252	1.00	45.66	C
ATOM	7624	P	A Q 125	4.003	46.810	44.405	1.00	54.01	P
ATOM	7625	O1P	A Q 125	4.091	47.686	45.592	1.00	55.20	O
ATOM	7626	O2P	A Q 125	2.770	46.763	43.594	1.00	50.77	O
ATOM	7627	O5*	A Q 125	5.271	47.151	43.498	1.00	51.98	O
ATOM	7628	C5*	A Q 125	6.469	47.474	44.191	1.00	51.99	C
ATOM	7629	C4*	A Q 125	7.640	47.615	43.233	1.00	51.87	C
ATOM	7630	O4*	A Q 125	7.830	46.414	42.442	1.00	51.61	O
ATOM	7631	C3*	A Q 125	7.464	48.688	42.178	1.00	51.80	C
ATOM	7632	O3*	A Q 125	7.736	49.950	42.743	1.00	52.17	O
ATOM	7633	C2*	A Q 125	8.500	48.247	41.162	1.00	50.79	C
ATOM	7634	O2*	A Q 125	9.815	48.575	41.584	1.00	51.32	O
ATOM	7635	C1*	A Q 125	8.250	46.749	41.138	1.00	49.20	C
ATOM	7636	N9	A Q 125	7.201	46.361	40.214	1.00	49.29	N
ATOM	7637	C8	A Q 125	5.863	46.333	40.460	1.00	49.24	C
ATOM	7638	N7	A Q 125	5.139	45.952	39.446	1.00	48.96	N
ATOM	7639	C5	A Q 125	6.032	45.711	38.460	1.00	48.08	C
ATOM	7640	C6	A Q 125	5.847	45.289	37.142	1.00	48.80	C
ATOM	7641	N6	A Q 125	4.650	45.041	36.624	1.00	48.87	N
ATOM	7642	N1	A Q 125	6.937	45.120	36.392	1.00	48.30	N
ATOM	7643	C2	A Q 125	8.121	45.392	36.959	1.00	49.29	C
ATOM	7644	N3	A Q 125	8.424	45.815	38.191	1.00	47.86	N
ATOM	7645	C4	A Q 125	7.315	45.948	38.909	1.00	49.60	C
ATOM	7646	P	G Q 126	7.061	51.271	42.187	1.00	50.49	P
ATOM	7647	O1P	G Q 126	7.755	52.346	42.920	1.00	51.98	O
ATOM	7648	O2P	G Q 126	5.589	51.136	42.285	1.00	51.91	O
ATOM	7649	O5*	G Q 126	7.481	51.330	40.644	1.00	51.90	O
ATOM	7650	C5*	G Q 126	8.832	51.664	40.300	1.00	52.30	C
ATOM	7651	C4*	G Q 126	9.173	51.390	38.839	1.00	51.79	C
ATOM	7652	O4*	G Q 126	8.993	49.986	38.555	1.00	51.94	O
ATOM	7653	C3*	G Q 126	8.313	52.061	37.784	1.00	52.25	C
ATOM	7654	O3*	G Q 126	8.738	53.382	37.538	1.00	51.88	O
ATOM	7655	C2*	G Q 126	8.525	51.122	36.591	1.00	52.45	C
ATOM	7656	O2*	G Q 126	9.789	51.164	35.976	1.00	53.81	O
ATOM	7657	C1*	G Q 126	8.389	49.793	37.293	1.00	51.70	C
ATOM	7658	N9	G Q 126	6.982	49.426	37.407	1.00	51.11	N
ATOM	7659	C8	G Q 126	6.162	49.473	38.500	1.00	50.86	C
ATOM	7660	N7	G Q 126	4.941	49.078	38.243	1.00	51.71	N
ATOM	7661	C5	G Q 126	4.973	48.764	36.900	1.00	51.08	C
ATOM	7662	C6	G Q 126	3.958	48.280	36.064	1.00	50.74	C
ATOM	7663	O6	G Q 126	2.795	48.036	36.377	1.00	51.91	O
ATOM	7664	N1	G Q 126	4.391	48.082	34.763	1.00	50.14	N
ATOM	7665	C2	G Q 126	5.668	48.315	34.324	1.00	50.71	C
ATOM	7666	N2	G Q 126	5.909	48.070	33.031	1.00	51.39	N
ATOM	7667	N3	G Q 126	6.636	48.776	35.096	1.00	51.23	N
ATOM	7668	C4	G Q 126	6.216	48.971	36.370	1.00	50.96	C
ATOM	7669	P	G Q 127	7.670	54.533	37.248	1.00	51.40	P
ATOM	7670	O1P	G Q 127	8.456	55.772	37.125	1.00	53.22	O
ATOM	7671	O2P	G Q 127	6.537	54.488	38.188	1.00	52.21	O
ATOM	7672	O5*	G Q 127	7.110	54.113	35.815	1.00	51.86	O
ATOM	7673	C5*	G Q 127	7.997	54.095	34.719	1.00	51.85	C
ATOM	7674	C4*	G Q 127	7.365	53.421	33.525	1.00	51.75	C
ATOM	7675	O4*	G Q 127	6.827	52.163	33.949	1.00	53.52	O

ATOM	7676	C3*	G Q 127	6.157	54.098	32.932	1.00	53.31	C
ATOM	7677	O3*	G Q 127	6.543	55.186	32.073	1.00	53.64	O
ATOM	7678	C2*	G Q 127	5.502	52.931	32.203	1.00	52.96	C
ATOM	7679	O2*	G Q 127	6.190	52.529	31.033	1.00	55.09	O
ATOM	7680	C1*	G Q 127	5.641	51.852	33.248	1.00	51.54	C
ATOM	7681	N9	G Q 127	4.576	51.705	34.235	1.00	51.21	N
ATOM	7682	C8	G Q 127	4.623	51.964	35.589	1.00	50.98	C
ATOM	7683	N7	G Q 127	3.513	51.691	36.213	1.00	50.46	N
ATOM	7684	C5	G Q 127	2.694	51.218	35.206	1.00	49.89	C
ATOM	7685	C6	G Q 127	1.374	50.757	35.270	1.00	50.55	C
ATOM	7686	O6	G Q 127	0.650	50.684	36.259	1.00	50.78	O
ATOM	7687	N1	G Q 127	0.907	50.353	34.029	1.00	51.30	N
ATOM	7688	C2	G Q 127	1.628	50.373	32.864	1.00	50.44	C
ATOM	7689	N2	G Q 127	1.007	49.945	31.756	1.00	50.71	N
ATOM	7690	N3	G Q 127	2.871	50.795	32.800	1.00	50.34	N
ATOM	7691	C4	G Q 127	3.329	51.199	33.999	1.00	49.66	C
ATOM	7692	P	U Q 128	5.669	56.524	32.117	1.00	55.29	P
ATOM	7693	O1P	U Q 128	6.596	57.605	31.723	1.00	55.79	O
ATOM	7694	O2P	U Q 128	4.925	56.628	33.388	1.00	55.01	O
ATOM	7695	O5*	U Q 128	4.520	56.312	31.018	1.00	56.59	O
ATOM	7696	C5*	U Q 128	4.677	55.512	29.839	1.00	58.44	C
ATOM	7697	C4*	U Q 128	3.347	55.018	29.278	1.00	59.49	C
ATOM	7698	O4*	U Q 128	2.983	53.768	29.915	1.00	59.68	O
ATOM	7699	C3*	U Q 128	2.118	55.899	29.503	1.00	60.17	C
ATOM	7700	O3*	U Q 128	1.995	56.934	28.542	1.00	61.04	O
ATOM	7701	C2*	U Q 128	0.990	54.899	29.334	1.00	60.29	C
ATOM	7702	O2*	U Q 128	0.676	54.624	27.978	1.00	61.67	O
ATOM	7703	C1*	U Q 128	1.576	53.708	30.069	1.00	59.37	C
ATOM	7704	N1	U Q 128	1.201	53.737	31.514	1.00	59.12	N
ATOM	7705	C2	U Q 128	-0.024	53.205	31.883	1.00	58.73	C
ATOM	7706	O2	U Q 128	-0.818	52.716	31.095	1.00	58.71	O
ATOM	7707	N3	U Q 128	-0.292	53.261	33.225	1.00	57.13	N
ATOM	7708	C4	U Q 128	0.508	53.784	34.219	1.00	58.31	C
ATOM	7709	O4	U Q 128	0.110	53.763	35.378	1.00	59.05	O
ATOM	7710	C5	U Q 128	1.768	54.320	33.770	1.00	58.13	C
ATOM	7711	C6	U Q 128	2.054	54.285	32.461	1.00	58.69	C
ATOM	7712	P	G Q 129	1.174	58.261	28.893	1.00	61.77	P
ATOM	7713	O1P	G Q 129	1.393	59.181	27.758	1.00	61.49	O
ATOM	7714	O2P	G Q 129	1.504	58.670	30.276	1.00	60.79	O
ATOM	7715	O5*	G Q 129	-0.357	57.790	28.867	1.00	62.85	O
ATOM	7716	C5*	G Q 129	-1.043	57.702	27.627	1.00	63.74	C
ATOM	7717	C4*	G Q 129	-2.411	57.085	27.821	1.00	63.82	C
ATOM	7718	O4*	G Q 129	-2.302	55.883	28.626	1.00	63.97	O
ATOM	7719	C3*	G Q 129	-3.399	57.939	28.588	1.00	63.51	C
ATOM	7720	O3*	G Q 129	-3.925	58.955	27.761	1.00	63.43	O
ATOM	7721	C2*	G Q 129	-4.417	56.883	28.998	1.00	63.82	C
ATOM	7722	O2*	G Q 129	-5.288	56.458	27.966	1.00	64.58	O
ATOM	7723	C1*	G Q 129	-3.476	55.753	29.410	1.00	63.35	C
ATOM	7724	N9	G Q 129	-3.148	55.821	30.830	1.00	63.14	N
ATOM	7725	C8	G Q 129	-1.954	56.128	31.445	1.00	62.88	C
ATOM	7726	N7	G Q 129	-2.008	56.102	32.746	1.00	62.46	N
ATOM	7727	C5	G Q 129	-3.324	55.756	33.002	1.00	62.75	C
ATOM	7728	C6	G Q 129	-3.995	55.575	34.230	1.00	62.75	C
ATOM	7729	O6	G Q 129	-3.531	55.691	35.370	1.00	62.27	O
ATOM	7730	N1	G Q 129	-5.335	55.233	34.034	1.00	62.82	N
ATOM	7731	C2	G Q 129	-5.955	55.086	32.816	1.00	62.78	C
ATOM	7732	N2	G Q 129	-7.254	54.757	32.839	1.00	63.36	N
ATOM	7733	N3	G Q 129	-5.338	55.255	31.658	1.00	62.84	N
ATOM	7734	C4	G Q 129	-4.036	55.586	31.836	1.00	62.85	C

ATOM	7735	P	A Q 130	-4.184	60.417	28.357	1.00	64.07	P
ATOM	7736	O1P	A Q 130	-4.689	61.267	27.257	1.00	63.13	O
ATOM	7737	O2P	A Q 130	-3.013	60.851	29.148	1.00	63.98	O
ATOM	7738	O5*	A Q 130	-5.392	60.126	29.354	1.00	63.51	O
ATOM	7739	C5*	A Q 130	-6.657	59.811	28.799	1.00	63.34	C
ATOM	7740	C4*	A Q 130	-7.620	59.342	29.872	1.00	63.15	C
ATOM	7741	O4*	A Q 130	-7.042	58.221	30.587	1.00	61.83	O
ATOM	7742	C3*	A Q 130	-7.959	60.363	30.955	1.00	62.58	C
ATOM	7743	O3*	A Q 130	-8.962	61.256	30.491	1.00	62.39	O
ATOM	7744	C2*	A Q 130	-8.424	59.441	32.080	1.00	61.77	C
ATOM	7745	O2*	A Q 130	-9.762	59.004	31.918	1.00	62.26	O
ATOM	7746	C1*	A Q 130	-7.415	58.295	31.953	1.00	60.94	C
ATOM	7747	N9	A Q 130	-6.207	58.484	32.759	1.00	60.47	N
ATOM	7748	C8	A Q 130	-4.949	58.858	32.359	1.00	60.33	C
ATOM	7749	N7	A Q 130	-4.076	58.949	33.333	1.00	59.81	N
ATOM	7750	C5	A Q 130	-4.812	58.614	34.450	1.00	59.64	C
ATOM	7751	C6	A Q 130	-4.484	58.516	35.808	1.00	59.66	C
ATOM	7752	N6	A Q 130	-3.266	58.751	36.278	1.00	59.47	N
ATOM	7753	N1	A Q 130	-5.463	58.158	36.672	1.00	60.43	N
ATOM	7754	C2	A Q 130	-6.695	57.908	36.216	1.00	60.04	C
ATOM	7755	N3	A Q 130	-7.124	57.966	34.956	1.00	60.81	N
ATOM	7756	C4	A Q 130	-6.124	58.324	34.118	1.00	60.62	C
ATOM	7757	P	A Q 131	-9.001	62.804	30.928	1.00	63.53	P
ATOM	7758	O1P	A Q 131	-10.006	63.453	30.062	1.00	61.84	O
ATOM	7759	O2P	A Q 131	-7.618	63.343	30.993	1.00	63.14	O
ATOM	7760	O5*	A Q 131	-9.598	62.729	32.407	1.00	63.19	O
ATOM	7761	C5*	A Q 131	-10.935	62.273	32.600	1.00	63.62	C
ATOM	7762	C4*	A Q 131	-11.241	62.055	34.072	1.00	63.69	C
ATOM	7763	O4*	A Q 131	-10.481	60.931	34.598	1.00	63.96	O
ATOM	7764	C3*	A Q 131	-10.880	63.204	35.003	1.00	63.85	C
ATOM	7765	O3*	A Q 131	-11.884	64.219	34.955	1.00	63.13	O
ATOM	7766	C2*	A Q 131	-10.802	62.479	36.341	1.00	63.87	C
ATOM	7767	O2*	A Q 131	-12.076	62.173	36.878	1.00	64.50	O
ATOM	7768	C1*	A Q 131	-10.052	61.221	35.922	1.00	63.74	C
ATOM	7769	N9	A Q 131	-8.589	61.367	35.941	1.00	64.17	N
ATOM	7770	C8	A Q 131	-7.747	61.646	34.895	1.00	63.84	C
ATOM	7771	N7	A Q 131	-6.476	61.706	35.222	1.00	63.80	N
ATOM	7772	C5	A Q 131	-6.478	61.449	36.581	1.00	63.57	C
ATOM	7773	C6	A Q 131	-5.443	61.370	37.535	1.00	63.25	C
ATOM	7774	N6	A Q 131	-4.151	61.547	37.252	1.00	63.37	N
ATOM	7775	N1	A Q 131	-5.791	61.099	38.804	1.00	63.37	N
ATOM	7776	C2	A Q 131	-7.083	60.915	39.102	1.00	63.77	C
ATOM	7777	N3	A Q 131	-8.142	60.963	38.298	1.00	63.49	N
ATOM	7778	C4	A Q 131	-7.767	61.237	37.038	1.00	63.64	C
ATOM	7779	P	A Q 132	-11.495	65.753	35.189	1.00	62.61	P
ATOM	7780	O1P	A Q 132	-12.758	66.521	35.123	1.00	62.93	O
ATOM	7781	O2P	A Q 132	-10.369	66.097	34.284	1.00	61.73	O
ATOM	7782	O5*	A Q 132	-11.008	65.766	36.721	1.00	62.17	O
ATOM	7783	C5*	A Q 132	-11.972	65.526	37.761	1.00	61.22	C
ATOM	7784	C4*	A Q 132	-11.420	65.498	39.185	1.00	60.73	C
ATOM	7785	O4*	A Q 132	-10.593	64.326	39.433	1.00	60.35	O
ATOM	7786	C3*	A Q 132	-10.520	66.657	39.581	1.00	60.47	C
ATOM	7787	O3*	A Q 132	-11.286	67.787	39.904	1.00	58.87	O
ATOM	7788	C2*	A Q 132	-9.792	66.073	40.786	1.00	60.64	C
ATOM	7789	O2*	A Q 132	-10.597	66.006	41.953	1.00	60.97	O
ATOM	7790	C1*	A Q 132	-9.467	64.692	40.224	1.00	60.38	C
ATOM	7791	N9	A Q 132	-8.257	64.682	39.397	1.00	60.27	N
ATOM	7792	C8	A Q 132	-8.178	64.688	38.027	1.00	60.76	C
ATOM	7793	N7	A Q 132	-6.951	64.678	37.549	1.00	60.77	N

ATOM	7794	C5	A Q 132	-6.172	64.676	38.680	1.00	59.77	C
ATOM	7795	C6	A Q 132	-4.781	64.665	38.839	1.00	60.15	C
ATOM	7796	N6	A Q 132	-3.928	64.664	37.811	1.00	59.90	N
ATOM	7797	N1	A Q 132	-4.314	64.658	40.102	1.00	60.52	N
ATOM	7798	C2	A Q 132	-5.189	64.664	41.123	1.00	60.47	C
ATOM	7799	N3	A Q 132	-6.522	64.678	41.086	1.00	60.20	N
ATOM	7800	C4	A Q 132	-6.953	64.679	39.823	1.00	59.78	C
ATOM	7801	P	G Q 133	-10.702	69.233	39.556	1.00	59.34	P
ATOM	7802	O1P	G Q 133	-11.824	70.177	39.747	1.00	58.88	O
ATOM	7803	O2P	G Q 133	-10.007	69.202	38.249	1.00	59.27	O
ATOM	7804	O5*	G Q 133	-9.586	69.447	40.681	1.00	58.46	O
ATOM	7805	C5*	G Q 133	-9.948	69.787	42.007	1.00	57.84	C
ATOM	7806	C4*	G Q 133	-8.766	69.632	42.940	1.00	57.29	C
ATOM	7807	O4*	G Q 133	-8.151	68.341	42.703	1.00	57.30	O
ATOM	7808	C3*	G Q 133	-7.608	70.603	42.744	1.00	56.89	C
ATOM	7809	O3*	G Q 133	-7.855	71.895	43.290	1.00	56.89	O
ATOM	7810	C2*	G Q 133	-6.513	69.854	43.495	1.00	57.01	C
ATOM	7811	O2*	G Q 133	-6.597	69.930	44.908	1.00	56.50	O
ATOM	7812	C1*	G Q 133	-6.762	68.444	42.974	1.00	57.02	C
ATOM	7813	N9	G Q 133	-5.979	68.225	41.766	1.00	57.10	N
ATOM	7814	C8	G Q 133	-6.373	68.265	40.444	1.00	57.06	C
ATOM	7815	N7	G Q 133	-5.391	68.038	39.607	1.00	57.15	N
ATOM	7816	C5	G Q 133	-4.283	67.858	40.429	1.00	57.02	C
ATOM	7817	C6	G Q 133	-2.928	67.580	40.113	1.00	57.55	C
ATOM	7818	O6	G Q 133	-2.411	67.430	38.992	1.00	57.46	O
ATOM	7819	N1	G Q 133	-2.139	67.472	41.267	1.00	57.29	N
ATOM	7820	C2	G Q 133	-2.589	67.612	42.561	1.00	57.06	C
ATOM	7821	N2	G Q 133	-1.673	67.477	43.533	1.00	56.54	N
ATOM	7822	N3	G Q 133	-3.858	67.867	42.868	1.00	57.42	N
ATOM	7823	C4	G Q 133	-4.634	67.973	41.758	1.00	56.99	C
ATOM	7824	P	U Q 134	-7.387	73.225	42.529	1.00	57.39	P
ATOM	7825	O1P	U Q 134	-8.033	74.388	43.186	1.00	56.65	O
ATOM	7826	O2P	U Q 134	-7.568	73.014	41.074	1.00	56.86	O
ATOM	7827	O5*	U Q 134	-5.816	73.300	42.812	1.00	58.11	O
ATOM	7828	C5*	U Q 134	-5.255	73.320	44.119	1.00	59.46	C
ATOM	7829	C4*	U Q 134	-3.829	72.791	44.082	1.00	60.44	C
ATOM	7830	O4*	U Q 134	-3.799	71.516	43.384	1.00	61.03	O
ATOM	7831	C3*	U Q 134	-2.814	73.630	43.321	1.00	61.07	C
ATOM	7832	O3*	U Q 134	-2.327	74.694	44.115	1.00	62.90	O
ATOM	7833	C2*	U Q 134	-1.736	72.590	43.050	1.00	61.29	C
ATOM	7834	O2*	U Q 134	-0.912	72.314	44.170	1.00	60.91	O
ATOM	7835	C1*	U Q 134	-2.577	71.368	42.693	1.00	61.08	C
ATOM	7836	N1	U Q 134	-2.778	71.224	41.208	1.00	61.16	N
ATOM	7837	C2	U Q 134	-1.689	70.794	40.474	1.00	60.97	C
ATOM	7838	O2	U Q 134	-0.617	70.537	40.987	1.00	60.49	O
ATOM	7839	N3	U Q 134	-1.893	70.674	39.123	1.00	60.79	N
ATOM	7840	C4	U Q 134	-3.061	70.938	38.431	1.00	61.45	C
ATOM	7841	O4	U Q 134	-3.088	70.783	37.211	1.00	61.51	O
ATOM	7842	C5	U Q 134	-4.160	71.392	39.256	1.00	61.05	C
ATOM	7843	C6	U Q 134	-3.980	71.514	40.583	1.00	60.86	C
ATOM	7844	P	G Q 135	-1.650	75.992	43.459	1.00	64.70	P
ATOM	7845	O1P	G Q 135	-1.360	76.940	44.559	1.00	64.21	O
ATOM	7846	O2P	G Q 135	-2.487	76.431	42.319	1.00	64.45	O
ATOM	7847	O5*	G Q 135	-0.283	75.430	42.855	1.00	65.68	O
ATOM	7848	C5*	G Q 135	0.817	75.160	43.703	1.00	67.62	C
ATOM	7849	C4*	G Q 135	2.044	74.762	42.901	1.00	68.83	C
ATOM	7850	O4*	G Q 135	1.827	73.561	42.116	1.00	69.05	O
ATOM	7851	C3*	G Q 135	2.478	75.753	41.835	1.00	69.60	C
ATOM	7852	O3*	G Q 135	3.007	76.939	42.414	1.00	70.40	O

ATOM	7853	C2*	G Q 135	3.498	74.898	41.090	1.00	69.93	C
ATOM	7854	O2*	G Q 135	4.731	74.699	41.760	1.00	69.73	O
ATOM	7855	C1*	G Q 135	2.716	73.589	41.008	1.00	70.35	C
ATOM	7856	N9	G Q 135	1.988	73.466	39.744	1.00	70.76	N
ATOM	7857	C8	G Q 135	0.639	73.593	39.500	1.00	70.92	C
ATOM	7858	N7	G Q 135	0.320	73.426	38.244	1.00	70.95	N
ATOM	7859	C5	G Q 135	1.535	73.175	37.611	1.00	71.10	C
ATOM	7860	C6	G Q 135	1.846	72.910	36.249	1.00	71.14	C
ATOM	7861	O6	G Q 135	1.082	72.838	35.275	1.00	71.20	O
ATOM	7862	N1	G Q 135	3.212	72.709	36.047	1.00	71.17	N
ATOM	7863	C2	G Q 135	4.177	72.757	37.031	1.00	71.25	C
ATOM	7864	N2	G Q 135	5.450	72.536	36.657	1.00	70.86	N
ATOM	7865	N3	G Q 135	3.896	73.000	38.308	1.00	71.63	N
ATOM	7866	C4	G Q 135	2.567	73.199	38.524	1.00	71.20	C
ATOM	7867	P	U Q 136	2.641	78.374	41.804	1.00	72.00	P
ATOM	7868	O1P	U Q 136	2.748	79.387	42.882	1.00	71.29	O
ATOM	7869	O2P	U Q 136	1.375	78.305	41.045	1.00	72.07	O
ATOM	7870	O5*	U Q 136	3.816	78.549	40.744	1.00	71.88	O
ATOM	7871	C5*	U Q 136	4.294	79.846	40.508	1.00	73.05	C
ATOM	7872	C4*	U Q 136	5.421	80.136	41.480	1.00	73.36	C
ATOM	7873	O4*	U Q 136	6.473	79.132	41.357	1.00	73.67	O
ATOM	7874	C3*	U Q 136	6.124	81.465	41.261	1.00	73.47	C
ATOM	7875	O3*	U Q 136	5.313	82.566	41.738	1.00	73.54	O
ATOM	7876	C2*	U Q 136	7.454	81.137	41.949	1.00	73.64	C
ATOM	7877	O2*	U Q 136	7.405	80.943	43.350	1.00	73.74	O
ATOM	7878	C1*	U Q 136	7.727	79.789	41.289	1.00	73.70	C
ATOM	7879	N1	U Q 136	8.232	79.899	39.859	1.00	73.93	N
ATOM	7880	C2	U Q 136	9.576	80.145	39.643	1.00	73.94	C
ATOM	7881	O2	U Q 136	10.395	80.272	40.542	1.00	73.76	O
ATOM	7882	N3	U Q 136	9.935	80.236	38.315	1.00	73.93	N
ATOM	7883	C4	U Q 136	9.120	80.117	37.196	1.00	73.82	C
ATOM	7884	O4	U Q 136	9.584	80.218	36.064	1.00	73.62	O
ATOM	7885	C5	U Q 136	7.738	79.866	37.493	1.00	73.81	C
ATOM	7886	C6	U Q 136	7.367	79.772	38.776	1.00	73.99	C
ATOM	7887	P	G Q 137	5.353	83.240	43.190	1.00	73.69	P
ATOM	7888	O1P	G Q 137	5.430	82.178	44.218	1.00	73.30	O
ATOM	7889	O2P	G Q 137	4.272	84.254	43.247	1.00	73.39	O
ATOM	7890	O5*	G Q 137	6.743	84.010	43.147	1.00	73.24	O
ATOM	7891	C5*	G Q 137	6.854	85.132	42.301	1.00	73.09	C
ATOM	7892	C4*	G Q 137	8.286	85.608	42.275	1.00	72.94	C
ATOM	7893	O4*	G Q 137	9.210	84.497	42.069	1.00	72.79	O
ATOM	7894	C3*	G Q 137	8.598	86.549	41.126	1.00	72.73	C
ATOM	7895	O3*	G Q 137	7.951	87.820	41.300	1.00	72.12	O
ATOM	7896	C2*	G Q 137	10.128	86.421	41.164	1.00	72.80	C
ATOM	7897	O2*	G Q 137	10.781	86.891	42.326	1.00	73.01	O
ATOM	7898	C1*	G Q 137	10.198	84.897	41.131	1.00	72.87	C
ATOM	7899	N9	G Q 137	9.903	84.367	39.797	1.00	72.91	N
ATOM	7900	C8	G Q 137	8.797	83.651	39.390	1.00	72.96	C
ATOM	7901	N7	G Q 137	8.808	83.335	38.125	1.00	72.97	N
ATOM	7902	C5	G Q 137	9.993	83.883	37.656	1.00	73.03	C
ATOM	7903	C6	G Q 137	10.551	83.866	36.353	1.00	73.08	C
ATOM	7904	O6	G Q 137	10.084	83.343	35.328	1.00	72.95	O
ATOM	7905	N1	G Q 137	11.773	84.540	36.309	1.00	72.89	N
ATOM	7906	C2	G Q 137	12.382	85.153	37.382	1.00	72.86	C
ATOM	7907	N2	G Q 137	13.558	85.749	37.141	1.00	72.96	N
ATOM	7908	N3	G Q 137	11.866	85.181	38.605	1.00	72.82	N
ATOM	7909	C4	G Q 137	10.676	84.527	38.669	1.00	73.04	C
ATOM	7910	P	A Q 138	8.582	89.112	41.995	1.00	72.17	P
ATOM	7911	O1P	A Q 138	9.140	88.672	43.294	1.00	72.06	O

ATOM	7912	O2P	A Q 138	7.546	90.170	41.948	1.00	71.60	O
ATOM	7913	O5*	A Q 138	9.783	89.532	41.019	1.00	71.28	O
ATOM	7914	C5*	A Q 138	10.987	90.100	41.520	1.00	70.68	C
ATOM	7915	C4*	A Q 138	11.938	90.388	40.377	1.00	70.49	C
ATOM	7916	O4*	A Q 138	12.257	89.163	39.672	1.00	69.91	O
ATOM	7917	C3*	A Q 138	11.369	91.297	39.301	1.00	70.48	C
ATOM	7918	O3*	A Q 138	11.465	92.660	39.695	1.00	71.02	O
ATOM	7919	C2*	A Q 138	12.255	90.943	38.115	1.00	70.21	C
ATOM	7920	O2*	A Q 138	13.503	91.610	38.150	1.00	70.34	O
ATOM	7921	C1*	A Q 138	12.412	89.431	38.285	1.00	69.66	C
ATOM	7922	N9	A Q 138	11.451	88.625	37.514	1.00	69.56	N
ATOM	7923	C8	A Q 138	10.233	88.148	37.929	1.00	69.36	C
ATOM	7924	N7	A Q 138	9.585	87.445	37.028	1.00	69.27	N
ATOM	7925	C5	A Q 138	10.429	87.458	35.934	1.00	69.36	C
ATOM	7926	C6	A Q 138	10.320	86.888	34.647	1.00	69.27	C
ATOM	7927	N6	A Q 138	9.265	86.175	34.246	1.00	69.11	N
ATOM	7928	N1	A Q 138	11.343	87.085	33.788	1.00	69.35	N
ATOM	7929	C2	A Q 138	12.402	87.807	34.187	1.00	69.15	C
ATOM	7930	N3	A Q 138	12.620	88.386	35.371	1.00	69.12	N
ATOM	7931	C4	A Q 138	11.585	88.178	36.212	1.00	69.42	C
ATOM	7932	P	U Q 139	10.488	93.758	39.062	1.00	71.84	P
ATOM	7933	O1P	U Q 139	10.834	95.067	39.663	1.00	72.08	O
ATOM	7934	O2P	U Q 139	9.095	93.262	39.134	1.00	71.08	O
ATOM	7935	O5*	U Q 139	10.960	93.807	37.534	1.00	72.96	O
ATOM	7936	C5*	U Q 139	12.114	94.560	37.149	1.00	74.04	C
ATOM	7937	C4*	U Q 139	12.522	94.262	35.716	1.00	74.71	C
ATOM	7938	O4*	U Q 139	12.643	92.831	35.487	1.00	74.87	O
ATOM	7939	C3*	U Q 139	11.522	94.707	34.661	1.00	75.29	C
ATOM	7940	O3*	U Q 139	11.582	96.111	34.434	1.00	76.35	O
ATOM	7941	C2*	U Q 139	11.985	93.870	33.474	1.00	75.25	C
ATOM	7942	O2*	U Q 139	13.163	94.363	32.863	1.00	75.07	O
ATOM	7943	C1*	U Q 139	12.217	92.524	34.165	1.00	75.03	C
ATOM	7944	N1	U Q 139	10.992	91.615	34.184	1.00	74.83	N
ATOM	7945	C2	U Q 139	10.789	90.726	33.143	1.00	74.82	C
ATOM	7946	O2	U Q 139	11.545	90.623	32.196	1.00	74.99	O
ATOM	7947	N3	U Q 139	9.659	89.945	33.242	1.00	74.96	N
ATOM	7948	C4	U Q 139	8.716	89.955	34.256	1.00	74.94	C
ATOM	7949	O4	U Q 139	7.753	89.194	34.210	1.00	74.94	O
ATOM	7950	C5	U Q 139	8.981	90.903	35.307	1.00	74.92	C
ATOM	7951	C6	U Q 139	10.078	91.673	35.227	1.00	74.87	C
ATOM	7952	P	G Q 140	10.242	96.900	34.048	1.00	77.73	P
ATOM	7953	O1P	G Q 140	10.557	98.347	33.945	1.00	76.96	O
ATOM	7954	O2P	G Q 140	9.172	96.442	34.966	1.00	77.07	O
ATOM	7955	O5*	G Q 140	9.933	96.343	32.577	1.00	78.05	O
ATOM	7956	C5*	G Q 140	10.599	96.862	31.426	1.00	78.84	C
ATOM	7957	C4*	G Q 140	10.193	96.111	30.169	1.00	79.08	C
ATOM	7958	O4*	G Q 140	10.444	94.693	30.352	1.00	79.18	O
ATOM	7959	C3*	G Q 140	8.717	96.178	29.790	1.00	79.42	C
ATOM	7960	O3*	G Q 140	8.375	97.394	29.118	1.00	79.56	O
ATOM	7961	C2*	G Q 140	8.613	94.951	28.891	1.00	79.53	C
ATOM	7962	O2*	G Q 140	9.168	95.143	27.604	1.00	79.84	O
ATOM	7963	C1*	G Q 140	9.428	93.946	29.702	1.00	79.35	C
ATOM	7964	N9	G Q 140	8.607	93.235	30.683	1.00	79.34	N
ATOM	7965	C8	G Q 140	8.525	93.446	32.042	1.00	79.29	C
ATOM	7966	N7	G Q 140	7.691	92.652	32.651	1.00	79.24	N
ATOM	7967	C5	G Q 140	7.182	91.867	31.631	1.00	79.26	C
ATOM	7968	C6	G Q 140	6.234	90.824	31.683	1.00	79.25	C
ATOM	7969	O6	G Q 140	5.639	90.385	32.677	1.00	79.24	O
ATOM	7970	N1	G Q 140	5.996	90.282	30.419	1.00	79.27	N

ATOM	7971	C2	G Q	140	6.593	90.696	29.248	1.00	79.17	C
ATOM	7972	N2	G Q	140	6.235	90.056	28.126	1.00	79.18	N
ATOM	7973	N3	G Q	140	7.487	91.674	29.190	1.00	79.29	N
ATOM	7974	C4	G Q	140	7.731	92.211	30.414	1.00	79.34	C
ATOM	7975	P	A Q	141	6.842	97.829	28.929	1.00	79.84	P
ATOM	7976	O1P	A Q	141	6.834	99.215	28.404	1.00	79.26	O
ATOM	7977	O2P	A Q	141	6.111	97.506	30.175	1.00	79.62	O
ATOM	7978	O5*	A Q	141	6.322	96.839	27.780	1.00	79.47	O
ATOM	7979	C5*	A Q	141	6.621	97.038	26.395	1.00	79.26	C
ATOM	7980	C4*	A Q	141	5.693	96.221	25.509	1.00	78.83	C
ATOM	7981	O4*	A Q	141	5.566	94.899	26.083	1.00	78.56	O
ATOM	7982	C3*	A Q	141	4.280	96.783	25.350	1.00	78.59	C
ATOM	7983	O3*	A Q	141	3.887	96.818	23.975	1.00	78.29	O
ATOM	7984	C2*	A Q	141	3.394	95.856	26.181	1.00	78.36	C
ATOM	7985	O2*	A Q	141	2.159	95.573	25.552	1.00	78.27	O
ATOM	7986	C1*	A Q	141	4.216	94.580	26.326	1.00	78.41	C
ATOM	7987	N9	A Q	141	4.119	93.980	27.655	1.00	78.31	N
ATOM	7988	C8	A Q	141	4.594	94.468	28.841	1.00	78.25	C
ATOM	7989	N7	A Q	141	4.353	93.697	29.873	1.00	78.03	N
ATOM	7990	C5	A Q	141	3.670	92.628	29.325	1.00	78.09	C
ATOM	7991	C6	A Q	141	3.123	91.453	29.885	1.00	78.37	C
ATOM	7992	N6	A Q	141	3.186	91.157	31.188	1.00	78.35	N
ATOM	7993	N1	A Q	141	2.501	90.586	29.052	1.00	78.34	N
ATOM	7994	C2	A Q	141	2.429	90.875	27.745	1.00	78.29	C
ATOM	7995	N3	A Q	141	2.904	91.947	27.108	1.00	78.39	N
ATOM	7996	C4	A Q	141	3.517	92.788	27.960	1.00	78.14	C
TER	7997		A Q	141						
ATOM	7998	N	PRO C	8	10.477	85.111	53.693	1.00	70.44	N
ATOM	7999	CA	PRO C	8	10.304	84.945	55.147	1.00	69.98	C
ATOM	8000	C	PRO C	8	9.581	83.638	55.475	1.00	67.58	C
ATOM	8001	O	PRO C	8	8.486	83.395	54.943	1.00	67.75	O
ATOM	8002	CB	PRO C	8	9.454	86.165	55.549	1.00	70.86	C
ATOM	8003	CG	PRO C	8	9.802	87.217	54.549	1.00	71.22	C
ATOM	8004	CD	PRO C	8	10.152	86.480	53.248	1.00	71.72	C
ATOM	8005	N	ASN C	9	10.187	82.821	56.338	1.00	62.39	N
ATOM	8006	CA	ASN C	9	9.772	81.433	56.534	1.00	59.48	C
ATOM	8007	C	ASN C	9	9.882	81.013	57.999	1.00	57.60	C
ATOM	8008	O	ASN C	9	10.626	81.623	58.765	1.00	57.93	O
ATOM	8009	CB	ASN C	9	10.640	80.521	55.656	1.00	58.73	C
ATOM	8010	CG	ASN C	9	10.010	79.156	55.414	1.00	58.23	C
ATOM	8011	OD1	ASN C	9	9.903	78.333	56.325	1.00	58.01	O
ATOM	8012	ND2	ASN C	9	9.605	78.907	54.175	1.00	57.58	N
ATOM	8013	N	HIS C	10	9.136	79.974	58.382	1.00	55.00	N
ATOM	8014	CA	HIS C	10	9.210	79.407	59.738	1.00	52.06	C
ATOM	8015	C	HIS C	10	10.566	78.762	59.998	1.00	50.04	C
ATOM	8016	O	HIS C	10	11.079	78.788	61.127	1.00	48.12	O
ATOM	8017	CB	HIS C	10	8.124	78.354	59.945	1.00	51.92	C
ATOM	8018	CG	HIS C	10	6.735	78.906	59.929	1.00	52.34	C
ATOM	8019	ND1	HIS C	10	5.981	78.993	58.778	1.00	52.70	N
ATOM	8020	CD2	HIS C	10	5.960	79.395	60.925	1.00	52.35	C
ATOM	8021	CE1	HIS C	10	4.802	79.516	59.065	1.00	52.56	C
ATOM	8022	NE2	HIS C	10	4.764	79.770	60.361	1.00	52.52	N
ATOM	8023	N	THR C	11	11.133	78.177	58.944	1.00	48.29	N
ATOM	8024	CA	THR C	11	12.424	77.497	59.025	1.00	46.30	C
ATOM	8025	C	THR C	11	13.538	78.403	58.515	1.00	44.07	C
ATOM	8026	O	THR C	11	13.371	79.071	57.495	1.00	45.04	O
ATOM	8027	CB	THR C	11	12.436	76.195	58.188	1.00	44.84	C
ATOM	8028	OG1	THR C	11	11.249	75.439	58.445	1.00	43.59	O
ATOM	8029	CG2	THR C	11	13.659	75.351	58.525	1.00	44.74	C

ATOM	8030	N	ILE	C	12	14.665	78.422	59.224	1.00	42.10	N
ATOM	8031	CA	ILE	C	12	15.865	79.108	58.737	1.00	40.70	C
ATOM	8032	C	ILE	C	12	16.887	78.089	58.237	1.00	40.14	C
ATOM	8033	O	ILE	C	12	17.154	77.079	58.897	1.00	38.92	O
ATOM	8034	CB	ILE	C	12	16.501	80.060	59.795	1.00	39.84	C
ATOM	8035	CG1	ILE	C	12	16.899	79.329	61.076	1.00	39.16	C
ATOM	8036	CG2	ILE	C	12	15.544	81.190	60.138	1.00	38.84	C
ATOM	8037	CD1	ILE	C	12	17.829	80.150	61.959	1.00	40.13	C
ATOM	8038	N	TYR	C	13	17.426	78.353	57.049	1.00	41.60	N
ATOM	8039	CA	TYR	C	13	18.427	77.489	56.443	1.00	41.93	C
ATOM	8040	C	TYR	C	13	19.820	77.952	56.838	1.00	41.67	C
ATOM	8041	O	TYR	C	13	20.330	78.957	56.315	1.00	39.61	O
ATOM	8042	CB	TYR	C	13	18.299	77.478	54.927	1.00	44.08	C
ATOM	8043	CG	TYR	C	13	19.435	76.738	54.239	1.00	44.99	C
ATOM	8044	CD1	TYR	C	13	19.557	75.351	54.341	1.00	45.26	C
ATOM	8045	CD2	TYR	C	13	20.387	77.424	53.489	1.00	45.20	C
ATOM	8046	CE1	TYR	C	13	20.605	74.660	53.712	1.00	45.58	C
ATOM	8047	CE2	TYR	C	13	21.431	76.751	52.856	1.00	45.93	C
ATOM	8048	CZ	TYR	C	13	21.536	75.367	52.970	1.00	46.07	C
ATOM	8049	OH	TYR	C	13	22.573	74.708	52.338	1.00	45.65	O
ATOM	8050	N	ILE	C	14	20.430	77.207	57.759	1.00	41.31	N
ATOM	8051	CA	ILE	C	14	21.792	77.481	58.188	1.00	42.00	C
ATOM	8052	C	ILE	C	14	22.762	76.683	57.317	1.00	42.70	C
ATOM	8053	O	ILE	C	14	22.546	75.485	57.090	1.00	44.27	O
ATOM	8054	CB	ILE	C	14	22.035	77.081	59.665	1.00	41.72	C
ATOM	8055	CG1	ILE	C	14	20.917	77.602	60.579	1.00	40.93	C
ATOM	8056	CG2	ILE	C	14	23.393	77.606	60.127	1.00	41.47	C
ATOM	8057	CD1	ILE	C	14	21.165	77.330	62.040	1.00	40.59	C
ATOM	8058	N	ASN	C	15	23.817	77.341	56.832	1.00	41.97	N
ATOM	8059	CA	ASN	C	15	24.969	76.628	56.261	1.00	42.52	C
ATOM	8060	C	ASN	C	15	26.335	77.249	56.634	1.00	42.88	C
ATOM	8061	O	ASN	C	15	26.419	78.035	57.588	1.00	42.50	O
ATOM	8062	CB	ASN	C	15	24.787	76.375	54.755	1.00	42.68	C
ATOM	8063	CG	ASN	C	15	24.896	77.621	53.914	1.00	42.57	C
ATOM	8064	OD1	ASN	C	15	25.396	77.565	52.796	1.00	42.87	O
ATOM	8065	ND2	ASN	C	15	24.394	78.734	54.417	1.00	42.17	N
ATOM	8066	N	ASN	C	16	27.402	76.862	55.934	1.00	42.43	N
ATOM	8067	CA	ASN	C	16	28.767	77.076	56.441	1.00	43.37	C
ATOM	8068	C	ASN	C	16	28.896	76.696	57.938	1.00	43.35	C
ATOM	8069	O	ASN	C	16	29.454	77.445	58.743	1.00	44.36	O
ATOM	8070	CB	ASN	C	16	29.238	78.525	56.191	1.00	44.33	C
ATOM	8071	CG	ASN	C	16	30.751	78.723	56.438	1.00	44.23	C
ATOM	8072	OD1	ASN	C	16	31.546	77.786	56.326	1.00	44.69	O
ATOM	8073	ND2	ASN	C	16	31.142	79.953	56.770	1.00	45.30	N
ATOM	8074	N	LEU	C	17	28.371	75.525	58.296	1.00	44.30	N
ATOM	8075	CA	LEU	C	17	28.566	74.945	59.633	1.00	43.87	C
ATOM	8076	C	LEU	C	17	29.810	74.040	59.661	1.00	43.35	C
ATOM	8077	O	LEU	C	17	30.209	73.474	58.643	1.00	42.22	O
ATOM	8078	CB	LEU	C	17	27.312	74.160	60.065	1.00	44.20	C
ATOM	8079	CG	LEU	C	17	26.026	74.991	60.277	1.00	44.81	C
ATOM	8080	CD1	LEU	C	17	24.767	74.121	60.346	1.00	44.03	C
ATOM	8081	CD2	LEU	C	17	26.125	75.857	61.529	1.00	43.93	C
ATOM	8082	N	ASN	C	18	30.428	73.916	60.829	1.00	43.55	N
ATOM	8083	CA	ASN	C	18	31.568	73.019	60.992	1.00	43.66	C
ATOM	8084	C	ASN	C	18	31.118	71.589	60.776	1.00	44.17	C
ATOM	8085	O	ASN	C	18	30.184	71.130	61.427	1.00	43.74	O
ATOM	8086	CB	ASN	C	18	32.178	73.151	62.390	1.00	43.67	C
ATOM	8087	CG	ASN	C	18	33.546	72.485	62.510	1.00	43.41	C
ATOM	8088	OD1	ASN	C	18	33.932	71.642	61.691	1.00	43.72	O

ATOM	8089	ND2	ASN	C	18	34.288	72.868	63.545	1.00	43.77	N
ATOM	8090	N	GLU	C	19	31.808	70.885	59.881	1.00	45.66	N
ATOM	8091	CA	GLU	C	19	31.400	69.542	59.450	1.00	45.73	C
ATOM	8092	C	GLU	C	19	31.964	68.381	60.275	1.00	45.80	C
ATOM	8093	O	GLU	C	19	31.459	67.266	60.166	1.00	45.74	O
ATOM	8094	CB	GLU	C	19	31.775	69.330	57.983	1.00	45.38	C
ATOM	8095	CG	GLU	C	19	31.220	70.400	57.053	1.00	45.41	C
ATOM	8096	CD	GLU	C	19	31.639	70.191	55.622	1.00	45.50	C
ATOM	8097	OE1	GLU	C	19	32.686	69.544	55.399	1.00	44.18	O
ATOM	8098	OE2	GLU	C	19	30.915	70.680	54.727	1.00	45.29	O
ATOM	8099	N	LYS	C	20	32.990	68.621	61.090	1.00	45.80	N
ATOM	8100	CA	LYS	C	20	33.532	67.558	61.946	1.00	47.01	C
ATOM	8101	C	LYS	C	20	32.749	67.368	63.257	1.00	46.49	C
ATOM	8102	O	LYS	C	20	33.173	66.600	64.124	1.00	45.12	O
ATOM	8103	CB	LYS	C	20	35.022	67.793	62.228	1.00	49.26	C
ATOM	8104	CG	LYS	C	20	35.888	67.731	60.960	1.00	50.53	C
ATOM	8105	CD	LYS	C	20	37.247	67.079	61.197	1.00	50.90	C
ATOM	8106	CE	LYS	C	20	38.292	68.082	61.649	1.00	51.49	C
ATOM	8107	NZ	LYS	C	20	39.506	67.399	62.188	1.00	51.48	N
ATOM	8108	N	ILE	C	21	31.609	68.056	63.389	1.00	46.31	N
ATOM	8109	CA	ILE	C	21	30.730	67.930	64.561	1.00	46.45	C
ATOM	8110	C	ILE	C	21	29.662	66.862	64.319	1.00	47.01	C
ATOM	8111	O	ILE	C	21	28.949	66.916	63.321	1.00	48.04	O
ATOM	8112	CB	ILE	C	21	30.038	69.287	64.905	1.00	45.28	C
ATOM	8113	CG1	ILE	C	21	31.090	70.344	65.277	1.00	45.63	C
ATOM	8114	CG2	ILE	C	21	29.016	69.132	66.035	1.00	43.44	C
ATOM	8115	CD1	ILE	C	21	32.025	69.945	66.428	1.00	44.80	C
ATOM	8116	N	LYS	C	22	29.549	65.900	65.232	1.00	47.75	N
ATOM	8117	CA	LYS	C	22	28.501	64.887	65.142	1.00	48.53	C
ATOM	8118	C	LYS	C	22	27.115	65.533	65.093	1.00	49.93	C
ATOM	8119	O	LYS	C	22	26.916	66.639	65.603	1.00	48.30	O
ATOM	8120	CB	LYS	C	22	28.585	63.899	66.310	1.00	49.01	C
ATOM	8121	CG	LYS	C	22	29.522	62.716	66.061	1.00	49.22	C
ATOM	8122	CD	LYS	C	22	30.875	62.875	66.721	1.00	49.95	C
ATOM	8123	CE	LYS	C	22	30.788	62.724	68.235	1.00	50.35	C
ATOM	8124	NZ	LYS	C	22	32.083	62.268	68.809	1.00	50.96	N
ATOM	8125	N	LYS	C	23	26.163	64.836	64.470	1.00	52.24	N
ATOM	8126	CA	LYS	C	23	24.844	65.416	64.204	1.00	54.45	C
ATOM	8127	C	LYS	C	23	24.040	65.591	65.488	1.00	53.42	C
ATOM	8128	O	LYS	C	23	23.160	66.444	65.562	1.00	55.14	O
ATOM	8129	CB	LYS	C	23	24.066	64.610	63.141	1.00	55.99	C
ATOM	8130	CG	LYS	C	23	23.291	63.385	63.624	1.00	57.18	C
ATOM	8131	CD	LYS	C	23	22.381	62.849	62.506	1.00	57.72	C
ATOM	8132	CE	LYS	C	23	21.896	61.419	62.760	1.00	58.22	C
ATOM	8133	NZ	LYS	C	23	21.074	61.271	63.994	1.00	59.10	N
ATOM	8134	N	ASP	C	24	24.358	64.798	66.502	1.00	53.16	N
ATOM	8135	CA	ASP	C	24	23.737	64.957	67.804	1.00	52.60	C
ATOM	8136	C	ASP	C	24	24.275	66.242	68.437	1.00	49.70	C
ATOM	8137	O	ASP	C	24	23.498	67.122	68.808	1.00	49.27	O
ATOM	8138	CB	ASP	C	24	24.019	63.735	68.691	1.00	55.30	C
ATOM	8139	CG	ASP	C	24	22.798	63.290	69.488	1.00	56.66	C
ATOM	8140	OD1	ASP	C	24	22.607	62.057	69.640	1.00	57.32	O
ATOM	8141	OD2	ASP	C	24	22.033	64.167	69.957	1.00	57.51	O
ATOM	8142	N	GLU	C	25	25.603	66.342	68.537	1.00	46.42	N
ATOM	8143	CA	GLU	C	25	26.285	67.548	69.039	1.00	44.82	C
ATOM	8144	C	GLU	C	25	25.721	68.827	68.431	1.00	43.43	C
ATOM	8145	O	GLU	C	25	25.324	69.754	69.143	1.00	43.17	O
ATOM	8146	CB	GLU	C	25	27.793	67.512	68.715	1.00	44.39	C
ATOM	8147	CG	GLU	C	25	28.712	67.201	69.886	1.00	44.94	C

ATOM	8148	CD	GLU	C	25	30.025	67.988	69.837	1.00	45.53	C
ATOM	8149	OE1	GLU	C	25	31.110	67.356	69.744	1.00	44.27	O
ATOM	8150	OE2	GLU	C	25	29.962	69.244	69.913	1.00	45.83	O
ATOM	8151	N	LEU	C	26	25.714	68.857	67.103	1.00	41.08	N
ATOM	8152	CA	LEU	C	26	25.327	70.028	66.346	1.00	40.73	C
ATOM	8153	C	LEU	C	26	23.896	70.468	66.680	1.00	42.69	C
ATOM	8154	O	LEU	C	26	23.619	71.667	66.793	1.00	42.40	O
ATOM	8155	CB	LEU	C	26	25.458	69.718	64.858	1.00	40.49	C
ATOM	8156	CG	LEU	C	26	25.248	70.866	63.876	1.00	40.57	C
ATOM	8157	CD1	LEU	C	26	26.357	71.897	64.015	1.00	41.00	C
ATOM	8158	CD2	LEU	C	26	25.182	70.330	62.455	1.00	39.66	C
ATOM	8159	N	LYS	C	27	22.997	69.498	66.847	1.00	44.15	N
ATOM	8160	CA	LYS	C	27	21.575	69.785	67.099	1.00	46.51	C
ATOM	8161	C	LYS	C	27	21.347	70.523	68.419	1.00	45.72	C
ATOM	8162	O	LYS	C	27	20.620	71.521	68.459	1.00	44.90	O
ATOM	8163	CB	LYS	C	27	20.739	68.496	67.081	1.00	48.27	C
ATOM	8164	CG	LYS	C	27	20.319	68.039	65.688	1.00	48.98	C
ATOM	8165	CD	LYS	C	27	19.532	66.732	65.742	1.00	49.42	C
ATOM	8166	CE	LYS	C	27	19.148	66.264	64.345	1.00	50.05	C
ATOM	8167	NZ	LYS	C	27	18.085	65.220	64.352	1.00	51.03	N
ATOM	8168	N	LYS	C	28	21.963	70.011	69.485	1.00	45.45	N
ATOM	8169	CA	LYS	C	28	21.914	70.637	70.811	1.00	44.95	C
ATOM	8170	C	LYS	C	28	22.612	72.007	70.846	1.00	44.62	C
ATOM	8171	O	LYS	C	28	22.050	72.978	71.360	1.00	44.57	O
ATOM	8172	CB	LYS	C	28	22.540	69.715	71.871	1.00	45.88	C
ATOM	8173	CG	LYS	C	28	21.613	68.630	72.423	1.00	46.13	C
ATOM	8174	CD	LYS	C	28	21.506	67.414	71.514	1.00	46.66	C
ATOM	8175	CE	LYS	C	28	21.094	66.167	72.298	1.00	46.51	C
ATOM	8176	NZ	LYS	C	28	22.268	65.547	72.979	1.00	45.94	N
ATOM	8177	N	SER	C	29	23.830	72.073	70.304	1.00	44.21	N
ATOM	8178	CA	SER	C	29	24.604	73.326	70.244	1.00	43.95	C
ATOM	8179	C	SER	C	29	23.830	74.428	69.511	1.00	45.19	C
ATOM	8180	O	SER	C	29	23.914	75.615	69.869	1.00	45.94	O
ATOM	8181	CB	SER	C	29	25.948	73.105	69.542	1.00	43.05	C
ATOM	8182	OG	SER	C	29	26.538	71.870	69.900	1.00	42.38	O
ATOM	8183	N	LEU	C	30	23.088	74.025	68.479	1.00	44.39	N
ATOM	8184	CA	LEU	C	30	22.228	74.941	67.743	1.00	44.00	C
ATOM	8185	C	LEU	C	30	21.033	75.358	68.608	1.00	44.30	C
ATOM	8186	O	LEU	C	30	20.694	76.547	68.684	1.00	42.29	O
ATOM	8187	CB	LEU	C	30	21.753	74.299	66.429	1.00	43.41	C
ATOM	8188	CG	LEU	C	30	22.737	74.304	65.246	1.00	43.37	C
ATOM	8189	CD1	LEU	C	30	22.340	73.283	64.175	1.00	42.36	C
ATOM	8190	CD2	LEU	C	30	22.849	75.700	64.634	1.00	42.76	C
ATOM	8191	N	HIS	C	31	20.411	74.385	69.272	1.00	44.95	N
ATOM	8192	CA	HIS	C	31	19.216	74.654	70.082	1.00	46.43	C
ATOM	8193	C	HIS	C	31	19.501	75.527	71.323	1.00	46.66	C
ATOM	8194	O	HIS	C	31	18.627	76.276	71.762	1.00	45.79	O
ATOM	8195	CB	HIS	C	31	18.534	73.349	70.506	1.00	47.82	C
ATOM	8196	CG	HIS	C	31	17.145	73.543	71.034	1.00	49.00	C
ATOM	8197	ND1	HIS	C	31	16.886	73.902	72.342	1.00	49.09	N
ATOM	8198	CD2	HIS	C	31	15.940	73.449	70.424	1.00	48.84	C
ATOM	8199	CE1	HIS	C	31	15.581	74.015	72.514	1.00	48.78	C
ATOM	8200	NE2	HIS	C	31	14.985	73.745	71.366	1.00	49.14	N
ATOM	8201	N	ALA	C	32	20.708	75.433	71.883	1.00	46.50	N
ATOM	8202	CA	ALA	C	32	21.101	76.291	73.009	1.00	46.42	C
ATOM	8203	C	ALA	C	32	21.038	77.767	72.616	1.00	46.97	C
ATOM	8204	O	ALA	C	32	20.577	78.616	73.390	1.00	48.40	O
ATOM	8205	CB	ALA	C	32	22.519	75.938	73.490	1.00	46.24	C
ATOM	8206	N	ILE	C	33	21.481	78.044	71.393	1.00	47.27	N

ATOM	8207	CA	ILE	C	33	21.779	79.395	70.926	1.00	48.88	C
ATOM	8208	C	ILE	C	33	20.606	80.028	70.161	1.00	48.15	C
ATOM	8209	O	ILE	C	33	20.472	81.259	70.111	1.00	48.24	O
ATOM	8210	CB	ILE	C	33	23.048	79.356	70.035	1.00	50.71	C
ATOM	8211	CG1	ILE	C	33	24.222	78.761	70.828	1.00	51.18	C
ATOM	8212	CG2	ILE	C	33	23.404	80.742	69.516	1.00	52.33	C
ATOM	8213	CD1	ILE	C	33	25.418	78.385	69.978	1.00	50.68	C
ATOM	8214	N	PHE	C	34	19.759	79.190	69.571	1.00	47.32	N
ATOM	8215	CA	PHE	C	34	18.601	79.673	68.824	1.00	46.38	C
ATOM	8216	C	PHE	C	34	17.280	79.596	69.615	1.00	46.44	C
ATOM	8217	O	PHE	C	34	16.252	80.086	69.140	1.00	47.48	O
ATOM	8218	CB	PHE	C	34	18.483	78.911	67.497	1.00	47.01	C
ATOM	8219	CG	PHE	C	34	19.404	79.425	66.421	1.00	47.19	C
ATOM	8220	CD1	PHE	C	34	19.016	80.474	65.603	1.00	47.38	C
ATOM	8221	CD2	PHE	C	34	20.657	78.860	66.225	1.00	47.02	C
ATOM	8222	CE1	PHE	C	34	19.866	80.947	64.614	1.00	47.49	C
ATOM	8223	CE2	PHE	C	34	21.506	79.329	65.240	1.00	46.67	C
ATOM	8224	CZ	PHE	C	34	21.115	80.370	64.437	1.00	46.76	C
ATOM	8225	N	SER	C	35	17.296	79.011	70.813	1.00	44.66	N
ATOM	8226	CA	SER	C	35	16.073	78.904	71.614	1.00	45.23	C
ATOM	8227	C	SER	C	35	15.542	80.259	72.125	1.00	46.20	C
ATOM	8228	O	SER	C	35	14.349	80.379	72.431	1.00	45.78	O
ATOM	8229	CB	SER	C	35	16.261	77.936	72.790	1.00	43.66	C
ATOM	8230	OG	SER	C	35	17.406	78.251	73.566	1.00	43.08	O
ATOM	8231	N	ARG	C	36	16.412	81.268	72.211	1.00	47.90	N
ATOM	8232	CA	ARG	C	36	16.004	82.585	72.718	1.00	48.43	C
ATOM	8233	C	ARG	C	36	15.008	83.260	71.788	1.00	47.43	C
ATOM	8234	O	ARG	C	36	14.170	84.033	72.238	1.00	47.11	O
ATOM	8235	CB	ARG	C	36	17.206	83.520	72.934	1.00	49.65	C
ATOM	8236	CG	ARG	C	36	17.594	84.381	71.721	1.00	50.74	C
ATOM	8237	CD	ARG	C	36	18.233	85.713	72.125	1.00	51.02	C
ATOM	8238	NE	ARG	C	36	19.657	85.767	71.779	1.00	51.73	N
ATOM	8239	CZ	ARG	C	36	20.195	86.534	70.829	1.00	51.92	C
ATOM	8240	NH1	ARG	C	36	19.446	87.355	70.104	1.00	51.91	N
ATOM	8241	NH2	ARG	C	36	21.504	86.485	70.606	1.00	52.12	N
ATOM	8242	N	PHE	C	37	15.108	82.969	70.495	1.00	47.29	N
ATOM	8243	CA	PHE	C	37	14.305	83.657	69.486	1.00	48.20	C
ATOM	8244	C	PHE	C	37	12.844	83.217	69.467	1.00	49.46	C
ATOM	8245	O	PHE	C	37	11.990	83.938	68.949	1.00	50.80	O
ATOM	8246	CB	PHE	C	37	14.938	83.475	68.110	1.00	47.82	C
ATOM	8247	CG	PHE	C	37	16.327	84.016	68.028	1.00	48.02	C
ATOM	8248	CD1	PHE	C	37	16.543	85.387	68.072	1.00	47.83	C
ATOM	8249	CD2	PHE	C	37	17.425	83.163	67.939	1.00	48.08	C
ATOM	8250	CE1	PHE	C	37	17.828	85.900	68.011	1.00	47.72	C
ATOM	8251	CE2	PHE	C	37	18.727	83.672	67.879	1.00	47.25	C
ATOM	8252	CZ	PHE	C	37	18.924	85.036	67.920	1.00	47.68	C
ATOM	8253	N	GLY	C	38	12.567	82.043	70.035	1.00	50.07	N
ATOM	8254	CA	GLY	C	38	11.209	81.508	70.122	1.00	50.03	C
ATOM	8255	C	GLY	C	38	11.224	79.998	70.270	1.00	51.12	C
ATOM	8256	O	GLY	C	38	12.286	79.389	70.481	1.00	50.74	O
ATOM	8257	N	GLN	C	39	10.044	79.392	70.160	1.00	50.86	N
ATOM	8258	CA	GLN	C	39	9.916	77.940	70.240	1.00	50.96	C
ATOM	8259	C	GLN	C	39	10.461	77.281	68.965	1.00	50.41	C
ATOM	8260	O	GLN	C	39	10.074	77.641	67.847	1.00	49.21	O
ATOM	8261	CB	GLN	C	39	8.454	77.537	70.472	1.00	51.11	C
ATOM	8262	CG	GLN	C	39	8.218	76.026	70.583	1.00	51.45	C
ATOM	8263	CD	GLN	C	39	6.771	75.687	70.925	1.00	51.67	C
ATOM	8264	OE1	GLN	C	39	6.278	76.032	72.001	1.00	51.49	O
ATOM	8265	NE2	GLN	C	39	6.089	75.005	70.010	1.00	51.33	N

ATOM	8266	N	ILE	C	40	11.373	76.327	69.153	1.00	49.49	N
ATOM	8267	CA	ILE	C	40	11.904	75.519	68.062	1.00	48.42	C
ATOM	8268	C	ILE	C	40	11.072	74.245	67.929	1.00	48.15	C
ATOM	8269	O	ILE	C	40	10.947	73.472	68.882	1.00	46.23	O
ATOM	8270	CB	ILE	C	40	13.380	75.146	68.306	1.00	48.25	C
ATOM	8271	CG1	ILE	C	40	14.268	76.387	68.127	1.00	48.69	C
ATOM	8272	CG2	ILE	C	40	13.808	74.022	67.365	1.00	48.09	C
ATOM	8273	CD1	ILE	C	40	15.772	76.125	68.261	1.00	48.81	C
ATOM	8274	N	LEU	C	41	10.493	74.041	66.749	1.00	48.96	N
ATOM	8275	CA	LEU	C	41	9.704	72.839	66.479	1.00	49.99	C
ATOM	8276	C	LEU	C	41	10.631	71.650	66.248	1.00	50.72	C
ATOM	8277	O	LEU	C	41	10.421	70.586	66.834	1.00	50.56	O
ATOM	8278	CB	LEU	C	41	8.766	73.048	65.281	1.00	49.51	C
ATOM	8279	CG	LEU	C	41	7.776	74.214	65.421	1.00	49.60	C
ATOM	8280	CD1	LEU	C	41	6.905	74.335	64.174	1.00	49.07	C
ATOM	8281	CD2	LEU	C	41	6.911	74.059	66.674	1.00	49.14	C
ATOM	8282	N	ASP	C	42	11.651	71.838	65.403	1.00	51.18	N
ATOM	8283	CA	ASP	C	42	12.697	70.831	65.208	1.00	51.63	C
ATOM	8284	C	ASP	C	42	13.931	71.386	64.480	1.00	50.38	C
ATOM	8285	O	ASP	C	42	13.843	72.340	63.706	1.00	49.77	O
ATOM	8286	CB	ASP	C	42	12.160	69.614	64.436	1.00	53.66	C
ATOM	8287	CG	ASP	C	42	12.961	68.334	64.715	1.00	55.07	C
ATOM	8288	OD1	ASP	C	42	13.299	68.071	65.896	1.00	55.10	O
ATOM	8289	OD2	ASP	C	42	13.241	67.583	63.751	1.00	55.63	O
ATOM	8290	N	ILE	C	43	15.077	70.765	64.753	1.00	48.76	N
ATOM	8291	CA	ILE	C	43	16.333	71.057	64.081	1.00	47.37	C
ATOM	8292	C	ILE	C	43	16.724	69.821	63.275	1.00	46.93	C
ATOM	8293	O	ILE	C	43	17.000	68.763	63.850	1.00	46.35	O
ATOM	8294	CB	ILE	C	43	17.447	71.381	65.094	1.00	46.67	C
ATOM	8295	CG1	ILE	C	43	17.029	72.575	65.953	1.00	46.76	C
ATOM	8296	CG2	ILE	C	43	18.785	71.634	64.367	1.00	46.63	C
ATOM	8297	CD1	ILE	C	43	18.107	73.093	66.890	1.00	47.54	C
ATOM	8298	N	LEU	C	44	16.718	69.949	61.950	1.00	45.58	N
ATOM	8299	CA	LEU	C	44	17.099	68.849	61.071	1.00	45.16	C
ATOM	8300	C	LEU	C	44	18.542	69.043	60.620	1.00	45.86	C
ATOM	8301	O	LEU	C	44	18.944	70.150	60.228	1.00	46.65	O
ATOM	8302	CB	LEU	C	44	16.157	68.767	59.871	1.00	45.26	C
ATOM	8303	CG	LEU	C	44	14.685	68.530	60.226	1.00	46.16	C
ATOM	8304	CD1	LEU	C	44	13.795	68.686	58.992	1.00	46.59	C
ATOM	8305	CD2	LEU	C	44	14.486	67.152	60.857	1.00	46.31	C
ATOM	8306	N	VAL	C	45	19.320	67.966	60.698	1.00	45.98	N
ATOM	8307	CA	VAL	C	45	20.740	67.983	60.337	1.00	45.17	C
ATOM	8308	C	VAL	C	45	21.156	66.619	59.795	1.00	45.43	C
ATOM	8309	O	VAL	C	45	20.938	65.590	60.438	1.00	44.22	O
ATOM	8310	CB	VAL	C	45	21.617	68.358	61.551	1.00	44.67	C
ATOM	8311	CG1	VAL	C	45	23.014	67.747	61.437	1.00	44.48	C
ATOM	8312	CG2	VAL	C	45	21.692	69.873	61.702	1.00	44.29	C
ATOM	8313	N	SER	C	46	21.740	66.619	58.601	1.00	46.37	N
ATOM	8314	CA	SER	C	46	22.249	65.397	57.976	1.00	46.15	C
ATOM	8315	C	SER	C	46	23.745	65.558	57.671	1.00	45.99	C
ATOM	8316	O	SER	C	46	24.243	66.679	57.527	1.00	46.00	O
ATOM	8317	CB	SER	C	46	21.454	65.103	56.700	1.00	45.94	C
ATOM	8318	OG	SER	C	46	21.984	64.005	55.977	1.00	46.62	O
ATOM	8319	N	ARG	C	47	24.457	64.437	57.590	1.00	46.00	N
ATOM	8320	CA	ARG	C	47	25.888	64.451	57.275	1.00	45.69	C
ATOM	8321	C	ARG	C	47	26.201	63.834	55.909	1.00	43.90	C
ATOM	8322	O	ARG	C	47	27.356	63.521	55.625	1.00	42.60	O
ATOM	8323	CB	ARG	C	47	26.666	63.722	58.358	1.00	46.12	C
ATOM	8324	CG	ARG	C	47	26.272	64.126	59.761	1.00	47.25	C

ATOM	8325	CD	ARG	C	47	27.218	63.510	60.782	1.00	47.75	C
ATOM	8326	NE	ARG	C	47	28.368	64.370	61.030	1.00	47.68	N
ATOM	8327	CZ	ARG	C	47	29.519	63.977	61.566	1.00	48.14	C
ATOM	8328	NH1	ARG	C	47	29.727	62.706	61.911	1.00	48.57	N
ATOM	8329	NH2	ARG	C	47	30.485	64.871	61.746	1.00	48.92	N
ATOM	8330	N	SER	C	48	25.182	63.678	55.062	1.00	43.13	N
ATOM	8331	CA	SER	C	48	25.390	63.209	53.694	1.00	43.35	C
ATOM	8332	C	SER	C	48	26.174	64.256	52.909	1.00	43.75	C
ATOM	8333	O	SER	C	48	26.246	65.416	53.323	1.00	44.52	O
ATOM	8334	CB	SER	C	48	24.057	62.922	53.003	1.00	43.10	C
ATOM	8335	OG	SER	C	48	23.295	64.102	52.834	1.00	43.55	O
ATOM	8336	N	LEU	C	49	26.765	63.849	51.786	1.00	43.51	N
ATOM	8337	CA	LEU	C	49	27.568	64.758	50.956	1.00	42.75	C
ATOM	8338	C	LEU	C	49	26.772	66.016	50.609	1.00	44.51	C
ATOM	8339	O	LEU	C	49	27.282	67.141	50.724	1.00	44.48	O
ATOM	8340	CB	LEU	C	49	28.027	64.047	49.678	1.00	41.33	C
ATOM	8341	CG	LEU	C	49	28.964	64.794	48.723	1.00	41.50	C
ATOM	8342	CD1	LEU	C	49	30.295	65.142	49.383	1.00	40.46	C
ATOM	8343	CD2	LEU	C	49	29.201	63.968	47.463	1.00	40.43	C
ATOM	8344	N	LYS	C	50	25.514	65.811	50.214	1.00	46.65	N
ATOM	8345	CA	LYS	C	50	24.621	66.904	49.811	1.00	48.79	C
ATOM	8346	C	LYS	C	50	24.314	67.832	50.978	1.00	47.90	C
ATOM	8347	O	LYS	C	50	24.323	69.047	50.808	1.00	46.66	O
ATOM	8348	CB	LYS	C	50	23.288	66.372	49.248	1.00	51.83	C
ATOM	8349	CG	LYS	C	50	23.386	65.395	48.051	1.00	53.84	C
ATOM	8350	CD	LYS	C	50	23.400	66.101	46.677	1.00	54.84	C
ATOM	8351	CE	LYS	C	50	24.827	66.345	46.135	1.00	55.12	C
ATOM	8352	NZ	LYS	C	50	24.828	66.893	44.737	1.00	54.57	N
ATOM	8353	N	MET	C	51	24.061	67.256	52.156	1.00	47.37	N
ATOM	8354	CA	MET	C	51	23.520	68.009	53.300	1.00	48.15	C
ATOM	8355	C	MET	C	51	24.465	68.216	54.509	1.00	48.08	C
ATOM	8356	O	MET	C	51	23.997	68.603	55.582	1.00	49.86	O
ATOM	8357	CB	MET	C	51	22.228	67.343	53.796	1.00	49.73	C
ATOM	8358	CG	MET	C	51	21.169	67.062	52.722	1.00	50.39	C
ATOM	8359	SD	MET	C	51	20.693	68.465	51.685	1.00	52.91	S
ATOM	8360	CE	MET	C	51	20.437	69.767	52.896	1.00	50.16	C
ATOM	8361	N	ARG	C	52	25.769	67.979	54.356	1.00	46.80	N
ATOM	8362	CA	ARG	C	52	26.733	68.303	55.430	1.00	46.63	C
ATOM	8363	C	ARG	C	52	26.999	69.817	55.508	1.00	46.62	C
ATOM	8364	O	ARG	C	52	26.797	70.536	54.526	1.00	47.96	O
ATOM	8365	CB	ARG	C	52	28.051	67.507	55.289	1.00	46.85	C
ATOM	8366	CG	ARG	C	52	28.833	67.679	53.955	1.00	46.67	C
ATOM	8367	CD	ARG	C	52	30.007	66.700	53.838	1.00	45.98	C
ATOM	8368	NE	ARG	C	52	29.572	65.301	53.856	1.00	46.54	N
ATOM	8369	CZ	ARG	C	52	30.381	64.237	53.871	1.00	46.57	C
ATOM	8370	NH1	ARG	C	52	31.705	64.374	53.864	1.00	46.44	N
ATOM	8371	NH2	ARG	C	52	29.861	63.017	53.891	1.00	45.94	N
ATOM	8372	N	GLY	C	53	27.440	70.292	56.675	1.00	45.97	N
ATOM	8373	CA	GLY	C	53	27.653	71.732	56.924	1.00	45.83	C
ATOM	8374	C	GLY	C	53	26.389	72.591	56.875	1.00	45.90	C
ATOM	8375	O	GLY	C	53	26.466	73.783	56.573	1.00	46.15	O
ATOM	8376	N	GLN	C	54	25.235	71.991	57.178	1.00	44.48	N
ATOM	8377	CA	GLN	C	54	23.930	72.627	56.965	1.00	43.98	C
ATOM	8378	C	GLN	C	54	22.890	72.222	57.999	1.00	44.88	C
ATOM	8379	O	GLN	C	54	22.862	71.060	58.435	1.00	44.95	O
ATOM	8380	CB	GLN	C	54	23.373	72.209	55.613	1.00	45.16	C
ATOM	8381	CG	GLN	C	54	24.058	72.827	54.420	1.00	45.48	C
ATOM	8382	CD	GLN	C	54	23.842	72.019	53.178	1.00	44.36	C
ATOM	8383	OE1	GLN	C	54	23.025	72.362	52.334	1.00	45.67	O

ATOM	8384	NE2	GLN	C	54	24.569	70.928	53.061	1.00	44.87	N
ATOM	8385	N	ALA	C	55	22.009	73.162	58.352	1.00	43.97	N
ATOM	8386	CA	ALA	C	55	20.919	72.878	59.297	1.00	43.32	C
ATOM	8387	C	ALA	C	55	19.646	73.680	59.023	1.00	43.32	C
ATOM	8388	O	ALA	C	55	19.685	74.788	58.484	1.00	42.64	O
ATOM	8389	CB	ALA	C	55	21.379	73.095	60.735	1.00	41.89	C
ATOM	8390	N	PHE	C	56	18.523	73.079	59.403	1.00	44.75	N
ATOM	8391	CA	PHE	C	56	17.200	73.665	59.271	1.00	44.33	C
ATOM	8392	C	PHE	C	56	16.610	73.756	60.679	1.00	46.52	C
ATOM	8393	O	PHE	C	56	16.358	72.721	61.324	1.00	45.30	O
ATOM	8394	CB	PHE	C	56	16.299	72.772	58.422	1.00	43.26	C
ATOM	8395	CG	PHE	C	56	16.772	72.578	57.017	1.00	43.01	C
ATOM	8396	CD1	PHE	C	56	17.746	71.629	56.721	1.00	43.58	C
ATOM	8397	CD2	PHE	C	56	16.212	73.312	55.971	1.00	43.76	C
ATOM	8398	CE1	PHE	C	56	18.182	71.435	55.401	1.00	42.87	C
ATOM	8399	CE2	PHE	C	56	16.637	73.127	54.645	1.00	43.05	C
ATOM	8400	CZ	PHE	C	56	17.624	72.189	54.363	1.00	43.05	C
ATOM	8401	N	VAL	C	57	16.429	74.984	61.169	1.00	46.31	N
ATOM	8402	CA	VAL	C	57	15.766	75.208	62.453	1.00	45.03	C
ATOM	8403	C	VAL	C	57	14.342	75.637	62.136	1.00	46.46	C
ATOM	8404	O	VAL	C	57	14.146	76.667	61.480	1.00	48.33	O
ATOM	8405	CB	VAL	C	57	16.454	76.309	63.278	1.00	42.88	C
ATOM	8406	CG1	VAL	C	57	15.807	76.425	64.632	1.00	41.35	C
ATOM	8407	CG2	VAL	C	57	17.927	76.018	63.421	1.00	42.46	C
ATOM	8408	N	ILE	C	58	13.361	74.848	62.584	1.00	45.54	N
ATOM	8409	CA	ILE	C	58	11.945	75.145	62.355	1.00	44.19	C
ATOM	8410	C	ILE	C	58	11.321	75.819	63.584	1.00	45.91	C
ATOM	8411	O	ILE	C	58	11.048	75.161	64.594	1.00	47.50	O
ATOM	8412	CB	ILE	C	58	11.142	73.872	62.017	1.00	43.91	C
ATOM	8413	CG1	ILE	C	58	11.809	73.073	60.892	1.00	43.56	C
ATOM	8414	CG2	ILE	C	58	9.721	74.236	61.605	1.00	44.38	C
ATOM	8415	CD1	ILE	C	58	11.179	71.703	60.652	1.00	43.19	C
ATOM	8416	N	PHE	C	59	11.100	77.130	63.498	1.00	46.74	N
ATOM	8417	CA	PHE	C	59	10.419	77.874	64.562	1.00	47.26	C
ATOM	8418	C	PHE	C	59	8.903	77.766	64.409	1.00	47.77	C
ATOM	8419	O	PHE	C	59	8.394	77.532	63.308	1.00	46.62	O
ATOM	8420	CB	PHE	C	59	10.844	79.352	64.561	1.00	47.27	C
ATOM	8421	CG	PHE	C	59	12.258	79.581	65.051	1.00	47.45	C
ATOM	8422	CD1	PHE	C	59	12.518	79.762	66.409	1.00	47.07	C
ATOM	8423	CD2	PHE	C	59	13.327	79.620	64.153	1.00	47.24	C
ATOM	8424	CE1	PHE	C	59	13.815	79.970	66.862	1.00	46.92	C
ATOM	8425	CE2	PHE	C	59	14.626	79.829	64.602	1.00	46.90	C
ATOM	8426	CZ	PHE	C	59	14.871	80.003	65.957	1.00	46.51	C
ATOM	8427	N	LYS	C	60	8.187	77.934	65.520	1.00	50.28	N
ATOM	8428	CA	LYS	C	60	6.714	77.926	65.511	1.00	51.25	C
ATOM	8429	C	LYS	C	60	6.145	79.149	64.790	1.00	50.50	C
ATOM	8430	O	LYS	C	60	5.107	79.069	64.133	1.00	49.75	O
ATOM	8431	CB	LYS	C	60	6.161	77.883	66.941	1.00	51.92	C
ATOM	8432	CG	LYS	C	60	4.641	77.696	67.021	1.00	52.06	C
ATOM	8433	CD	LYS	C	60	4.155	77.640	68.465	1.00	52.51	C
ATOM	8434	CE	LYS	C	60	2.638	77.473	68.541	1.00	52.49	C
ATOM	8435	NZ	LYS	C	60	2.165	77.325	69.945	1.00	52.23	N
ATOM	8436	N	GLU	C	61	6.829	80.279	64.937	1.00	50.71	N
ATOM	8437	CA	GLU	C	61	6.412	81.530	64.326	1.00	50.61	C
ATOM	8438	C	GLU	C	61	7.536	82.058	63.449	1.00	49.55	C
ATOM	8439	O	GLU	C	61	8.712	81.827	63.737	1.00	49.54	O
ATOM	8440	CB	GLU	C	61	6.058	82.556	65.410	1.00	52.04	C
ATOM	8441	CG	GLU	C	61	5.081	82.052	66.491	1.00	52.75	C
ATOM	8442	CD	GLU	C	61	3.730	81.610	65.932	1.00	53.22	C

ATOM	8443	OE1	GLU	C	61	3.395	81.981	64.787	1.00	53.73	O
ATOM	8444	OE2	GLU	C	61	2.996	80.890	66.645	1.00	53.72	O
ATOM	8445	N	VAL	C	62	7.171	82.756	62.374	1.00	48.94	N
ATOM	8446	CA	VAL	C	62	8.160	83.352	61.476	1.00	48.51	C
ATOM	8447	C	VAL	C	62	8.886	84.494	62.188	1.00	48.80	C
ATOM	8448	O	VAL	C	62	10.112	84.595	62.110	1.00	49.27	O
ATOM	8449	CB	VAL	C	62	7.527	83.878	60.165	1.00	48.92	C
ATOM	8450	CG1	VAL	C	62	8.602	84.478	59.245	1.00	48.93	C
ATOM	8451	CG2	VAL	C	62	6.777	82.766	59.447	1.00	48.95	C
ATOM	8452	N	SER	C	63	8.131	85.343	62.889	1.00	48.22	N
ATOM	8453	CA	SER	C	63	8.717	86.431	63.674	1.00	47.89	C
ATOM	8454	C	SER	C	63	9.986	85.979	64.405	1.00	48.05	C
ATOM	8455	O	SER	C	63	10.965	86.715	64.460	1.00	48.54	O
ATOM	8456	CB	SER	C	63	7.701	86.974	64.682	1.00	48.04	C
ATOM	8457	OG	SER	C	63	7.334	85.982	65.627	1.00	48.08	O
ATOM	8458	N	SER	C	64	9.959	84.767	64.961	1.00	48.16	N
ATOM	8459	CA	SER	C	64	11.133	84.172	65.602	1.00	48.36	C
ATOM	8460	C	SER	C	64	12.253	83.897	64.587	1.00	48.09	C
ATOM	8461	O	SER	C	64	13.412	84.263	64.821	1.00	49.09	O
ATOM	8462	CB	SER	C	64	10.745	82.877	66.321	1.00	48.86	C
ATOM	8463	OG	SER	C	64	9.690	83.106	67.245	1.00	48.87	O
ATOM	8464	N	ALA	C	65	11.899	83.257	63.469	1.00	45.14	N
ATOM	8465	CA	ALA	C	65	12.849	82.982	62.383	1.00	43.81	C
ATOM	8466	C	ALA	C	65	13.523	84.250	61.858	1.00	42.63	C
ATOM	8467	O	ALA	C	65	14.740	84.277	61.651	1.00	42.30	O
ATOM	8468	CB	ALA	C	65	12.152	82.255	61.231	1.00	42.63	C
ATOM	8469	N	THR	C	66	12.723	85.294	61.651	1.00	42.89	N
ATOM	8470	CA	THR	C	66	13.204	86.562	61.098	1.00	42.56	C
ATOM	8471	C	THR	C	66	14.222	87.206	62.030	1.00	42.73	C
ATOM	8472	O	THR	C	66	15.289	87.623	61.582	1.00	43.39	O
ATOM	8473	CB	THR	C	66	12.029	87.552	60.830	1.00	42.70	C
ATOM	8474	OG1	THR	C	66	11.177	87.032	59.798	1.00	42.55	O
ATOM	8475	CG2	THR	C	66	12.542	88.923	60.398	1.00	42.33	C
ATOM	8476	N	ASN	C	67	13.889	87.263	63.320	1.00	43.01	N
ATOM	8477	CA	ASN	C	67	14.770	87.827	64.347	1.00	43.86	C
ATOM	8478	C	ASN	C	67	16.063	87.033	64.492	1.00	43.91	C
ATOM	8479	O	ASN	C	67	17.154	87.612	64.570	1.00	43.27	O
ATOM	8480	CB	ASN	C	67	14.058	87.866	65.709	1.00	45.25	C
ATOM	8481	CG	ASN	C	67	12.912	88.866	65.755	1.00	45.60	C
ATOM	8482	OD1	ASN	C	67	12.748	89.694	64.857	1.00	46.65	O
ATOM	8483	ND2	ASN	C	67	12.112	88.791	66.810	1.00	45.83	N
ATOM	8484	N	ALA	C	68	15.921	85.710	64.552	1.00	44.28	N
ATOM	8485	CA	ALA	C	68	17.057	84.789	64.597	1.00	44.84	C
ATOM	8486	C	ALA	C	68	17.971	84.945	63.375	1.00	45.78	C
ATOM	8487	O	ALA	C	68	19.184	85.073	63.530	1.00	46.75	O
ATOM	8488	CB	ALA	C	68	16.567	83.359	64.716	1.00	44.32	C
ATOM	8489	N	LEU	C	69	17.397	84.949	62.173	1.00	46.50	N
ATOM	8490	CA	LEU	C	69	18.165	85.214	60.951	1.00	47.46	C
ATOM	8491	C	LEU	C	69	18.905	86.551	61.044	1.00	49.16	C
ATOM	8492	O	LEU	C	69	20.100	86.627	60.756	1.00	50.04	O
ATOM	8493	CB	LEU	C	69	17.236	85.241	59.740	1.00	48.40	C
ATOM	8494	CG	LEU	C	69	17.838	85.427	58.338	1.00	48.33	C
ATOM	8495	CD1	LEU	C	69	16.761	85.101	57.316	1.00	48.64	C
ATOM	8496	CD2	LEU	C	69	18.392	86.832	58.086	1.00	48.52	C
ATOM	8497	N	ARG	C	70	18.178	87.596	61.442	1.00	50.36	N
ATOM	8498	CA	ARG	C	70	18.738	88.947	61.594	1.00	50.42	C
ATOM	8499	C	ARG	C	70	19.847	89.014	62.624	1.00	48.35	C
ATOM	8500	O	ARG	C	70	20.856	89.662	62.392	1.00	48.56	O
ATOM	8501	CB	ARG	C	70	17.650	89.966	61.977	1.00	51.50	C

ATOM	8502	CG	ARG	C	70	16.878	90.548	60.794	1.00	52.36	C
ATOM	8503	CD	ARG	C	70	15.652	91.364	61.237	1.00	52.30	C
ATOM	8504	NE	ARG	C	70	14.857	91.791	60.081	1.00	52.91	N
ATOM	8505	CZ	ARG	C	70	13.580	92.185	60.117	1.00	53.25	C
ATOM	8506	NH1	ARG	C	70	12.898	92.224	61.261	1.00	53.28	N
ATOM	8507	NH2	ARG	C	70	12.972	92.542	58.989	1.00	53.10	N
ATOM	8508	N	SER	C	71	19.664	88.350	63.759	1.00	47.85	N
ATOM	8509	CA	SER	C	71	20.594	88.509	64.886	1.00	47.79	C
ATOM	8510	C	SER	C	71	21.817	87.581	64.881	1.00	46.77	C
ATOM	8511	O	SER	C	71	22.867	87.961	65.389	1.00	48.29	O
ATOM	8512	CB	SER	C	71	19.843	88.372	66.209	1.00	47.43	C
ATOM	8513	OG	SER	C	71	18.846	89.370	66.302	1.00	47.79	O
ATOM	8514	N	MET	C	72	21.682	86.381	64.325	1.00	44.92	N
ATOM	8515	CA	MET	C	72	22.773	85.404	64.309	1.00	44.99	C
ATOM	8516	C	MET	C	72	23.446	85.306	62.931	1.00	45.11	C
ATOM	8517	O	MET	C	72	24.318	84.454	62.708	1.00	45.06	O
ATOM	8518	CB	MET	C	72	22.254	84.026	64.728	1.00	45.19	C
ATOM	8519	CG	MET	C	72	21.651	83.983	66.111	1.00	46.17	C
ATOM	8520	SD	MET	C	72	22.840	84.389	67.421	1.00	47.95	S
ATOM	8521	CE	MET	C	72	21.955	83.860	68.901	1.00	47.34	C
ATOM	8522	N	GLN	C	73	23.052	86.172	62.006	1.00	43.44	N
ATOM	8523	CA	GLN	C	73	23.766	86.268	60.749	1.00	44.22	C
ATOM	8524	C	GLN	C	73	25.262	86.447	61.020	1.00	45.11	C
ATOM	8525	O	GLN	C	73	25.681	87.468	61.595	1.00	45.50	O
ATOM	8526	CB	GLN	C	73	23.259	87.453	59.920	1.00	44.71	C
ATOM	8527	CG	GLN	C	73	23.779	87.455	58.500	1.00	44.48	C
ATOM	8528	CD	GLN	C	73	23.443	86.168	57.798	1.00	44.75	C
ATOM	8529	OE1	GLN	C	73	24.326	85.372	57.475	1.00	45.93	O
ATOM	8530	NE2	GLN	C	73	22.155	85.929	57.601	1.00	45.03	N
ATOM	8531	N	GLY	C	74	26.052	85.444	60.627	1.00	43.93	N
ATOM	8532	CA	GLY	C	74	27.509	85.533	60.676	1.00	42.48	C
ATOM	8533	C	GLY	C	74	28.159	85.132	61.980	1.00	42.36	C
ATOM	8534	O	GLY	C	74	29.378	85.216	62.099	1.00	42.55	O
ATOM	8535	N	PHE	C	75	27.359	84.654	62.936	1.00	43.63	N
ATOM	8536	CA	PHE	C	75	27.821	84.370	64.308	1.00	44.74	C
ATOM	8537	C	PHE	C	75	28.871	83.262	64.355	1.00	45.02	C
ATOM	8538	O	PHE	C	75	28.640	82.189	63.825	1.00	48.18	O
ATOM	8539	CB	PHE	C	75	26.626	83.954	65.157	1.00	45.39	C
ATOM	8540	CG	PHE	C	75	26.937	83.769	66.621	1.00	46.06	C
ATOM	8541	CD1	PHE	C	75	27.252	82.514	67.126	1.00	46.21	C
ATOM	8542	CD2	PHE	C	75	26.871	84.840	67.503	1.00	45.78	C
ATOM	8543	CE1	PHE	C	75	27.518	82.336	68.478	1.00	45.66	C
ATOM	8544	CE2	PHE	C	75	27.135	84.663	68.851	1.00	45.66	C
ATOM	8545	CZ	PHE	C	75	27.461	83.409	69.338	1.00	45.31	C
ATOM	8546	N	PRO	C	76	30.038	83.518	64.970	1.00	46.49	N
ATOM	8547	CA	PRO	C	76	31.077	82.470	65.052	1.00	46.17	C
ATOM	8548	C	PRO	C	76	30.670	81.253	65.891	1.00	45.17	C
ATOM	8549	O	PRO	C	76	30.543	81.346	67.112	1.00	44.28	O
ATOM	8550	CB	PRO	C	76	32.269	83.205	65.687	1.00	45.91	C
ATOM	8551	CG	PRO	C	76	32.011	84.638	65.384	1.00	46.33	C
ATOM	8552	CD	PRO	C	76	30.525	84.777	65.555	1.00	46.46	C
ATOM	8553	N	PHE	C	77	30.491	80.123	65.213	1.00	44.71	N
ATOM	8554	CA	PHE	C	77	29.938	78.911	65.802	1.00	44.42	C
ATOM	8555	C	PHE	C	77	30.820	77.740	65.375	1.00	44.67	C
ATOM	8556	O	PHE	C	77	30.982	77.490	64.181	1.00	47.43	O
ATOM	8557	CB	PHE	C	77	28.504	78.740	65.289	1.00	43.69	C
ATOM	8558	CG	PHE	C	77	27.756	77.605	65.913	1.00	43.03	C
ATOM	8559	CD1	PHE	C	77	27.531	77.570	67.278	1.00	43.07	C
ATOM	8560	CD2	PHE	C	77	27.249	76.582	65.124	1.00	43.45	C

ATOM	8561	CE1	PHE	C	77	26.837	76.516	67.845	1.00	43.56	C
ATOM	8562	CE2	PHE	C	77	26.542	75.530	65.687	1.00	43.16	C
ATOM	8563	CZ	PHE	C	77	26.339	75.496	67.041	1.00	43.17	C
ATOM	8564	N	TYR	C	78	31.416	77.040	66.337	1.00	44.19	N
ATOM	8565	CA	TYR	C	78	32.436	76.030	66.028	1.00	44.52	C
ATOM	8566	C	TYR	C	78	33.484	76.554	65.026	1.00	44.59	C
ATOM	8567	O	TYR	C	78	33.842	75.867	64.070	1.00	44.70	O
ATOM	8568	CB	TYR	C	78	31.784	74.750	65.496	1.00	43.29	C
ATOM	8569	CG	TYR	C	78	31.014	73.953	66.533	1.00	43.75	C
ATOM	8570	CD1	TYR	C	78	31.682	73.250	67.542	1.00	43.44	C
ATOM	8571	CD2	TYR	C	78	29.620	73.862	66.487	1.00	43.58	C
ATOM	8572	CE1	TYR	C	78	30.984	72.506	68.481	1.00	42.46	C
ATOM	8573	CE2	TYR	C	78	28.917	73.115	67.439	1.00	43.19	C
ATOM	8574	CZ	TYR	C	78	29.612	72.446	68.421	1.00	42.12	C
ATOM	8575	OH	TYR	C	78	28.935	71.708	69.344	1.00	43.13	O
ATOM	8576	N	ASP	C	79	33.948	77.784	65.254	1.00	46.70	N
ATOM	8577	CA	ASP	C	79	35.048	78.414	64.489	1.00	47.83	C
ATOM	8578	C	ASP	C	79	34.706	78.854	63.047	1.00	48.17	C
ATOM	8579	O	ASP	C	79	35.613	79.176	62.272	1.00	48.71	O
ATOM	8580	CB	ASP	C	79	36.285	77.502	64.441	1.00	49.72	C
ATOM	8581	CG	ASP	C	79	36.557	76.805	65.752	1.00	50.98	C
ATOM	8582	OD1	ASP	C	79	36.699	77.502	66.782	1.00	51.49	O
ATOM	8583	OD2	ASP	C	79	36.636	75.555	65.741	1.00	52.16	O
ATOM	8584	N	LYS	C	80	33.424	78.856	62.679	1.00	47.69	N
ATOM	8585	CA	LYS	C	80	33.008	79.290	61.334	1.00	47.41	C
ATOM	8586	C	LYS	C	80	31.750	80.160	61.411	1.00	46.55	C
ATOM	8587	O	LYS	C	80	30.796	79.812	62.118	1.00	44.51	O
ATOM	8588	CB	LYS	C	80	32.742	78.088	60.413	1.00	48.30	C
ATOM	8589	CG	LYS	C	80	33.888	77.072	60.284	1.00	47.83	C
ATOM	8590	CD	LYS	C	80	33.451	75.834	59.483	1.00	48.19	C
ATOM	8591	CE	LYS	C	80	33.707	75.980	57.976	1.00	48.53	C
ATOM	8592	NZ	LYS	C	80	35.126	75.676	57.602	1.00	48.04	N
ATOM	8593	N	PRO	C	81	31.742	81.294	60.681	1.00	47.37	N
ATOM	8594	CA	PRO	C	81	30.595	82.208	60.729	1.00	48.19	C
ATOM	8595	C	PRO	C	81	29.356	81.654	59.997	1.00	48.74	C
ATOM	8596	O	PRO	C	81	29.423	81.364	58.791	1.00	48.54	O
ATOM	8597	CB	PRO	C	81	31.130	83.477	60.050	1.00	47.49	C
ATOM	8598	CG	PRO	C	81	32.197	82.984	59.110	1.00	47.32	C
ATOM	8599	CD	PRO	C	81	32.805	81.778	59.773	1.00	47.52	C
ATOM	8600	N	MET	C	82	28.245	81.519	60.727	1.00	48.25	N
ATOM	8601	CA	MET	C	82	27.013	80.927	60.181	1.00	49.94	C
ATOM	8602	C	MET	C	82	26.430	81.760	59.041	1.00	50.06	C
ATOM	8603	O	MET	C	82	26.328	82.984	59.152	1.00	50.44	O
ATOM	8604	CB	MET	C	82	25.922	80.791	61.258	1.00	50.40	C
ATOM	8605	CG	MET	C	82	26.286	79.964	62.477	1.00	50.88	C
ATOM	8606	SD	MET	C	82	24.875	79.729	63.576	1.00	51.27	S
ATOM	8607	CE	MET	C	82	24.448	81.412	63.944	1.00	51.28	C
ATOM	8608	N	ARG	C	83	26.037	81.082	57.963	1.00	50.56	N
ATOM	8609	CA	ARG	C	83	25.275	81.696	56.880	1.00	51.80	C
ATOM	8610	C	ARG	C	83	23.802	81.310	57.079	1.00	51.28	C
ATOM	8611	O	ARG	C	83	23.435	80.141	56.942	1.00	51.38	O
ATOM	8612	CB	ARG	C	83	25.768	81.197	55.513	1.00	54.04	C
ATOM	8613	CG	ARG	C	83	26.127	82.279	54.508	1.00	55.57	C
ATOM	8614	CD	ARG	C	83	27.607	82.609	54.580	1.00	56.85	C
ATOM	8615	NE	ARG	C	83	28.432	81.528	54.042	1.00	58.24	N
ATOM	8616	CZ	ARG	C	83	29.768	81.518	54.043	1.00	59.07	C
ATOM	8617	NH1	ARG	C	83	30.455	82.537	54.562	1.00	59.65	N
ATOM	8618	NH2	ARG	C	83	30.424	80.483	53.520	1.00	58.77	N
ATOM	8619	N	ILE	C	84	22.966	82.291	57.413	1.00	50.22	N

ATOM	8620	CA	ILE	C	84	21.545	82.046	57.613	1.00	49.88	C
ATOM	8621	C	ILE	C	84	20.739	82.728	56.509	1.00	51.25	C
ATOM	8622	O	ILE	C	84	20.886	83.931	56.275	1.00	51.29	O
ATOM	8623	CB	ILE	C	84	21.050	82.530	59.011	1.00	49.97	C
ATOM	8624	CG1	ILE	C	84	22.022	82.106	60.126	1.00	49.24	C
ATOM	8625	CG2	ILE	C	84	19.662	81.958	59.311	1.00	48.92	C
ATOM	8626	CD1	ILE	C	84	21.557	82.496	61.525	1.00	49.09	C
ATOM	8627	N	GLN	C	85	19.918	81.935	55.814	1.00	53.12	N
ATOM	8628	CA	GLN	C	85	18.884	82.444	54.898	1.00	53.99	C
ATOM	8629	C	GLN	C	85	17.537	81.892	55.358	1.00	54.52	C
ATOM	8630	O	GLN	C	85	17.470	81.061	56.264	1.00	55.52	O
ATOM	8631	CB	GLN	C	85	19.123	81.991	53.446	1.00	53.98	C
ATOM	8632	CG	GLN	C	85	20.584	81.922	52.988	1.00	53.88	C
ATOM	8633	CD	GLN	C	85	20.737	81.262	51.628	1.00	53.59	C
ATOM	8634	OE1	GLN	C	85	21.743	80.607	51.348	1.00	53.20	O
ATOM	8635	NE2	GLN	C	85	19.730	81.424	50.778	1.00	53.35	N
ATOM	8636	N	TYR	C	86	16.464	82.345	54.724	1.00	55.36	N
ATOM	8637	CA	TYR	C	86	15.169	81.710	54.904	1.00	56.07	C
ATOM	8638	C	TYR	C	86	15.156	80.450	54.059	1.00	57.65	C
ATOM	8639	O	TYR	C	86	15.720	80.433	52.957	1.00	56.89	O
ATOM	8640	CB	TYR	C	86	14.043	82.639	54.463	1.00	56.53	C
ATOM	8641	CG	TYR	C	86	13.813	83.809	55.393	1.00	56.80	C
ATOM	8642	CD1	TYR	C	86	13.414	83.605	56.711	1.00	57.03	C
ATOM	8643	CD2	TYR	C	86	13.975	85.111	54.958	1.00	56.53	C
ATOM	8644	CE1	TYR	C	86	13.189	84.668	57.567	1.00	56.96	C
ATOM	8645	CE2	TYR	C	86	13.752	86.179	55.807	1.00	57.36	C
ATOM	8646	CZ	TYR	C	86	13.359	85.951	57.111	1.00	56.95	C
ATOM	8647	OH	TYR	C	86	13.138	87.014	57.953	1.00	57.12	O
ATOM	8648	N	ALA	C	87	14.523	79.396	54.567	1.00	59.29	N
ATOM	8649	CA	ALA	C	87	14.361	78.168	53.789	1.00	61.06	C
ATOM	8650	C	ALA	C	87	13.576	78.472	52.512	1.00	62.43	C
ATOM	8651	O	ALA	C	87	12.650	79.290	52.529	1.00	62.85	O
ATOM	8652	CB	ALA	C	87	13.655	77.098	54.606	1.00	60.89	C
ATOM	8653	N	LYS	C	88	13.958	77.816	51.415	1.00	63.34	N
ATOM	8654	CA	LYS	C	88	13.364	78.057	50.093	1.00	63.52	C
ATOM	8655	C	LYS	C	88	11.866	77.753	50.088	1.00	64.23	C
ATOM	8656	O	LYS	C	88	11.073	78.530	49.556	1.00	64.95	O
ATOM	8657	CB	LYS	C	88	14.085	77.236	49.015	1.00	62.62	C
ATOM	8658	N	THR	C	89	11.488	76.622	50.680	1.00	65.25	N
ATOM	8659	CA	THR	C	89	10.079	76.277	50.882	1.00	66.08	C
ATOM	8660	C	THR	C	89	9.863	75.814	52.315	1.00	66.63	C
ATOM	8661	O	THR	C	89	10.818	75.617	53.068	1.00	67.02	O
ATOM	8662	CB	THR	C	89	9.597	75.160	49.924	1.00	66.14	C
ATOM	8663	OG1	THR	C	89	10.222	73.918	50.271	1.00	66.05	O
ATOM	8664	CG2	THR	C	89	9.907	75.507	48.468	1.00	65.93	C
ATOM	8665	N	ASP	C	90	8.599	75.644	52.684	1.00	67.68	N
ATOM	8666	CA	ASP	C	90	8.244	75.199	54.024	1.00	68.13	C
ATOM	8667	C	ASP	C	90	8.733	73.772	54.261	1.00	67.55	C
ATOM	8668	O	ASP	C	90	8.706	72.938	53.354	1.00	67.26	O
ATOM	8669	CB	ASP	C	90	6.718	75.255	54.231	1.00	68.61	C
ATOM	8670	CG	ASP	C	90	6.185	76.678	54.373	1.00	68.80	C
ATOM	8671	OD1	ASP	C	90	6.913	77.551	54.894	1.00	68.91	O
ATOM	8672	OD2	ASP	C	90	5.023	76.920	53.978	1.00	68.61	O
ATOM	8673	N	SER	C	91	9.193	73.510	55.481	1.00	67.27	N
ATOM	8674	CA	SER	C	91	9.390	72.148	55.953	1.00	66.48	C
ATOM	8675	C	SER	C	91	8.013	71.503	56.036	1.00	66.83	C
ATOM	8676	O	SER	C	91	7.068	72.139	56.505	1.00	66.65	O
ATOM	8677	CB	SER	C	91	10.053	72.152	57.330	1.00	65.88	C
ATOM	8678	OG	SER	C	91	11.196	72.985	57.331	1.00	64.81	O

ATOM	8679	N	ASP	C	92	7.885	70.255	55.585	1.00	67.36	N
ATOM	8680	CA	ASP	C	92	6.555	69.623	55.486	1.00	68.12	C
ATOM	8681	C	ASP	C	92	5.830	69.458	56.835	1.00	68.07	C
ATOM	8682	O	ASP	C	92	4.611	69.258	56.859	1.00	67.98	O
ATOM	8683	CB	ASP	C	92	6.571	68.301	54.672	1.00	68.64	C
ATOM	8684	CG	ASP	C	92	7.591	67.280	55.169	1.00	68.83	C
ATOM	8685	OD1	ASP	C	92	8.331	66.734	54.322	1.00	68.93	O
ATOM	8686	OD2	ASP	C	92	7.641	66.997	56.384	1.00	69.03	O
ATOM	8687	N	ILE	C	93	6.567	69.565	57.941	1.00	67.83	N
ATOM	8688	CA	ILE	C	93	5.964	69.573	59.279	1.00	67.95	C
ATOM	8689	C	ILE	C	93	5.218	70.892	59.582	1.00	67.46	C
ATOM	8690	O	ILE	C	93	4.361	70.932	60.467	1.00	67.03	O
ATOM	8691	CB	ILE	C	93	7.026	69.266	60.377	1.00	68.47	C
ATOM	8692	CG1	ILE	C	93	6.353	68.864	61.695	1.00	68.40	C
ATOM	8693	CG2	ILE	C	93	7.970	70.456	60.580	1.00	68.45	C
ATOM	8694	CD1	ILE	C	93	7.227	67.997	62.587	1.00	68.23	C
ATOM	8695	N	ILE	C	94	5.546	71.956	58.844	1.00	67.27	N
ATOM	8696	CA	ILE	C	94	4.820	73.234	58.913	1.00	66.96	C
ATOM	8697	C	ILE	C	94	3.595	73.231	57.991	1.00	67.29	C
ATOM	8698	O	ILE	C	94	2.537	73.755	58.353	1.00	67.41	O
ATOM	8699	CB	ILE	C	94	5.741	74.434	58.545	1.00	65.76	C
ATOM	8700	CG1	ILE	C	94	6.757	74.687	59.661	1.00	65.70	C
ATOM	8701	CG2	ILE	C	94	4.934	75.705	58.294	1.00	64.95	C
ATOM	8702	CD1	ILE	C	94	6.143	75.150	60.975	1.00	65.36	C
ATOM	8703	N	ALA	C	95	3.749	72.643	56.806	1.00	67.50	N
ATOM	8704	CA	ALA	C	95	2.680	72.593	55.807	1.00	67.63	C
ATOM	8705	C	ALA	C	95	1.501	71.700	56.219	1.00	67.83	C
ATOM	8706	O	ALA	C	95	0.365	71.962	55.818	1.00	67.79	O
ATOM	8707	CB	ALA	C	95	3.240	72.140	54.462	1.00	67.43	C
ATOM	8708	N	LYS	C	96	1.772	70.660	57.012	1.00	67.99	N
ATOM	8709	CA	LYS	C	96	0.740	69.705	57.453	1.00	68.15	C
ATOM	8710	C	LYS	C	96	-0.351	70.363	58.307	1.00	68.57	C
ATOM	8711	O	LYS	C	96	-1.548	70.210	58.039	1.00	67.22	O
ATOM	8712	CB	LYS	C	96	1.383	68.556	58.239	1.00	67.76	C
ATOM	8713	N	MET	C	97	0.082	71.083	59.340	1.00	69.15	N
ATOM	8714	CA	MET	C	97	-0.819	71.840	60.220	1.00	69.06	C
ATOM	8715	C	MET	C	97	-1.502	73.001	59.488	1.00	69.28	C
ATOM	8716	O	MET	C	97	-0.862	73.764	58.760	1.00	68.74	O
ATOM	8717	CB	MET	C	97	-0.055	72.370	61.446	1.00	69.02	C
ATOM	8718	CG	MET	C	97	1.201	73.204	61.120	1.00	68.84	C
ATOM	8719	SD	MET	C	97	2.124	73.772	62.564	1.00	68.44	S
ATOM	8720	CE	MET	C	97	2.489	72.225	63.399	1.00	68.70	C
TER	8721		MET	C	97						
ATOM	8722	O5*	A	G	-1	15.739	24.373	73.266	1.00	33.93	O
ATOM	8723	C5*	A	G	-1	16.495	25.005	74.288	1.00	35.22	C
ATOM	8724	C4*	A	G	-1	16.723	24.147	75.538	1.00	36.06	C
ATOM	8725	O4*	A	G	-1	16.372	24.864	76.748	1.00	35.48	O
ATOM	8726	C3*	A	G	-1	15.947	22.840	75.758	1.00	36.07	C
ATOM	8727	O3*	A	G	-1	16.685	21.749	75.200	1.00	37.70	O
ATOM	8728	C2*	A	G	-1	15.862	22.662	77.280	1.00	35.15	C
ATOM	8729	O2*	A	G	-1	16.558	21.540	77.783	1.00	34.87	O
ATOM	8730	C1*	A	G	-1	16.573	23.894	77.762	1.00	34.83	C
ATOM	8731	N9	A	G	-1	16.153	24.389	79.053	1.00	34.26	N
ATOM	8732	C8	A	G	-1	14.905	24.707	79.503	1.00	34.24	C
ATOM	8733	N7	A	G	-1	14.905	25.147	80.737	1.00	34.31	N
ATOM	8734	C5	A	G	-1	16.242	25.121	81.091	1.00	34.25	C
ATOM	8735	C6	A	G	-1	16.919	25.469	82.264	1.00	33.99	C
ATOM	8736	N6	A	G	-1	16.288	25.931	83.342	1.00	34.69	N
ATOM	8737	N1	A	G	-1	18.255	25.312	82.291	1.00	33.84	N

ATOM	8738	C2	A	G	-1	18.877	24.842	81.205	1.00	33.88	C
ATOM	8739	N3	A	G	-1	18.351	24.480	80.041	1.00	33.64	N
ATOM	8740	C4	A	G	-1	17.022	24.652	80.063	1.00	33.90	C
HETATM	8741	P	A2M	G	0	16.101	20.589	74.245	1.00	37.64	P
HETATM	8742	O1P	A2M	G	0	14.676	20.902	73.857	1.00	36.43	O
HETATM	8743	O2P	A2M	G	0	16.426	19.238	74.833	1.00	37.02	O
HETATM	8744	O5*	A2M	G	0	17.054	20.770	72.951	1.00	34.95	O
HETATM	8745	C5*	A2M	G	0	17.179	22.025	72.300	1.00	31.67	C
HETATM	8746	C4*	A2M	G	0	18.266	21.998	71.241	1.00	29.24	C
HETATM	8747	O4*	A2M	G	0	19.524	22.107	71.903	1.00	29.50	O
HETATM	8748	C3*	A2M	G	0	18.334	20.718	70.426	1.00	27.95	C
HETATM	8749	O3*	A2M	G	0	18.777	21.062	69.115	1.00	27.05	O
HETATM	8750	C2*	A2M	G	0	19.358	19.918	71.195	1.00	27.74	C
HETATM	8751	O2*	A2M	G	0	19.976	18.880	70.462	1.00	27.78	O
HETATM	8752	C1*	A2M	G	0	20.352	20.991	71.579	1.00	26.81	C
HETATM	8753	CM*	A2M	G	0	20.435	17.885	71.380	1.00	25.91	C
HETATM	8754	N9	A2M	G	0	21.236	20.553	72.679	1.00	25.33	N
HETATM	8755	C8	A2M	G	0	20.846	20.182	73.885	1.00	25.50	C
HETATM	8756	N7	A2M	G	0	21.932	19.830	74.589	1.00	25.43	N
HETATM	8757	C5	A2M	G	0	23.015	20.000	73.810	1.00	25.40	C
HETATM	8758	C6	A2M	G	0	24.384	19.795	73.999	1.00	25.90	C
HETATM	8759	N6	A2M	G	0	24.853	19.359	75.197	1.00	25.77	N
HETATM	8760	N1	A2M	G	0	25.243	20.056	72.993	1.00	25.64	N
HETATM	8761	C2	A2M	G	0	24.775	20.505	71.814	1.00	26.10	C
HETATM	8762	N3	A2M	G	0	23.461	20.695	71.609	1.00	26.16	N
HETATM	8763	C4	A2M	G	0	22.561	20.452	72.600	1.00	25.07	C
ATOM	8764	P	G	G	1	19.015	20.085	67.879	1.00	23.40	P
ATOM	8765	O1P	G	G	1	18.189	18.895	68.030	1.00	23.55	O
ATOM	8766	O2P	G	G	1	20.465	20.003	67.672	1.00	26.07	O
ATOM	8767	O5*	G	G	1	18.475	20.986	66.692	1.00	26.18	O
ATOM	8768	C5*	G	G	1	17.215	21.681	66.903	1.00	27.10	C
ATOM	8769	C4*	G	G	1	17.412	23.178	66.996	1.00	26.21	C
ATOM	8770	O4*	G	G	1	18.171	23.594	65.842	1.00	25.90	O
ATOM	8771	C3*	G	G	1	16.136	24.020	66.962	1.00	26.34	C
ATOM	8772	O3*	G	G	1	16.276	25.205	67.699	1.00	24.21	O
ATOM	8773	C2*	G	G	1	16.002	24.418	65.497	1.00	25.99	C
ATOM	8774	O2*	G	G	1	15.356	25.665	65.361	1.00	24.58	O
ATOM	8775	C1*	G	G	1	17.456	24.523	65.047	1.00	27.42	C
ATOM	8776	N9	G	G	1	17.744	24.114	63.683	1.00	28.73	N
ATOM	8777	C8	G	G	1	16.860	23.548	62.807	1.00	29.46	C
ATOM	8778	N7	G	G	1	17.372	23.230	61.666	1.00	29.10	N
ATOM	8779	C5	G	G	1	18.687	23.606	61.791	1.00	28.91	C
ATOM	8780	C6	G	G	1	19.695	23.477	60.834	1.00	28.50	C
ATOM	8781	O6	G	G	1	19.547	23.021	59.698	1.00	29.20	O
ATOM	8782	N1	G	G	1	20.912	23.966	61.273	1.00	28.84	N
ATOM	8783	C2	G	G	1	21.120	24.506	62.527	1.00	30.32	C
ATOM	8784	N2	G	G	1	22.375	24.910	62.788	1.00	29.10	N
ATOM	8785	N3	G	G	1	20.153	24.622	63.455	1.00	29.63	N
ATOM	8786	C4	G	G	1	18.954	24.152	63.014	1.00	29.07	C
ATOM	8787	P	C	G	2	15.975	25.387	69.247	1.00	25.52	P
ATOM	8788	O1P	C	G	2	15.097	24.330	69.801	1.00	24.85	O
ATOM	8789	O2P	C	G	2	15.611	26.814	69.410	1.00	25.45	O
ATOM	8790	O5*	C	G	2	17.414	25.194	69.877	1.00	25.68	O
ATOM	8791	C5*	C	G	2	18.526	25.811	69.291	1.00	25.01	C
ATOM	8792	C4*	C	G	2	19.674	25.532	70.207	1.00	25.76	C
ATOM	8793	O4*	C	G	2	20.241	24.226	69.936	1.00	26.23	O
ATOM	8794	C3*	C	G	2	20.837	26.466	70.073	1.00	26.49	C
ATOM	8795	O3*	C	G	2	20.523	27.586	70.806	1.00	28.12	O
ATOM	8796	C2*	C	G	2	21.910	25.611	70.718	1.00	26.90	C

ATOM	8797	O2*	C G	2	21.710	25.457	72.100	1.00	29.07	O
ATOM	8798	C1*	C G	2	21.641	24.279	70.050	1.00	25.06	C
ATOM	8799	N1	C G	2	22.275	24.052	68.696	1.00	23.53	N
ATOM	8800	C2	C G	2	23.671	23.902	68.645	1.00	23.21	C
ATOM	8801	O2	C G	2	24.312	23.991	69.693	1.00	22.04	O
ATOM	8802	N3	C G	2	24.269	23.653	67.449	1.00	21.97	N
ATOM	8803	C4	C G	2	23.521	23.540	66.347	1.00	23.56	C
ATOM	8804	N4	C G	2	24.143	23.306	65.200	1.00	23.04	N
ATOM	8805	C5	C G	2	22.093	23.684	66.371	1.00	22.53	C
ATOM	8806	C6	C G	2	21.528	23.927	67.559	1.00	21.71	C
ATOM	8807	P	G G	3	21.159	29.022	70.522	1.00	29.95	P
ATOM	8808	O1P	G G	3	20.480	29.950	71.472	1.00	27.19	O
ATOM	8809	O2P	G G	3	21.159	29.232	69.047	1.00	26.70	O
ATOM	8810	O5*	G G	3	22.675	28.843	71.005	1.00	29.30	O
ATOM	8811	C5*	G G	3	23.037	28.929	72.355	1.00	31.80	C
ATOM	8812	C4*	G G	3	24.545	28.735	72.464	1.00	33.86	C
ATOM	8813	O4*	G G	3	24.946	27.497	71.820	1.00	34.67	O
ATOM	8814	C3*	G G	3	25.389	29.773	71.737	1.00	35.00	C
ATOM	8815	O3*	G G	3	25.487	30.949	72.486	1.00	36.44	O
ATOM	8816	C2*	G G	3	26.715	29.040	71.601	1.00	34.67	C
ATOM	8817	O2*	G G	3	27.492	29.009	72.784	1.00	35.01	O
ATOM	8818	C1*	G G	3	26.227	27.650	71.234	1.00	34.46	C
ATOM	8819	N9	G G	3	26.138	27.355	69.799	1.00	34.18	N
ATOM	8820	C8	G G	3	25.005	27.221	69.061	1.00	34.81	C
ATOM	8821	N7	G G	3	25.218	26.934	67.811	1.00	34.74	N
ATOM	8822	C5	G G	3	26.578	26.872	67.704	1.00	33.93	C
ATOM	8823	C6	G G	3	27.368	26.586	66.560	1.00	35.50	C
ATOM	8824	O6	G G	3	26.993	26.327	65.395	1.00	33.93	O
ATOM	8825	N1	G G	3	28.729	26.626	66.877	1.00	34.69	N
ATOM	8826	C2	G G	3	29.249	26.892	68.117	1.00	34.96	C
ATOM	8827	N2	G G	3	30.584	26.874	68.180	1.00	34.80	N
ATOM	8828	N3	G G	3	28.509	27.147	69.199	1.00	35.10	N
ATOM	8829	C4	G G	3	27.173	27.116	68.918	1.00	34.39	C
ATOM	8830	P	C G	4	25.673	32.353	71.760	1.00	42.20	P
ATOM	8831	O1P	C G	4	25.612	33.400	72.822	1.00	41.16	O
ATOM	8832	O2P	C G	4	24.847	32.442	70.553	1.00	39.82	O
ATOM	8833	O5*	C G	4	27.177	32.310	71.208	1.00	42.21	O
ATOM	8834	C5*	C G	4	28.288	32.382	72.096	1.00	40.76	C
ATOM	8835	C4*	C G	4	29.567	32.015	71.356	1.00	41.49	C
ATOM	8836	O4*	C G	4	29.419	30.768	70.652	1.00	40.55	O
ATOM	8837	C3*	C G	4	29.976	32.976	70.252	1.00	41.51	C
ATOM	8838	O3*	C G	4	30.695	34.043	70.799	1.00	42.76	O
ATOM	8839	C2*	C G	4	30.869	32.123	69.368	1.00	41.29	C
ATOM	8840	O2*	C G	4	32.199	31.965	69.847	1.00	41.44	O
ATOM	8841	C1*	C G	4	30.115	30.810	69.423	1.00	40.34	C
ATOM	8842	N1	C G	4	29.176	30.578	68.280	1.00	40.40	N
ATOM	8843	C2	C G	4	29.716	30.325	67.022	1.00	40.30	C
ATOM	8844	O2	C G	4	30.938	30.321	66.868	1.00	41.22	O
ATOM	8845	N3	C G	4	28.888	30.081	65.985	1.00	40.37	N
ATOM	8846	C4	C G	4	27.573	30.071	66.131	1.00	40.13	C
ATOM	8847	N4	C G	4	26.849	29.830	65.043	1.00	39.04	N
ATOM	8848	C5	C G	4	26.981	30.328	67.394	1.00	40.84	C
ATOM	8849	C6	C G	4	27.810	30.573	68.428	1.00	41.42	C
ATOM	8850	P	C G	5	30.476	35.517	70.267	1.00	43.59	P
ATOM	8851	O1P	C G	5	31.194	36.353	71.243	1.00	44.90	O
ATOM	8852	O2P	C G	5	29.048	35.763	69.919	1.00	43.24	O
ATOM	8853	O5*	C G	5	31.286	35.490	68.898	1.00	45.33	O
ATOM	8854	C5*	C G	5	32.627	35.085	68.829	1.00	47.22	C
ATOM	8855	C4*	C G	5	32.983	34.990	67.362	1.00	48.96	C

ATOM	8856	O4*	C G	5	32.123	34.017	66.700	1.00	49.58	O
ATOM	8857	C3*	C G	5	32.774	36.307	66.617	1.00	50.10	C
ATOM	8858	O3*	C G	5	33.812	36.570	65.714	1.00	52.75	O
ATOM	8859	C2*	C G	5	31.519	36.064	65.814	1.00	49.69	C
ATOM	8860	O2*	C G	5	31.497	36.864	64.657	1.00	50.43	O
ATOM	8861	C1*	C G	5	31.698	34.590	65.481	1.00	49.06	C
ATOM	8862	N1	C G	5	30.443	33.984	64.977	1.00	48.15	N
ATOM	8863	C2	C G	5	30.349	33.558	63.656	1.00	47.91	C
ATOM	8864	O2	C G	5	31.315	33.643	62.893	1.00	48.75	O
ATOM	8865	N3	C G	5	29.177	33.036	63.234	1.00	48.63	N
ATOM	8866	C4	C G	5	28.132	32.935	64.045	1.00	48.18	C
ATOM	8867	N4	C G	5	27.022	32.400	63.543	1.00	48.54	N
ATOM	8868	C5	C G	5	28.198	33.376	65.393	1.00	48.19	C
ATOM	8869	C6	C G	5	29.361	33.890	65.807	1.00	48.67	C
ATOM	8870	P	A G	6	34.738	37.843	65.889	1.00	54.14	P
ATOM	8871	O1P	A G	6	35.684	37.445	66.955	1.00	54.39	O
ATOM	8872	O2P	A G	6	33.895	39.060	65.991	1.00	53.66	O
ATOM	8873	O5*	A G	6	35.509	37.890	64.489	1.00	56.09	O
ATOM	8874	C5*	A G	6	36.304	36.788	64.076	1.00	57.93	C
ATOM	8875	C4*	A G	6	37.017	37.150	62.789	1.00	59.09	C
ATOM	8876	O4*	A G	6	38.029	36.154	62.488	1.00	60.79	O
ATOM	8877	C3*	A G	6	36.135	37.211	61.549	1.00	59.33	C
ATOM	8878	O3*	A G	6	36.708	38.095	60.586	1.00	56.31	O
ATOM	8879	C2*	A G	6	36.157	35.757	61.083	1.00	60.78	C
ATOM	8880	O2*	A G	6	35.934	35.561	59.696	1.00	62.28	O
ATOM	8881	C1*	A G	6	37.586	35.347	61.420	1.00	61.85	C
ATOM	8882	N9	A G	6	37.673	33.952	61.823	1.00	62.50	N
ATOM	8883	C8	A G	6	37.001	33.318	62.839	1.00	62.64	C
ATOM	8884	N7	A G	6	37.298	32.042	62.947	1.00	62.79	N
ATOM	8885	C5	A G	6	38.224	31.831	61.930	1.00	62.96	C
ATOM	8886	C6	A G	6	38.940	30.691	61.494	1.00	62.84	C
ATOM	8887	N6	A G	6	38.820	29.488	62.065	1.00	62.81	N
ATOM	8888	N1	A G	6	39.790	30.834	60.446	1.00	62.96	N
ATOM	8889	C2	A G	6	39.917	32.040	59.869	1.00	62.92	C
ATOM	8890	N3	A G	6	39.300	33.182	60.187	1.00	62.79	N
ATOM	8891	C4	A G	6	38.465	33.003	61.229	1.00	62.88	C
ATOM	8892	P	G G	7	35.861	39.246	59.870	1.00	53.45	P
ATOM	8893	O1P	G G	7	36.786	40.367	59.606	1.00	55.77	O
ATOM	8894	O2P	G G	7	34.631	39.491	60.647	1.00	53.78	O
ATOM	8895	O5*	G G	7	35.473	38.613	58.452	1.00	53.09	O
ATOM	8896	C5*	G G	7	36.447	38.062	57.559	1.00	50.00	C
ATOM	8897	C4*	G G	7	35.766	37.255	56.466	1.00	49.71	C
ATOM	8898	O4*	G G	7	35.120	36.070	57.020	1.00	49.84	O
ATOM	8899	C3*	G G	7	34.626	37.973	55.760	1.00	48.98	C
ATOM	8900	O3*	G G	7	35.095	38.840	54.768	1.00	47.75	O
ATOM	8901	C2*	G G	7	33.823	36.808	55.193	1.00	49.06	C
ATOM	8902	O2*	G G	7	34.357	36.263	54.009	1.00	48.98	O
ATOM	8903	C1*	G G	7	33.891	35.810	56.349	1.00	49.72	C
ATOM	8904	N9	G G	7	32.739	35.893	57.270	1.00	50.21	N
ATOM	8905	C8	G G	7	32.732	36.159	58.622	1.00	50.18	C
ATOM	8906	N7	G G	7	31.533	36.164	59.155	1.00	50.58	N
ATOM	8907	C5	G G	7	30.686	35.877	58.090	1.00	50.31	C
ATOM	8908	C6	G G	7	29.272	35.739	58.038	1.00	50.44	C
ATOM	8909	O6	G G	7	28.431	35.845	58.944	1.00	50.37	O
ATOM	8910	N1	G G	7	28.831	35.465	56.752	1.00	49.77	N
ATOM	8911	C2	G G	7	29.628	35.322	55.652	1.00	49.92	C
ATOM	8912	N2	G G	7	29.002	35.047	54.500	1.00	49.71	N
ATOM	8913	N3	G G	7	30.945	35.438	55.688	1.00	50.22	N
ATOM	8914	C4	G G	7	31.410	35.717	56.930	1.00	49.81	C

ATOM	8915	P	A G	8	34.625	40.367	54.663	1.00	47.08	P
ATOM	8916	O1P	A G	8	35.492	41.027	53.656	1.00	47.78	O
ATOM	8917	O2P	A G	8	34.523	40.937	56.024	1.00	48.03	O
ATOM	8918	O5*	A G	8	33.143	40.287	54.083	1.00	47.65	O
ATOM	8919	C5*	A G	8	32.738	39.340	53.105	1.00	47.47	C
ATOM	8920	C4*	A G	8	31.223	39.206	53.090	1.00	47.81	C
ATOM	8921	O4*	A G	8	30.755	38.284	54.104	1.00	46.47	O
ATOM	8922	C3*	A G	8	30.479	40.499	53.370	1.00	47.68	C
ATOM	8923	O3*	A G	8	30.399	41.225	52.161	1.00	48.49	O
ATOM	8924	C2*	A G	8	29.147	39.975	53.890	1.00	47.19	C
ATOM	8925	O2*	A G	8	28.272	39.548	52.868	1.00	45.92	O
ATOM	8926	C1*	A G	8	29.600	38.792	54.731	1.00	46.82	C
ATOM	8927	N9	A G	8	29.932	39.015	56.144	1.00	46.70	N
ATOM	8928	C8	A G	8	31.161	39.223	56.700	1.00	46.93	C
ATOM	8929	N7	A G	8	31.137	39.356	58.012	1.00	47.92	N
ATOM	8930	C5	A G	8	29.813	39.208	58.352	1.00	46.24	C
ATOM	8931	C6	A G	8	29.128	39.237	59.589	1.00	47.12	C
ATOM	8932	N6	A G	8	29.693	39.438	60.788	1.00	47.02	N
ATOM	8933	N1	A G	8	27.797	39.053	59.560	1.00	46.41	N
ATOM	8934	C2	A G	8	27.196	38.853	58.385	1.00	47.22	C
ATOM	8935	N3	A G	8	27.734	38.805	57.158	1.00	47.58	N
ATOM	8936	C4	A G	8	29.062	38.994	57.209	1.00	46.59	C
ATOM	8937	P	A G	9	30.128	42.790	52.171	1.00	49.20	P
ATOM	8938	O1P	A G	9	30.103	43.281	50.772	1.00	49.51	O
ATOM	8939	O2P	A G	9	31.040	43.386	53.173	1.00	50.20	O
ATOM	8940	O5*	A G	9	28.652	42.851	52.794	1.00	51.16	O
ATOM	8941	C5*	A G	9	27.469	42.650	52.020	1.00	51.07	C
ATOM	8942	C4*	A G	9	26.227	42.768	52.892	1.00	51.06	C
ATOM	8943	O4*	A G	9	26.255	41.780	53.958	1.00	50.53	O
ATOM	8944	C3*	A G	9	26.078	44.097	53.624	1.00	51.13	C
ATOM	8945	O3*	A G	9	25.478	45.074	52.798	1.00	51.05	O
ATOM	8946	C2*	A G	9	25.188	43.708	54.798	1.00	50.81	C
ATOM	8947	O2*	A G	9	23.826	43.556	54.457	1.00	50.25	O
ATOM	8948	C1*	A G	9	25.826	42.379	55.174	1.00	50.05	C
ATOM	8949	N9	A G	9	26.964	42.533	56.090	1.00	49.93	N
ATOM	8950	C8	A G	9	28.283	42.769	55.796	1.00	49.24	C
ATOM	8951	N7	A G	9	29.062	42.845	56.846	1.00	49.18	N
ATOM	8952	C5	A G	9	28.204	42.648	57.906	1.00	48.65	C
ATOM	8953	C6	A G	9	28.402	42.614	59.295	1.00	48.65	C
ATOM	8954	N6	A G	9	29.579	42.778	59.890	1.00	48.39	N
ATOM	8955	N1	A G	9	27.312	42.402	60.066	1.00	49.96	N
ATOM	8956	C2	A G	9	26.111	42.228	59.493	1.00	49.36	C
ATOM	8957	N3	A G	9	25.806	42.236	58.195	1.00	49.25	N
ATOM	8958	C4	A G	9	26.906	42.458	57.457	1.00	49.24	C
ATOM	8959	P	C G	10	25.739	46.617	53.099	1.00	51.10	P
ATOM	8960	O1P	C G	10	24.976	47.342	52.064	1.00	50.76	O
ATOM	8961	O2P	C G	10	27.195	46.822	53.271	1.00	50.98	O
ATOM	8962	O5*	C G	10	25.069	46.887	54.521	1.00	50.37	O
ATOM	8963	C5*	C G	10	23.687	47.179	54.637	1.00	50.64	C
ATOM	8964	C4*	C G	10	23.248	47.199	56.092	1.00	50.57	C
ATOM	8965	O4*	C G	10	23.707	46.011	56.814	1.00	50.38	O
ATOM	8966	C3*	C G	10	23.771	48.377	56.896	1.00	50.33	C
ATOM	8967	O3*	C G	10	22.942	49.511	56.660	1.00	50.21	O
ATOM	8968	C2*	C G	10	23.662	47.824	58.317	1.00	50.61	C
ATOM	8969	O2*	C G	10	22.351	47.874	58.848	1.00	50.43	O
ATOM	8970	C1*	C G	10	24.087	46.371	58.131	1.00	49.30	C
ATOM	8971	N1	C G	10	25.558	46.186	58.351	1.00	48.57	N
ATOM	8972	C2	C G	10	26.018	46.031	59.657	1.00	47.79	C
ATOM	8973	O2	C G	10	25.216	46.044	60.585	1.00	47.98	O

ATOM	8974	N3	C G	10	27.338	45.859	59.877	1.00	47.64	N
ATOM	8975	C4	C G	10	28.195	45.857	58.862	1.00	47.83	C
ATOM	8976	N4	C G	10	29.479	45.687	59.153	1.00	47.97	N
ATOM	8977	C5	C G	10	27.766	46.021	57.517	1.00	48.12	C
ATOM	8978	C6	C G	10	26.452	46.185	57.313	1.00	48.43	C
ATOM	8979	P	U G	11	23.519	50.988	56.360	1.00	52.09	P
ATOM	8980	O1P	U G	11	22.639	51.649	55.363	1.00	50.45	O
ATOM	8981	O2P	U G	11	24.987	50.908	56.098	1.00	50.89	O
ATOM	8982	O5*	U G	11	23.279	51.693	57.776	1.00	49.01	O
ATOM	8983	C5*	U G	11	24.219	51.361	58.759	1.00	47.72	C
ATOM	8984	C4*	U G	11	23.829	51.613	60.203	1.00	46.42	C
ATOM	8985	O4*	U G	11	24.202	50.417	60.926	1.00	45.46	O
ATOM	8986	C3*	U G	11	24.562	52.772	60.875	1.00	44.99	C
ATOM	8987	O3*	U G	11	23.644	53.764	61.298	1.00	45.63	O
ATOM	8988	C2*	U G	11	25.308	52.159	62.056	1.00	44.69	C
ATOM	8989	O2*	U G	11	24.683	52.396	63.301	1.00	44.26	O
ATOM	8990	C1*	U G	11	25.314	50.668	61.761	1.00	44.67	C
ATOM	8991	N1	U G	11	26.620	50.176	61.172	1.00	44.64	N
ATOM	8992	C2	U G	11	27.691	50.078	62.027	1.00	44.45	C
ATOM	8993	O2	U G	11	27.630	50.363	63.203	1.00	45.78	O
ATOM	8994	N3	U G	11	28.851	49.620	61.473	1.00	44.76	N
ATOM	8995	C4	U G	11	29.075	49.258	60.162	1.00	44.95	C
ATOM	8996	O4	U G	11	30.184	48.863	59.828	1.00	44.64	O
ATOM	8997	C5	U G	11	27.924	49.385	59.306	1.00	45.31	C
ATOM	8998	C6	U G	11	26.772	49.825	59.835	1.00	44.93	C
TER	8999		U G	11						
HETATM	9000	PG	GTP R	12	24.919	59.769	60.454	1.00	66.97	P
HETATM	9001	O1G	GTP R	12	25.632	59.483	59.145	1.00	66.25	O
HETATM	9002	O2G	GTP R	12	23.661	60.607	60.340	1.00	66.35	O
HETATM	9003	O3G	GTP R	12	25.843	60.205	61.567	1.00	66.36	O
HETATM	9004	O3B	GTP R	12	24.350	58.336	60.927	1.00	64.76	O
HETATM	9005	PB	GTP R	12	23.762	57.248	59.884	1.00	63.86	P
HETATM	9006	O1B	GTP R	12	23.247	56.084	60.696	1.00	62.56	O
HETATM	9007	O2B	GTP R	12	22.803	57.965	58.952	1.00	62.27	O
HETATM	9008	O3A	GTP R	12	25.068	56.765	59.043	1.00	59.53	O
HETATM	9009	PA	GTP R	12	26.495	56.323	59.671	1.00	56.75	P
HETATM	9010	O1A	GTP R	12	27.048	55.211	58.804	1.00	56.79	O
HETATM	9011	O2A	GTP R	12	27.339	57.552	59.896	1.00	56.21	O
HETATM	9012	O5*	GTP R	12	26.154	55.656	61.096	1.00	53.47	O
HETATM	9013	C5*	GTP R	12	26.158	56.412	62.304	1.00	50.24	C
HETATM	9014	C4*	GTP R	12	26.969	55.715	63.383	1.00	48.44	C
HETATM	9015	O4*	GTP R	12	27.219	54.345	63.085	1.00	46.77	O
HETATM	9016	C3*	GTP R	12	28.353	56.307	63.563	1.00	47.18	C
HETATM	9017	O3*	GTP R	12	28.343	57.526	64.314	1.00	47.79	O
HETATM	9018	C2*	GTP R	12	29.094	55.198	64.268	1.00	46.43	C
HETATM	9019	O2*	GTP R	12	28.896	55.218	65.688	1.00	46.16	O
HETATM	9020	C1*	GTP R	12	28.454	53.949	63.686	1.00	44.42	C
HETATM	9021	N9	GTP R	12	29.337	53.333	62.677	1.00	43.50	N
HETATM	9022	C8	GTP R	12	29.045	53.088	61.390	1.00	43.07	C
HETATM	9023	N7	GTP R	12	30.113	52.502	60.801	1.00	42.91	N
HETATM	9024	C5	GTP R	12	31.066	52.390	61.744	1.00	42.68	C
HETATM	9025	C6	GTP R	12	32.344	51.879	61.728	1.00	42.61	C
HETATM	9026	O6	GTP R	12	32.776	51.403	60.659	1.00	42.59	O
HETATM	9027	N1	GTP R	12	33.084	51.908	62.866	1.00	42.71	N
HETATM	9028	C2	GTP R	12	32.578	52.431	64.014	1.00	42.48	C
HETATM	9029	N2	GTP R	12	33.314	52.458	65.150	1.00	42.60	N
HETATM	9030	N3	GTP R	12	31.326	52.925	64.044	1.00	41.88	N
HETATM	9031	C4	GTP R	12	30.571	52.915	62.923	1.00	42.60	C
ATOM	9032	P	G R	13	29.368	58.642	63.839	1.00	46.28	P

ATOM	9033	O1P	G R	13	28.826	59.731	64.696	1.00	44.98	O
ATOM	9034	O2P	G R	13	29.385	58.800	62.362	1.00	44.90	O
ATOM	9035	O5*	G R	13	30.822	58.227	64.386	1.00	45.14	O
ATOM	9036	C5*	G R	13	30.930	57.925	65.775	1.00	45.21	C
ATOM	9037	C4*	G R	13	32.344	57.603	66.214	1.00	45.50	C
ATOM	9038	O4*	G R	13	32.635	56.195	66.059	1.00	45.86	O
ATOM	9039	C3*	G R	13	33.449	58.314	65.452	1.00	45.58	C
ATOM	9040	O3*	G R	13	33.507	59.651	65.941	1.00	47.25	O
ATOM	9041	C2*	G R	13	34.627	57.416	65.810	1.00	45.43	C
ATOM	9042	O2*	G R	13	35.105	57.547	67.130	1.00	45.07	O
ATOM	9043	C1*	G R	13	33.978	56.055	65.631	1.00	45.35	C
ATOM	9044	N9	G R	13	33.968	55.605	64.244	1.00	45.48	N
ATOM	9045	C8	G R	13	32.938	55.761	63.338	1.00	45.19	C
ATOM	9046	N7	G R	13	33.200	55.262	62.165	1.00	45.31	N
ATOM	9047	C5	G R	13	34.486	54.748	62.302	1.00	45.35	C
ATOM	9048	C6	G R	13	35.289	54.084	61.346	1.00	45.45	C
ATOM	9049	O6	G R	13	34.989	53.825	60.167	1.00	45.08	O
ATOM	9050	N1	G R	13	36.530	53.715	61.884	1.00	45.08	N
ATOM	9051	C2	G R	13	36.944	53.959	63.174	1.00	44.95	C
ATOM	9052	N2	G R	13	38.173	53.518	63.487	1.00	44.91	N
ATOM	9053	N3	G R	13	36.195	54.580	64.084	1.00	44.79	N
ATOM	9054	C4	G R	13	34.983	54.946	63.577	1.00	45.31	C
ATOM	9055	P	C R	14	34.398	60.803	65.286	1.00	47.52	P
ATOM	9056	O1P	C R	14	34.129	62.023	66.080	1.00	48.23	O
ATOM	9057	O2P	C R	14	34.241	60.836	63.811	1.00	47.30	O
ATOM	9058	O5*	C R	14	35.857	60.240	65.653	1.00	49.05	O
ATOM	9059	C5*	C R	14	37.029	60.885	65.195	1.00	49.30	C
ATOM	9060	C4*	C R	14	38.225	59.950	65.147	1.00	49.73	C
ATOM	9061	O4*	C R	14	37.854	58.550	65.116	1.00	49.51	O
ATOM	9062	C3*	C R	14	39.076	60.127	63.900	1.00	50.23	C
ATOM	9063	O3*	C R	14	39.932	61.223	64.076	1.00	50.65	O
ATOM	9064	C2*	C R	14	39.813	58.799	63.843	1.00	50.20	C
ATOM	9065	O2*	C R	14	40.814	58.637	64.838	1.00	50.35	O
ATOM	9066	C1*	C R	14	38.610	57.902	64.098	1.00	50.14	C
ATOM	9067	N1	C R	14	37.758	57.687	62.865	1.00	50.29	N
ATOM	9068	C2	C R	14	38.231	56.874	61.816	1.00	50.07	C
ATOM	9069	O2	C R	14	39.347	56.331	61.897	1.00	49.44	O
ATOM	9070	N3	C R	14	37.423	56.701	60.729	1.00	50.24	N
ATOM	9071	C4	C R	14	36.215	57.288	60.649	1.00	50.06	C
ATOM	9072	N4	C R	14	35.461	57.091	59.563	1.00	49.49	N
ATOM	9073	C5	C R	14	35.723	58.111	61.696	1.00	49.49	C
ATOM	9074	C6	C R	14	36.515	58.280	62.763	1.00	50.27	C
ATOM	9075	P	A R	15	39.649	62.641	63.390	1.00	51.36	P
ATOM	9076	O1P	A R	15	39.459	63.592	64.515	1.00	51.05	O
ATOM	9077	O2P	A R	15	38.625	62.548	62.323	1.00	50.26	O
ATOM	9078	O5*	A R	15	41.051	62.916	62.658	1.00	51.64	O
ATOM	9079	C5*	A R	15	42.222	62.084	62.864	1.00	52.10	C
ATOM	9080	C4*	A R	15	42.700	61.376	61.602	1.00	51.70	C
ATOM	9081	O4*	A R	15	42.003	60.115	61.412	1.00	52.39	O
ATOM	9082	C3*	A R	15	42.460	62.083	60.271	1.00	51.61	C
ATOM	9083	O3*	A R	15	43.244	63.288	60.112	1.00	49.66	O
ATOM	9084	C2*	A R	15	42.816	60.936	59.322	1.00	51.66	C
ATOM	9085	O2*	A R	15	44.199	60.692	59.156	1.00	51.72	O
ATOM	9086	C1*	A R	15	42.130	59.769	60.038	1.00	52.70	C
ATOM	9087	N9	A R	15	40.824	59.509	59.439	1.00	53.09	N
ATOM	9088	C8	A R	15	39.600	59.981	59.827	1.00	53.08	C
ATOM	9089	N7	A R	15	38.608	59.576	59.066	1.00	52.91	N
ATOM	9090	C5	A R	15	39.222	58.792	58.106	1.00	52.99	C
ATOM	9091	C6	A R	15	38.725	58.074	56.994	1.00	52.99	C

ATOM	9092	N6	A R	15	37.430	58.015	56.653	1.00	52.47	N
ATOM	9093	N1	A R	15	39.633	57.400	56.247	1.00	53.18	N
ATOM	9094	C2	A R	15	40.936	57.452	56.572	1.00	53.17	C
ATOM	9095	N3	A R	15	41.517	58.090	57.588	1.00	53.42	N
ATOM	9096	C4	A R	15	40.594	58.747	58.319	1.00	53.48	C
ATOM	9097	P	C R	16	42.828	64.393	59.019	1.00	49.03	P
ATOM	9098	O1P	C R	16	43.836	65.479	59.028	1.00	48.77	O
ATOM	9099	O2P	C R	16	41.400	64.741	59.186	1.00	47.74	O
ATOM	9100	O5*	C R	16	43.017	63.597	57.651	1.00	48.67	O
ATOM	9101	C5*	C R	16	44.298	63.500	57.058	1.00	48.85	C
ATOM	9102	C4*	C R	16	44.242	62.757	55.736	1.00	49.12	C
ATOM	9103	O4*	C R	16	43.620	61.454	55.864	1.00	48.28	O
ATOM	9104	C3*	C R	16	43.422	63.425	54.649	1.00	49.25	C
ATOM	9105	O3*	C R	16	44.113	64.562	54.159	1.00	49.80	O
ATOM	9106	C2*	C R	16	43.289	62.240	53.689	1.00	49.30	C
ATOM	9107	O2*	C R	16	44.467	61.818	53.026	1.00	50.05	O
ATOM	9108	C1*	C R	16	42.885	61.171	54.687	1.00	48.65	C
ATOM	9109	N1	C R	16	41.410	61.176	54.963	1.00	49.02	N
ATOM	9110	C2	C R	16	40.521	60.671	53.994	1.00	48.76	C
ATOM	9111	O2	C R	16	40.937	60.219	52.913	1.00	48.67	O
ATOM	9112	N3	C R	16	39.196	60.693	54.277	1.00	48.84	N
ATOM	9113	C4	C R	16	38.736	61.174	55.433	1.00	48.85	C
ATOM	9114	N4	C R	16	37.419	61.156	55.634	1.00	48.51	N
ATOM	9115	C5	C R	16	39.611	61.692	56.429	1.00	48.82	C
ATOM	9116	C6	C R	16	40.919	61.670	56.150	1.00	49.30	C
ATOM	9117	P	C R	17A	43.363	65.688	53.303	1.00	51.34	P
ATOM	9118	O1P	C R	17A	44.380	66.651	52.824	1.00	50.86	O
ATOM	9119	O2P	C R	17A	42.206	66.211	54.063	1.00	50.86	O
ATOM	9120	O5*	C R	17A	42.846	64.814	52.063	1.00	51.10	O
ATOM	9121	C5*	C R	17A	43.494	64.849	50.788	1.00	51.38	C
ATOM	9122	C4*	C R	17A	42.667	64.110	49.759	1.00	51.12	C
ATOM	9123	O4*	C R	17A	41.967	63.027	50.422	1.00	51.05	O
ATOM	9124	C3*	C R	17A	41.549	64.917	49.121	1.00	50.91	C
ATOM	9125	O3*	C R	17A	42.025	65.746	48.065	1.00	50.86	O
ATOM	9126	C2*	C R	17A	40.627	63.799	48.642	1.00	50.80	C
ATOM	9127	O2*	C R	17A	41.062	63.153	47.461	1.00	50.40	O
ATOM	9128	C1*	C R	17A	40.692	62.848	49.834	1.00	50.48	C
ATOM	9129	N1	C R	17A	39.624	63.065	50.866	1.00	50.46	N
ATOM	9130	C2	C R	17A	38.290	62.763	50.532	1.00	51.04	C
ATOM	9131	O2	C R	17A	38.022	62.338	49.396	1.00	50.71	O
ATOM	9132	N3	C R	17A	37.318	62.958	51.471	1.00	50.87	N
ATOM	9133	C4	C R	17A	37.616	63.409	52.689	1.00	49.91	C
ATOM	9134	N4	C R	17A	36.616	63.568	53.551	1.00	49.52	N
ATOM	9135	C5	C R	17A	38.960	63.718	53.050	1.00	50.42	C
ATOM	9136	C6	C R	17A	39.917	63.535	52.125	1.00	50.33	C
ATOM	9137	P	A R	17B	41.602	67.297	47.971	1.00	51.19	P
ATOM	9138	O1P	A R	17B	42.381	67.885	46.851	1.00	50.82	O
ATOM	9139	O2P	A R	17B	41.665	67.883	49.332	1.00	50.54	O
ATOM	9140	O5*	A R	17B	40.058	67.276	47.584	1.00	48.80	O
ATOM	9141	C5*	A R	17B	39.652	66.792	46.335	1.00	48.18	C
ATOM	9142	C4*	A R	17B	38.166	66.519	46.368	1.00	48.14	C
ATOM	9143	O4*	A R	17B	37.882	65.465	47.321	1.00	47.56	O
ATOM	9144	C3*	A R	17B	37.272	67.663	46.842	1.00	48.06	C
ATOM	9145	O3*	A R	17B	37.138	68.681	45.861	1.00	48.52	O
ATOM	9146	C2*	A R	17B	35.996	66.864	47.081	1.00	47.88	C
ATOM	9147	O2*	A R	17B	35.353	66.449	45.890	1.00	47.23	O
ATOM	9148	C1*	A R	17B	36.580	65.677	47.846	1.00	47.52	C
ATOM	9149	N9	A R	17B	36.634	65.916	49.293	1.00	47.61	N
ATOM	9150	C8	A R	17B	37.721	66.227	50.078	1.00	47.71	C

ATOM	9151	N7	A R	17B	37.430	66.386	51.356	1.00	47.98	N
ATOM	9152	C5	A R	17B	36.050	66.163	51.417	1.00	48.07	C
ATOM	9153	C6	A R	17B	35.104	66.171	52.472	1.00	47.15	C
ATOM	9154	N6	A R	17B	35.382	66.417	53.758	1.00	46.79	N
ATOM	9155	N1	A R	17B	33.821	65.907	52.156	1.00	47.88	N
ATOM	9156	C2	A R	17B	33.488	65.641	50.889	1.00	47.57	C
ATOM	9157	N3	A R	17B	34.273	65.600	49.820	1.00	47.50	N
ATOM	9158	C4	A R	17B	35.551	65.873	50.151	1.00	47.95	C
ATOM	9159	P	U R	17C	36.531	70.111	46.235	1.00	49.57	P
ATOM	9160	O1P	U R	17C	36.308	70.841	44.961	1.00	48.74	O
ATOM	9161	O2P	U R	17C	37.346	70.721	47.316	1.00	50.06	O
ATOM	9162	O5*	U R	17C	35.117	69.744	46.866	1.00	49.84	O
ATOM	9163	C5*	U R	17C	34.003	69.486	46.037	1.00	50.30	C
ATOM	9164	C4*	U R	17C	32.768	69.356	46.897	1.00	50.56	C
ATOM	9165	O4*	U R	17C	32.982	68.418	47.989	1.00	51.06	O
ATOM	9166	C3*	U R	17C	32.363	70.649	47.573	1.00	49.86	C
ATOM	9167	O3*	U R	17C	31.649	71.405	46.646	1.00	50.85	O
ATOM	9168	C2*	U R	17C	31.474	70.118	48.680	1.00	50.20	C
ATOM	9169	O2*	U R	17C	30.181	69.796	48.216	1.00	50.43	O
ATOM	9170	C1*	U R	17C	32.222	68.856	49.109	1.00	50.47	C
ATOM	9171	N1	U R	17C	33.111	69.104	50.310	1.00	50.62	N
ATOM	9172	C2	U R	17C	32.559	69.014	51.574	1.00	50.61	C
ATOM	9173	O2	U R	17C	31.386	68.728	51.747	1.00	50.43	O
ATOM	9174	N3	U R	17C	33.435	69.259	52.616	1.00	49.89	N
ATOM	9175	C4	U R	17C	34.787	69.581	52.525	1.00	49.94	C
ATOM	9176	O4	U R	17C	35.471	69.780	53.526	1.00	49.50	O
ATOM	9177	C5	U R	17C	35.286	69.658	51.181	1.00	50.16	C
ATOM	9178	C6	U R	17C	34.453	69.423	50.154	1.00	50.63	C
ATOM	9179	P	U R	17D	31.605	72.996	46.710	1.00	52.50	P
ATOM	9180	O1P	U R	17D	30.632	73.436	45.682	1.00	51.13	O
ATOM	9181	O2P	U R	17D	33.005	73.492	46.707	1.00	51.25	O
ATOM	9182	O5*	U R	17D	30.945	73.266	48.143	1.00	52.65	O
ATOM	9183	C5*	U R	17D	29.543	72.992	48.352	1.00	53.57	C
ATOM	9184	C4*	U R	17D	28.752	74.203	48.845	1.00	53.63	C
ATOM	9185	O4*	U R	17D	29.031	74.446	50.252	1.00	53.88	O
ATOM	9186	C3*	U R	17D	29.038	75.537	48.162	1.00	53.74	C
ATOM	9187	O3*	U R	17D	27.834	76.319	48.104	1.00	53.50	O
ATOM	9188	C2*	U R	17D	30.113	76.128	49.080	1.00	53.69	C
ATOM	9189	O2*	U R	17D	30.297	77.524	48.954	1.00	53.97	O
ATOM	9190	C1*	U R	17D	29.514	75.758	50.430	1.00	53.80	C
ATOM	9191	N1	U R	17D	30.454	75.740	51.598	1.00	53.82	N
ATOM	9192	C2	U R	17D	30.239	76.600	52.656	1.00	54.24	C
ATOM	9193	O2	U R	17D	29.313	77.403	52.680	1.00	54.32	O
ATOM	9194	N3	U R	17D	31.153	76.492	53.684	1.00	53.62	N
ATOM	9195	C4	U R	17D	32.240	75.637	53.772	1.00	53.65	C
ATOM	9196	O4	U R	17D	32.980	75.655	54.758	1.00	53.29	O
ATOM	9197	C5	U R	17D	32.392	74.770	52.630	1.00	54.10	C
ATOM	9198	C6	U R	17D	31.510	74.852	51.617	1.00	54.06	C
ATOM	9199	P	G R	17E	26.754	76.150	46.925	1.00	53.82	P
ATOM	9200	O1P	G R	17E	27.455	75.853	45.649	1.00	53.71	O
ATOM	9201	O2P	G R	17E	25.874	77.339	46.973	1.00	54.95	O
ATOM	9202	O5*	G R	17E	25.906	74.864	47.373	1.00	52.89	O
ATOM	9203	C5*	G R	17E	25.544	73.840	46.427	1.00	51.95	C
ATOM	9204	C4*	G R	17E	25.083	72.579	47.131	1.00	51.72	C
ATOM	9205	O4*	G R	17E	26.117	72.166	48.058	1.00	51.65	O
ATOM	9206	C3*	G R	17E	23.829	72.730	47.986	1.00	51.48	C
ATOM	9207	O3*	G R	17E	22.647	72.548	47.225	1.00	50.40	O
ATOM	9208	C2*	G R	17E	24.026	71.626	49.014	1.00	52.34	C
ATOM	9209	O2*	G R	17E	23.680	70.337	48.522	1.00	52.79	O

ATOM	9210	C1*	G R	17E	25.534	71.717	49.276	1.00	53.34	C
ATOM	9211	N9	G R	17E	25.949	72.592	50.390	1.00	53.78	N
ATOM	9212	C8	G R	17E	25.351	73.747	50.848	1.00	54.25	C
ATOM	9213	N7	G R	17E	25.968	74.305	51.856	1.00	54.10	N
ATOM	9214	C5	G R	17E	27.045	73.467	52.103	1.00	54.13	C
ATOM	9215	C6	G R	17E	28.083	73.552	53.079	1.00	54.24	C
ATOM	9216	O6	G R	17E	28.268	74.407	53.965	1.00	54.17	O
ATOM	9217	N1	G R	17E	28.989	72.494	52.963	1.00	54.59	N
ATOM	9218	C2	G R	17E	28.910	71.481	52.031	1.00	54.35	C
ATOM	9219	N2	G R	17E	29.868	70.552	52.076	1.00	54.26	N
ATOM	9220	N3	G R	17E	27.950	71.386	51.117	1.00	54.87	N
ATOM	9221	C4	G R	17E	27.047	72.408	51.209	1.00	54.37	C
ATOM	9222	P	C R	17F	21.339	73.436	47.477	1.00	49.46	P
ATOM	9223	O1P	C R	17F	20.267	72.873	46.626	1.00	49.93	O
ATOM	9224	O2P	C R	17F	21.702	74.868	47.389	1.00	49.86	O
ATOM	9225	O5*	C R	17F	21.003	73.154	49.014	1.00	50.32	O
ATOM	9226	C5*	C R	17F	20.632	71.863	49.484	1.00	50.24	C
ATOM	9227	C4*	C R	17F	19.210	71.889	50.016	1.00	50.24	C
ATOM	9228	O4*	C R	17F	19.001	73.087	50.814	1.00	50.68	O
ATOM	9229	C3*	C R	17F	18.123	71.909	48.950	1.00	49.63	C
ATOM	9230	O3*	C R	17F	17.096	71.079	49.405	1.00	49.40	O
ATOM	9231	C2*	C R	17F	17.702	73.375	48.893	1.00	50.40	C
ATOM	9232	O2*	C R	17F	16.383	73.642	48.442	1.00	49.58	O
ATOM	9233	C1*	C R	17F	17.818	73.719	50.367	1.00	51.00	C
ATOM	9234	N1	C R	17F	17.865	75.192	50.609	1.00	51.53	N
ATOM	9235	C2	C R	17F	16.788	75.803	51.266	1.00	51.81	C
ATOM	9236	O2	C R	17F	15.822	75.117	51.636	1.00	51.40	O
ATOM	9237	N3	C R	17F	16.842	77.147	51.477	1.00	52.15	N
ATOM	9238	C4	C R	17F	17.896	77.866	51.063	1.00	51.71	C
ATOM	9239	N4	C R	17F	17.880	79.181	51.307	1.00	51.31	N
ATOM	9240	C5	C R	17F	19.000	77.258	50.391	1.00	51.36	C
ATOM	9241	C6	C R	17F	18.939	75.935	50.186	1.00	51.64	C
ATOM	9242	P	A R	17G	16.261	70.111	48.448	1.00	49.82	P
ATOM	9243	O1P	A R	17G	17.066	69.777	47.244	1.00	48.98	O
ATOM	9244	O2P	A R	17G	14.893	70.681	48.342	1.00	49.17	O
ATOM	9245	O5*	A R	17G	16.185	68.781	49.338	1.00	48.65	O
ATOM	9246	C5*	A R	17G	17.370	68.188	49.878	1.00	47.96	C
ATOM	9247	C4*	A R	17G	17.180	67.899	51.351	1.00	47.39	C
ATOM	9248	O4*	A R	17G	17.240	69.137	52.097	1.00	46.66	O
ATOM	9249	C3*	A R	17G	15.826	67.312	51.728	1.00	47.17	C
ATOM	9250	O3*	A R	17G	15.761	65.914	51.428	1.00	47.58	O
ATOM	9251	C2*	A R	17G	15.806	67.635	53.214	1.00	46.75	C
ATOM	9252	O2*	A R	17G	16.642	66.800	53.984	1.00	46.58	O
ATOM	9253	C1*	A R	17G	16.334	69.064	53.189	1.00	46.30	C
ATOM	9254	N9	A R	17G	15.303	70.096	53.053	1.00	45.73	N
ATOM	9255	C8	A R	17G	14.967	70.818	51.944	1.00	45.72	C
ATOM	9256	N7	A R	17G	14.004	71.688	52.132	1.00	45.57	N
ATOM	9257	C5	A R	17G	13.680	71.535	53.466	1.00	45.71	C
ATOM	9258	C6	A R	17G	12.729	72.166	54.304	1.00	45.62	C
ATOM	9259	N6	A R	17G	11.895	73.123	53.897	1.00	45.53	N
ATOM	9260	N1	A R	17G	12.661	71.766	55.591	1.00	45.89	N
ATOM	9261	C2	A R	17G	13.495	70.804	56.015	1.00	45.98	C
ATOM	9262	N3	A R	17G	14.433	70.140	55.324	1.00	46.25	N
ATOM	9263	C4	A R	17G	14.473	70.554	54.044	1.00	45.84	C
ATOM	9264	P	C R	17H	14.391	65.200	50.980	1.00	48.59	P
ATOM	9265	O1P	C R	17H	14.764	63.878	50.421	1.00	48.38	O
ATOM	9266	O2P	C R	17H	13.571	66.123	50.162	1.00	47.73	O
ATOM	9267	O5*	C R	17H	13.635	64.976	52.373	1.00	49.39	O
ATOM	9268	C5*	C R	17H	14.247	64.307	53.473	1.00	51.23	C

ATOM	9269	C4*	C R	17H	13.470	64.546	54.757	1.00	52.73	C
ATOM	9270	O4*	C R	17H	13.558	65.942	55.133	1.00	52.52	O
ATOM	9271	C3*	C R	17H	11.980	64.231	54.671	1.00	54.17	C
ATOM	9272	O3*	C R	17H	11.740	62.900	55.114	1.00	57.44	O
ATOM	9273	C2*	C R	17H	11.314	65.267	55.577	1.00	53.64	C
ATOM	9274	O2*	C R	17H	11.067	64.796	56.891	1.00	53.64	O
ATOM	9275	C1*	C R	17H	12.304	66.435	55.581	1.00	52.60	C
ATOM	9276	N1	C R	17H	11.851	67.604	54.721	1.00	52.09	N
ATOM	9277	C2	C R	17H	10.935	68.550	55.221	1.00	51.86	C
ATOM	9278	O2	C R	17H	10.484	68.450	56.371	1.00	51.69	O
ATOM	9279	N3	C R	17H	10.549	69.578	54.418	1.00	51.53	N
ATOM	9280	C4	C R	17H	11.024	69.692	53.178	1.00	51.55	C
ATOM	9281	N4	C R	17H	10.619	70.722	52.432	1.00	51.30	N
ATOM	9282	C5	C R	17H	11.952	68.751	52.651	1.00	51.76	C
ATOM	9283	C6	C R	17H	12.324	67.740	53.442	1.00	51.82	C
ATOM	9284	P	U R	17I	10.888	61.891	54.220	1.00	60.70	P
ATOM	9285	O1P	U R	17I	11.627	61.730	52.941	1.00	60.26	O
ATOM	9286	O2P	U R	17I	9.483	62.364	54.212	1.00	59.98	O
ATOM	9287	O5*	U R	17I	10.974	60.544	55.095	1.00	63.42	O
ATOM	9288	C5*	U R	17I	11.266	59.256	54.536	1.00	66.88	C
ATOM	9289	C4*	U R	17I	12.694	58.815	54.824	1.00	68.42	C
ATOM	9290	O4*	U R	17I	12.799	57.379	54.674	1.00	69.63	O
ATOM	9291	C3*	U R	17I	13.770	59.321	53.875	1.00	69.94	C
ATOM	9292	O3*	U R	17I	15.058	59.176	54.454	1.00	70.48	O
ATOM	9293	C2*	U R	17I	13.603	58.392	52.677	1.00	70.39	C
ATOM	9294	O2*	U R	17I	14.783	58.249	51.904	1.00	70.79	O
ATOM	9295	C1*	U R	17I	13.212	57.073	53.350	1.00	70.83	C
ATOM	9296	N1	U R	17I	12.117	56.354	52.619	1.00	71.33	N
ATOM	9297	C2	U R	17I	12.342	55.968	51.306	1.00	71.65	C
ATOM	9298	O2	U R	17I	13.386	56.181	50.707	1.00	71.23	O
ATOM	9299	N3	U R	17I	11.284	55.312	50.712	1.00	71.81	N
ATOM	9300	C4	U R	17I	10.054	55.011	51.281	1.00	71.65	C
ATOM	9301	O4	U R	17I	9.204	54.418	50.623	1.00	71.53	O
ATOM	9302	C5	U R	17I	9.893	55.443	52.647	1.00	71.63	C
ATOM	9303	C6	U R	17I	10.906	56.083	53.248	1.00	71.66	C
ATOM	9304	P	C R	17J	15.762	60.354	55.281	1.00	71.48	P
ATOM	9305	O1P	C R	17J	14.821	60.842	56.320	1.00	71.12	O
ATOM	9306	O2P	C R	17J	16.344	61.319	54.311	1.00	70.63	O
ATOM	9307	O5*	C R	17J	16.924	59.520	56.014	1.00	70.68	O
ATOM	9308	C5*	C R	17J	18.221	59.446	55.441	1.00	69.85	C
ATOM	9309	C4*	C R	17J	18.847	58.072	55.549	1.00	69.49	C
ATOM	9310	O4*	C R	17J	17.997	56.983	55.105	1.00	69.38	O
ATOM	9311	C3*	C R	17J	20.030	57.925	54.619	1.00	69.12	C
ATOM	9312	O3*	C R	17J	21.094	58.755	55.057	1.00	67.89	O
ATOM	9313	C2*	C R	17J	20.278	56.427	54.717	1.00	69.28	C
ATOM	9314	O2*	C R	17J	20.926	56.016	55.907	1.00	69.35	O
ATOM	9315	C1*	C R	17J	18.834	55.921	54.644	1.00	69.59	C
ATOM	9316	N1	C R	17J	18.444	55.454	53.251	1.00	69.82	N
ATOM	9317	C2	C R	17J	19.101	54.338	52.688	1.00	69.89	C
ATOM	9318	O2	C R	17J	19.987	53.753	53.325	1.00	69.92	O
ATOM	9319	N3	C R	17J	18.757	53.915	51.442	1.00	69.85	N
ATOM	9320	C4	C R	17J	17.802	54.547	50.759	1.00	69.91	C
ATOM	9321	N4	C R	17J	17.507	54.086	49.538	1.00	69.77	N
ATOM	9322	C5	C R	17J	17.118	55.682	51.303	1.00	70.02	C
ATOM	9323	C6	C R	17J	17.465	56.096	52.533	1.00	69.88	C
ATOM	9324	P	C R	17K	21.511	60.059	54.221	1.00	67.03	P
ATOM	9325	O1P	C R	17K	21.787	61.128	55.207	1.00	66.78	O
ATOM	9326	O2P	C R	17K	20.512	60.306	53.150	1.00	66.58	O
ATOM	9327	O5*	C R	17K	22.897	59.606	53.548	1.00	65.24	O

ATOM	9328	C5*	C R	17K	23.702	58.523	54.058	1.00	63.28	C
ATOM	9329	C4*	C R	17K	24.075	57.500	52.988	1.00	62.16	C
ATOM	9330	O4*	C R	17K	22.992	56.564	52.739	1.00	62.42	O
ATOM	9331	C3*	C R	17K	24.392	58.051	51.606	1.00	60.74	C
ATOM	9332	O3*	C R	17K	25.708	58.609	51.601	1.00	57.83	O
ATOM	9333	C2*	C R	17K	24.257	56.793	50.755	1.00	61.17	C
ATOM	9334	O2*	C R	17K	25.373	55.928	50.844	1.00	61.00	O
ATOM	9335	C1*	C R	17K	23.024	56.145	51.380	1.00	62.28	C
ATOM	9336	N1	C R	17K	21.739	56.520	50.679	1.00	62.72	N
ATOM	9337	C2	C R	17K	21.262	55.727	49.620	1.00	62.74	C
ATOM	9338	O2	C R	17K	21.899	54.722	49.273	1.00	62.48	O
ATOM	9339	N3	C R	17K	20.104	56.093	49.000	1.00	62.90	N
ATOM	9340	C4	C R	17K	19.434	57.186	49.391	1.00	62.80	C
ATOM	9341	N4	C R	17K	18.300	57.501	48.756	1.00	62.95	N
ATOM	9342	C5	C R	17K	19.899	58.005	50.462	1.00	62.95	C
ATOM	9343	C6	C R	17K	21.042	57.641	51.064	1.00	63.04	C
ATOM	9344	P	G R	17L	26.023	60.108	51.128	1.00	54.49	P
ATOM	9345	O1P	G R	17L	26.900	60.714	52.149	1.00	53.84	O
ATOM	9346	O2P	G R	17L	24.775	60.781	50.711	1.00	55.04	O
ATOM	9347	O5*	G R	17L	26.865	59.892	49.792	1.00	53.56	O
ATOM	9348	C5*	G R	17L	27.576	58.693	49.549	1.00	51.62	C
ATOM	9349	C4*	G R	17L	28.577	58.898	48.426	1.00	51.39	C
ATOM	9350	O4*	G R	17L	28.913	60.311	48.265	1.00	50.75	O
ATOM	9351	C3*	G R	17L	29.913	58.184	48.615	1.00	50.10	C
ATOM	9352	O3*	G R	17L	29.808	56.859	48.132	1.00	49.25	O
ATOM	9353	C2*	G R	17L	30.827	59.056	47.768	1.00	50.10	C
ATOM	9354	O2*	G R	17L	30.674	58.818	46.380	1.00	49.15	O
ATOM	9355	C1*	G R	17L	30.319	60.441	48.177	1.00	50.23	C
ATOM	9356	N9	G R	17L	30.837	60.867	49.476	1.00	50.28	N
ATOM	9357	C8	G R	17L	30.163	60.960	50.676	1.00	50.17	C
ATOM	9358	N7	G R	17L	30.902	61.357	51.670	1.00	49.71	N
ATOM	9359	C5	G R	17L	32.150	61.534	51.093	1.00	50.46	C
ATOM	9360	C6	G R	17L	33.367	61.957	51.673	1.00	50.42	C
ATOM	9361	O6	G R	17L	33.592	62.267	52.850	1.00	50.40	O
ATOM	9362	N1	G R	17L	34.398	61.998	50.735	1.00	50.33	N
ATOM	9363	C2	G R	17L	34.282	61.674	49.403	1.00	50.13	C
ATOM	9364	N2	G R	17L	35.406	61.782	48.672	1.00	50.22	N
ATOM	9365	N3	G R	17L	33.142	61.283	48.842	1.00	49.69	N
ATOM	9366	C4	G R	17L	32.129	61.235	49.744	1.00	50.18	C
ATOM	9367	P	G R	18	30.576	55.659	48.847	1.00	48.87	P
ATOM	9368	O1P	G R	18	30.193	54.400	48.155	1.00	48.91	O
ATOM	9369	O2P	G R	18	30.387	55.792	50.309	1.00	48.48	O
ATOM	9370	O5*	G R	18	32.096	55.975	48.462	1.00	49.12	O
ATOM	9371	C5*	G R	18	32.492	55.914	47.096	1.00	48.98	C
ATOM	9372	C4*	G R	18	33.931	56.357	46.922	1.00	49.51	C
ATOM	9373	O4*	G R	18	34.073	57.752	47.289	1.00	49.48	O
ATOM	9374	C3*	G R	18	34.963	55.635	47.786	1.00	49.51	C
ATOM	9375	O3*	G R	18	35.281	54.368	47.231	1.00	49.53	O
ATOM	9376	C2*	G R	18	36.122	56.626	47.755	1.00	49.33	C
ATOM	9377	O2*	G R	18	36.895	56.608	46.565	1.00	49.43	O
ATOM	9378	C1*	G R	18	35.339	57.935	47.898	1.00	49.04	C
ATOM	9379	N9	G R	18	35.131	58.278	49.294	1.00	48.98	N
ATOM	9380	C8	G R	18	33.966	58.254	50.032	1.00	48.59	C
ATOM	9381	N7	G R	18	34.141	58.610	51.271	1.00	48.53	N
ATOM	9382	C5	G R	18	35.506	58.882	51.351	1.00	49.05	C
ATOM	9383	C6	G R	18	36.306	59.319	52.435	1.00	48.74	C
ATOM	9384	O6	G R	18	35.949	59.558	53.599	1.00	48.72	O
ATOM	9385	N1	G R	18	37.650	59.458	52.071	1.00	48.78	N
ATOM	9386	C2	G R	18	38.179	59.218	50.825	1.00	48.81	C

ATOM	9387	N2	G R	18	39.500	59.412	50.671	1.00	48.77	N
ATOM	9388	N3	G R	18	37.440	58.816	49.801	1.00	48.98	N
ATOM	9389	C4	G R	18	36.128	58.678	50.139	1.00	49.08	C
ATOM	9390	P	U R	19	35.644	53.136	48.176	1.00	49.87	P
ATOM	9391	O1P	U R	19	35.766	51.940	47.308	1.00	50.10	O
ATOM	9392	O2P	U R	19	34.747	53.131	49.354	1.00	50.41	O
ATOM	9393	O5*	U R	19	37.096	53.558	48.672	1.00	51.49	O
ATOM	9394	C5*	U R	19	38.162	53.710	47.736	1.00	52.34	C
ATOM	9395	C4*	U R	19	39.472	53.913	48.461	1.00	52.84	C
ATOM	9396	O4*	U R	19	39.556	55.264	48.981	1.00	53.35	O
ATOM	9397	C3*	U R	19	39.649	53.014	49.673	1.00	53.30	C
ATOM	9398	O3*	U R	19	40.145	51.770	49.276	1.00	52.91	O
ATOM	9399	C2*	U R	19	40.654	53.792	50.498	1.00	53.75	C
ATOM	9400	O2*	U R	19	41.981	53.558	50.058	1.00	54.09	O
ATOM	9401	C1*	U R	19	40.161	55.223	50.263	1.00	53.94	C
ATOM	9402	N1	U R	19	39.174	55.643	51.315	1.00	54.10	N
ATOM	9403	C2	U R	19	39.637	56.281	52.454	1.00	54.44	C
ATOM	9404	O2	U R	19	40.809	56.544	52.670	1.00	54.35	O
ATOM	9405	N3	U R	19	38.661	56.621	53.358	1.00	54.56	N
ATOM	9406	C4	U R	19	37.299	56.400	53.264	1.00	54.16	C
ATOM	9407	O4	U R	19	36.564	56.776	54.176	1.00	53.69	O
ATOM	9408	C5	U R	19	36.887	55.729	52.053	1.00	54.23	C
ATOM	9409	C6	U R	19	37.820	55.384	51.153	1.00	54.05	C
ATOM	9410	P	G R	20	40.215	50.603	50.352	1.00	53.08	P
ATOM	9411	O1P	G R	20	40.846	49.458	49.661	1.00	53.03	O
ATOM	9412	O2P	G R	20	38.886	50.469	50.989	1.00	52.30	O
ATOM	9413	O5*	G R	20	41.255	51.164	51.434	1.00	54.00	O
ATOM	9414	C5*	G R	20	41.298	50.580	52.725	1.00	54.55	C
ATOM	9415	C4*	G R	20	42.262	51.282	53.670	1.00	54.76	C
ATOM	9416	O4*	G R	20	42.043	52.715	53.680	1.00	55.25	O
ATOM	9417	C3*	G R	20	42.115	50.825	55.119	1.00	55.00	C
ATOM	9418	O3*	G R	20	43.153	49.946	55.451	1.00	55.17	O
ATOM	9419	C2*	G R	20	42.241	52.066	55.979	1.00	55.01	C
ATOM	9420	O2*	G R	20	43.549	52.245	56.483	1.00	55.08	O
ATOM	9421	C1*	G R	20	41.804	53.159	55.004	1.00	55.10	C
ATOM	9422	N9	G R	20	40.384	53.431	55.187	1.00	55.04	N
ATOM	9423	C8	G R	20	39.320	53.093	54.380	1.00	55.00	C
ATOM	9424	N7	G R	20	38.167	53.474	54.855	1.00	54.85	N
ATOM	9425	C5	G R	20	38.491	54.094	56.054	1.00	55.03	C
ATOM	9426	C6	G R	20	37.659	54.713	57.020	1.00	54.96	C
ATOM	9427	O6	G R	20	36.421	54.843	57.002	1.00	54.34	O
ATOM	9428	N1	G R	20	38.419	55.208	58.088	1.00	55.04	N
ATOM	9429	C2	G R	20	39.795	55.127	58.210	1.00	54.79	C
ATOM	9430	N2	G R	20	40.350	55.666	59.303	1.00	54.84	N
ATOM	9431	N3	G R	20	40.576	54.552	57.312	1.00	54.59	N
ATOM	9432	C4	G R	20	39.854	54.068	56.272	1.00	54.84	C
ATOM	9433	P	C R	21	42.949	48.368	55.518	1.00	56.46	P
ATOM	9434	O1P	C R	21	43.944	47.814	54.553	1.00	55.08	O
ATOM	9435	O2P	C R	21	41.512	47.999	55.408	1.00	54.25	O
ATOM	9436	O5*	C R	21	43.445	48.139	57.038	1.00	55.58	O
ATOM	9437	C5*	C R	21	42.545	48.201	58.165	1.00	54.18	C
ATOM	9438	C4*	C R	21	43.002	49.137	59.287	1.00	53.34	C
ATOM	9439	O4*	C R	21	42.718	50.513	58.927	1.00	53.31	O
ATOM	9440	C3*	C R	21	42.285	48.909	60.624	1.00	52.88	C
ATOM	9441	O3*	C R	21	43.023	48.060	61.527	1.00	51.67	O
ATOM	9442	C2*	C R	21	42.080	50.293	61.225	1.00	52.41	C
ATOM	9443	O2*	C R	21	43.111	50.701	62.097	1.00	52.68	O
ATOM	9444	C1*	C R	21	42.012	51.160	59.976	1.00	52.87	C
ATOM	9445	N1	C R	21	40.575	51.372	59.631	1.00	52.96	N

ATOM	9446	C2	C R	21	39.945	52.544	60.073	1.00	53.43	C
ATOM	9447	O2	C R	21	40.597	53.393	60.708	1.00	53.46	O
ATOM	9448	N3	C R	21	38.630	52.726	59.772	1.00	52.75	N
ATOM	9449	C4	C R	21	37.951	51.811	59.079	1.00	52.16	C
ATOM	9450	N4	C R	21	36.664	52.054	58.816	1.00	51.88	N
ATOM	9451	C5	C R	21	38.573	50.608	58.633	1.00	52.64	C
ATOM	9452	C6	C R	21	39.864	50.428	58.937	1.00	52.47	C
ATOM	9453	P	C R	22	42.287	46.771	62.149	1.00	51.53	P
ATOM	9454	O1P	C R	22	43.304	46.002	62.917	1.00	51.10	O
ATOM	9455	O2P	C R	22	41.525	46.133	61.046	1.00	49.83	O
ATOM	9456	O5*	C R	22	41.210	47.376	63.182	1.00	48.73	O
ATOM	9457	C5*	C R	22	41.662	47.937	64.433	1.00	46.18	C
ATOM	9458	C4*	C R	22	40.594	48.753	65.153	1.00	43.87	C
ATOM	9459	O4*	C R	22	40.075	49.784	64.271	1.00	42.85	O
ATOM	9460	C3*	C R	22	39.342	48.007	65.603	1.00	42.12	C
ATOM	9461	O3*	C R	22	39.568	47.245	66.793	1.00	40.85	O
ATOM	9462	C2*	C R	22	38.383	49.175	65.818	1.00	41.42	C
ATOM	9463	O2*	C R	22	38.549	49.861	67.046	1.00	41.40	O
ATOM	9464	C1*	C R	22	38.750	50.099	64.666	1.00	40.69	C
ATOM	9465	N1	C R	22	37.795	49.994	63.523	1.00	39.46	N
ATOM	9466	C2	C R	22	36.586	50.697	63.620	1.00	39.24	C
ATOM	9467	O2	C R	22	36.354	51.370	64.632	1.00	38.93	O
ATOM	9468	N3	C R	22	35.696	50.629	62.602	1.00	38.52	N
ATOM	9469	C4	C R	22	35.980	49.895	61.526	1.00	38.69	C
ATOM	9470	N4	C R	22	35.066	49.870	60.557	1.00	38.65	N
ATOM	9471	C5	C R	22	37.203	49.163	61.401	1.00	38.07	C
ATOM	9472	C6	C R	22	38.073	49.238	62.416	1.00	38.56	C
ATOM	9473	P	A R	23	38.715	45.918	67.117	1.00	41.70	P
ATOM	9474	O1P	A R	23	39.281	45.348	68.361	1.00	40.84	O
ATOM	9475	O2P	A R	23	38.585	45.061	65.914	1.00	39.73	O
ATOM	9476	O5*	A R	23	37.263	46.512	67.430	1.00	38.44	O
ATOM	9477	C5*	A R	23	37.138	47.295	68.600	1.00	36.29	C
ATOM	9478	C4*	A R	23	35.824	48.036	68.613	1.00	34.50	C
ATOM	9479	O4*	A R	23	35.710	48.872	67.439	1.00	32.77	O
ATOM	9480	C3*	A R	23	34.594	47.153	68.535	1.00	33.48	C
ATOM	9481	O3*	A R	23	34.334	46.524	69.780	1.00	32.43	O
ATOM	9482	C2*	A R	23	33.579	48.218	68.162	1.00	32.69	C
ATOM	9483	O2*	A R	23	33.226	49.035	69.257	1.00	33.54	O
ATOM	9484	C1*	A R	23	34.345	49.038	67.132	1.00	31.36	C
ATOM	9485	N9	A R	23	34.082	48.642	65.748	1.00	30.97	N
ATOM	9486	C8	A R	23	34.885	47.951	64.880	1.00	30.26	C
ATOM	9487	N7	A R	23	34.347	47.762	63.696	1.00	30.17	N
ATOM	9488	C5	A R	23	33.111	48.370	63.789	1.00	29.68	C
ATOM	9489	C6	A R	23	32.049	48.533	62.880	1.00	29.80	C
ATOM	9490	N6	A R	23	32.064	48.068	61.633	1.00	28.89	N
ATOM	9491	N1	A R	23	30.948	49.195	63.313	1.00	29.87	N
ATOM	9492	C2	A R	23	30.915	49.666	64.558	1.00	29.67	C
ATOM	9493	N3	A R	23	31.853	49.579	65.498	1.00	29.74	N
ATOM	9494	C4	A R	23	32.931	48.914	65.048	1.00	30.40	C
ATOM	9495	P	G R	24	33.553	45.121	69.877	1.00	34.72	P
ATOM	9496	O1P	G R	24	33.685	44.719	71.300	1.00	31.83	O
ATOM	9497	O2P	G R	24	33.957	44.188	68.791	1.00	32.61	O
ATOM	9498	O5*	G R	24	32.050	45.495	69.486	1.00	32.29	O
ATOM	9499	C5*	G R	24	31.293	46.330	70.310	1.00	32.67	C
ATOM	9500	C4*	G R	24	30.110	46.864	69.536	1.00	32.34	C
ATOM	9501	O4*	G R	24	30.582	47.468	68.318	1.00	32.08	O
ATOM	9502	C3*	G R	24	29.121	45.838	69.025	1.00	32.47	C
ATOM	9503	O3*	G R	24	28.274	45.378	70.062	1.00	33.51	O
ATOM	9504	C2*	G R	24	28.392	46.666	67.978	1.00	32.27	C

ATOM	9505	O2*	G R	24	27.502	47.625	68.499	1.00	31.17	O
ATOM	9506	C1*	G R	24	29.578	47.361	67.332	1.00	31.81	C
ATOM	9507	N9	G R	24	30.096	46.662	66.163	1.00	31.60	N
ATOM	9508	C8	G R	24	31.254	45.939	65.999	1.00	31.64	C
ATOM	9509	N7	G R	24	31.385	45.459	64.790	1.00	31.56	N
ATOM	9510	C5	G R	24	30.249	45.892	64.124	1.00	30.86	C
ATOM	9511	C6	G R	24	29.812	45.708	62.795	1.00	31.17	C
ATOM	9512	O6	G R	24	30.358	45.101	61.872	1.00	31.64	O
ATOM	9513	N1	G R	24	28.590	46.323	62.558	1.00	31.82	N
ATOM	9514	C2	G R	24	27.875	47.045	63.473	1.00	31.72	C
ATOM	9515	N2	G R	24	26.716	47.569	63.061	1.00	32.15	N
ATOM	9516	N3	G R	24	28.274	47.238	64.713	1.00	31.81	N
ATOM	9517	C4	G R	24	29.457	46.634	64.960	1.00	31.45	C
ATOM	9518	P	U R	25	27.763	43.874	70.042	1.00	33.05	P
ATOM	9519	O1P	U R	25	27.111	43.580	71.331	1.00	33.39	O
ATOM	9520	O2P	U R	25	28.859	42.987	69.585	1.00	34.52	O
ATOM	9521	O5*	U R	25	26.696	43.945	68.861	1.00	33.87	O
ATOM	9522	C5*	U R	25	25.469	44.636	69.023	1.00	34.46	C
ATOM	9523	C4*	U R	25	24.701	44.624	67.714	1.00	34.07	C
ATOM	9524	O4*	U R	25	25.514	45.168	66.648	1.00	33.70	O
ATOM	9525	C3*	U R	25	24.378	43.250	67.183	1.00	34.40	C
ATOM	9526	O3*	U R	25	23.304	42.701	67.884	1.00	34.49	O
ATOM	9527	C2*	U R	25	24.080	43.541	65.718	1.00	34.40	C
ATOM	9528	O2*	U R	25	22.859	44.209	65.465	1.00	35.33	O
ATOM	9529	C1*	U R	25	25.223	44.494	65.435	1.00	33.66	C
ATOM	9530	N1	U R	25	26.464	43.863	64.850	1.00	33.21	N
ATOM	9531	C2	U R	25	26.438	43.610	63.499	1.00	33.54	C
ATOM	9532	O2	U R	25	25.448	43.842	62.810	1.00	33.25	O
ATOM	9533	N3	U R	25	27.603	43.073	62.993	1.00	32.96	N
ATOM	9534	C4	U R	25	28.762	42.765	63.675	1.00	32.83	C
ATOM	9535	O4	U R	25	29.720	42.290	63.067	1.00	32.81	O
ATOM	9536	C5	U R	25	28.714	43.060	65.082	1.00	32.66	C
ATOM	9537	C6	U R	25	27.595	43.589	65.600	1.00	32.93	C
ATOM	9538	P	U R	26	23.196	41.114	67.968	1.00	33.97	P
ATOM	9539	O1P	U R	26	22.046	40.885	68.864	1.00	33.69	O
ATOM	9540	O2P	U R	26	24.505	40.499	68.263	1.00	32.96	O
ATOM	9541	O5*	U R	26	22.832	40.751	66.469	1.00	34.00	O
ATOM	9542	C5*	U R	26	21.522	41.072	66.022	1.00	36.00	C
ATOM	9543	C4*	U R	26	21.345	40.688	64.570	1.00	35.45	C
ATOM	9544	O4*	U R	26	22.385	41.312	63.787	1.00	35.91	O
ATOM	9545	C3*	U R	26	21.488	39.204	64.306	1.00	36.00	C
ATOM	9546	O3*	U R	26	20.237	38.562	64.489	1.00	35.79	O
ATOM	9547	C2*	U R	26	21.949	39.174	62.854	1.00	35.96	C
ATOM	9548	O2*	U R	26	20.897	39.291	61.917	1.00	35.42	O
ATOM	9549	C1*	U R	26	22.824	40.407	62.788	1.00	35.69	C
ATOM	9550	N1	U R	26	24.276	40.127	62.933	1.00	34.97	N
ATOM	9551	C2	U R	26	24.968	39.770	61.797	1.00	36.39	C
ATOM	9552	O2	U R	26	24.420	39.646	60.701	1.00	35.81	O
ATOM	9553	N3	U R	26	26.322	39.561	61.989	1.00	35.57	N
ATOM	9554	C4	U R	26	27.035	39.652	63.167	1.00	35.60	C
ATOM	9555	O4	U R	26	28.239	39.424	63.190	1.00	35.64	O
ATOM	9556	C5	U R	26	26.234	40.027	64.301	1.00	36.33	C
ATOM	9557	C6	U R	26	24.921	40.248	64.139	1.00	35.38	C
ATOM	9558	P	G R	27	20.135	37.193	65.298	1.00	35.52	P
ATOM	9559	O1P	G R	27	18.698	36.811	65.238	1.00	36.01	O
ATOM	9560	O2P	G R	27	20.876	37.286	66.585	1.00	33.17	O
ATOM	9561	O5*	G R	27	20.958	36.179	64.400	1.00	34.08	O
ATOM	9562	C5*	G R	27	20.490	35.798	63.145	1.00	34.57	C
ATOM	9563	C4*	G R	27	21.630	35.176	62.357	1.00	34.60	C

ATOM	9564	O4*	G R	27	22.692	36.143	62.214	1.00	33.89	O
ATOM	9565	C3*	G R	27	22.316	33.972	62.994	1.00	34.08	C
ATOM	9566	O3*	G R	27	21.581	32.798	62.753	1.00	32.09	O
ATOM	9567	C2*	G R	27	23.635	33.987	62.238	1.00	34.10	C
ATOM	9568	O2*	G R	27	23.528	33.523	60.909	1.00	34.41	O
ATOM	9569	C1*	G R	27	23.937	35.471	62.239	1.00	33.96	C
ATOM	9570	N9	G R	27	24.713	35.870	63.407	1.00	33.64	N
ATOM	9571	C8	G R	27	24.286	36.089	64.694	1.00	33.46	C
ATOM	9572	N7	G R	27	25.257	36.429	65.506	1.00	34.21	N
ATOM	9573	C5	G R	27	26.393	36.428	64.696	1.00	33.29	C
ATOM	9574	C6	G R	27	27.741	36.718	65.008	1.00	33.24	C
ATOM	9575	O6	G R	27	28.230	37.048	66.101	1.00	33.31	O
ATOM	9576	N1	G R	27	28.562	36.598	63.895	1.00	32.84	N
ATOM	9577	C2	G R	27	28.141	36.240	62.638	1.00	33.98	C
ATOM	9578	N2	G R	27	29.095	36.167	61.694	1.00	33.94	N
ATOM	9579	N3	G R	27	26.871	35.966	62.328	1.00	34.10	N
ATOM	9580	C4	G R	27	26.065	36.086	63.408	1.00	33.18	C
ATOM	9581	P	A R	28	21.167	31.783	63.906	1.00	32.57	P
ATOM	9582	O1P	A R	28	20.808	32.529	65.155	1.00	32.11	O
ATOM	9583	O2P	A R	28	22.220	30.739	63.967	1.00	30.37	O
ATOM	9584	O5*	A R	28	19.833	31.191	63.241	1.00	29.62	O
ATOM	9585	C5*	A R	28	18.597	31.857	63.347	1.00	29.52	C
ATOM	9586	C4*	A R	28	17.464	30.918	63.764	1.00	31.23	C
ATOM	9587	O4*	A R	28	17.334	29.773	62.859	1.00	31.16	O
ATOM	9588	C3*	A R	28	17.599	30.287	65.141	1.00	29.89	C
ATOM	9589	O3*	A R	28	16.302	30.014	65.697	1.00	30.83	O
ATOM	9590	C2*	A R	28	18.428	29.055	64.796	1.00	28.71	C
ATOM	9591	O2*	A R	28	18.387	28.016	65.733	1.00	31.11	O
ATOM	9592	C1*	A R	28	17.854	28.609	63.463	1.00	27.29	C
ATOM	9593	N9	A R	28	18.836	28.100	62.514	1.00	27.52	N
ATOM	9594	C8	A R	28	20.196	28.229	62.542	1.00	26.02	C
ATOM	9595	N7	A R	28	20.792	27.656	61.544	1.00	26.74	N
ATOM	9596	C5	A R	28	19.767	27.120	60.807	1.00	26.02	C
ATOM	9597	C6	A R	28	19.753	26.386	59.621	1.00	26.46	C
ATOM	9598	N6	A R	28	20.877	26.075	58.972	1.00	26.72	N
ATOM	9599	N1	A R	28	18.559	25.992	59.122	1.00	26.22	N
ATOM	9600	C2	A R	28	17.458	26.316	59.788	1.00	26.35	C
ATOM	9601	N3	A R	28	17.350	26.996	60.934	1.00	28.23	N
ATOM	9602	C4	A R	28	18.557	27.377	61.387	1.00	27.11	C
ATOM	9603	P	C R	29	15.522	31.163	66.505	1.00	30.22	P
ATOM	9604	O1P	C R	29	16.366	32.369	66.319	1.00	32.33	O
ATOM	9605	O2P	C R	29	15.158	30.688	67.849	1.00	28.07	O
ATOM	9606	O5*	C R	29	14.154	31.381	65.727	1.00	30.40	O
ATOM	9607	C5*	C R	29	13.036	31.861	66.405	1.00	30.61	C
ATOM	9608	C4*	C R	29	11.806	31.082	65.991	1.00	31.14	C
ATOM	9609	O4*	C R	29	11.899	30.814	64.575	1.00	30.67	O
ATOM	9610	C3*	C R	29	11.657	29.693	66.577	1.00	30.51	C
ATOM	9611	O3*	C R	29	11.164	29.703	67.881	1.00	29.19	O
ATOM	9612	C2*	C R	29	10.661	29.089	65.604	1.00	30.15	C
ATOM	9613	O2*	C R	29	9.335	29.507	65.819	1.00	30.75	O
ATOM	9614	C1*	C R	29	11.193	29.616	64.288	1.00	30.15	C
ATOM	9615	N1	C R	29	12.116	28.693	63.595	1.00	31.04	N
ATOM	9616	C2	C R	29	11.656	27.465	63.135	1.00	30.21	C
ATOM	9617	O2	C R	29	10.487	27.150	63.338	1.00	30.74	O
ATOM	9618	N3	C R	29	12.517	26.643	62.484	1.00	31.34	N
ATOM	9619	C4	C R	29	13.788	26.988	62.274	1.00	30.50	C
ATOM	9620	N4	C R	29	14.601	26.148	61.625	1.00	28.95	N
ATOM	9621	C5	C R	29	14.272	28.239	62.733	1.00	31.46	C
ATOM	9622	C6	C R	29	13.422	29.050	63.380	1.00	31.39	C

ATOM	9623	P	G R	30	12.027	29.046	69.039	1.00	30.70	P
ATOM	9624	O1P	G R	30	12.003	29.982	70.171	1.00	30.67	O
ATOM	9625	O2P	G R	30	13.316	28.629	68.420	1.00	32.59	O
ATOM	9626	O5*	G R	30	11.364	27.635	69.424	1.00	31.62	O
ATOM	9627	C5*	G R	30	10.045	27.387	69.818	1.00	31.94	C
ATOM	9628	C4*	G R	30	9.216	26.658	68.761	1.00	32.23	C
ATOM	9629	O4*	G R	30	9.758	26.933	67.448	1.00	31.50	O
ATOM	9630	C3*	G R	30	9.125	25.132	68.787	1.00	31.85	C
ATOM	9631	O3*	G R	30	8.212	24.606	69.748	1.00	30.57	O
ATOM	9632	C2*	G R	30	8.614	24.876	67.375	1.00	32.38	C
ATOM	9633	O2*	G R	30	7.250	25.151	67.154	1.00	35.29	O
ATOM	9634	C1*	G R	30	9.425	25.877	66.573	1.00	30.30	C
ATOM	9635	N9	G R	30	10.647	25.310	66.043	1.00	29.45	N
ATOM	9636	C8	G R	30	11.924	25.747	66.264	1.00	28.34	C
ATOM	9637	N7	G R	30	12.818	25.039	65.640	1.00	28.88	N
ATOM	9638	C5	G R	30	12.094	24.059	64.980	1.00	29.07	C
ATOM	9639	C6	G R	30	12.527	23.007	64.135	1.00	29.34	C
ATOM	9640	O6	G R	30	13.677	22.702	63.779	1.00	29.19	O
ATOM	9641	N1	G R	30	11.455	22.244	63.683	1.00	29.95	N
ATOM	9642	C2	G R	30	10.129	22.465	63.979	1.00	29.82	C
ATOM	9643	N2	G R	30	9.259	21.607	63.419	1.00	28.97	N
ATOM	9644	N3	G R	30	9.719	23.453	64.766	1.00	28.26	N
ATOM	9645	C4	G R	30	10.747	24.208	65.224	1.00	29.02	C
ATOM	9646	P	A R	31	8.517	23.213	70.496	1.00	27.99	P
ATOM	9647	O1P	A R	31	7.641	23.126	71.669	1.00	32.34	O
ATOM	9648	O2P	A R	31	9.959	22.980	70.731	1.00	32.40	O
ATOM	9649	O5*	A R	31	8.053	22.221	69.359	1.00	30.75	O
ATOM	9650	C5*	A R	31	6.734	21.717	69.322	1.00	31.48	C
ATOM	9651	C4*	A R	31	6.668	20.594	68.313	1.00	31.97	C
ATOM	9652	O4*	A R	31	7.312	20.984	67.075	1.00	30.97	O
ATOM	9653	C3*	A R	31	7.417	19.346	68.737	1.00	32.53	C
ATOM	9654	O3*	A R	31	6.650	18.530	69.554	1.00	31.31	O
ATOM	9655	C2*	A R	31	7.599	18.663	67.411	1.00	32.99	C
ATOM	9656	O2*	A R	31	6.411	17.996	67.046	1.00	35.69	O
ATOM	9657	C1*	A R	31	7.919	19.852	66.513	1.00	32.75	C
ATOM	9658	N9	A R	31	9.343	20.085	66.408	1.00	33.09	N
ATOM	9659	C8	A R	31	10.071	21.101	66.950	1.00	33.29	C
ATOM	9660	N7	A R	31	11.349	21.039	66.673	1.00	33.75	N
ATOM	9661	C5	A R	31	11.465	19.894	65.910	1.00	34.23	C
ATOM	9662	C6	A R	31	12.571	19.280	65.298	1.00	32.98	C
ATOM	9663	N6	A R	31	13.797	19.777	65.397	1.00	34.16	N
ATOM	9664	N1	A R	31	12.367	18.151	64.599	1.00	32.67	N
ATOM	9665	C2	A R	31	11.114	17.667	64.505	1.00	33.82	C
ATOM	9666	N3	A R	31	9.985	18.163	65.030	1.00	33.67	N
ATOM	9667	C4	A R	31	10.234	19.290	65.731	1.00	33.65	C
ATOM	9668	P	G R	32	7.350	17.756	70.753	1.00	31.81	P
ATOM	9669	O1P	G R	32	6.321	16.864	71.361	1.00	33.78	O
ATOM	9670	O2P	G R	32	8.054	18.723	71.598	1.00	31.37	O
ATOM	9671	O5*	G R	32	8.381	16.844	69.949	1.00	33.79	O
ATOM	9672	C5*	G R	32	7.892	15.729	69.224	1.00	33.30	C
ATOM	9673	C4*	G R	32	9.036	14.981	68.592	1.00	33.40	C
ATOM	9674	O4*	G R	32	9.675	15.854	67.636	1.00	35.24	O
ATOM	9675	C3*	G R	32	10.161	14.564	69.517	1.00	33.05	C
ATOM	9676	O3*	G R	32	9.859	13.330	70.097	1.00	33.06	O
ATOM	9677	C2*	G R	32	11.302	14.444	68.517	1.00	33.35	C
ATOM	9678	O2*	G R	32	11.243	13.334	67.658	1.00	33.25	O
ATOM	9679	C1*	G R	32	11.075	15.663	67.664	1.00	33.56	C
ATOM	9680	N9	G R	32	11.753	16.841	68.178	1.00	33.48	N
ATOM	9681	C8	G R	32	11.244	17.845	68.946	1.00	34.16	C

ATOM	9682	N7	G R	32	12.121	18.768	69.244	1.00	34.23	N
ATOM	9683	C5	G R	32	13.266	18.344	68.623	1.00	33.05	C
ATOM	9684	C6	G R	32	14.532	18.936	68.586	1.00	34.35	C
ATOM	9685	O6	G R	32	14.901	19.984	69.117	1.00	35.11	O
ATOM	9686	N1	G R	32	15.430	18.179	67.845	1.00	34.55	N
ATOM	9687	C2	G R	32	15.139	16.999	67.213	1.00	33.32	C
ATOM	9688	N2	G R	32	16.141	16.424	66.548	1.00	32.87	N
ATOM	9689	N3	G R	32	13.947	16.441	67.243	1.00	33.12	N
ATOM	9690	C4	G R	32	13.066	17.161	67.969	1.00	32.90	C
ATOM	9691	P	G R	33	10.186	12.943	71.609	1.00	33.57	P
ATOM	9692	O1P	G R	33	9.141	12.020	72.087	1.00	34.70	O
ATOM	9693	O2P	G R	33	10.505	14.147	72.393	1.00	34.31	O
ATOM	9694	O5*	G R	33	11.541	12.106	71.458	1.00	33.02	O
ATOM	9695	C5*	G R	33	11.740	11.060	70.533	1.00	31.91	C
ATOM	9696	C4*	G R	33	13.217	10.989	70.197	1.00	32.64	C
ATOM	9697	O4*	G R	33	13.557	12.237	69.554	1.00	34.08	O
ATOM	9698	C3*	G R	33	14.208	10.897	71.346	1.00	31.92	C
ATOM	9699	O3*	G R	33	14.373	9.570	71.757	1.00	32.11	O
ATOM	9700	C2*	G R	33	15.450	11.435	70.671	1.00	32.13	C
ATOM	9701	O2*	G R	33	16.069	10.484	69.836	1.00	33.07	O
ATOM	9702	C1*	G R	33	14.896	12.562	69.817	1.00	32.87	C
ATOM	9703	N9	G R	33	14.932	13.885	70.428	1.00	33.60	N
ATOM	9704	C8	G R	33	14.037	14.467	71.308	1.00	32.88	C
ATOM	9705	N7	G R	33	14.372	15.675	71.671	1.00	31.80	N
ATOM	9706	C5	G R	33	15.562	15.905	70.989	1.00	31.96	C
ATOM	9707	C6	G R	33	16.401	17.039	70.961	1.00	32.61	C
ATOM	9708	O6	G R	33	16.252	18.099	71.573	1.00	33.36	O
ATOM	9709	N1	G R	33	17.511	16.877	70.136	1.00	32.50	N
ATOM	9710	C2	G R	33	17.774	15.742	69.412	1.00	33.09	C
ATOM	9711	N2	G R	33	18.887	15.749	68.669	1.00	32.04	N
ATOM	9712	N3	G R	33	16.988	14.659	69.425	1.00	33.36	N
ATOM	9713	C4	G R	33	15.914	14.819	70.227	1.00	33.11	C
ATOM	9714	P	U R	34	14.873	9.119	73.206	1.00	35.69	P
ATOM	9715	O1P	U R	34	14.431	7.717	73.398	1.00	35.45	O
ATOM	9716	O2P	U R	34	14.550	10.155	74.216	1.00	36.08	O
ATOM	9717	O5*	U R	34	16.460	9.079	73.110	1.00	37.31	O
ATOM	9718	C5*	U R	34	17.111	8.381	72.078	1.00	38.21	C
ATOM	9719	C4*	U R	34	18.440	7.956	72.630	1.00	39.56	C
ATOM	9720	O4*	U R	34	19.196	9.145	72.946	1.00	41.12	O
ATOM	9721	C3*	U R	34	18.339	7.179	73.928	1.00	40.18	C
ATOM	9722	O3*	U R	34	19.293	6.173	73.909	1.00	39.24	O
ATOM	9723	C2*	U R	34	18.671	8.198	75.002	1.00	41.21	C
ATOM	9724	O2*	U R	34	19.238	7.633	76.171	1.00	42.57	O
ATOM	9725	C1*	U R	34	19.698	9.017	74.248	1.00	41.42	C
ATOM	9726	N1	U R	34	19.926	10.381	74.759	1.00	42.06	N
ATOM	9727	C2	U R	34	21.226	10.847	74.769	1.00	41.67	C
ATOM	9728	O2	U R	34	22.193	10.212	74.391	1.00	41.03	O
ATOM	9729	N3	U R	34	21.358	12.116	75.249	1.00	42.53	N
ATOM	9730	C4	U R	34	20.361	12.946	75.710	1.00	42.49	C
ATOM	9731	O4	U R	34	20.676	14.058	76.111	1.00	42.74	O
ATOM	9732	C5	U R	34	19.026	12.397	75.673	1.00	42.56	C
ATOM	9733	C6	U R	34	18.866	11.156	75.203	1.00	42.19	C
ATOM	9734	P	G R	35	18.880	4.659	73.708	1.00	40.10	P
ATOM	9735	O1P	G R	35	19.136	4.283	72.308	1.00	39.13	O
ATOM	9736	O2P	G R	35	17.568	4.398	74.353	1.00	40.33	O
ATOM	9737	O5*	G R	35	20.016	3.938	74.566	1.00	39.77	O
ATOM	9738	C5*	G R	35	19.864	3.737	75.964	1.00	38.94	C
ATOM	9739	C4*	G R	35	20.815	2.658	76.435	1.00	38.50	C
ATOM	9740	O4*	G R	35	20.223	1.365	76.146	1.00	37.33	O

ATOM	9741	C3*	G R	35	22.191	2.632	75.763	1.00	38.24	C
ATOM	9742	O3*	G R	35	23.093	3.520	76.393	1.00	38.31	O
ATOM	9743	C2*	G R	35	22.587	1.186	75.980	1.00	37.67	C
ATOM	9744	O2*	G R	35	23.100	0.979	77.277	1.00	38.65	O
ATOM	9745	C1*	G R	35	21.252	0.471	75.767	1.00	37.21	C
ATOM	9746	N9	G R	35	21.059	0.085	74.382	1.00	36.68	N
ATOM	9747	C8	G R	35	20.131	0.551	73.490	1.00	37.28	C
ATOM	9748	N7	G R	35	20.219	0.001	72.313	1.00	37.32	N
ATOM	9749	C5	G R	35	21.278	-0.876	72.430	1.00	36.87	C
ATOM	9750	C6	G R	35	21.856	-1.753	71.490	1.00	36.88	C
ATOM	9751	O6	G R	35	21.543	-1.954	70.311	1.00	37.32	O
ATOM	9752	N1	G R	35	22.918	-2.455	72.032	1.00	36.94	N
ATOM	9753	C2	G R	35	23.368	-2.347	73.309	1.00	36.97	C
ATOM	9754	N2	G R	35	24.401	-3.119	73.644	1.00	37.56	N
ATOM	9755	N3	G R	35	22.831	-1.541	74.202	1.00	38.45	N
ATOM	9756	C4	G R	35	21.793	-0.839	73.696	1.00	37.29	C
ATOM	9757	P	G R	36	24.223	4.354	75.603	1.00	40.65	P
ATOM	9758	O1P	G R	36	24.777	5.334	76.564	1.00	40.70	O
ATOM	9759	O2P	G R	36	23.708	4.811	74.304	1.00	38.81	O
ATOM	9760	O5*	G R	36	25.365	3.257	75.385	1.00	39.97	O
ATOM	9761	C5*	G R	36	26.077	2.740	76.497	1.00	39.00	C
ATOM	9762	C4*	G R	36	27.063	1.703	76.007	1.00	39.09	C
ATOM	9763	O4*	G R	36	26.329	0.527	75.608	1.00	39.51	O
ATOM	9764	C3*	G R	36	27.850	2.072	74.762	1.00	38.82	C
ATOM	9765	O3*	G R	36	28.934	2.922	75.091	1.00	38.12	O
ATOM	9766	C2*	G R	36	28.256	0.694	74.277	1.00	38.98	C
ATOM	9767	O2*	G R	36	29.277	0.084	75.035	1.00	39.81	O
ATOM	9768	C1*	G R	36	26.932	-0.043	74.463	1.00	38.78	C
ATOM	9769	N9	G R	36	26.057	0.121	73.303	1.00	38.58	N
ATOM	9770	C8	G R	36	24.942	0.917	73.186	1.00	38.29	C
ATOM	9771	N7	G R	36	24.391	0.867	72.010	1.00	38.43	N
ATOM	9772	C5	G R	36	25.195	-0.017	71.303	1.00	36.93	C
ATOM	9773	C6	G R	36	25.090	-0.461	69.976	1.00	36.86	C
ATOM	9774	O6	G R	36	24.247	-0.168	69.115	1.00	37.19	O
ATOM	9775	N1	G R	36	26.113	-1.341	69.666	1.00	38.31	N
ATOM	9776	C2	G R	36	27.108	-1.749	70.512	1.00	38.19	C
ATOM	9777	N2	G R	36	27.985	-2.614	69.993	1.00	38.55	N
ATOM	9778	N3	G R	36	27.219	-1.343	71.766	1.00	37.51	N
ATOM	9779	C4	G R	36	26.225	-0.479	72.082	1.00	37.35	C
ATOM	9780	P	G R	37	29.536	3.928	73.996	1.00	38.69	P
ATOM	9781	O1P	G R	37	30.601	4.705	74.681	1.00	39.07	O
ATOM	9782	O2P	G R	37	28.467	4.642	73.287	1.00	36.33	O
ATOM	9783	O5*	G R	37	30.225	2.913	72.965	1.00	37.01	O
ATOM	9784	C5*	G R	37	31.471	2.297	73.312	1.00	34.91	C
ATOM	9785	C4*	G R	37	31.966	1.452	72.161	1.00	34.00	C
ATOM	9786	O4*	G R	37	30.935	0.493	71.851	1.00	33.17	O
ATOM	9787	C3*	G R	37	32.174	2.149	70.816	1.00	33.21	C
ATOM	9788	O3*	G R	37	33.360	2.917	70.765	1.00	31.97	O
ATOM	9789	C2*	G R	37	32.188	0.941	69.890	1.00	32.66	C
ATOM	9790	O2*	G R	37	33.330	0.116	69.960	1.00	33.66	O
ATOM	9791	C1*	G R	37	31.009	0.181	70.473	1.00	32.39	C
ATOM	9792	N9	G R	37	29.764	0.555	69.841	1.00	32.45	N
ATOM	9793	C8	G R	37	28.751	1.325	70.365	1.00	32.18	C
ATOM	9794	N7	G R	37	27.756	1.488	69.551	1.00	31.54	N
ATOM	9795	C5	G R	37	28.143	0.791	68.427	1.00	31.63	C
ATOM	9796	C6	G R	37	27.468	0.620	67.216	1.00	31.81	C
ATOM	9797	O6	G R	37	26.367	1.060	66.922	1.00	32.24	O
ATOM	9798	N1	G R	37	28.196	-0.143	66.304	1.00	32.55	N
ATOM	9799	C2	G R	37	29.433	-0.691	66.534	1.00	31.02	C

ATOM	9800	N2	G R	37	29.939	-1.406	65.522	1.00	31.02	N
ATOM	9801	N3	G R	37	30.081	-0.543	67.680	1.00	30.61	N
ATOM	9802	C4	G R	37	29.379	0.208	68.571	1.00	32.07	C
ATOM	9803	P	G R	38	33.512	4.243	69.866	1.00	34.35	P
ATOM	9804	O1P	G R	38	34.841	4.828	70.197	1.00	32.34	O
ATOM	9805	O2P	G R	38	32.295	5.063	70.047	1.00	32.45	O
ATOM	9806	O5*	G R	38	33.511	3.782	68.330	1.00	31.32	O
ATOM	9807	C5*	G R	38	34.406	2.813	67.826	1.00	32.11	C
ATOM	9808	C4*	G R	38	33.991	2.317	66.454	1.00	32.03	C
ATOM	9809	O4*	G R	38	32.727	1.618	66.517	1.00	32.82	O
ATOM	9810	C3*	G R	38	33.709	3.413	65.452	1.00	32.54	C
ATOM	9811	O3*	G R	38	34.911	3.926	64.975	1.00	31.91	O
ATOM	9812	C2*	G R	38	32.902	2.655	64.414	1.00	32.97	C
ATOM	9813	O2*	G R	38	33.683	1.844	63.571	1.00	32.52	O
ATOM	9814	C1*	G R	38	32.004	1.823	65.322	1.00	32.76	C
ATOM	9815	N9	G R	38	30.734	2.470	65.646	1.00	32.97	N
ATOM	9816	C8	G R	38	30.350	3.041	66.840	1.00	33.65	C
ATOM	9817	N7	G R	38	29.131	3.529	66.831	1.00	33.50	N
ATOM	9818	C5	G R	38	28.680	3.253	65.551	1.00	32.88	C
ATOM	9819	C6	G R	38	27.435	3.545	64.957	1.00	33.02	C
ATOM	9820	O6	G R	38	26.464	4.124	65.462	1.00	33.31	O
ATOM	9821	N1	G R	38	27.377	3.105	63.642	1.00	32.83	N
ATOM	9822	C2	G R	38	28.383	2.450	62.976	1.00	33.74	C
ATOM	9823	N2	G R	38	28.115	2.093	61.710	1.00	33.66	N
ATOM	9824	N3	G R	38	29.565	2.169	63.525	1.00	33.23	N
ATOM	9825	C4	G R	38	29.645	2.606	64.810	1.00	32.86	C
ATOM	9826	P	U R	39	34.989	5.411	64.423	1.00	32.38	P
ATOM	9827	O1P	U R	39	36.382	5.706	64.012	1.00	32.54	O
ATOM	9828	O2P	U R	39	34.348	6.335	65.373	1.00	31.81	O
ATOM	9829	O5*	U R	39	34.089	5.249	63.112	1.00	33.02	O
ATOM	9830	C5*	U R	39	34.652	4.793	61.880	1.00	32.37	C
ATOM	9831	C4*	U R	39	33.614	4.724	60.770	1.00	31.97	C
ATOM	9832	O4*	U R	39	32.427	4.043	61.234	1.00	32.34	O
ATOM	9833	C3*	U R	39	33.076	6.058	60.294	1.00	32.16	C
ATOM	9834	O3*	U R	39	33.984	6.659	59.373	1.00	32.71	O
ATOM	9835	C2*	U R	39	31.757	5.611	59.676	1.00	32.31	C
ATOM	9836	O2*	U R	39	31.913	4.877	58.487	1.00	32.61	O
ATOM	9837	C1*	U R	39	31.253	4.669	60.748	1.00	31.42	C
ATOM	9838	N1	U R	39	30.466	5.303	61.870	1.00	31.12	N
ATOM	9839	C2	U R	39	29.163	5.665	61.625	1.00	31.13	C
ATOM	9840	O2	U R	39	28.634	5.515	60.553	1.00	32.12	O
ATOM	9841	N3	U R	39	28.487	6.214	62.678	1.00	30.19	N
ATOM	9842	C4	U R	39	28.965	6.447	63.942	1.00	30.41	C
ATOM	9843	O4	U R	39	28.234	6.959	64.771	1.00	32.12	O
ATOM	9844	C5	U R	39	30.326	6.062	64.146	1.00	30.50	C
ATOM	9845	C6	U R	39	31.002	5.516	63.127	1.00	30.49	C
ATOM	9846	P	U R	40	34.233	8.229	59.450	1.00	30.46	P
ATOM	9847	O1P	U R	40	35.296	8.601	58.484	1.00	31.90	O
ATOM	9848	O2P	U R	40	34.355	8.629	60.867	1.00	32.40	O
ATOM	9849	O5*	U R	40	32.815	8.735	58.952	1.00	31.71	O
ATOM	9850	C5*	U R	40	32.359	8.484	57.627	1.00	31.79	C
ATOM	9851	C4*	U R	40	30.926	8.961	57.452	1.00	31.32	C
ATOM	9852	O4*	U R	40	30.035	8.198	58.305	1.00	31.19	O
ATOM	9853	C3*	U R	40	30.656	10.400	57.855	1.00	30.77	C
ATOM	9854	O3*	U R	40	30.973	11.273	56.802	1.00	31.48	O
ATOM	9855	C2*	U R	40	29.160	10.376	58.132	1.00	30.24	C
ATOM	9856	O2*	U R	40	28.367	10.409	56.965	1.00	30.06	O
ATOM	9857	C1*	U R	40	29.027	9.044	58.833	1.00	30.07	C
ATOM	9858	N1	U R	40	29.194	9.194	60.302	1.00	30.51	N

ATOM	9859	C2	U R	40	28.079	9.438	61.067	1.00	30.39	C
ATOM	9860	O2	U R	40	26.968	9.519	60.582	1.00	30.42	O
ATOM	9861	N3	U R	40	28.320	9.559	62.417	1.00	29.27	N
ATOM	9862	C4	U R	40	29.539	9.482	63.055	1.00	29.80	C
ATOM	9863	O4	U R	40	29.606	9.613	64.274	1.00	31.38	O
ATOM	9864	C5	U R	40	30.655	9.232	62.197	1.00	29.20	C
ATOM	9865	C6	U R	40	30.443	9.100	60.889	1.00	30.03	C
ATOM	9866	P	U R	41	31.100	12.829	57.107	1.00	33.82	P
ATOM	9867	O1P	U R	41	31.788	13.418	55.942	1.00	33.31	O
ATOM	9868	O2P	U R	41	31.695	13.003	58.451	1.00	34.06	O
ATOM	9869	O5*	U R	41	29.594	13.364	57.162	1.00	34.73	O
ATOM	9870	C5*	U R	41	29.382	14.769	57.407	1.00	38.52	C
ATOM	9871	C4*	U R	41	28.087	15.295	56.807	1.00	40.56	C
ATOM	9872	O4*	U R	41	28.284	15.601	55.403	1.00	42.71	O
ATOM	9873	C3*	U R	41	26.902	14.322	56.856	1.00	42.81	C
ATOM	9874	O3*	U R	41	25.664	14.994	57.034	1.00	41.44	O
ATOM	9875	C2*	U R	41	27.008	13.651	55.490	1.00	43.45	C
ATOM	9876	O2*	U R	41	25.814	13.030	55.077	1.00	44.46	O
ATOM	9877	C1*	U R	41	27.351	14.868	54.635	1.00	45.59	C
ATOM	9878	N1	U R	41	27.973	14.519	53.327	1.00	47.46	N
ATOM	9879	C2	U R	41	27.356	14.839	52.126	1.00	47.89	C
ATOM	9880	O2	U R	41	26.286	15.421	52.036	1.00	47.55	O
ATOM	9881	N3	U R	41	28.061	14.435	51.009	1.00	48.43	N
ATOM	9882	C4	U R	41	29.278	13.767	50.960	1.00	48.03	C
ATOM	9883	O4	U R	41	29.787	13.468	49.884	1.00	47.88	O
ATOM	9884	C5	U R	41	29.852	13.474	52.247	1.00	48.46	C
ATOM	9885	C6	U R	41	29.192	13.851	53.349	1.00	48.29	C
ATOM	9886	P	A R	42	25.310	15.659	58.446	1.00	44.14	P
ATOM	9887	O1P	A R	42	24.569	16.898	58.110	1.00	43.02	O
ATOM	9888	O2P	A R	42	26.523	15.668	59.309	1.00	43.29	O
ATOM	9889	O5*	A R	42	24.341	14.637	59.194	1.00	38.65	O
ATOM	9890	C5*	A R	42	23.299	13.995	58.507	1.00	34.73	C
ATOM	9891	C4*	A R	42	22.128	13.920	59.455	1.00	34.14	C
ATOM	9892	O4*	A R	42	22.562	13.262	60.674	1.00	32.06	O
ATOM	9893	C3*	A R	42	21.562	15.265	59.901	1.00	32.27	C
ATOM	9894	O3*	A R	42	20.182	15.163	60.033	1.00	32.75	O
ATOM	9895	C2*	A R	42	22.216	15.443	61.257	1.00	31.70	C
ATOM	9896	O2*	A R	42	21.534	16.340	62.080	1.00	30.76	O
ATOM	9897	C1*	A R	42	22.187	14.022	61.784	1.00	29.96	C
ATOM	9898	N9	A R	42	23.175	13.733	62.799	1.00	30.81	N
ATOM	9899	C8	A R	42	24.531	13.540	62.649	1.00	30.64	C
ATOM	9900	N7	A R	42	25.160	13.308	63.784	1.00	30.71	N
ATOM	9901	C5	A R	42	24.148	13.360	64.727	1.00	29.56	C
ATOM	9902	C6	A R	42	24.125	13.205	66.111	1.00	29.99	C
ATOM	9903	N6	A R	42	25.197	12.950	66.860	1.00	30.80	N
ATOM	9904	N1	A R	42	22.946	13.324	66.729	1.00	29.86	N
ATOM	9905	C2	A R	42	21.869	13.591	66.015	1.00	30.28	C
ATOM	9906	N3	A R	42	21.748	13.762	64.713	1.00	30.52	N
ATOM	9907	C4	A R	42	22.933	13.627	64.135	1.00	30.57	C
ATOM	9908	P	U R	43	19.265	15.767	58.897	1.00	33.59	P
ATOM	9909	O1P	U R	43	19.795	15.381	57.584	1.00	31.43	O
ATOM	9910	O2P	U R	43	19.028	17.200	59.211	1.00	31.47	O
ATOM	9911	O5*	U R	43	17.921	14.968	59.246	1.00	33.46	O
ATOM	9912	C5*	U R	43	17.611	13.676	58.833	1.00	32.50	C
ATOM	9913	C4*	U R	43	16.214	13.345	59.320	1.00	32.70	C
ATOM	9914	O4*	U R	43	16.214	13.368	60.763	1.00	32.48	O
ATOM	9915	C3*	U R	43	15.127	14.333	58.934	1.00	32.79	C
ATOM	9916	O3*	U R	43	14.567	14.058	57.666	1.00	29.83	O
ATOM	9917	C2*	U R	43	14.109	14.142	60.033	1.00	32.77	C

ATOM	9918	O2*	U R	43	13.317	13.000	59.853	1.00	36.20	O
ATOM	9919	C1*	U R	43	15.015	13.942	61.225	1.00	33.53	C
ATOM	9920	N1	U R	43	15.313	15.209	61.924	1.00	34.48	N
ATOM	9921	C2	U R	43	14.358	15.672	62.763	1.00	32.82	C
ATOM	9922	O2	U R	43	13.320	15.087	62.911	1.00	34.25	O
ATOM	9923	N3	U R	43	14.664	16.834	63.398	1.00	33.77	N
ATOM	9924	C4	U R	43	15.812	17.578	63.285	1.00	33.81	C
ATOM	9925	O4	U R	43	15.943	18.615	63.936	1.00	33.71	O
ATOM	9926	C5	U R	43	16.783	17.030	62.379	1.00	34.10	C
ATOM	9927	C6	U R	43	16.500	15.897	61.745	1.00	34.57	C
ATOM	9928	P	C R	44	14.137	15.340	56.817	1.00	30.63	P
ATOM	9929	O1P	C R	44	13.713	14.906	55.469	1.00	27.98	O
ATOM	9930	O2P	C R	44	15.183	16.382	56.939	1.00	28.73	O
ATOM	9931	O5*	C R	44	12.905	15.811	57.720	1.00	28.08	O
ATOM	9932	C5*	C R	44	11.692	15.116	57.692	1.00	29.13	C
ATOM	9933	C4*	C R	44	10.625	15.847	58.485	1.00	28.77	C
ATOM	9934	O4*	C R	44	11.052	15.988	59.863	1.00	29.42	O
ATOM	9935	C3*	C R	44	10.329	17.276	58.088	1.00	28.33	C
ATOM	9936	O3*	C R	44	9.482	17.332	56.962	1.00	29.53	O
ATOM	9937	C2*	C R	44	9.630	17.758	59.343	1.00	29.48	C
ATOM	9938	O2*	C R	44	8.303	17.281	59.512	1.00	29.84	O
ATOM	9939	C1*	C R	44	10.538	17.181	60.410	1.00	28.03	C
ATOM	9940	N1	C R	44	11.598	18.138	60.755	1.00	29.41	N
ATOM	9941	C2	C R	44	11.217	19.210	61.549	1.00	31.02	C
ATOM	9942	O2	C R	44	10.038	19.283	61.917	1.00	31.84	O
ATOM	9943	N3	C R	44	12.151	20.130	61.911	1.00	31.02	N
ATOM	9944	C4	C R	44	13.422	20.038	61.513	1.00	29.12	C
ATOM	9945	N4	C R	44	14.259	21.017	61.915	1.00	27.50	N
ATOM	9946	C5	C R	44	13.831	18.946	60.687	1.00	28.02	C
ATOM	9947	C6	C R	44	12.908	18.042	60.333	1.00	29.15	C
ATOM	9948	P	G R	45	9.954	18.042	55.591	1.00	30.52	P
ATOM	9949	O1P	G R	45	10.197	16.979	54.610	1.00	29.12	O
ATOM	9950	O2P	G R	45	11.040	18.980	55.925	1.00	30.44	O
ATOM	9951	O5*	G R	45	8.654	18.815	55.066	1.00	28.12	O
ATOM	9952	C5*	G R	45	8.456	20.194	55.216	1.00	27.32	C
ATOM	9953	C4*	G R	45	7.575	20.496	56.404	1.00	28.00	C
ATOM	9954	O4*	G R	45	8.209	20.084	57.628	1.00	27.95	O
ATOM	9955	C3*	G R	45	7.339	21.970	56.610	1.00	28.41	C
ATOM	9956	O3*	G R	45	6.217	22.343	55.915	1.00	27.22	O
ATOM	9957	C2*	G R	45	7.145	22.121	58.105	1.00	28.91	C
ATOM	9958	O2*	G R	45	5.853	21.759	58.531	1.00	29.54	O
ATOM	9959	C1*	G R	45	8.179	21.135	58.583	1.00	29.30	C
ATOM	9960	N9	G R	45	9.552	21.631	58.794	1.00	30.54	N
ATOM	9961	C8	G R	45	10.698	21.068	58.290	1.00	29.82	C
ATOM	9962	N7	G R	45	11.778	21.667	58.678	1.00	30.46	N
ATOM	9963	C5	G R	45	11.352	22.687	59.502	1.00	29.46	C
ATOM	9964	C6	G R	45	12.098	23.664	60.211	1.00	30.23	C
ATOM	9965	O6	G R	45	13.332	23.853	60.263	1.00	29.58	O
ATOM	9966	N1	G R	45	11.254	24.495	60.942	1.00	30.20	N
ATOM	9967	C2	G R	45	9.889	24.417	60.960	1.00	30.33	C
ATOM	9968	N2	G R	45	9.255	25.329	61.729	1.00	31.26	N
ATOM	9969	N3	G R	45	9.196	23.505	60.287	1.00	29.68	N
ATOM	9970	C4	G R	45	9.984	22.674	59.588	1.00	29.52	C
ATOM	9971	P	A R	46	6.263	23.648	55.020	1.00	28.53	P
ATOM	9972	O1P	A R	46	4.941	23.743	54.350	1.00	28.27	O
ATOM	9973	O2P	A R	46	7.487	23.612	54.155	1.00	25.72	O
ATOM	9974	O5*	A R	46	6.329	24.719	56.204	1.00	25.63	O
ATOM	9975	C5*	A R	46	5.083	25.241	56.693	1.00	28.19	C
ATOM	9976	C4*	A R	46	5.289	26.382	57.683	1.00	28.45	C

ATOM	9977	O4*	A R	46	6.219	25.966	58.721	1.00	29.13	O
ATOM	9978	C3*	A R	46	5.960	27.618	57.116	1.00	29.08	C
ATOM	9979	O3*	A R	46	5.060	28.443	56.422	1.00	29.21	O
ATOM	9980	C2*	A R	46	6.494	28.262	58.382	1.00	29.18	C
ATOM	9981	O2*	A R	46	5.498	28.892	59.163	1.00	27.81	O
ATOM	9982	C1*	A R	46	7.067	27.033	59.067	1.00	28.53	C
ATOM	9983	N9	A R	46	8.443	26.699	58.686	1.00	28.99	N
ATOM	9984	C8	A R	46	8.901	25.669	57.920	1.00	29.38	C
ATOM	9985	N7	A R	46	10.209	25.641	57.795	1.00	29.46	N
ATOM	9986	C5	A R	46	10.642	26.720	58.543	1.00	28.34	C
ATOM	9987	C6	A R	46	11.911	27.260	58.827	1.00	28.18	C
ATOM	9988	N6	A R	46	13.082	26.798	58.390	1.00	27.86	N
ATOM	9989	N1	A R	46	11.946	28.343	59.614	1.00	29.67	N
ATOM	9990	C2	A R	46	10.819	28.883	60.078	1.00	29.38	C
ATOM	9991	N3	A R	46	9.586	28.469	59.870	1.00	29.16	N
ATOM	9992	C4	A R	46	9.566	27.370	59.100	1.00	28.52	C
ATOM	9993	P	G R	47	5.495	29.124	55.042	1.00	29.83	P
ATOM	9994	O1P	G R	47	4.310	29.825	54.507	1.00	30.04	O
ATOM	9995	O2P	G R	47	6.193	28.159	54.187	1.00	28.55	O
ATOM	9996	O5*	G R	47	6.544	30.184	55.572	1.00	29.45	O
ATOM	9997	C5*	G R	47	6.102	31.233	56.392	1.00	31.05	C
ATOM	9998	C4*	G R	47	7.290	31.986	56.951	1.00	31.61	C
ATOM	9999	O4*	G R	47	8.160	31.052	57.627	1.00	31.44	O
ATOM	10000	C3*	G R	47	8.162	32.649	55.907	1.00	32.46	C
ATOM	10001	O3*	G R	47	7.704	33.941	55.631	1.00	33.82	O
ATOM	10002	C2*	G R	47	9.501	32.688	56.606	1.00	32.96	C
ATOM	10003	O2*	G R	47	9.578	33.697	57.592	1.00	34.63	O
ATOM	10004	C1*	G R	47	9.506	31.349	57.302	1.00	32.76	C
ATOM	10005	N9	G R	47	10.095	30.241	56.558	1.00	31.74	N
ATOM	10006	C8	G R	47	9.457	29.165	55.986	1.00	32.31	C
ATOM	10007	N7	G R	47	10.260	28.300	55.438	1.00	31.97	N
ATOM	10008	C5	G R	47	11.508	28.844	55.678	1.00	31.95	C
ATOM	10009	C6	G R	47	12.766	28.353	55.316	1.00	31.05	C
ATOM	10010	O6	G R	47	13.003	27.314	54.704	1.00	32.31	O
ATOM	10011	N1	G R	47	13.788	29.183	55.736	1.00	31.34	N
ATOM	10012	C2	G R	47	13.616	30.356	56.429	1.00	31.90	C
ATOM	10013	N2	G R	47	14.730	31.026	56.752	1.00	32.10	N
ATOM	10014	N3	G R	47	12.429	30.840	56.784	1.00	32.86	N
ATOM	10015	C4	G R	47	11.426	30.026	56.374	1.00	31.75	C
ATOM	10016	P	A R	48	7.938	34.594	54.195	1.00	35.79	P
ATOM	10017	O1P	A R	48	7.440	35.963	54.396	1.00	37.16	O
ATOM	10018	O2P	A R	48	7.341	33.736	53.148	1.00	34.74	O
ATOM	10019	O5*	A R	48	9.532	34.652	53.991	1.00	37.05	O
ATOM	10020	C5*	A R	48	10.296	35.777	54.400	1.00	38.86	C
ATOM	10021	C4*	A R	48	11.767	35.419	54.472	1.00	40.71	C
ATOM	10022	O4*	A R	48	11.879	34.080	54.962	1.00	39.74	O
ATOM	10023	C3*	A R	48	12.499	35.401	53.142	1.00	42.68	C
ATOM	10024	O3*	A R	48	13.133	36.631	52.944	1.00	46.45	O
ATOM	10025	C2*	A R	48	13.523	34.271	53.252	1.00	42.93	C
ATOM	10026	O2*	A R	48	14.828	34.594	53.741	1.00	44.19	O
ATOM	10027	C1*	A R	48	12.834	33.334	54.223	1.00	39.50	C
ATOM	10028	N9	A R	48	12.235	32.167	53.555	1.00	37.63	N
ATOM	10029	C8	A R	48	10.926	31.880	53.288	1.00	36.23	C
ATOM	10030	N7	A R	48	10.743	30.728	52.703	1.00	35.51	N
ATOM	10031	C5	A R	48	12.020	30.239	52.573	1.00	36.91	C
ATOM	10032	C6	A R	48	12.522	29.053	52.018	1.00	37.35	C
ATOM	10033	N6	A R	48	11.733	28.127	51.482	1.00	36.81	N
ATOM	10034	N1	A R	48	13.863	28.865	52.041	1.00	37.41	N
ATOM	10035	C2	A R	48	14.638	29.810	52.593	1.00	36.83	C

ATOM	10036	N3	A R	48	14.278	30.969	53.134	1.00	36.44	N
ATOM	10037	C4	A R	48	12.949	31.112	53.089	1.00	36.39	C
ATOM	10038	P	U R	49	13.506	37.078	51.475	1.00	48.81	P
ATOM	10039	O1P	U R	49	13.323	38.547	51.383	1.00	49.05	O
ATOM	10040	O2P	U R	49	12.809	36.173	50.538	1.00	50.02	O
ATOM	10041	O5*	U R	49	15.058	36.755	51.427	1.00	51.91	O
ATOM	10042	C5*	U R	49	15.517	35.637	50.682	1.00	55.06	C
ATOM	10043	C4*	U R	49	16.917	35.234	51.104	1.00	56.10	C
ATOM	10044	O4*	U R	49	17.613	34.790	49.916	1.00	57.50	O
ATOM	10045	C3*	U R	49	17.769	36.340	51.735	1.00	56.80	C
ATOM	10046	O3*	U R	49	18.036	36.033	53.074	1.00	57.37	O
ATOM	10047	C2*	U R	49	19.050	36.445	50.907	1.00	57.19	C
ATOM	10048	O2*	U R	49	20.211	36.223	51.691	1.00	56.83	O
ATOM	10049	C1*	U R	49	18.896	35.383	49.803	1.00	57.08	C
ATOM	10050	N1	U R	49	19.055	35.834	48.364	1.00	56.40	N
ATOM	10051	C2	U R	49	19.713	34.981	47.449	1.00	56.57	C
ATOM	10052	O2	U R	49	20.148	33.887	47.845	1.00	55.76	O
ATOM	10053	N3	U R	49	19.858	35.383	46.149	1.00	55.76	N
ATOM	10054	C4	U R	49	19.374	36.566	45.757	1.00	55.94	C
ATOM	10055	O4	U R	49	19.530	36.922	44.482	1.00	56.33	O
ATOM	10056	C5	U R	49	18.703	37.444	46.661	1.00	56.10	C
ATOM	10057	C6	U R	49	18.562	37.043	47.937	1.00	56.64	C
ATOM	10058	P	U R	50	18.725	34.643	53.485	1.00	60.79	P
ATOM	10059	O1P	U R	50	19.322	34.061	52.263	1.00	59.36	O
ATOM	10060	O2P	U R	50	17.811	33.827	54.328	1.00	58.37	O
ATOM	10061	O5*	U R	50	19.931	35.171	54.378	1.00	57.85	O
ATOM	10062	C5*	U R	50	20.848	34.251	54.884	1.00	55.81	C
ATOM	10063	C4*	U R	50	21.086	34.531	56.350	1.00	54.83	C
ATOM	10064	O4*	U R	50	22.457	34.964	56.553	1.00	55.18	O
ATOM	10065	C3*	U R	50	20.263	35.646	56.977	1.00	53.29	C
ATOM	10066	O3*	U R	50	20.147	35.331	58.345	1.00	49.47	O
ATOM	10067	C2*	U R	50	21.093	36.907	56.711	1.00	53.36	C
ATOM	10068	O2*	U R	50	20.949	37.904	57.707	1.00	53.80	O
ATOM	10069	C1*	U R	50	22.518	36.360	56.740	1.00	53.85	C
ATOM	10070	N1	U R	50	23.454	36.790	55.687	1.00	53.71	N
ATOM	10071	C2	U R	50	24.742	37.084	56.061	1.00	54.04	C
ATOM	10072	O2	U R	50	25.110	37.027	57.220	1.00	54.21	O
ATOM	10073	N3	U R	50	25.577	37.453	55.028	1.00	54.00	N
ATOM	10074	C4	U R	50	25.254	37.538	53.685	1.00	54.00	C
ATOM	10075	O4	U R	50	26.100	37.886	52.866	1.00	54.35	O
ATOM	10076	C5	U R	50	23.889	37.202	53.371	1.00	54.15	C
ATOM	10077	C6	U R	50	23.063	36.839	54.363	1.00	54.13	C
ATOM	10078	P	U R	51	18.820	34.665	58.890	1.00	46.64	P
ATOM	10079	O1P	U R	51	17.700	34.998	57.990	1.00	46.14	O
ATOM	10080	O2P	U R	51	18.784	34.938	60.343	1.00	46.76	O
ATOM	10081	O5*	U R	51	19.062	33.111	58.729	1.00	46.64	O
ATOM	10082	C5*	U R	51	20.147	32.438	59.292	1.00	45.12	C
ATOM	10083	C4*	U R	51	20.037	31.002	58.862	1.00	44.42	C
ATOM	10084	O4*	U R	51	18.927	30.438	59.594	1.00	45.81	O
ATOM	10085	C3*	U R	51	19.688	30.784	57.391	1.00	44.79	C
ATOM	10086	O3*	U R	51	20.119	29.537	56.866	1.00	45.24	O
ATOM	10087	C2*	U R	51	18.153	30.801	57.429	1.00	44.54	C
ATOM	10088	O2*	U R	51	17.551	30.205	56.313	1.00	41.21	O
ATOM	10089	C1*	U R	51	17.887	30.028	58.717	1.00	44.40	C
ATOM	10090	N1	U R	51	16.577	30.332	59.374	1.00	43.83	N
ATOM	10091	C2	U R	51	15.535	29.412	59.363	1.00	44.61	C
ATOM	10092	O2	U R	51	15.545	28.298	58.846	1.00	43.98	O
ATOM	10093	N3	U R	51	14.398	29.848	60.000	1.00	44.57	N
ATOM	10094	C4	U R	51	14.171	31.053	60.634	1.00	44.09	C

ATOM	10095	O4	U R	51	13.081	31.244	61.156	1.00	44.02	O
ATOM	10096	C5	U R	51	15.291	31.955	60.621	1.00	43.68	C
ATOM	10097	C6	U R	51	16.420	31.559	60.000	1.00	44.36	C
ATOM	10098	P	C R	52	21.622	28.993	56.825	1.00	44.52	P
ATOM	10099	O1P	C R	52	21.538	27.655	56.177	1.00	43.42	O
ATOM	10100	O2P	C R	52	22.224	29.165	58.165	1.00	42.12	O
ATOM	10101	O5*	C R	52	22.344	29.937	55.787	1.00	42.05	O
ATOM	10102	C5*	C R	52	21.981	29.908	54.423	1.00	41.52	C
ATOM	10103	C4*	C R	52	22.988	30.720	53.643	1.00	40.74	C
ATOM	10104	O4*	C R	52	22.921	32.077	54.123	1.00	39.32	O
ATOM	10105	C3*	C R	52	24.443	30.334	53.868	1.00	40.76	C
ATOM	10106	O3*	C R	52	24.851	29.190	53.115	1.00	40.10	O
ATOM	10107	C2*	C R	52	25.151	31.618	53.468	1.00	40.89	C
ATOM	10108	O2*	C R	52	25.263	31.788	52.065	1.00	42.88	O
ATOM	10109	C1*	C R	52	24.210	32.647	54.102	1.00	40.64	C
ATOM	10110	N1	C R	52	24.613	33.014	55.490	1.00	40.82	N
ATOM	10111	C2	C R	52	25.736	33.832	55.685	1.00	41.84	C
ATOM	10112	O2	C R	52	26.380	34.243	54.695	1.00	41.68	O
ATOM	10113	N3	C R	52	26.089	34.147	56.961	1.00	41.07	N
ATOM	10114	C4	C R	52	25.399	33.685	57.997	1.00	40.34	C
ATOM	10115	N4	C R	52	25.792	34.009	59.224	1.00	40.66	N
ATOM	10116	C5	C R	52	24.273	32.852	57.818	1.00	40.52	C
ATOM	10117	C6	C R	52	23.927	32.544	56.567	1.00	40.57	C
ATOM	10118	P	G R	53	25.855	28.193	53.858	1.00	39.81	P
ATOM	10119	O1P	G R	53	26.207	27.070	52.976	1.00	40.36	O
ATOM	10120	O2P	G R	53	25.335	27.881	55.201	1.00	41.29	O
ATOM	10121	O5*	G R	53	27.115	29.146	54.029	1.00	40.20	O
ATOM	10122	C5*	G R	53	28.061	29.319	53.008	1.00	40.34	C
ATOM	10123	C4*	G R	53	29.302	29.968	53.582	1.00	40.29	C
ATOM	10124	O4*	G R	53	28.956	31.220	54.212	1.00	40.94	O
ATOM	10125	C3*	G R	53	29.940	29.185	54.698	1.00	41.63	C
ATOM	10126	O3*	G R	53	30.745	28.128	54.178	1.00	42.55	O
ATOM	10127	C2*	G R	53	30.719	30.281	55.400	1.00	41.78	C
ATOM	10128	O2*	G R	53	31.873	30.676	54.695	1.00	41.71	O
ATOM	10129	C1*	G R	53	29.692	31.405	55.402	1.00	41.14	C
ATOM	10130	N9	G R	53	28.802	31.381	56.556	1.00	41.00	N
ATOM	10131	C8	G R	53	27.490	30.982	56.601	1.00	41.24	C
ATOM	10132	N7	G R	53	26.951	31.059	57.780	1.00	40.60	N
ATOM	10133	C5	G R	53	27.957	31.544	58.575	1.00	40.32	C
ATOM	10134	C6	G R	53	27.943	31.838	59.949	1.00	40.62	C
ATOM	10135	O6	G R	53	27.019	31.722	60.766	1.00	40.54	O
ATOM	10136	N1	G R	53	29.177	32.326	60.362	1.00	41.73	N
ATOM	10137	C2	G R	53	30.284	32.506	59.565	1.00	41.38	C
ATOM	10138	N2	G R	53	31.376	32.988	60.180	1.00	40.71	N
ATOM	10139	N3	G R	53	30.299	32.224	58.264	1.00	41.40	N
ATOM	10140	C4	G R	53	29.105	31.752	57.841	1.00	40.98	C
ATOM	10141	P	G R	54	30.911	26.799	55.052	1.00	44.17	P
ATOM	10142	O1P	G R	54	31.755	25.855	54.290	1.00	43.61	O
ATOM	10143	O2P	G R	54	29.577	26.372	55.538	1.00	43.40	O
ATOM	10144	O5*	G R	54	31.729	27.359	56.299	1.00	42.09	O
ATOM	10145	C5*	G R	54	33.046	27.808	56.119	1.00	42.04	C
ATOM	10146	C4*	G R	54	33.622	28.344	57.410	1.00	41.71	C
ATOM	10147	O4*	G R	54	32.860	29.475	57.904	1.00	43.08	O
ATOM	10148	C3*	G R	54	33.572	27.373	58.564	1.00	42.21	C
ATOM	10149	O3*	G R	54	34.568	26.375	58.382	1.00	40.85	O
ATOM	10150	C2*	G R	54	33.798	28.328	59.733	1.00	42.16	C
ATOM	10151	O2*	G R	54	35.132	28.768	59.891	1.00	45.14	O
ATOM	10152	C1*	G R	54	32.892	29.481	59.322	1.00	41.62	C
ATOM	10153	N9	G R	54	31.563	29.249	59.845	1.00	41.12	N

ATOM	10154	C8	G R	54	30.469	28.784	59.165	1.00	41.11	C
ATOM	10155	N7	G R	54	29.408	28.657	59.916	1.00	40.88	N
ATOM	10156	C5	G R	54	29.854	29.040	61.167	1.00	40.85	C
ATOM	10157	C6	G R	54	29.148	29.110	62.373	1.00	40.89	C
ATOM	10158	O6	G R	54	27.963	28.822	62.567	1.00	42.08	O
ATOM	10159	N1	G R	54	29.940	29.570	63.407	1.00	41.05	N
ATOM	10160	C2	G R	54	31.265	29.923	63.304	1.00	41.07	C
ATOM	10161	N2	G R	54	31.855	30.339	64.433	1.00	40.23	N
ATOM	10162	N3	G R	54	31.943	29.855	62.169	1.00	40.56	N
ATOM	10163	C4	G R	54	31.172	29.412	61.147	1.00	40.81	C
ATOM	10164	P	C R	55	34.280	24.892	58.877	1.00	42.34	P
ATOM	10165	O1P	C R	55	35.325	23.974	58.393	1.00	39.13	O
ATOM	10166	O2P	C R	55	32.858	24.608	58.562	1.00	41.98	O
ATOM	10167	O5*	C R	55	34.385	25.024	60.466	1.00	40.01	O
ATOM	10168	C5*	C R	55	35.618	25.218	61.078	1.00	40.58	C
ATOM	10169	C4*	C R	55	35.414	25.652	62.509	1.00	40.14	C
ATOM	10170	O4*	C R	55	34.481	26.753	62.549	1.00	40.49	O
ATOM	10171	C3*	C R	55	34.758	24.625	63.405	1.00	40.40	C
ATOM	10172	O3*	C R	55	35.657	23.615	63.797	1.00	40.29	O
ATOM	10173	C2*	C R	55	34.306	25.521	64.549	1.00	40.46	C
ATOM	10174	O2*	C R	55	35.325	25.944	65.423	1.00	40.80	O
ATOM	10175	C1*	C R	55	33.728	26.692	63.755	1.00	40.75	C
ATOM	10176	N1	C R	55	32.267	26.448	63.518	1.00	40.02	N
ATOM	10177	C2	C R	55	31.358	26.668	64.552	1.00	40.71	C
ATOM	10178	O2	C R	55	31.756	27.100	65.642	1.00	41.41	O
ATOM	10179	N3	C R	55	30.038	26.431	64.337	1.00	41.06	N
ATOM	10180	C4	C R	55	29.604	25.960	63.180	1.00	40.71	C
ATOM	10181	N4	C R	55	28.304	25.731	63.046	1.00	39.44	N
ATOM	10182	C5	C R	55	30.513	25.711	62.109	1.00	41.51	C
ATOM	10183	C6	C R	55	31.814	25.960	62.327	1.00	41.10	C
ATOM	10184	P	G R	56	35.181	22.094	63.946	1.00	42.05	P
ATOM	10185	O1P	G R	56	36.388	21.275	64.129	1.00	41.87	O
ATOM	10186	O2P	G R	56	34.217	21.746	62.874	1.00	42.63	O
ATOM	10187	O5*	G R	56	34.387	22.134	65.347	1.00	41.39	O
ATOM	10188	C5*	G R	56	35.071	22.637	66.491	1.00	40.65	C
ATOM	10189	C4*	G R	56	34.144	22.860	67.666	1.00	39.71	C
ATOM	10190	O4*	G R	56	33.173	23.887	67.377	1.00	38.24	O
ATOM	10191	C3*	G R	56	33.301	21.665	68.023	1.00	40.14	C
ATOM	10192	O3*	G R	56	34.082	20.784	68.783	1.00	41.55	O
ATOM	10193	C2*	G R	56	32.188	22.312	68.830	1.00	39.15	C
ATOM	10194	O2*	G R	56	32.565	22.594	70.162	1.00	39.37	O
ATOM	10195	C1*	G R	56	31.963	23.581	68.023	1.00	36.47	C
ATOM	10196	N9	G R	56	30.929	23.388	67.011	1.00	36.09	N
ATOM	10197	C8	G R	56	31.058	23.135	65.662	1.00	34.65	C
ATOM	10198	N7	G R	56	29.914	23.015	65.046	1.00	33.56	N
ATOM	10199	C5	G R	56	28.975	23.214	66.056	1.00	34.81	C
ATOM	10200	C6	G R	56	27.564	23.218	66.012	1.00	34.16	C
ATOM	10201	O6	G R	56	26.801	23.022	65.046	1.00	33.25	O
ATOM	10202	N1	G R	56	27.048	23.446	67.273	1.00	34.59	N
ATOM	10203	C2	G R	56	27.748	23.662	68.428	1.00	34.58	C
ATOM	10204	N2	G R	56	27.044	23.888	69.548	1.00	33.46	N
ATOM	10205	N3	G R	56	29.063	23.671	68.469	1.00	34.58	N
ATOM	10206	C4	G R	56	29.590	23.435	67.261	1.00	34.14	C
ATOM	10207	P	G R	57	33.555	19.302	69.015	1.00	44.72	P
ATOM	10208	O1P	G R	57	34.582	18.631	69.839	1.00	43.63	O
ATOM	10209	O2P	G R	57	33.044	18.714	67.747	1.00	42.79	O
ATOM	10210	O5*	G R	57	32.284	19.542	69.935	1.00	41.61	O
ATOM	10211	C5*	G R	57	31.344	18.504	70.077	1.00	39.80	C
ATOM	10212	C4*	G R	57	30.065	19.151	70.563	1.00	39.47	C

ATOM	10213	O4*	G R	57	29.689	20.241	69.682	1.00	38.56	O
ATOM	10214	C3*	G R	57	28.843	18.264	70.588	1.00	37.52	C
ATOM	10215	O3*	G R	57	28.872	17.446	71.748	1.00	35.91	O
ATOM	10216	C2*	G R	57	27.769	19.327	70.624	1.00	37.02	C
ATOM	10217	O2*	G R	57	27.720	19.948	71.873	1.00	38.29	O
ATOM	10218	C1*	G R	57	28.283	20.340	69.617	1.00	37.43	C
ATOM	10219	N9	G R	57	27.857	20.156	68.230	1.00	36.87	N
ATOM	10220	C8	G R	57	28.646	19.927	67.137	1.00	37.00	C
ATOM	10221	N7	G R	57	27.972	19.828	66.022	1.00	37.75	N
ATOM	10222	C5	G R	57	26.656	20.001	66.404	1.00	36.42	C
ATOM	10223	C6	G R	57	25.476	19.998	65.629	1.00	37.49	C
ATOM	10224	O6	G R	57	25.367	19.826	64.408	1.00	36.00	O
ATOM	10225	N1	G R	57	24.340	20.218	66.422	1.00	37.80	N
ATOM	10226	C2	G R	57	24.366	20.420	67.781	1.00	37.12	C
ATOM	10227	N2	G R	57	23.205	20.624	68.396	1.00	36.57	N
ATOM	10228	N3	G R	57	25.477	20.427	68.498	1.00	37.19	N
ATOM	10229	C4	G R	57	26.575	20.211	67.753	1.00	35.88	C
ATOM	10230	P	A R	58	28.679	15.874	71.530	1.00	37.18	P
ATOM	10231	O1P	A R	58	28.710	15.141	72.815	1.00	33.48	O
ATOM	10232	O2P	A R	58	29.590	15.518	70.427	1.00	32.52	O
ATOM	10233	O5*	A R	58	27.160	15.818	70.976	1.00	34.60	O
ATOM	10234	C5*	A R	58	26.105	16.215	71.811	1.00	34.61	C
ATOM	10235	C4*	A R	58	24.788	16.244	71.053	1.00	34.76	C
ATOM	10236	O4*	A R	58	24.778	17.346	70.116	1.00	34.38	O
ATOM	10237	C3*	A R	58	24.487	15.048	70.190	1.00	34.69	C
ATOM	10238	O3*	A R	58	23.939	14.008	70.975	1.00	35.30	O
ATOM	10239	C2*	A R	58	23.486	15.650	69.220	1.00	34.39	C
ATOM	10240	O2*	A R	58	22.203	15.843	69.780	1.00	35.94	O
ATOM	10241	C1*	A R	58	24.154	16.983	68.914	1.00	33.29	C
ATOM	10242	N9	A R	58	25.117	16.864	67.828	1.00	32.77	N
ATOM	10243	C8	A R	58	26.464	16.700	67.922	1.00	32.25	C
ATOM	10244	N7	A R	58	27.064	16.576	66.762	1.00	32.58	N
ATOM	10245	C5	A R	58	26.043	16.661	65.840	1.00	32.05	C
ATOM	10246	C6	A R	58	26.021	16.609	64.436	1.00	31.59	C
ATOM	10247	N6	A R	58	27.126	16.460	63.714	1.00	32.97	N
ATOM	10248	N1	A R	58	24.841	16.711	63.794	1.00	31.09	N
ATOM	10249	C2	A R	58	23.753	16.866	64.558	1.00	32.12	C
ATOM	10250	N3	A R	58	23.650	16.936	65.889	1.00	31.83	N
ATOM	10251	C4	A R	58	24.836	16.828	66.484	1.00	32.40	C
ATOM	10252	P	U R	59	24.670	12.580	71.125	1.00	36.46	P
ATOM	10253	O1P	U R	59	25.216	12.520	72.502	1.00	33.87	O
ATOM	10254	O2P	U R	59	25.453	12.250	69.892	1.00	33.58	O
ATOM	10255	O5*	U R	59	23.422	11.617	71.148	1.00	33.92	O
ATOM	10256	C5*	U R	59	22.648	11.488	70.028	1.00	35.40	C
ATOM	10257	C4*	U R	59	21.387	10.785	70.468	1.00	36.03	C
ATOM	10258	O4*	U R	59	20.904	11.356	71.718	1.00	36.58	O
ATOM	10259	C3*	U R	59	20.240	10.930	69.498	1.00	35.03	C
ATOM	10260	O3*	U R	59	19.391	9.819	69.669	1.00	34.12	O
ATOM	10261	C2*	U R	59	19.629	12.248	69.949	1.00	34.68	C
ATOM	10262	O2*	U R	59	18.276	12.365	69.591	1.00	37.81	O
ATOM	10263	C1*	U R	59	19.724	12.104	71.450	1.00	36.26	C
ATOM	10264	N1	U R	59	19.777	13.375	72.218	1.00	37.15	N
ATOM	10265	C2	U R	59	18.619	13.920	72.720	1.00	35.20	C
ATOM	10266	O2	U R	59	17.525	13.462	72.534	1.00	37.09	O
ATOM	10267	N3	U R	59	18.769	15.073	73.427	1.00	35.97	N
ATOM	10268	C4	U R	59	19.942	15.735	73.708	1.00	35.92	C
ATOM	10269	O4	U R	59	19.907	16.768	74.373	1.00	36.72	O
ATOM	10270	C5	U R	59	21.125	15.111	73.168	1.00	37.47	C
ATOM	10271	C6	U R	59	21.003	13.983	72.452	1.00	37.74	C

ATOM	10272	P	G R	60	19.509	8.580	68.678	1.00	34.57	P
ATOM	10273	O1P	G R	60	18.347	7.689	68.891	1.00	31.81	O
ATOM	10274	O2P	G R	60	20.914	8.101	68.785	1.00	35.90	O
ATOM	10275	O5*	G R	60	19.360	9.224	67.211	1.00	34.41	O
ATOM	10276	C5*	G R	60	18.113	9.727	66.790	1.00	35.31	C
ATOM	10277	C4*	G R	60	18.177	10.218	65.369	1.00	34.96	C
ATOM	10278	O4*	G R	60	19.293	11.116	65.250	1.00	37.06	O
ATOM	10279	C3*	G R	60	18.462	9.153	64.344	1.00	36.15	C
ATOM	10280	O3*	G R	60	17.265	8.547	63.940	1.00	36.47	O
ATOM	10281	C2*	G R	60	19.091	9.958	63.217	1.00	36.24	C
ATOM	10282	O2*	G R	60	18.156	10.658	62.451	1.00	34.57	O
ATOM	10283	C1*	G R	60	19.921	10.961	63.988	1.00	36.56	C
ATOM	10284	N9	G R	60	21.325	10.614	64.177	1.00	36.42	N
ATOM	10285	C8	G R	60	21.996	10.423	65.354	1.00	37.04	C
ATOM	10286	N7	G R	60	23.267	10.163	65.191	1.00	36.69	N
ATOM	10287	C5	G R	60	23.434	10.185	63.832	1.00	35.87	C
ATOM	10288	C6	G R	60	24.586	9.994	63.074	1.00	37.27	C
ATOM	10289	O6	G R	60	25.715	9.727	63.474	1.00	38.79	O
ATOM	10290	N1	G R	60	24.348	10.100	61.714	1.00	37.38	N
ATOM	10291	C2	G R	60	23.141	10.371	61.153	1.00	36.79	C
ATOM	10292	N2	G R	60	23.123	10.430	59.808	1.00	37.66	N
ATOM	10293	N3	G R	60	22.049	10.575	61.862	1.00	37.07	N
ATOM	10294	C4	G R	60	22.266	10.461	63.190	1.00	36.36	C
ATOM	10295	P	A R	61	17.156	6.965	63.785	1.00	34.07	P
ATOM	10296	O1P	A R	61	15.720	6.751	63.510	1.00	39.54	O
ATOM	10297	O2P	A R	61	17.783	6.281	64.925	1.00	36.13	O
ATOM	10298	O5*	A R	61	17.990	6.677	62.475	1.00	34.65	O
ATOM	10299	C5*	A R	61	17.644	7.307	61.269	1.00	34.33	C
ATOM	10300	C4*	A R	61	18.707	7.034	60.217	1.00	34.36	C
ATOM	10301	O4*	A R	61	19.838	7.906	60.467	1.00	33.96	O
ATOM	10302	C3*	A R	61	19.335	5.648	60.202	1.00	34.21	C
ATOM	10303	O3*	A R	61	18.554	4.780	59.443	1.00	35.01	O
ATOM	10304	C2*	A R	61	20.660	5.974	59.519	1.00	34.40	C
ATOM	10305	O2*	A R	61	20.540	6.367	58.166	1.00	34.15	O
ATOM	10306	C1*	A R	61	21.062	7.211	60.280	1.00	32.82	C
ATOM	10307	N9	A R	61	21.755	7.065	61.564	1.00	31.76	N
ATOM	10308	C8	A R	61	21.266	7.017	62.838	1.00	31.97	C
ATOM	10309	N7	A R	61	22.203	6.926	63.769	1.00	31.84	N
ATOM	10310	C5	A R	61	23.382	6.929	63.049	1.00	31.33	C
ATOM	10311	C6	A R	61	24.743	6.869	63.409	1.00	30.87	C
ATOM	10312	N6	A R	61	25.243	6.789	64.644	1.00	31.68	N
ATOM	10313	N1	A R	61	25.622	6.910	62.420	1.00	30.43	N
ATOM	10314	C2	A R	61	25.209	6.982	61.168	1.00	31.32	C
ATOM	10315	N3	A R	61	23.977	7.056	60.701	1.00	32.03	N
ATOM	10316	C4	A R	61	23.107	7.026	61.705	1.00	30.97	C
ATOM	10317	P	C R	62	18.450	3.190	59.697	1.00	36.85	P
ATOM	10318	O1P	C R	62	17.581	2.762	58.578	1.00	36.09	O
ATOM	10319	O2P	C R	62	18.149	2.849	61.113	1.00	33.07	O
ATOM	10320	O5*	C R	62	19.875	2.589	59.344	1.00	36.68	O
ATOM	10321	C5*	C R	62	20.196	2.421	57.989	1.00	37.55	C
ATOM	10322	C4*	C R	62	21.671	2.206	57.872	1.00	37.78	C
ATOM	10323	O4*	C R	62	22.389	3.324	58.467	1.00	38.52	O
ATOM	10324	C3*	C R	62	22.173	1.022	58.665	1.00	38.86	C
ATOM	10325	O3*	C R	62	21.837	-0.183	58.011	1.00	39.16	O
ATOM	10326	C2*	C R	62	23.649	1.370	58.660	1.00	37.92	C
ATOM	10327	O2*	C R	62	24.229	1.290	57.375	1.00	39.74	O
ATOM	10328	C1*	C R	62	23.580	2.826	59.052	1.00	37.12	C
ATOM	10329	N1	C R	62	23.607	3.077	60.513	1.00	35.54	N
ATOM	10330	C2	C R	62	24.852	3.138	61.122	1.00	35.23	C

ATOM	10331	O2	C R	62	25.887	2.965	60.469	1.00	35.95	O
ATOM	10332	N3	C R	62	24.905	3.374	62.440	1.00	35.77	N
ATOM	10333	C4	C R	62	23.807	3.563	63.154	1.00	36.55	C
ATOM	10334	N4	C R	62	23.991	3.805	64.452	1.00	36.29	N
ATOM	10335	C5	C R	62	22.509	3.499	62.567	1.00	36.11	C
ATOM	10336	C6	C R	62	22.465	3.258	61.248	1.00	36.16	C
ATOM	10337	P	U R	63	21.584	-1.519	58.844	1.00	37.77	P
ATOM	10338	O1P	U R	63	21.148	-2.490	57.837	1.00	39.83	O
ATOM	10339	O2P	U R	63	20.769	-1.313	60.065	1.00	38.11	O
ATOM	10340	O5*	U R	63	23.057	-1.861	59.314	1.00	38.80	O
ATOM	10341	C5*	U R	63	24.162	-1.876	58.460	1.00	39.58	C
ATOM	10342	C4*	U R	63	25.421	-2.092	59.285	1.00	40.61	C
ATOM	10343	O4*	U R	63	25.878	-0.866	59.904	1.00	40.32	O
ATOM	10344	C3*	U R	63	25.268	-3.061	60.447	1.00	40.54	C
ATOM	10345	O3*	U R	63	25.302	-4.342	59.901	1.00	41.93	O
ATOM	10346	C2*	U R	63	26.464	-2.659	61.293	1.00	39.91	C
ATOM	10347	O2*	U R	63	27.707	-3.060	60.776	1.00	41.40	O
ATOM	10348	C1*	U R	63	26.338	-1.148	61.209	1.00	39.45	C
ATOM	10349	N1	U R	63	25.400	-0.594	62.247	1.00	38.39	N
ATOM	10350	C2	U R	63	25.940	-0.239	63.453	1.00	38.04	C
ATOM	10351	O2	U R	63	27.119	-0.347	63.697	1.00	37.70	O
ATOM	10352	N3	U R	63	25.056	0.254	64.371	1.00	38.77	N
ATOM	10353	C4	U R	63	23.702	0.436	64.212	1.00	39.00	C
ATOM	10354	O4	U R	63	23.045	0.899	65.139	1.00	38.77	O
ATOM	10355	C5	U R	63	23.198	0.047	62.921	1.00	38.08	C
ATOM	10356	C6	U R	63	24.048	-0.442	62.015	1.00	37.40	C
ATOM	10357	P	C R	64	24.876	-5.641	60.719	1.00	44.75	P
ATOM	10358	O1P	C R	64	24.803	-6.737	59.716	1.00	43.55	O
ATOM	10359	O2P	C R	64	23.773	-5.376	61.680	1.00	42.57	O
ATOM	10360	O5*	C R	64	26.234	-5.836	61.524	1.00	44.70	O
ATOM	10361	C5*	C R	64	26.328	-6.769	62.550	1.00	44.59	C
ATOM	10362	C4*	C R	64	27.611	-6.528	63.324	1.00	44.70	C
ATOM	10363	O4*	C R	64	28.003	-5.131	63.367	1.00	43.20	O
ATOM	10364	C3*	C R	64	27.460	-6.946	64.769	1.00	44.54	C
ATOM	10365	O3*	C R	64	27.741	-8.326	64.823	1.00	45.44	O
ATOM	10366	C2*	C R	64	28.443	-6.046	65.498	1.00	43.65	C
ATOM	10367	O2*	C R	64	29.791	-6.469	65.426	1.00	42.49	O
ATOM	10368	C1*	C R	64	28.193	-4.764	64.719	1.00	42.44	C
ATOM	10369	N1	C R	64	27.010	-3.977	65.190	1.00	41.93	N
ATOM	10370	C2	C R	64	27.099	-3.279	66.399	1.00	41.63	C
ATOM	10371	O2	C R	64	28.131	-3.334	67.070	1.00	41.85	O
ATOM	10372	N3	C R	64	26.036	-2.556	66.816	1.00	41.30	N
ATOM	10373	C4	C R	64	24.919	-2.497	66.097	1.00	41.30	C
ATOM	10374	N4	C R	64	23.917	-1.757	66.571	1.00	40.94	N
ATOM	10375	C5	C R	64	24.794	-3.193	64.863	1.00	40.95	C
ATOM	10376	C6	C R	64	25.849	-3.908	64.458	1.00	41.97	C
ATOM	10377	P	C R	65	26.696	-9.252	65.581	1.00	46.89	P
ATOM	10378	O1P	C R	65	27.275	-10.617	65.538	1.00	47.10	O
ATOM	10379	O2P	C R	65	25.321	-8.969	65.089	1.00	46.03	O
ATOM	10380	O5*	C R	65	26.836	-8.697	67.081	1.00	46.97	O
ATOM	10381	C5*	C R	65	28.105	-8.808	67.716	1.00	47.54	C
ATOM	10382	C4*	C R	65	28.116	-8.084	69.040	1.00	47.55	C
ATOM	10383	O4*	C R	65	27.783	-6.698	68.832	1.00	47.31	O
ATOM	10384	C3*	C R	65	27.079	-8.549	70.041	1.00	47.71	C
ATOM	10385	O3*	C R	65	27.522	-9.765	70.623	1.00	49.69	O
ATOM	10386	C2*	C R	65	27.081	-7.363	70.993	1.00	47.31	C
ATOM	10387	O2*	C R	65	28.195	-7.306	71.864	1.00	46.12	O
ATOM	10388	C1*	C R	65	27.147	-6.210	69.994	1.00	46.26	C
ATOM	10389	N1	C R	65	25.832	-5.592	69.604	1.00	45.18	N

ATOM	10390	C2	C R	65	25.231	-4.708	70.502	1.00	44.44	C
ATOM	10391	O2	C R	65	25.771	-4.485	71.591	1.00	43.66	O
ATOM	10392	N3	C R	65	24.057	-4.122	70.149	1.00	43.98	N
ATOM	10393	C4	C R	65	23.481	-4.368	68.975	1.00	44.21	C
ATOM	10394	N4	C R	65	22.330	-3.745	68.718	1.00	43.68	N
ATOM	10395	C5	C R	65	24.072	-5.266	68.036	1.00	44.16	C
ATOM	10396	C6	C R	65	25.235	-5.848	68.390	1.00	45.23	C
ATOM	10397	P	C R	66	26.506	-10.831	71.244	1.00	49.67	P
ATOM	10398	O1P	C R	66	27.370	-11.890	71.812	1.00	50.34	O
ATOM	10399	O2P	C R	66	25.479	-11.164	70.226	1.00	49.45	O
ATOM	10400	O5*	C R	66	25.837	-10.012	72.456	1.00	49.28	O
ATOM	10401	C5*	C R	66	26.614	-9.753	73.638	1.00	48.12	C
ATOM	10402	C4*	C R	66	25.881	-8.863	74.624	1.00	47.37	C
ATOM	10403	O4*	C R	66	25.609	-7.582	74.015	1.00	46.22	O
ATOM	10404	C3*	C R	66	24.507	-9.356	75.053	1.00	47.31	C
ATOM	10405	O3*	C R	66	24.610	-10.334	76.078	1.00	47.73	O
ATOM	10406	C2*	C R	66	23.843	-8.069	75.532	1.00	46.82	C
ATOM	10407	O2*	C R	66	24.179	-7.715	76.862	1.00	47.36	O
ATOM	10408	C1*	C R	66	24.388	-7.068	74.522	1.00	44.65	C
ATOM	10409	N1	C R	66	23.433	-6.821	73.407	1.00	43.38	N
ATOM	10410	C2	C R	66	22.351	-5.968	73.645	1.00	43.28	C
ATOM	10411	O2	C R	66	22.226	-5.460	74.772	1.00	42.64	O
ATOM	10412	N3	C R	66	21.473	-5.724	72.631	1.00	42.34	N
ATOM	10413	C4	C R	66	21.640	-6.288	71.433	1.00	42.29	C
ATOM	10414	N4	C R	66	20.749	-6.016	70.479	1.00	41.46	N
ATOM	10415	C5	C R	66	22.737	-7.159	71.174	1.00	42.27	C
ATOM	10416	C6	C R	66	23.595	-7.395	72.175	1.00	42.93	C
ATOM	10417	P	G R	67	23.677	-11.639	76.055	1.00	49.12	P
ATOM	10418	O1P	G R	67	24.199	-12.577	77.076	1.00	48.02	O
ATOM	10419	O2P	G R	67	23.463	-12.092	74.657	1.00	48.09	O
ATOM	10420	O5*	G R	67	22.317	-11.018	76.596	1.00	47.88	O
ATOM	10421	C5*	G R	67	22.234	-10.541	77.933	1.00	47.38	C
ATOM	10422	C4*	G R	67	20.974	-9.713	78.067	1.00	46.79	C
ATOM	10423	O4*	G R	67	21.086	-8.566	77.191	1.00	46.20	O
ATOM	10424	C3*	G R	67	19.685	-10.391	77.612	1.00	46.11	C
ATOM	10425	O3*	G R	67	19.153	-11.279	78.607	1.00	45.97	O
ATOM	10426	C2*	G R	67	18.808	-9.174	77.363	1.00	45.36	C
ATOM	10427	O2*	G R	67	18.274	-8.630	78.547	1.00	45.49	O
ATOM	10428	C1*	G R	67	19.794	-8.196	76.744	1.00	44.94	C
ATOM	10429	N9	G R	67	19.687	-8.183	75.283	1.00	44.73	N
ATOM	10430	C8	G R	67	20.402	-8.893	74.338	1.00	44.18	C
ATOM	10431	N7	G R	67	20.031	-8.638	73.106	1.00	43.93	N
ATOM	10432	C5	G R	67	19.008	-7.704	73.254	1.00	43.50	C
ATOM	10433	C6	G R	67	18.213	-7.049	72.294	1.00	43.32	C
ATOM	10434	O6	G R	67	18.261	-7.167	71.069	1.00	43.97	O
ATOM	10435	N1	G R	67	17.288	-6.184	72.869	1.00	43.36	N
ATOM	10436	C2	G R	67	17.143	-5.965	74.214	1.00	43.81	C
ATOM	10437	N2	G R	67	16.200	-5.092	74.591	1.00	43.74	N
ATOM	10438	N3	G R	67	17.881	-6.569	75.131	1.00	44.00	N
ATOM	10439	C4	G R	67	18.785	-7.419	74.581	1.00	43.96	C
ATOM	10440	P	G R	68	17.842	-12.155	78.288	1.00	46.45	P
ATOM	10441	O1P	G R	68	17.509	-12.950	79.492	1.00	45.88	O
ATOM	10442	O2P	G R	68	18.013	-12.813	76.970	1.00	46.42	O
ATOM	10443	O5*	G R	68	16.722	-11.040	78.096	1.00	43.83	O
ATOM	10444	C5*	G R	68	15.561	-11.349	77.366	1.00	41.49	C
ATOM	10445	C4*	G R	68	14.696	-10.114	77.285	1.00	40.22	C
ATOM	10446	O4*	G R	68	15.444	-9.023	76.690	1.00	39.32	O
ATOM	10447	C3*	G R	68	13.478	-10.290	76.399	1.00	39.19	C
ATOM	10448	O3*	G R	68	12.411	-10.790	77.173	1.00	38.46	O

ATOM	10449	C2*	G R	68	13.262	-8.871	75.888	1.00	38.19	C
ATOM	10450	O2*	G R	68	12.709	-8.000	76.851	1.00	37.76	O
ATOM	10451	C1*	G R	68	14.710	-8.498	75.594	1.00	37.11	C
ATOM	10452	N9	G R	68	15.228	-9.031	74.332	1.00	35.85	N
ATOM	10453	C8	G R	68	16.214	-9.956	74.143	1.00	35.62	C
ATOM	10454	N7	G R	68	16.448	-10.224	72.887	1.00	35.77	N
ATOM	10455	C5	G R	68	15.561	-9.433	72.189	1.00	35.26	C
ATOM	10456	C6	G R	68	15.350	-9.292	70.797	1.00	35.31	C
ATOM	10457	O6	G R	68	15.925	-9.856	69.858	1.00	34.96	O
ATOM	10458	N1	G R	68	14.345	-8.370	70.539	1.00	35.47	N
ATOM	10459	C2	G R	68	13.634	-7.679	71.493	1.00	35.30	C
ATOM	10460	N2	G R	68	12.691	-6.825	71.076	1.00	35.57	N
ATOM	10461	N3	G R	68	13.831	-7.808	72.790	1.00	35.24	N
ATOM	10462	C4	G R	68	14.806	-8.695	73.070	1.00	35.49	C
ATOM	10463	P	U R	69	11.422	-11.845	76.527	1.00	38.91	P
ATOM	10464	O1P	U R	69	10.734	-12.514	77.647	1.00	39.42	O
ATOM	10465	O2P	U R	69	12.133	-12.640	75.499	1.00	38.76	O
ATOM	10466	O5*	U R	69	10.370	-10.952	75.738	1.00	38.09	O
ATOM	10467	C5*	U R	69	9.733	-9.802	76.260	1.00	37.07	C
ATOM	10468	C4*	U R	69	8.981	-9.153	75.118	1.00	36.55	C
ATOM	10469	O4*	U R	69	9.922	-8.529	74.209	1.00	36.43	O
ATOM	10470	C3*	U R	69	8.234	-10.108	74.202	1.00	36.47	C
ATOM	10471	O3*	U R	69	7.031	-10.534	74.799	1.00	37.32	O
ATOM	10472	C2*	U R	69	8.050	-9.250	72.953	1.00	36.22	C
ATOM	10473	O2*	U R	69	7.068	-8.232	73.023	1.00	36.76	O
ATOM	10474	C1*	U R	69	9.436	-8.630	72.877	1.00	35.52	C
ATOM	10475	N1	U R	69	10.383	-9.413	72.024	1.00	34.52	N
ATOM	10476	C2	U R	69	10.384	-9.190	70.661	1.00	34.73	C
ATOM	10477	O2	U R	69	9.659	-8.392	70.088	1.00	34.70	O
ATOM	10478	N3	U R	69	11.287	-9.942	69.964	1.00	34.20	N
ATOM	10479	C4	U R	69	12.173	-10.866	70.461	1.00	33.70	C
ATOM	10480	O4	U R	69	12.917	-11.449	69.692	1.00	34.50	O
ATOM	10481	C5	U R	69	12.123	-11.051	71.883	1.00	33.84	C
ATOM	10482	C6	U R	69	11.244	-10.334	72.592	1.00	34.10	C
ATOM	10483	P	U R	70	6.343	-11.926	74.407	1.00	37.18	P
ATOM	10484	O1P	U R	70	5.132	-11.982	75.250	1.00	36.70	O
ATOM	10485	O2P	U R	70	7.327	-13.033	74.406	1.00	37.02	O
ATOM	10486	O5*	U R	70	5.909	-11.725	72.891	1.00	37.09	O
ATOM	10487	C5*	U R	70	4.890	-10.823	72.538	1.00	37.80	C
ATOM	10488	C4*	U R	70	4.778	-10.771	71.031	1.00	37.92	C
ATOM	10489	O4*	U R	70	6.005	-10.248	70.459	1.00	38.31	O
ATOM	10490	C3*	U R	70	4.633	-12.121	70.355	1.00	38.60	C
ATOM	10491	O3*	U R	70	3.285	-12.656	70.458	1.00	39.14	O
ATOM	10492	C2*	U R	70	5.059	-11.739	68.945	1.00	38.13	C
ATOM	10493	O2*	U R	70	4.119	-10.926	68.280	1.00	37.49	O
ATOM	10494	C1*	U R	70	6.303	-10.927	69.250	1.00	37.91	C
ATOM	10495	N1	U R	70	7.578	-11.741	69.350	1.00	38.22	N
ATOM	10496	C2	U R	70	8.257	-12.061	68.183	1.00	38.47	C
ATOM	10497	O2	U R	70	7.871	-11.737	67.070	1.00	37.80	O
ATOM	10498	N3	U R	70	9.415	-12.793	68.357	1.00	37.92	N
ATOM	10499	C4	U R	70	9.971	-13.236	69.541	1.00	37.71	C
ATOM	10500	O4	U R	70	11.023	-13.879	69.531	1.00	37.67	O
ATOM	10501	C5	U R	70	9.217	-12.861	70.709	1.00	37.55	C
ATOM	10502	C6	U R	70	8.084	-12.151	70.570	1.00	37.81	C
ATOM	10503	P	G R	71	3.070	-14.222	70.738	1.00	37.78	P
ATOM	10504	O1P	G R	71	1.637	-14.449	71.015	1.00	39.67	O
ATOM	10505	O2P	G R	71	4.077	-14.669	71.728	1.00	37.47	O
ATOM	10506	O5*	G R	71	3.383	-14.857	69.311	1.00	39.75	O
ATOM	10507	C5*	G R	71	2.546	-14.555	68.223	1.00	42.55	C

ATOM	10508	C4*	G R	71	3.251	-14.920	66.941	1.00	44.86	C
ATOM	10509	O4*	G R	71	4.557	-14.309	66.912	1.00	45.59	O
ATOM	10510	C3*	G R	71	3.601	-16.379	66.765	1.00	46.66	C
ATOM	10511	O3*	G R	71	2.463	-17.114	66.399	1.00	50.46	O
ATOM	10512	C2*	G R	71	4.597	-16.280	65.627	1.00	46.61	C
ATOM	10513	O2*	G R	71	3.940	-16.087	64.382	1.00	47.26	O
ATOM	10514	C1*	G R	71	5.415	-15.068	66.083	1.00	45.41	C
ATOM	10515	N9	G R	71	6.611	-15.399	66.858	1.00	44.90	N
ATOM	10516	C8	G R	71	6.781	-15.370	68.224	1.00	44.88	C
ATOM	10517	N7	G R	71	7.971	-15.728	68.624	1.00	44.40	N
ATOM	10518	C5	G R	71	8.632	-16.017	67.445	1.00	44.39	C
ATOM	10519	C6	G R	71	9.963	-16.462	67.233	1.00	44.51	C
ATOM	10520	O6	G R	71	10.856	-16.697	68.063	1.00	44.32	O
ATOM	10521	N1	G R	71	10.217	-16.636	65.877	1.00	44.43	N
ATOM	10522	C2	G R	71	9.315	-16.411	64.858	1.00	44.60	C
ATOM	10523	N2	G R	71	9.760	-16.639	63.618	1.00	44.94	N
ATOM	10524	N3	G R	71	8.068	-15.993	65.039	1.00	44.07	N
ATOM	10525	C4	G R	71	7.805	-15.820	66.354	1.00	44.10	C
ATOM	10526	P	U R	72	2.176	-18.576	66.957	1.00	52.41	P
ATOM	10527	O1P	U R	72	3.238	-19.014	67.887	1.00	53.11	O
ATOM	10528	O2P	U R	72	1.866	-19.383	65.760	1.00	53.10	O
ATOM	10529	O5*	U R	72	0.826	-18.335	67.781	1.00	56.85	O
ATOM	10530	C5*	U R	72	0.837	-18.251	69.207	1.00	60.73	C
ATOM	10531	C4*	U R	72	-0.549	-17.951	69.766	1.00	63.07	C
ATOM	10532	O4*	U R	72	-0.909	-16.565	69.538	1.00	64.37	O
ATOM	10533	C3*	U R	72	-1.677	-18.788	69.164	1.00	64.83	C
ATOM	10534	O3*	U R	72	-2.259	-19.569	70.191	1.00	66.23	O
ATOM	10535	C2*	U R	72	-2.671	-17.797	68.545	1.00	65.35	C
ATOM	10536	O2*	U R	72	-4.032	-18.116	68.805	1.00	65.96	O
ATOM	10537	C1*	U R	72	-2.277	-16.461	69.181	1.00	65.59	C
ATOM	10538	N1	U R	72	-2.465	-15.255	68.279	1.00	66.11	N
ATOM	10539	C2	U R	72	-1.730	-15.125	67.098	1.00	66.51	C
ATOM	10540	O2	U R	72	-0.906	-15.939	66.703	1.00	66.32	O
ATOM	10541	N3	U R	72	-1.993	-13.981	66.372	1.00	66.37	N
ATOM	10542	C4	U R	72	-2.890	-12.972	66.686	1.00	66.29	C
ATOM	10543	O4	U R	72	-3.011	-12.010	65.931	1.00	66.14	O
ATOM	10544	C5	U R	72	-3.617	-13.172	67.921	1.00	66.32	C
ATOM	10545	C6	U R	72	-3.380	-14.277	68.650	1.00	66.19	C
ATOM	10546	P	U R	73	-1.816	-21.090	70.366	1.00	67.13	P
ATOM	10547	O1P	U R	73	-0.341	-21.158	70.508	1.00	66.43	O
ATOM	10548	O2P	U R	73	-2.522	-21.860	69.315	1.00	67.13	O
ATOM	10549	O5*	U R	73	-2.455	-21.436	71.787	1.00	68.54	O
ATOM	10550	C5*	U R	73	-2.252	-20.582	72.907	1.00	69.87	C
ATOM	10551	C4*	U R	73	-1.986	-21.387	74.169	1.00	70.75	C
ATOM	10552	O4*	U R	73	-2.402	-22.773	74.010	1.00	71.04	O
ATOM	10553	C3*	U R	73	-0.523	-21.499	74.561	1.00	71.30	C
ATOM	10554	O3*	U R	73	-0.080	-20.330	75.234	1.00	72.13	O
ATOM	10555	C2*	U R	73	-0.561	-22.717	75.474	1.00	71.33	C
ATOM	10556	O2*	U R	73	-1.047	-22.426	76.770	1.00	71.44	O
ATOM	10557	C1*	U R	73	-1.535	-23.631	74.738	1.00	71.14	C
ATOM	10558	N1	U R	73	-0.877	-24.662	73.842	1.00	71.14	N
ATOM	10559	C2	U R	73	-0.129	-25.669	74.434	1.00	71.28	C
ATOM	10560	O2	U R	73	0.045	-25.769	75.636	1.00	71.35	O
ATOM	10561	N3	U R	73	0.434	-26.574	73.567	1.00	71.30	N
ATOM	10562	C4	U R	73	0.328	-26.590	72.189	1.00	71.33	C
ATOM	10563	O4	U R	73	0.892	-27.474	71.551	1.00	71.19	O
ATOM	10564	C5	U R	73	-0.467	-25.521	71.633	1.00	71.28	C
ATOM	10565	C6	U R	73	-1.025	-24.622	72.461	1.00	71.18	C
ATOM	10566	P	C R	74	1.459	-19.885	75.162	1.00	73.44	P

ATOM	10567	O1P	C R	74	1.612	-18.651	75.964	1.00	73.32	O
ATOM	10568	O2P	C R	74	1.853	-19.889	73.731	1.00	73.08	O
ATOM	10569	O5*	C R	74	2.232	-21.058	75.929	1.00	73.85	O
ATOM	10570	C5*	C R	74	2.133	-21.188	77.343	1.00	74.62	C
ATOM	10571	C4*	C R	74	2.803	-22.457	77.844	1.00	74.98	C
ATOM	10572	O4*	C R	74	2.215	-23.630	77.228	1.00	75.19	O
ATOM	10573	C3*	C R	74	4.280	-22.594	77.515	1.00	75.30	C
ATOM	10574	O3*	C R	74	5.068	-21.794	78.388	1.00	76.07	O
ATOM	10575	C2*	C R	74	4.483	-24.090	77.714	1.00	75.18	C
ATOM	10576	O2*	C R	74	4.586	-24.472	79.070	1.00	74.98	O
ATOM	10577	C1*	C R	74	3.206	-24.632	77.076	1.00	75.13	C
ATOM	10578	N1	C R	74	3.387	-24.990	75.625	1.00	75.15	N
ATOM	10579	C2	C R	74	4.097	-26.157	75.307	1.00	75.12	C
ATOM	10580	O2	C R	74	4.555	-26.861	76.212	1.00	75.06	O
ATOM	10581	N3	C R	74	4.269	-26.493	74.005	1.00	75.13	N
ATOM	10582	C4	C R	74	3.770	-25.729	73.032	1.00	75.14	C
ATOM	10583	N4	C R	74	3.975	-26.119	71.770	1.00	75.08	N
ATOM	10584	C5	C R	74	3.044	-24.535	73.324	1.00	75.12	C
ATOM	10585	C6	C R	74	2.881	-24.207	74.615	1.00	75.09	C
ATOM	10586	P	A R	75	6.322	-20.943	77.859	1.00	76.86	P
ATOM	10587	O1P	A R	75	6.635	-19.943	78.900	1.00	77.10	O
ATOM	10588	O2P	A R	75	6.079	-20.493	76.470	1.00	76.20	O
ATOM	10589	O5*	A R	75	7.492	-22.026	77.837	1.00	77.32	O
ATOM	10590	C5*	A R	75	7.925	-22.629	79.045	1.00	78.01	C
ATOM	10591	C4*	A R	75	8.879	-23.769	78.754	1.00	78.40	C
ATOM	10592	O4*	A R	75	8.158	-24.880	78.162	1.00	78.67	O
ATOM	10593	C3*	A R	75	9.975	-23.471	77.739	1.00	78.71	C
ATOM	10594	O3*	A R	75	11.027	-22.697	78.330	1.00	78.48	O
ATOM	10595	C2*	A R	75	10.366	-24.894	77.352	1.00	78.89	C
ATOM	10596	O2*	A R	75	11.111	-25.575	78.345	1.00	79.05	O
ATOM	10597	C1*	A R	75	8.984	-25.519	77.200	1.00	78.99	C
ATOM	10598	N9	A R	75	8.400	-25.379	75.861	1.00	79.15	N
ATOM	10599	C8	A R	75	7.478	-24.462	75.425	1.00	79.15	C
ATOM	10600	N7	A R	75	7.135	-24.597	74.164	1.00	79.12	N
ATOM	10601	C5	A R	75	7.881	-25.681	73.734	1.00	79.23	C
ATOM	10602	C6	A R	75	7.975	-26.342	72.487	1.00	79.16	C
ATOM	10603	N6	A R	75	7.287	-25.979	71.400	1.00	79.06	N
ATOM	10604	N1	A R	75	8.820	-27.393	72.400	1.00	79.10	N
ATOM	10605	C2	A R	75	9.517	-27.762	73.487	1.00	79.35	C
ATOM	10606	N3	A R	75	9.511	-27.223	74.711	1.00	79.31	N
ATOM	10607	C4	A R	75	8.664	-26.176	74.769	1.00	79.33	C
ATOM	10608	P	U R	76	11.926	-21.670	77.480	1.00	78.07	P
ATOM	10609	O1P	U R	76	12.810	-20.962	78.431	1.00	78.07	O
ATOM	10610	O2P	U R	76	11.054	-20.884	76.583	1.00	77.73	O
ATOM	10611	O5*	U R	76	12.823	-22.647	76.585	1.00	77.86	O
ATOM	10612	C5*	U R	76	13.750	-23.529	77.219	1.00	77.52	C
ATOM	10613	C4*	U R	76	14.395	-24.476	76.225	1.00	77.18	C
ATOM	10614	O4*	U R	76	13.424	-25.406	75.691	1.00	76.94	O
ATOM	10615	C3*	U R	76	14.971	-23.807	74.992	1.00	76.87	C
ATOM	10616	O3*	U R	76	16.203	-23.171	75.326	1.00	76.84	O
ATOM	10617	C2*	U R	76	15.085	-25.000	74.049	1.00	76.74	C
ATOM	10618	O2*	U R	76	16.205	-25.829	74.280	1.00	76.65	O
ATOM	10619	C1*	U R	76	13.792	-25.744	74.367	1.00	76.71	C
ATOM	10620	N1	U R	76	12.700	-25.382	73.416	1.00	76.66	N
ATOM	10621	C2	U R	76	12.636	-26.045	72.204	1.00	76.60	C
ATOM	10622	O2	U R	76	13.411	-26.921	71.851	1.00	76.57	O
ATOM	10623	N3	U R	76	11.607	-25.647	71.395	1.00	76.41	N
ATOM	10624	C4	U R	76	10.656	-24.678	71.646	1.00	76.43	C
ATOM	10625	O4	U R	76	9.796	-24.447	70.803	1.00	76.46	O

ATOM	10626	C5	U R	76	10.784	-24.025	72.924	1.00	76.39	C
ATOM	10627	C6	U R	76	11.782	-24.393	73.739	1.00	76.52	C
ATOM	10628	P	C R	77	16.992	-22.293	74.249	1.00	76.40	P
ATOM	10629	O1P	C R	77	18.098	-21.587	74.934	1.00	76.57	O
ATOM	10630	O2P	C R	77	16.003	-21.529	73.456	1.00	76.58	O
ATOM	10631	O5*	C R	77	17.632	-23.442	73.341	1.00	76.38	O
ATOM	10632	C5*	C R	77	18.403	-23.137	72.197	1.00	75.99	C
ATOM	10633	C4*	C R	77	18.047	-24.040	71.028	1.00	75.67	C
ATOM	10634	O4*	C R	77	16.758	-24.689	71.193	1.00	75.75	O
ATOM	10635	C3*	C R	77	17.887	-23.323	69.699	1.00	75.29	C
ATOM	10636	O3*	C R	77	19.148	-22.909	69.180	1.00	74.10	O
ATOM	10637	C2*	C R	77	17.218	-24.426	68.890	1.00	75.65	C
ATOM	10638	O2*	C R	77	18.074	-25.482	68.500	1.00	76.11	O
ATOM	10639	C1*	C R	77	16.187	-24.904	69.909	1.00	76.16	C
ATOM	10640	N1	C R	77	14.904	-24.157	69.745	1.00	76.24	N
ATOM	10641	C2	C R	77	14.137	-24.398	68.596	1.00	76.67	C
ATOM	10642	O2	C R	77	14.530	-25.226	67.761	1.00	76.86	O
ATOM	10643	N3	C R	77	12.975	-23.715	68.429	1.00	76.85	N
ATOM	10644	C4	C R	77	12.573	-22.828	69.341	1.00	76.59	C
ATOM	10645	N4	C R	77	11.421	-22.192	69.121	1.00	76.39	N
ATOM	10646	C5	C R	77	13.340	-22.564	70.516	1.00	76.56	C
ATOM	10647	C6	C R	77	14.486	-23.240	70.674	1.00	76.48	C
ATOM	10648	P	A R	78	19.603	-21.375	69.077	1.00	71.72	P
ATOM	10649	O1P	A R	78	21.051	-21.324	69.368	1.00	72.36	O
ATOM	10650	O2P	A R	78	18.672	-20.511	69.831	1.00	72.00	O
ATOM	10651	O5*	A R	78	19.417	-21.110	67.519	1.00	70.85	O
ATOM	10652	C5*	A R	78	20.002	-21.992	66.579	1.00	69.52	C
ATOM	10653	C4*	A R	78	18.994	-22.349	65.510	1.00	68.87	C
ATOM	10654	O4*	A R	78	17.763	-22.873	66.061	1.00	68.80	O
ATOM	10655	C3*	A R	78	18.494	-21.154	64.734	1.00	68.27	C
ATOM	10656	O3*	A R	78	19.502	-20.693	63.868	1.00	67.19	O
ATOM	10657	C2*	A R	78	17.286	-21.746	64.025	1.00	68.24	C
ATOM	10658	O2*	A R	78	17.608	-22.503	62.880	1.00	68.67	O
ATOM	10659	C1*	A R	78	16.711	-22.621	65.137	1.00	68.19	C
ATOM	10660	N9	A R	78	15.600	-21.943	65.793	1.00	68.06	N
ATOM	10661	C8	A R	78	15.513	-21.473	67.077	1.00	68.05	C
ATOM	10662	N7	A R	78	14.371	-20.890	67.355	1.00	67.71	N
ATOM	10663	C5	A R	78	13.669	-20.978	66.169	1.00	67.68	C
ATOM	10664	C6	A R	78	12.387	-20.548	65.793	1.00	67.79	C
ATOM	10665	N6	A R	78	11.556	-19.915	66.623	1.00	67.81	N
ATOM	10666	N1	A R	78	11.998	-20.793	64.524	1.00	68.05	N
ATOM	10667	C2	A R	78	12.828	-21.425	63.683	1.00	68.00	C
ATOM	10668	N3	A R	78	14.055	-21.878	63.924	1.00	67.92	N
ATOM	10669	C4	A R	78	14.411	-21.620	65.195	1.00	67.81	C
ATOM	10670	P	C R	79	19.459	-19.170	63.420	1.00	66.19	P
ATOM	10671	O1P	C R	79	20.552	-18.919	62.453	1.00	66.40	O
ATOM	10672	O2P	C R	79	19.353	-18.341	64.641	1.00	66.94	O
ATOM	10673	O5*	C R	79	18.054	-19.124	62.661	1.00	65.73	O
ATOM	10674	C5*	C R	79	17.944	-19.227	61.246	1.00	64.70	C
ATOM	10675	C4*	C R	79	16.587	-18.727	60.775	1.00	63.99	C
ATOM	10676	O4*	C R	79	15.529	-19.379	61.526	1.00	63.52	O
ATOM	10677	C3*	C R	79	16.303	-17.246	60.990	1.00	63.21	C
ATOM	10678	O3*	C R	79	16.930	-16.414	60.024	1.00	62.42	O
ATOM	10679	C2*	C R	79	14.784	-17.248	60.883	1.00	63.08	C
ATOM	10680	O2*	C R	79	14.285	-17.417	59.574	1.00	63.74	O
ATOM	10681	C1*	C R	79	14.464	-18.468	61.730	1.00	62.22	C
ATOM	10682	N1	C R	79	14.316	-18.128	63.184	1.00	61.58	N
ATOM	10683	C2	C R	79	13.073	-17.671	63.640	1.00	60.85	C
ATOM	10684	O2	C R	79	12.128	-17.553	62.849	1.00	60.13	O

ATOM	10685	N3	C R	79	12.943	-17.369	64.956	1.00	60.55	N
ATOM	10686	C4	C R	79	13.961	-17.493	65.804	1.00	60.54	C
ATOM	10687	N4	C R	79	13.749	-17.172	67.081	1.00	60.40	N
ATOM	10688	C5	C R	79	15.237	-17.950	65.364	1.00	60.89	C
ATOM	10689	C6	C R	79	15.365	-18.249	64.063	1.00	61.23	C
ATOM	10690	P	A R	80	17.291	-14.895	60.395	1.00	62.80	P
ATOM	10691	O1P	A R	80	18.230	-14.363	59.381	1.00	62.66	O
ATOM	10692	O2P	A R	80	17.639	-14.826	61.832	1.00	62.54	O
ATOM	10693	O5*	A R	80	15.910	-14.141	60.168	1.00	60.81	O
ATOM	10694	C5*	A R	80	15.162	-14.345	58.979	1.00	59.00	C
ATOM	10695	C4*	A R	80	13.781	-13.742	59.131	1.00	57.67	C
ATOM	10696	O4*	A R	80	12.932	-14.521	60.020	1.00	56.81	O
ATOM	10697	C3*	A R	80	13.808	-12.365	59.756	1.00	56.27	C
ATOM	10698	O3*	A R	80	14.173	-11.428	58.775	1.00	54.76	O
ATOM	10699	C2*	A R	80	12.376	-12.247	60.265	1.00	55.89	C
ATOM	10700	O2*	A R	80	11.448	-11.911	59.254	1.00	55.69	O
ATOM	10701	C1*	A R	80	12.155	-13.651	60.830	1.00	55.04	C
ATOM	10702	N9	A R	80	12.546	-13.801	62.244	1.00	54.74	N
ATOM	10703	C8	A R	80	13.755	-14.210	62.753	1.00	54.14	C
ATOM	10704	N7	A R	80	13.807	-14.254	64.063	1.00	54.18	N
ATOM	10705	C5	A R	80	12.543	-13.839	64.453	1.00	54.26	C
ATOM	10706	C6	A R	80	11.940	-13.657	65.721	1.00	54.06	C
ATOM	10707	N6	A R	80	12.561	-13.878	66.884	1.00	53.70	N
ATOM	10708	N1	A R	80	10.661	-13.227	65.750	1.00	53.53	N
ATOM	10709	C2	A R	80	10.024	-12.996	64.600	1.00	53.73	C
ATOM	10710	N3	A R	80	10.481	-13.133	63.356	1.00	54.11	N
ATOM	10711	C4	A R	80	11.756	-13.558	63.347	1.00	54.25	C
ATOM	10712	P	A R	81	14.778	-10.027	59.241	1.00	55.04	P
ATOM	10713	O1P	A R	81	15.046	-9.224	58.019	1.00	54.24	O
ATOM	10714	O2P	A R	81	15.867	-10.277	60.215	1.00	53.93	O
ATOM	10715	O5*	A R	81	13.537	-9.378	60.016	1.00	52.32	O
ATOM	10716	C5*	A R	81	12.622	-8.544	59.310	1.00	50.83	C
ATOM	10717	C4*	A R	81	11.445	-8.139	60.170	1.00	48.88	C
ATOM	10718	O4*	A R	81	10.925	-9.296	60.883	1.00	47.52	O
ATOM	10719	C3*	A R	81	11.783	-7.130	61.254	1.00	48.11	C
ATOM	10720	O3*	A R	81	11.844	-5.802	60.740	1.00	46.73	O
ATOM	10721	C2*	A R	81	10.621	-7.380	62.209	1.00	47.95	C
ATOM	10722	O2*	A R	81	9.410	-6.773	61.784	1.00	48.88	O
ATOM	10723	C1*	A R	81	10.554	-8.912	62.190	1.00	46.61	C
ATOM	10724	N9	A R	81	11.472	-9.487	63.167	1.00	46.16	N
ATOM	10725	C8	A R	81	12.732	-9.971	62.965	1.00	46.13	C
ATOM	10726	N7	A R	81	13.329	-10.408	64.045	1.00	46.49	N
ATOM	10727	C5	A R	81	12.400	-10.176	65.036	1.00	45.90	C
ATOM	10728	C6	A R	81	12.427	-10.411	66.419	1.00	45.23	C
ATOM	10729	N6	A R	81	13.460	-10.956	67.058	1.00	44.86	N
ATOM	10730	N1	A R	81	11.337	-10.069	67.115	1.00	45.43	N
ATOM	10731	C2	A R	81	10.294	-9.532	66.478	1.00	46.12	C
ATOM	10732	N3	A R	81	10.153	-9.259	65.182	1.00	46.11	N
ATOM	10733	C4	A R	81	11.255	-9.610	64.512	1.00	45.95	C
ATOM	10734	P	C R	82	12.822	-4.749	61.448	1.00	47.77	P
ATOM	10735	O1P	C R	82	12.691	-3.393	60.857	1.00	46.92	O
ATOM	10736	O2P	C R	82	14.162	-5.369	61.584	1.00	47.76	O
ATOM	10737	O5*	C R	82	12.158	-4.685	62.889	1.00	45.02	O
ATOM	10738	C5*	C R	82	10.938	-4.018	63.068	1.00	42.25	C
ATOM	10739	C4*	C R	82	10.489	-4.297	64.472	1.00	40.58	C
ATOM	10740	O4*	C R	82	10.692	-5.690	64.792	1.00	39.55	O
ATOM	10741	C3*	C R	82	11.311	-3.595	65.519	1.00	39.84	C
ATOM	10742	O3*	C R	82	10.917	-2.238	65.562	1.00	39.80	O
ATOM	10743	C2*	C R	82	10.912	-4.412	66.739	1.00	39.78	C

ATOM	10744	O2*	C R	82	9.611	-4.103	67.208	1.00	40.79	O
ATOM	10745	C1*	C R	82	10.953	-5.825	66.169	1.00	38.26	C
ATOM	10746	N1	C R	82	12.261	-6.495	66.362	1.00	37.55	N
ATOM	10747	C2	C R	82	12.568	-6.986	67.630	1.00	37.28	C
ATOM	10748	O2	C R	82	11.759	-6.858	68.551	1.00	37.40	O
ATOM	10749	N3	C R	82	13.756	-7.593	67.831	1.00	36.40	N
ATOM	10750	C4	C R	82	14.618	-7.740	66.843	1.00	35.99	C
ATOM	10751	N4	C R	82	15.755	-8.358	67.140	1.00	36.49	N
ATOM	10752	C5	C R	82	14.337	-7.263	65.536	1.00	36.59	C
ATOM	10753	C6	C R	82	13.162	-6.650	65.342	1.00	37.38	C
ATOM	10754	P	C R	83	11.885	-1.123	66.149	1.00	39.42	P
ATOM	10755	O1P	C R	83	11.268	0.202	65.931	1.00	39.98	O
ATOM	10756	O2P	C R	83	13.245	-1.411	65.640	1.00	40.69	O
ATOM	10757	O5*	C R	83	11.903	-1.421	67.706	1.00	38.66	O
ATOM	10758	C5*	C R	83	10.744	-1.284	68.478	1.00	38.92	C
ATOM	10759	C4*	C R	83	11.070	-1.639	69.916	1.00	38.74	C
ATOM	10760	O4*	C R	83	11.478	-3.019	70.025	1.00	38.03	O
ATOM	10761	C3*	C R	83	12.250	-0.902	70.501	1.00	38.40	C
ATOM	10762	O3*	C R	83	11.820	0.373	70.863	1.00	40.40	O
ATOM	10763	C2*	C R	83	12.585	-1.793	71.682	1.00	38.36	C
ATOM	10764	O2*	C R	83	11.642	-1.691	72.743	1.00	37.85	O
ATOM	10765	C1*	C R	83	12.482	-3.157	71.018	1.00	36.50	C
ATOM	10766	N1	C R	83	13.709	-3.803	70.386	1.00	34.91	N
ATOM	10767	C2	C R	83	14.573	-4.536	71.184	1.00	34.29	C
ATOM	10768	O2	C R	83	14.350	-4.594	72.389	1.00	35.11	O
ATOM	10769	N3	C R	83	15.639	-5.168	70.635	1.00	34.68	N
ATOM	10770	C4	C R	83	15.878	-5.106	69.327	1.00	34.95	C
ATOM	10771	N4	C R	83	16.957	-5.744	68.835	1.00	33.17	N
ATOM	10772	C5	C R	83	15.000	-4.367	68.483	1.00	34.12	C
ATOM	10773	C6	C R	83	13.947	-3.759	69.044	1.00	34.63	C
ATOM	10774	P	G R	84	12.850	1.578	71.016	1.00	42.91	P
ATOM	10775	O1P	G R	84	12.033	2.755	71.409	1.00	41.90	O
ATOM	10776	O2P	G R	84	13.733	1.638	69.813	1.00	41.03	O
ATOM	10777	O5*	G R	84	13.670	1.106	72.305	1.00	41.14	O
ATOM	10778	C5*	G R	84	12.969	1.172	73.545	1.00	42.51	C
ATOM	10779	C4*	G R	84	13.822	0.734	74.715	1.00	42.63	C
ATOM	10780	O4*	G R	84	14.550	-0.458	74.359	1.00	41.65	O
ATOM	10781	C3*	G R	84	14.859	1.760	75.129	1.00	43.54	C
ATOM	10782	O3*	G R	84	15.029	1.710	76.536	1.00	46.32	O
ATOM	10783	C2*	G R	84	16.098	1.319	74.351	1.00	43.50	C
ATOM	10784	O2*	G R	84	17.310	1.714	74.989	1.00	44.60	O
ATOM	10785	C1*	G R	84	15.935	-0.206	74.337	1.00	41.54	C
ATOM	10786	N9	G R	84	16.534	-0.971	73.220	1.00	40.45	N
ATOM	10787	C8	G R	84	16.236	-0.990	71.869	1.00	39.86	C
ATOM	10788	N7	G R	84	16.986	-1.815	71.176	1.00	39.09	N
ATOM	10789	C5	G R	84	17.821	-2.381	72.121	1.00	38.43	C
ATOM	10790	C6	G R	84	18.853	-3.342	72.000	1.00	39.52	C
ATOM	10791	O6	G R	84	19.262	-3.924	70.992	1.00	39.79	O
ATOM	10792	N1	G R	84	19.455	-3.623	73.227	1.00	39.87	N
ATOM	10793	C2	G R	84	19.099	-3.047	74.423	1.00	39.84	C
ATOM	10794	N2	G R	84	19.780	-3.426	75.507	1.00	39.79	N
ATOM	10795	N3	G R	84	18.139	-2.144	74.547	1.00	39.44	N
ATOM	10796	C4	G R	84	17.551	-1.868	73.366	1.00	38.58	C
ATOM	10797	P	C R	85	14.109	2.597	77.497	1.00	48.75	P
ATOM	10798	O1P	C R	85	14.106	3.963	76.931	1.00	49.18	O
ATOM	10799	O2P	C R	85	14.560	2.347	78.888	1.00	48.37	O
ATOM	10800	O5*	C R	85	12.631	1.980	77.340	1.00	50.08	O
ATOM	10801	C5*	C R	85	11.629	2.210	78.337	1.00	52.07	C
ATOM	10802	C4*	C R	85	10.795	0.981	78.677	1.00	53.64	C

ATOM	10803	O4*	C R	85	11.584	-0.064	79.316	1.00	54.76	O
ATOM	10804	C3*	C R	85	9.676	1.298	79.661	1.00	55.16	C
ATOM	10805	O3*	C R	85	8.438	0.878	79.116	1.00	56.96	O
ATOM	10806	C2*	C R	85	10.051	0.562	80.952	1.00	55.27	C
ATOM	10807	O2*	C R	85	8.917	0.095	81.653	1.00	55.83	O
ATOM	10808	C1*	C R	85	10.931	-0.583	80.461	1.00	54.77	C
ATOM	10809	P	A R	86	7.334	1.937	78.630	1.00	59.66	P
ATOM	10810	O1P	A R	86	7.854	3.323	78.738	1.00	58.10	O
ATOM	10811	O2P	A R	86	6.096	1.536	79.339	1.00	59.71	O
ATOM	10812	O5*	A R	86	7.151	1.620	77.066	1.00	57.73	O
ATOM	10813	C5*	A R	86	6.653	0.357	76.633	1.00	56.98	C
ATOM	10814	C4*	A R	86	7.343	-0.034	75.344	1.00	56.38	C
ATOM	10815	O4*	A R	86	8.770	0.101	75.555	1.00	55.34	O
ATOM	10816	C3*	A R	86	7.204	-1.484	74.881	1.00	56.66	C
ATOM	10817	O3*	A R	86	5.909	-1.873	74.321	1.00	57.70	O
ATOM	10818	C2*	A R	86	8.445	-1.550	73.983	1.00	55.36	C
ATOM	10819	O2*	A R	86	8.422	-0.716	72.840	1.00	54.61	O
ATOM	10820	C1*	A R	86	9.451	-1.003	74.985	1.00	53.72	C
ATOM	10821	N9	A R	86	9.894	-1.902	76.062	1.00	53.12	N
ATOM	10822	C8	A R	86	9.207	-2.336	77.176	1.00	52.59	C
ATOM	10823	N7	A R	86	9.889	-3.125	77.973	1.00	52.04	N
ATOM	10824	C5	A R	86	11.120	-3.209	77.353	1.00	52.02	C
ATOM	10825	C6	A R	86	12.294	-3.899	77.697	1.00	52.23	C
ATOM	10826	N6	A R	86	12.395	-4.653	78.797	1.00	52.12	N
ATOM	10827	N1	A R	86	13.350	-3.787	76.866	1.00	52.27	N
ATOM	10828	C2	A R	86	13.228	-3.035	75.765	1.00	52.28	C
ATOM	10829	N3	A R	86	12.176	-2.339	75.334	1.00	51.78	N
ATOM	10830	C4	A R	86	11.145	-2.468	76.182	1.00	52.51	C
ATOM	10831	P	A R	87	5.386	-1.544	72.856	1.00	58.12	P
ATOM	10832	O1P	A R	87	5.861	-0.176	72.525	1.00	57.97	O
ATOM	10833	O2P	A R	87	3.940	-1.878	72.832	1.00	57.82	O
ATOM	10834	O5*	A R	87	6.157	-2.597	71.935	1.00	54.51	O
ATOM	10835	C5*	A R	87	6.586	-2.205	70.639	1.00	52.03	C
ATOM	10836	C4*	A R	87	7.638	-3.184	70.170	1.00	50.54	C
ATOM	10837	O4*	A R	87	8.646	-3.315	71.195	1.00	49.57	O
ATOM	10838	C3*	A R	87	7.104	-4.581	69.944	1.00	49.19	C
ATOM	10839	O3*	A R	87	6.697	-4.689	68.586	1.00	48.38	O
ATOM	10840	C2*	A R	87	8.281	-5.477	70.316	1.00	48.14	C
ATOM	10841	O2*	A R	87	9.115	-5.773	69.214	1.00	47.22	O
ATOM	10842	C1*	A R	87	9.041	-4.653	71.343	1.00	47.88	C
ATOM	10843	N9	A R	87	8.815	-4.996	72.740	1.00	47.44	N
ATOM	10844	C8	A R	87	7.652	-4.974	73.445	1.00	47.38	C
ATOM	10845	N7	A R	87	7.790	-5.334	74.698	1.00	47.06	N
ATOM	10846	C5	A R	87	9.137	-5.603	74.820	1.00	46.66	C
ATOM	10847	C6	A R	87	9.934	-6.042	75.896	1.00	46.98	C
ATOM	10848	N6	A R	87	9.473	-6.301	77.117	1.00	47.48	N
ATOM	10849	N1	A R	87	11.246	-6.224	75.672	1.00	47.64	N
ATOM	10850	C2	A R	87	11.730	-5.977	74.450	1.00	47.79	C
ATOM	10851	N3	A R	87	11.084	-5.568	73.361	1.00	47.14	N
ATOM	10852	C4	A R	87	9.781	-5.393	73.624	1.00	46.88	C
ATOM	10853	P	G R	88	5.527	-5.696	68.209	1.00	47.63	P
ATOM	10854	O1P	G R	88	4.260	-4.927	68.227	1.00	47.85	O
ATOM	10855	O2P	G R	88	5.685	-6.905	69.034	1.00	46.81	O
ATOM	10856	O5*	G R	88	5.850	-6.071	66.694	1.00	47.67	O
ATOM	10857	C5*	G R	88	7.184	-6.312	66.306	1.00	48.37	C
ATOM	10858	C4*	G R	88	7.236	-7.107	65.015	1.00	48.81	C
ATOM	10859	O4*	G R	88	6.616	-8.408	65.162	1.00	48.75	O
ATOM	10860	C3*	G R	88	6.495	-6.475	63.855	1.00	49.08	C
ATOM	10861	O3*	G R	88	7.313	-5.484	63.271	1.00	50.11	O

ATOM	10862	C2*	G R	88	6.271	-7.683	62.963	1.00	49.11	C
ATOM	10863	O2*	G R	88	7.435	-8.083	62.266	1.00	49.26	O
ATOM	10864	C1*	G R	88	5.874	-8.723	64.002	1.00	49.04	C
ATOM	10865	N9	G R	88	4.451	-8.707	64.339	1.00	49.35	N
ATOM	10866	C8	G R	88	3.886	-8.451	65.571	1.00	49.39	C
ATOM	10867	N7	G R	88	2.586	-8.506	65.577	1.00	48.93	N
ATOM	10868	C5	G R	88	2.270	-8.820	64.269	1.00	48.80	C
ATOM	10869	C6	G R	88	1.007	-9.011	63.682	1.00	48.97	C
ATOM	10870	O6	G R	88	-0.101	-8.934	64.229	1.00	49.18	O
ATOM	10871	N1	G R	88	1.116	-9.328	62.334	1.00	49.34	N
ATOM	10872	C2	G R	88	2.290	-9.443	61.630	1.00	49.10	C
ATOM	10873	N2	G R	88	2.179	-9.749	60.331	1.00	48.68	N
ATOM	10874	N3	G R	88	3.483	-9.260	62.176	1.00	49.23	N
ATOM	10875	C4	G R	88	3.397	-8.951	63.493	1.00	48.99	C
ATOM	10876	P	C R	89	6.700	-4.089	62.799	1.00	51.29	P
ATOM	10877	O1P	C R	89	7.810	-3.227	62.323	1.00	51.20	O
ATOM	10878	O2P	C R	89	5.759	-3.596	63.835	1.00	51.05	O
ATOM	10879	O5*	C R	89	5.869	-4.557	61.520	1.00	51.77	O
ATOM	10880	C5*	C R	89	6.521	-5.042	60.354	1.00	51.81	C
ATOM	10881	C4*	C R	89	5.482	-5.529	59.364	1.00	52.36	C
ATOM	10882	O4*	C R	89	4.706	-6.628	59.921	1.00	52.57	O
ATOM	10883	C3*	C R	89	4.420	-4.501	59.001	1.00	52.96	C
ATOM	10884	O3*	C R	89	4.947	-3.525	58.091	1.00	53.63	O
ATOM	10885	C2*	C R	89	3.329	-5.416	58.440	1.00	52.80	C
ATOM	10886	O2*	C R	89	3.578	-5.913	57.141	1.00	51.83	O
ATOM	10887	C1*	C R	89	3.359	-6.544	59.472	1.00	52.38	C
ATOM	10888	N1	C R	89	2.436	-6.287	60.627	1.00	52.09	N
ATOM	10889	C2	C R	89	1.046	-6.453	60.477	1.00	52.36	C
ATOM	10890	O2	C R	89	0.560	-6.815	59.396	1.00	52.27	O
ATOM	10891	N3	C R	89	0.235	-6.205	61.540	1.00	52.34	N
ATOM	10892	C4	C R	89	0.734	-5.801	62.704	1.00	52.19	C
ATOM	10893	N4	C R	89	-0.124	-5.580	63.699	1.00	51.97	N
ATOM	10894	C5	C R	89	2.139	-5.628	62.885	1.00	52.39	C
ATOM	10895	C6	C R	89	2.937	-5.869	61.834	1.00	52.61	C
ATOM	10896	P	U R	90	4.612	-1.960	58.254	1.00	54.75	P
ATOM	10897	O1P	U R	90	5.582	-1.166	57.459	1.00	54.05	O
ATOM	10898	O2P	U R	90	4.430	-1.633	59.689	1.00	53.24	O
ATOM	10899	O5*	U R	90	3.196	-1.897	57.519	1.00	53.00	O
ATOM	10900	C5*	U R	90	3.067	-2.205	56.155	1.00	52.04	C
ATOM	10901	C4*	U R	90	1.605	-2.468	55.865	1.00	52.37	C
ATOM	10902	O4*	U R	90	1.117	-3.524	56.726	1.00	52.07	O
ATOM	10903	C3*	U R	90	0.621	-1.350	56.189	1.00	51.95	C
ATOM	10904	O3*	U R	90	0.681	-0.291	55.258	1.00	52.50	O
ATOM	10905	C2*	U R	90	-0.685	-2.120	56.115	1.00	51.18	C
ATOM	10906	O2*	U R	90	-1.071	-2.496	54.811	1.00	49.84	O
ATOM	10907	C1*	U R	90	-0.277	-3.339	56.917	1.00	51.09	C
ATOM	10908	N1	U R	90	-0.595	-3.242	58.375	1.00	50.79	N
ATOM	10909	C2	U R	90	-1.904	-3.477	58.743	1.00	50.55	C
ATOM	10910	O2	U R	90	-2.795	-3.735	57.944	1.00	50.32	O
ATOM	10911	N3	U R	90	-2.133	-3.396	60.090	1.00	50.03	N
ATOM	10912	C4	U R	90	-1.228	-3.113	61.093	1.00	50.30	C
ATOM	10913	O4	U R	90	-1.613	-3.089	62.256	1.00	50.26	O
ATOM	10914	C5	U R	90	0.120	-2.876	60.642	1.00	50.13	C
ATOM	10915	C6	U R	90	0.377	-2.952	59.325	1.00	50.78	C
ATOM	10916	P	U R	91	0.395	1.216	55.718	1.00	53.71	P
ATOM	10917	O1P	U R	91	0.839	2.070	54.586	1.00	54.57	O
ATOM	10918	O2P	U R	91	0.931	1.464	57.086	1.00	51.79	O
ATOM	10919	O5*	U R	91	-1.204	1.270	55.741	1.00	51.59	O
ATOM	10920	C5*	U R	91	-1.959	0.924	54.600	1.00	50.46	C

ATOM	10921	C4*	U R	91	-3.402	0.750	55.010	1.00	50.36	C
ATOM	10922	O4*	U R	91	-3.488	-0.346	55.950	1.00	49.87	O
ATOM	10923	C3*	U R	91	-4.034	1.911	55.776	1.00	49.74	C
ATOM	10924	O3*	U R	91	-4.419	2.949	54.894	1.00	48.91	O
ATOM	10925	C2*	U R	91	-5.215	1.199	56.435	1.00	49.31	C
ATOM	10926	O2*	U R	91	-6.293	0.917	55.564	1.00	48.71	O
ATOM	10927	C1*	U R	91	-4.547	-0.097	56.859	1.00	48.83	C
ATOM	10928	N1	U R	91	-4.024	-0.084	58.252	1.00	48.32	N
ATOM	10929	C2	U R	91	-4.940	-0.209	59.267	1.00	48.32	C
ATOM	10930	O2	U R	91	-6.135	-0.317	59.072	1.00	47.95	O
ATOM	10931	N3	U R	91	-4.398	-0.204	60.525	1.00	48.54	N
ATOM	10932	C4	U R	91	-3.065	-0.097	60.875	1.00	48.38	C
ATOM	10933	O4	U R	91	-2.741	-0.112	62.060	1.00	48.08	O
ATOM	10934	C5	U R	91	-2.166	0.036	59.762	1.00	47.89	C
ATOM	10935	C6	U R	91	-2.673	0.038	58.523	1.00	47.98	C
ATOM	10936	P	U R	92	-4.534	4.454	55.407	1.00	48.14	P
ATOM	10937	O1P	U R	92	-4.973	5.256	54.242	1.00	48.94	O
ATOM	10938	O2P	U R	92	-3.324	4.798	56.179	1.00	49.84	O
ATOM	10939	O5*	U R	92	-5.735	4.425	56.456	1.00	48.30	O
ATOM	10940	C5*	U R	92	-7.068	4.354	55.970	1.00	46.71	C
ATOM	10941	C4*	U R	92	-8.003	4.151	57.133	1.00	45.72	C
ATOM	10942	O4*	U R	92	-7.555	3.052	57.939	1.00	45.02	O
ATOM	10943	C3*	U R	92	-8.038	5.288	58.128	1.00	45.01	C
ATOM	10944	O3*	U R	92	-8.803	6.297	57.561	1.00	43.75	O
ATOM	10945	C2*	U R	92	-8.669	4.600	59.332	1.00	44.95	C
ATOM	10946	O2*	U R	92	-10.056	4.333	59.232	1.00	46.27	O
ATOM	10947	C1*	U R	92	-7.913	3.287	59.288	1.00	44.76	C
ATOM	10948	N1	U R	92	-6.691	3.235	60.147	1.00	44.74	N
ATOM	10949	C2	U R	92	-6.894	3.088	61.494	1.00	44.73	C
ATOM	10950	O2	U R	92	-8.000	3.022	61.988	1.00	45.70	O
ATOM	10951	N3	U R	92	-5.761	3.019	62.248	1.00	44.32	N
ATOM	10952	C4	U R	92	-4.457	3.069	61.811	1.00	44.21	C
ATOM	10953	O4	U R	92	-3.553	2.984	62.630	1.00	44.28	O
ATOM	10954	C5	U R	92	-4.309	3.228	60.392	1.00	44.44	C
ATOM	10955	C6	U R	92	-5.412	3.302	59.629	1.00	44.21	C
ATOM	10956	P	U R	93	-8.727	7.791	58.087	1.00	43.43	P
ATOM	10957	O1P	U R	93	-10.004	8.394	57.602	1.00	44.51	O
ATOM	10958	O2P	U R	93	-7.417	8.404	57.735	1.00	42.64	O
ATOM	10959	O5*	U R	93	-8.851	7.636	59.666	1.00	43.25	O
ATOM	10960	C5*	U R	93	-10.161	7.644	60.230	1.00	44.06	C
ATOM	10961	C4*	U R	93	-10.131	7.485	61.734	1.00	43.35	C
ATOM	10962	O4*	U R	93	-9.341	6.329	62.075	1.00	42.39	O
ATOM	10963	C3*	U R	93	-9.495	8.629	62.502	1.00	43.18	C
ATOM	10964	O3*	U R	93	-10.433	9.637	62.720	1.00	43.33	O
ATOM	10965	C2*	U R	93	-9.131	7.918	63.789	1.00	43.35	C
ATOM	10966	O2*	U R	93	-10.227	7.671	64.645	1.00	43.51	O
ATOM	10967	C1*	U R	93	-8.620	6.596	63.258	1.00	42.62	C
ATOM	10968	N1	U R	93	-7.121	6.506	63.006	1.00	42.43	N
ATOM	10969	C2	U R	93	-6.311	6.284	64.098	1.00	42.26	C
ATOM	10970	O2	U R	93	-6.760	6.203	65.226	1.00	41.20	O
ATOM	10971	N3	U R	93	-4.971	6.163	63.814	1.00	41.62	N
ATOM	10972	C4	U R	93	-4.375	6.257	62.569	1.00	41.87	C
ATOM	10973	O4	U R	93	-3.162	6.130	62.455	1.00	41.72	O
ATOM	10974	C5	U R	93	-5.281	6.496	61.479	1.00	41.32	C
ATOM	10975	C6	U R	93	-6.584	6.600	61.738	1.00	41.40	C
ATOM	10976	P	A R	94	-10.021	11.115	63.146	1.00	45.35	P
ATOM	10977	O1P	A R	94	-11.290	11.878	63.145	1.00	45.08	O
ATOM	10978	O2P	A R	94	-8.894	11.594	62.311	1.00	43.70	O
ATOM	10979	O5*	A R	94	-9.598	10.941	64.678	1.00	45.62	O

ATOM	10980	C5*	A R	94	-10.611	10.734	65.679	1.00	46.61	C
ATOM	10981	C4*	A R	94	-10.028	10.602	67.070	1.00	46.41	C
ATOM	10982	O4*	A R	94	-9.269	9.371	67.226	1.00	46.70	O
ATOM	10983	C3*	A R	94	-9.041	11.707	67.393	1.00	47.17	C
ATOM	10984	O3*	A R	94	-9.741	12.837	67.831	1.00	49.07	O
ATOM	10985	C2*	A R	94	-8.214	11.077	68.498	1.00	46.61	C
ATOM	10986	O2*	A R	94	-8.851	11.113	69.762	1.00	46.08	O
ATOM	10987	C1*	A R	94	-8.067	9.666	67.942	1.00	45.87	C
ATOM	10988	N9	A R	94	-6.893	9.529	67.066	1.00	45.46	N
ATOM	10989	C8	A R	94	-6.807	9.748	65.714	1.00	45.23	C
ATOM	10990	N7	A R	94	-5.622	9.538	65.188	1.00	44.91	N
ATOM	10991	C5	A R	94	-4.880	9.163	66.284	1.00	44.32	C
ATOM	10992	C6	A R	94	-3.537	8.801	66.401	1.00	44.43	C
ATOM	10993	N6	A R	94	-2.706	8.775	65.349	1.00	44.07	N
ATOM	10994	N1	A R	94	-3.106	8.487	67.645	1.00	44.96	N
ATOM	10995	C2	A R	94	-3.947	8.524	68.688	1.00	44.79	C
ATOM	10996	N3	A R	94	-5.234	8.848	68.690	1.00	44.88	N
ATOM	10997	C4	A R	94	-5.635	9.157	67.447	1.00	44.49	C
ATOM	10998	P	C R	95	-9.048	14.268	67.814	1.00	50.78	P
ATOM	10999	O1P	C R	95	-9.963	15.091	68.638	1.00	50.22	O
ATOM	11000	O2P	C R	95	-8.712	14.635	66.407	1.00	50.14	O
ATOM	11001	O5*	C R	95	-7.636	14.053	68.548	1.00	48.66	O
ATOM	11002	C5*	C R	95	-7.352	14.647	69.794	1.00	46.46	C
ATOM	11003	C4*	C R	95	-6.181	13.965	70.490	1.00	45.52	C
ATOM	11004	O4*	C R	95	-5.836	12.681	69.903	1.00	43.25	O
ATOM	11005	C3*	C R	95	-4.881	14.749	70.432	1.00	44.24	C
ATOM	11006	O3*	C R	95	-4.923	15.795	71.379	1.00	44.36	O
ATOM	11007	C2*	C R	95	-3.882	13.668	70.803	1.00	43.65	C
ATOM	11008	O2*	C R	95	-3.841	13.438	72.201	1.00	44.80	O
ATOM	11009	C1*	C R	95	-4.445	12.466	70.047	1.00	41.67	C
ATOM	11010	N1	C R	95	-3.807	12.297	68.719	1.00	40.15	N
ATOM	11011	C2	C R	95	-2.508	11.787	68.681	1.00	40.14	C
ATOM	11012	O2	C R	95	-1.963	11.502	69.756	1.00	40.48	O
ATOM	11013	N3	C R	95	-1.888	11.635	67.479	1.00	38.38	N
ATOM	11014	C4	C R	95	-2.518	11.962	66.341	1.00	39.92	C
ATOM	11015	N4	C R	95	-1.881	11.782	65.177	1.00	38.18	N
ATOM	11016	C5	C R	95	-3.846	12.494	66.359	1.00	39.40	C
ATOM	11017	C6	C R	95	-4.438	12.647	67.555	1.00	40.17	C
ATOM	11018	P	U R	96	-4.289	17.200	70.998	1.00	44.99	P
ATOM	11019	O1P	U R	96	-4.519	18.091	72.141	1.00	46.54	O
ATOM	11020	O2P	U R	96	-4.724	17.592	69.638	1.00	44.54	O
ATOM	11021	O5*	U R	96	-2.715	16.872	71.031	1.00	46.33	O
ATOM	11022	C5*	U R	96	-2.142	16.419	72.268	1.00	45.34	C
ATOM	11023	C4*	U R	96	-0.705	15.959	72.126	1.00	44.87	C
ATOM	11024	O4*	U R	96	-0.615	14.755	71.341	1.00	45.03	O
ATOM	11025	C3*	U R	96	0.182	16.917	71.371	1.00	45.29	C
ATOM	11026	O3*	U R	96	0.579	17.955	72.211	1.00	46.45	O
ATOM	11027	C2*	U R	96	1.328	16.021	70.952	1.00	44.39	C
ATOM	11028	O2*	U R	96	2.179	15.690	72.014	1.00	43.82	O
ATOM	11029	C1*	U R	96	0.556	14.789	70.528	1.00	44.37	C
ATOM	11030	N1	U R	96	0.142	14.769	69.095	1.00	43.81	N
ATOM	11031	C2	U R	96	0.988	14.269	68.119	1.00	43.62	C
ATOM	11032	O2	U R	96	2.090	13.835	68.336	1.00	42.54	O
ATOM	11033	N3	U R	96	0.479	14.291	66.847	1.00	44.12	N
ATOM	11034	C4	U R	96	-0.763	14.754	66.460	1.00	43.68	C
ATOM	11035	O4	U R	96	-1.098	14.711	65.286	1.00	43.94	O
ATOM	11036	C5	U R	96	-1.587	15.253	67.522	1.00	43.74	C
ATOM	11037	C6	U R	96	-1.113	15.243	68.766	1.00	43.72	C
ATOM	11038	P	U R	97	1.100	19.285	71.520	1.00	47.99	P

ATOM	11039	O1P	U R	97	0.830	19.213	70.061	1.00	46.41	O
ATOM	11040	O2P	U R	97	2.498	19.462	71.979	1.00	49.36	O
ATOM	11041	O5*	U R	97	0.199	20.405	72.221	1.00	47.54	O
ATOM	11042	C5*	U R	97	-1.169	20.610	71.909	1.00	49.93	C
ATOM	11043	C4*	U R	97	-1.536	22.088	71.990	1.00	50.67	C
ATOM	11044	O4*	U R	97	-1.496	22.537	73.371	1.00	52.29	O
ATOM	11045	C3*	U R	97	-0.605	23.028	71.221	1.00	50.81	C
ATOM	11046	O3*	U R	97	-1.325	24.103	70.657	1.00	46.33	O
ATOM	11047	C2*	U R	97	0.354	23.506	72.298	1.00	52.65	C
ATOM	11048	O2*	U R	97	0.991	24.732	72.017	1.00	52.73	O
ATOM	11049	C1*	U R	97	-0.622	23.644	73.459	1.00	55.77	C
ATOM	11050	N1	U R	97	0.042	23.610	74.780	1.00	57.60	N
ATOM	11051	C2	U R	97	-0.020	24.718	75.609	1.00	59.17	C
ATOM	11052	O2	U R	97	-0.596	25.751	75.315	1.00	59.64	O
ATOM	11053	N3	U R	97	0.631	24.560	76.815	1.00	60.31	N
ATOM	11054	C4	U R	97	1.322	23.428	77.253	1.00	59.82	C
ATOM	11055	O4	U R	97	1.860	23.425	78.358	1.00	59.61	O
ATOM	11056	C5	U R	97	1.345	22.318	76.325	1.00	59.96	C
ATOM	11057	C6	U R	97	0.714	22.455	75.149	1.00	58.86	C
ATOM	11058	P	A R	98	-1.796	23.952	69.145	1.00	45.93	P
ATOM	11059	O1P	A R	98	-2.597	25.126	68.730	1.00	45.26	O
ATOM	11060	O2P	A R	98	-2.328	22.576	69.005	1.00	44.05	O
ATOM	11061	O5*	A R	98	-0.405	24.087	68.358	1.00	43.91	O
ATOM	11062	C5*	A R	98	0.289	25.334	68.350	1.00	40.21	C
ATOM	11063	C4*	A R	98	1.784	25.128	68.441	1.00	38.49	C
ATOM	11064	O4*	A R	98	2.249	24.359	67.305	1.00	37.64	O
ATOM	11065	C3*	A R	98	2.591	26.401	68.348	1.00	37.45	C
ATOM	11066	O3*	A R	98	2.648	27.032	69.586	1.00	36.04	O
ATOM	11067	C2*	A R	98	3.946	25.887	67.882	1.00	37.34	C
ATOM	11068	O2*	A R	98	4.745	25.352	68.905	1.00	36.05	O
ATOM	11069	C1*	A R	98	3.556	24.763	66.954	1.00	36.72	C
ATOM	11070	N9	A R	98	3.548	25.049	65.525	1.00	37.06	N
ATOM	11071	C8	A R	98	2.473	25.312	64.716	1.00	37.44	C
ATOM	11072	N7	A R	98	2.777	25.486	63.452	1.00	36.17	N
ATOM	11073	C5	A R	98	4.142	25.305	63.433	1.00	35.42	C
ATOM	11074	C6	A R	98	5.070	25.342	62.382	1.00	36.32	C
ATOM	11075	N6	A R	98	4.714	25.589	61.123	1.00	36.93	N
ATOM	11076	N1	A R	98	6.374	25.126	62.673	1.00	36.39	N
ATOM	11077	C2	A R	98	6.690	24.880	63.965	1.00	37.73	C
ATOM	11078	N3	A R	98	5.906	24.813	65.056	1.00	35.77	N
ATOM	11079	C4	A R	98	4.632	25.036	64.700	1.00	36.45	C
ATOM	11080	P	A R	99	2.190	28.560	69.718	1.00	39.06	P
ATOM	11081	O1P	A R	99	1.732	28.755	71.128	1.00	37.39	O
ATOM	11082	O2P	A R	99	1.303	28.894	68.587	1.00	37.58	O
ATOM	11083	O5*	A R	99	3.532	29.405	69.469	1.00	37.01	O
ATOM	11084	C5*	A R	99	4.625	29.352	70.371	1.00	36.24	C
ATOM	11085	C4*	A R	99	5.911	29.437	69.595	1.00	35.87	C
ATOM	11086	O4*	A R	99	5.940	28.397	68.588	1.00	36.37	O
ATOM	11087	C3*	A R	99	6.066	30.680	68.754	1.00	36.52	C
ATOM	11088	O3*	A R	99	6.491	31.758	69.550	1.00	38.27	O
ATOM	11089	C2*	A R	99	7.135	30.250	67.774	1.00	34.83	C
ATOM	11090	O2*	A R	99	8.402	30.153	68.365	1.00	36.55	O
ATOM	11091	C1*	A R	99	6.639	28.867	67.450	1.00	33.62	C
ATOM	11092	N9	A R	99	5.740	28.847	66.323	1.00	32.47	N
ATOM	11093	C8	A R	99	4.382	28.989	66.290	1.00	32.07	C
ATOM	11094	N7	A R	99	3.865	28.912	65.089	1.00	30.84	N
ATOM	11095	C5	A R	99	4.972	28.702	64.290	1.00	31.72	C
ATOM	11096	C6	A R	99	5.129	28.521	62.913	1.00	31.72	C
ATOM	11097	N6	A R	99	4.130	28.524	62.028	1.00	32.65	N

ATOM	11098	N1	A R	99	6.373	28.333	62.462	1.00	32.86	N
ATOM	11099	C2	A R	99	7.391	28.318	63.324	1.00	31.84	C
ATOM	11100	N3	A R	99	7.373	28.486	64.631	1.00	30.65	N
ATOM	11101	C4	A R	99	6.126	28.660	65.041	1.00	31.69	C
ATOM	11102	P	A R	100	6.013	33.225	69.162	1.00	38.17	P
ATOM	11103	O1P	A R	100	6.339	33.965	70.390	1.00	35.64	O
ATOM	11104	O2P	A R	100	4.650	33.150	68.561	1.00	37.09	O
ATOM	11105	O5*	A R	100	6.894	33.648	67.897	1.00	36.50	O
ATOM	11106	C5*	A R	100	8.167	34.221	67.957	1.00	35.89	C
ATOM	11107	C4*	A R	100	8.886	33.933	66.641	1.00	35.82	C
ATOM	11108	O4*	A R	100	8.488	32.630	66.132	1.00	35.24	O
ATOM	11109	C3*	A R	100	8.600	34.846	65.459	1.00	34.79	C
ATOM	11110	O3*	A R	100	9.308	36.075	65.569	1.00	34.56	O
ATOM	11111	C2*	A R	100	9.135	33.976	64.337	1.00	34.46	C
ATOM	11112	O2*	A R	100	10.545	33.962	64.303	1.00	34.90	O
ATOM	11113	C1*	A R	100	8.607	32.604	64.733	1.00	33.18	C
ATOM	11114	N9	A R	100	7.327	32.343	64.100	1.00	32.65	N
ATOM	11115	C8	A R	100	6.066	32.494	64.610	1.00	33.13	C
ATOM	11116	N7	A R	100	5.110	32.205	63.754	1.00	32.67	N
ATOM	11117	C5	A R	100	5.784	31.846	62.604	1.00	32.39	C
ATOM	11118	C6	A R	100	5.347	31.422	61.331	1.00	32.54	C
ATOM	11119	N6	A R	100	4.061	31.293	60.983	1.00	32.16	N
ATOM	11120	N1	A R	100	6.299	31.134	60.415	1.00	32.18	N
ATOM	11121	C2	A R	100	7.587	31.272	60.767	1.00	33.09	C
ATOM	11122	N3	A R	100	8.122	31.654	61.924	1.00	32.14	N
ATOM	11123	C4	A R	100	7.153	31.931	62.805	1.00	32.93	C
ATOM	11124	P	U R	101	8.664	37.386	64.941	1.00	34.55	P
ATOM	11125	O1P	U R	101	9.685	38.458	64.950	1.00	34.60	O
ATOM	11126	O2P	U R	101	7.321	37.564	65.566	1.00	36.22	O
ATOM	11127	O5*	U R	101	8.414	36.996	63.412	1.00	37.23	O
ATOM	11128	C5*	U R	101	9.533	36.855	62.532	1.00	37.68	C
ATOM	11129	C4*	U R	101	9.114	36.348	61.168	1.00	37.94	C
ATOM	11130	O4*	U R	101	8.337	35.137	61.282	1.00	37.52	O
ATOM	11131	C3*	U R	101	8.186	37.280	60.414	1.00	40.04	C
ATOM	11132	O3*	U R	101	8.872	38.375	59.797	1.00	40.72	O
ATOM	11133	C2*	U R	101	7.608	36.318	59.386	1.00	39.50	C
ATOM	11134	O2*	U R	101	8.475	36.069	58.315	1.00	41.72	O
ATOM	11135	C1*	U R	101	7.391	35.070	60.231	1.00	39.20	C
ATOM	11136	N1	U R	101	5.975	35.063	60.727	1.00	39.24	N
ATOM	11137	C2	U R	101	4.985	34.829	59.806	1.00	39.48	C
ATOM	11138	O2	U R	101	5.227	34.601	58.635	1.00	40.73	O
ATOM	11139	N3	U R	101	3.709	34.852	60.287	1.00	39.54	N
ATOM	11140	C4	U R	101	3.336	35.092	61.594	1.00	40.36	C
ATOM	11141	O4	U R	101	2.149	35.093	61.903	1.00	40.63	O
ATOM	11142	C5	U R	101	4.420	35.338	62.503	1.00	39.64	C
ATOM	11143	C6	U R	101	5.668	35.317	62.041	1.00	39.60	C
ATOM	11144	P	C R	102	8.432	39.892	60.080	1.00	39.92	P
ATOM	11145	O1P	C R	102	9.366	40.705	59.258	1.00	40.29	O
ATOM	11146	O2P	C R	102	8.275	40.133	61.519	1.00	38.79	O
ATOM	11147	O5*	C R	102	6.953	39.972	59.528	1.00	40.41	O
ATOM	11148	C5*	C R	102	6.603	39.726	58.201	1.00	42.96	C
ATOM	11149	C4*	C R	102	5.085	39.742	58.112	1.00	43.96	C
ATOM	11150	O4*	C R	102	4.500	38.601	58.790	1.00	45.20	O
ATOM	11151	C3*	C R	102	4.465	40.927	58.806	1.00	45.82	C
ATOM	11152	O3*	C R	102	4.590	42.062	57.933	1.00	46.96	O
ATOM	11153	C2*	C R	102	3.055	40.413	59.118	1.00	46.04	C
ATOM	11154	O2*	C R	102	2.169	40.414	58.021	1.00	47.17	O
ATOM	11155	C1*	C R	102	3.348	38.978	59.519	1.00	45.33	C
ATOM	11156	N1	C R	102	3.619	38.805	60.965	1.00	45.10	N

ATOM	11157	C2	C R 102	2.575	38.698	61.874	1.00	44.61	C
ATOM	11158	O2	C R 102	1.424	38.742	61.468	1.00	45.64	O
ATOM	11159	N3	C R 102	2.854	38.546	63.188	1.00	44.95	N
ATOM	11160	C4	C R 102	4.114	38.494	63.616	1.00	44.02	C
ATOM	11161	N4	C R 102	4.357	38.337	64.916	1.00	44.20	N
ATOM	11162	C5	C R 102	5.194	38.603	62.711	1.00	45.28	C
ATOM	11163	C6	C R 102	4.903	38.755	61.414	1.00	45.59	C
ATOM	11164	P	A R 103	4.972	43.481	58.574	1.00	47.59	P
ATOM	11165	O1P	A R 103	4.740	44.439	57.470	1.00	49.56	O
ATOM	11166	O2P	A R 103	6.288	43.457	59.263	1.00	45.38	O
ATOM	11167	O5*	A R 103	3.799	43.658	59.640	1.00	46.94	O
ATOM	11168	C5*	A R 103	2.512	43.910	59.096	1.00	49.28	C
ATOM	11169	C4*	A R 103	1.433	44.125	60.138	1.00	50.03	C
ATOM	11170	O4*	A R 103	1.181	42.860	60.789	1.00	49.56	O
ATOM	11171	C3*	A R 103	1.750	45.096	61.274	1.00	51.70	C
ATOM	11172	O3*	A R 103	1.621	46.485	60.867	1.00	54.60	O
ATOM	11173	C2*	A R 103	0.710	44.608	62.275	1.00	51.09	C
ATOM	11174	O2*	A R 103	-0.613	44.963	61.929	1.00	52.00	O
ATOM	11175	C1*	A R 103	0.889	43.093	62.151	1.00	49.53	C
ATOM	11176	N9	A R 103	1.950	42.549	63.010	1.00	48.82	N
ATOM	11177	C8	A R 103	3.231	42.185	62.689	1.00	48.28	C
ATOM	11178	N7	A R 103	3.933	41.743	63.702	1.00	47.01	N
ATOM	11179	C5	A R 103	3.057	41.821	64.764	1.00	48.02	C
ATOM	11180	C6	A R 103	3.165	41.496	66.135	1.00	48.57	C
ATOM	11181	N6	A R 103	4.261	41.001	66.718	1.00	48.23	N
ATOM	11182	N1	A R 103	2.081	41.701	66.905	1.00	48.60	N
ATOM	11183	C2	A R 103	0.974	42.193	66.358	1.00	48.15	C
ATOM	11184	N3	A R 103	0.754	42.525	65.097	1.00	48.06	N
ATOM	11185	C4	A R 103	1.837	42.311	64.351	1.00	48.00	C
ATOM	11186	P	U R 104	2.506	47.686	61.479	1.00	55.93	P
ATOM	11187	O1P	U R 104	1.963	48.950	60.917	1.00	56.98	O
ATOM	11188	O2P	U R 104	3.948	47.393	61.357	1.00	55.27	O
ATOM	11189	O5*	U R 104	2.127	47.658	63.027	1.00	56.96	O
ATOM	11190	C5*	U R 104	1.014	48.397	63.529	1.00	57.50	C
ATOM	11191	C4*	U R 104	0.727	47.945	64.949	1.00	57.78	C
ATOM	11192	O4*	U R 104	0.904	46.504	65.019	1.00	58.12	O
ATOM	11193	C3*	U R 104	1.682	48.452	66.017	1.00	58.04	C
ATOM	11194	O3*	U R 104	1.418	49.799	66.424	1.00	58.37	O
ATOM	11195	C2*	U R 104	1.399	47.432	67.105	1.00	57.96	C
ATOM	11196	O2*	U R 104	0.156	47.600	67.739	1.00	58.51	O
ATOM	11197	C1*	U R 104	1.391	46.142	66.295	1.00	57.66	C
ATOM	11198	N1	U R 104	2.758	45.491	66.243	1.00	57.22	N
ATOM	11199	C2	U R 104	3.184	44.804	67.371	1.00	57.08	C
ATOM	11200	O2	U R 104	2.521	44.689	68.384	1.00	57.00	O
ATOM	11201	N3	U R 104	4.428	44.239	67.289	1.00	57.20	N
ATOM	11202	C4	U R 104	5.291	44.283	66.213	1.00	57.51	C
ATOM	11203	O4	U R 104	6.377	43.714	66.301	1.00	57.60	O
ATOM	11204	C5	U R 104	4.792	45.021	65.071	1.00	57.00	C
ATOM	11205	C6	U R 104	3.574	45.584	65.130	1.00	56.83	C
ATOM	11206	P	U R 105	2.584	50.757	66.979	1.00	59.02	P
ATOM	11207	O1P	U R 105	2.109	52.149	66.837	1.00	58.78	O
ATOM	11208	O2P	U R 105	3.887	50.372	66.403	1.00	58.28	O
ATOM	11209	O5*	U R 105	2.614	50.399	68.526	1.00	58.04	O
ATOM	11210	C5*	U R 105	1.525	50.799	69.317	1.00	57.40	C
ATOM	11211	C4*	U R 105	1.744	50.268	70.702	1.00	57.17	C
ATOM	11212	O4*	U R 105	1.913	48.835	70.642	1.00	57.43	O
ATOM	11213	C3*	U R 105	3.034	50.727	71.346	1.00	57.23	C
ATOM	11214	O3*	U R 105	2.930	52.059	71.823	1.00	56.31	O
ATOM	11215	C2*	U R 105	3.171	49.703	72.464	1.00	57.80	C

ATOM	11216	O2*	U R 105	2.314	49.923	73.581	1.00	57.80	O
ATOM	11217	C1*	U R 105	2.791	48.442	71.688	1.00	57.60	C
ATOM	11218	N1	U R 105	3.984	47.684	71.157	1.00	57.21	N
ATOM	11219	C2	U R 105	4.781	47.023	72.069	1.00	57.38	C
ATOM	11220	O2	U R 105	4.576	47.025	73.275	1.00	57.13	O
ATOM	11221	N3	U R 105	5.842	46.344	71.521	1.00	57.29	N
ATOM	11222	C4	U R 105	6.211	46.246	70.192	1.00	57.74	C
ATOM	11223	O4	U R 105	7.210	45.586	69.878	1.00	57.10	O
ATOM	11224	C5	U R 105	5.336	46.964	69.293	1.00	57.41	C
ATOM	11225	C6	U R 105	4.284	47.635	69.801	1.00	57.66	C
ATOM	11226	P	A R 106	4.232	52.979	71.865	1.00	54.84	P
ATOM	11227	O1P	A R 106	3.781	54.378	71.959	1.00	55.07	O
ATOM	11228	O2P	A R 106	5.090	52.600	70.720	1.00	56.01	O
ATOM	11229	O5*	A R 106	4.995	52.523	73.198	1.00	53.66	O
ATOM	11230	C5*	A R 106	4.357	52.446	74.454	1.00	52.71	C
ATOM	11231	C4*	A R 106	5.187	51.658	75.457	1.00	52.79	C
ATOM	11232	O4*	A R 106	5.159	50.238	75.144	1.00	53.22	O
ATOM	11233	C3*	A R 106	6.672	51.988	75.512	1.00	52.38	C
ATOM	11234	O3*	A R 106	6.941	53.114	76.319	1.00	52.39	O
ATOM	11235	C2*	A R 106	7.238	50.728	76.138	1.00	52.47	C
ATOM	11236	O2*	A R 106	7.000	50.631	77.528	1.00	51.33	O
ATOM	11237	C1*	A R 106	6.454	49.687	75.350	1.00	52.96	C
ATOM	11238	N9	A R 106	7.085	49.338	74.065	1.00	52.79	N
ATOM	11239	C8	A R 106	6.838	49.856	72.821	1.00	53.11	C
ATOM	11240	N7	A R 106	7.567	49.328	71.854	1.00	53.61	N
ATOM	11241	C5	A R 106	8.354	48.399	72.512	1.00	53.02	C
ATOM	11242	C6	A R 106	9.343	47.503	72.060	1.00	52.36	C
ATOM	11243	N6	A R 106	9.708	47.399	70.784	1.00	53.00	N
ATOM	11244	N1	A R 106	9.939	46.710	72.964	1.00	52.57	N
ATOM	11245	C2	A R 106	9.568	46.810	74.248	1.00	53.22	C
ATOM	11246	N3	A R 106	8.645	47.611	74.796	1.00	53.15	N
ATOM	11247	C4	A R 106	8.068	48.393	73.869	1.00	52.71	C
ATOM	11248	P	A R 107	8.210	54.016	75.996	1.00	51.88	P
ATOM	11249	O1P	A R 107	8.096	55.260	76.770	1.00	52.51	O
ATOM	11250	O2P	A R 107	8.365	54.054	74.520	1.00	52.33	O
ATOM	11251	O5*	A R 107	9.414	53.180	76.624	1.00	53.21	O
ATOM	11252	C5*	A R 107	9.534	53.049	78.030	1.00	53.43	C
ATOM	11253	C4*	A R 107	10.561	51.997	78.404	1.00	53.44	C
ATOM	11254	O4*	A R 107	10.192	50.712	77.859	1.00	54.22	O
ATOM	11255	C3*	A R 107	11.953	52.218	77.840	1.00	53.81	C
ATOM	11256	O3*	A R 107	12.652	53.174	78.609	1.00	53.65	O
ATOM	11257	C2*	A R 107	12.529	50.810	77.928	1.00	53.78	C
ATOM	11258	O2*	A R 107	12.789	50.347	79.236	1.00	53.45	O
ATOM	11259	C1*	A R 107	11.351	50.052	77.350	1.00	54.72	C
ATOM	11260	N9	A R 107	11.407	50.035	75.886	1.00	55.10	N
ATOM	11261	C8	A R 107	10.777	50.860	74.983	1.00	55.64	C
ATOM	11262	N7	A R 107	11.040	50.597	73.720	1.00	55.29	N
ATOM	11263	C5	A R 107	11.912	49.532	73.798	1.00	55.09	C
ATOM	11264	C6	A R 107	12.562	48.787	72.803	1.00	55.00	C
ATOM	11265	N6	A R 107	12.409	49.035	71.497	1.00	54.64	N
ATOM	11266	N1	A R 107	13.369	47.781	73.216	1.00	55.32	N
ATOM	11267	C2	A R 107	13.515	47.541	74.530	1.00	55.25	C
ATOM	11268	N3	A R 107	12.957	48.178	75.561	1.00	54.87	N
ATOM	11269	C4	A R 107	12.156	49.170	75.120	1.00	55.44	C
ATOM	11270	P	G R 108	13.573	54.254	77.886	1.00	53.69	P
ATOM	11271	O1P	G R 108	14.024	55.222	78.913	1.00	53.99	O
ATOM	11272	O2P	G R 108	12.849	54.724	76.680	1.00	53.77	O
ATOM	11273	O5*	G R 108	14.837	53.381	77.428	1.00	54.36	O
ATOM	11274	C5*	G R 108	15.529	52.619	78.415	1.00	54.64	C

ATOM	11275	C4*	G R 108	16.622	51.716	77.856	1.00	54.69	C
ATOM	11276	O4*	G R 108	16.073	50.561	77.174	1.00	53.95	O
ATOM	11277	C3*	G R 108	17.560	52.345	76.841	1.00	54.66	C
ATOM	11278	O3*	G R 108	18.502	53.144	77.524	1.00	55.34	O
ATOM	11279	C2*	G R 108	18.151	51.097	76.201	1.00	54.31	C
ATOM	11280	O2*	G R 108	19.126	50.464	77.005	1.00	53.97	O
ATOM	11281	C1*	G R 108	16.891	50.241	76.065	1.00	53.91	C
ATOM	11282	N9	G R 108	16.154	50.535	74.839	1.00	53.85	N
ATOM	11283	C8	G R 108	15.069	51.372	74.694	1.00	53.88	C
ATOM	11284	N7	G R 108	14.625	51.457	73.473	1.00	53.96	N
ATOM	11285	C5	G R 108	15.475	50.632	72.764	1.00	53.35	C
ATOM	11286	C6	G R 108	15.478	50.336	71.392	1.00	53.39	C
ATOM	11287	O6	G R 108	14.707	50.765	70.525	1.00	53.26	O
ATOM	11288	N1	G R 108	16.509	49.457	71.066	1.00	54.08	N
ATOM	11289	C2	G R 108	17.420	48.926	71.960	1.00	53.87	C
ATOM	11290	N2	G R 108	18.342	48.089	71.460	1.00	53.30	N
ATOM	11291	N3	G R 108	17.420	49.203	73.259	1.00	53.71	N
ATOM	11292	C4	G R 108	16.424	50.061	73.582	1.00	53.51	C
ATOM	11293	P	G R 109	19.177	54.384	76.790	1.00	56.20	P
ATOM	11294	O1P	G R 109	20.302	54.816	77.645	1.00	56.43	O
ATOM	11295	O2P	G R 109	18.138	55.351	76.357	1.00	55.59	O
ATOM	11296	O5*	G R 109	19.750	53.678	75.481	1.00	56.88	O
ATOM	11297	C5*	G R 109	21.149	53.491	75.346	1.00	56.88	C
ATOM	11298	C4*	G R 109	21.505	52.957	73.972	1.00	56.56	C
ATOM	11299	O4*	G R 109	20.543	51.982	73.497	1.00	55.70	O
ATOM	11300	C3*	G R 109	21.507	53.995	72.864	1.00	56.40	C
ATOM	11301	O3*	G R 109	22.617	54.875	72.959	1.00	56.58	O
ATOM	11302	C2*	G R 109	21.601	53.060	71.677	1.00	56.61	C
ATOM	11303	O2*	G R 109	22.886	52.471	71.532	1.00	56.62	O
ATOM	11304	C1*	G R 109	20.522	52.049	72.080	1.00	56.44	C
ATOM	11305	N9	G R 109	19.210	52.468	71.582	1.00	56.52	N
ATOM	11306	C8	G R 109	18.227	53.166	72.252	1.00	56.72	C
ATOM	11307	N7	G R 109	17.168	53.402	71.522	1.00	56.89	N
ATOM	11308	C5	G R 109	17.473	52.835	70.282	1.00	56.26	C
ATOM	11309	C6	G R 109	16.713	52.770	69.082	1.00	56.46	C
ATOM	11310	O6	G R 109	15.573	53.216	68.845	1.00	56.44	O
ATOM	11311	N1	G R 109	17.400	52.094	68.076	1.00	56.61	N
ATOM	11312	C2	G R 109	18.658	51.550	68.204	1.00	56.35	C
ATOM	11313	N2	G R 109	19.153	50.938	67.125	1.00	56.30	N
ATOM	11314	N3	G R 109	19.377	51.605	69.317	1.00	56.11	N
ATOM	11315	C4	G R 109	18.724	52.256	70.311	1.00	55.94	C
ATOM	11316	P	U R 110	22.401	56.456	72.967	1.00	55.78	P
ATOM	11317	O1P	U R 110	23.754	57.036	73.083	1.00	56.64	O
ATOM	11318	O2P	U R 110	21.346	56.760	73.961	1.00	56.02	O
ATOM	11319	O5*	U R 110	21.830	56.793	71.505	1.00	56.28	O
ATOM	11320	C5*	U R 110	21.699	58.154	71.054	1.00	56.16	C
ATOM	11321	C4*	U R 110	21.866	58.329	69.544	1.00	55.97	C
ATOM	11322	O4*	U R 110	23.258	58.597	69.240	1.00	56.25	O
ATOM	11323	C3*	U R 110	21.490	57.159	68.637	1.00	55.82	C
ATOM	11324	O3*	U R 110	20.118	57.234	68.279	1.00	54.79	O
ATOM	11325	C2*	U R 110	22.383	57.380	67.422	1.00	56.15	C
ATOM	11326	O2*	U R 110	21.856	58.315	66.497	1.00	56.19	O
ATOM	11327	C1*	U R 110	23.653	57.923	68.062	1.00	56.07	C
ATOM	11328	N1	U R 110	24.658	56.862	68.392	1.00	56.06	N
ATOM	11329	C2	U R 110	25.484	56.412	67.390	1.00	56.13	C
ATOM	11330	O2	U R 110	25.423	56.838	66.255	1.00	56.33	O
ATOM	11331	N3	U R 110	26.386	55.442	67.764	1.00	56.67	N
ATOM	11332	C4	U R 110	26.542	54.882	69.022	1.00	56.24	C
ATOM	11333	O4	U R 110	27.395	54.021	69.220	1.00	56.01	O

ATOM	11334	C5	U R 110	25.640	55.397	70.016	1.00	56.15	C
ATOM	11335	C6	U R 110	24.754	56.342	69.669	1.00	56.13	C
ATOM	11336	P	G R 111	19.142	55.984	68.428	1.00	54.40	P
ATOM	11337	O1P	G R 111	17.742	56.468	68.387	1.00	54.18	O
ATOM	11338	O2P	G R 111	19.630	55.206	69.593	1.00	54.39	O
ATOM	11339	O5*	G R 111	19.392	55.127	67.096	1.00	53.50	O
ATOM	11340	C5*	G R 111	19.452	55.715	65.802	1.00	51.96	C
ATOM	11341	C4*	G R 111	20.349	54.918	64.864	1.00	50.85	C
ATOM	11342	O4*	G R 111	21.735	54.955	65.306	1.00	50.57	O
ATOM	11343	C3*	G R 111	20.019	53.441	64.744	1.00	50.06	C
ATOM	11344	O3*	G R 111	18.986	53.286	63.778	1.00	50.43	O
ATOM	11345	C2*	G R 111	21.361	52.880	64.296	1.00	49.97	C
ATOM	11346	O2*	G R 111	21.566	53.112	62.920	1.00	49.72	O
ATOM	11347	C1*	G R 111	22.379	53.703	65.085	1.00	48.70	C
ATOM	11348	N9	G R 111	22.856	53.233	66.400	1.00	47.94	N
ATOM	11349	C8	G R 111	22.203	53.403	67.601	1.00	47.54	C
ATOM	11350	N7	G R 111	22.848	52.937	68.631	1.00	47.44	N
ATOM	11351	C5	G R 111	24.019	52.434	68.092	1.00	46.92	C
ATOM	11352	C6	G R 111	25.102	51.805	68.746	1.00	47.03	C
ATOM	11353	O6	G R 111	25.231	51.569	69.954	1.00	46.77	O
ATOM	11354	N1	G R 111	26.106	51.437	67.852	1.00	47.63	N
ATOM	11355	C2	G R 111	26.058	51.651	66.492	1.00	47.59	C
ATOM	11356	N2	G R 111	27.120	51.221	65.790	1.00	47.15	N
ATOM	11357	N3	G R 111	25.031	52.240	65.870	1.00	47.54	N
ATOM	11358	C4	G R 111	24.047	52.612	66.725	1.00	46.90	C
ATOM	11359	P	A R 112	18.129	51.942	63.664	1.00	50.02	P
ATOM	11360	O1P	A R 112	17.187	52.118	62.538	1.00	50.64	O
ATOM	11361	O2P	A R 112	17.629	51.526	64.990	1.00	49.34	O
ATOM	11362	O5*	A R 112	19.249	50.914	63.210	1.00	50.97	O
ATOM	11363	C5*	A R 112	19.589	50.825	61.847	1.00	50.93	C
ATOM	11364	C4*	A R 112	20.648	49.758	61.667	1.00	51.37	C
ATOM	11365	O4*	A R 112	21.776	50.058	62.527	1.00	51.39	O
ATOM	11366	C3*	A R 112	20.211	48.354	62.058	1.00	51.39	C
ATOM	11367	O3*	A R 112	19.511	47.717	60.979	1.00	50.39	O
ATOM	11368	C2*	A R 112	21.556	47.706	62.392	1.00	51.51	C
ATOM	11369	O2*	A R 112	22.225	47.196	61.253	1.00	52.15	O
ATOM	11370	C1*	A R 112	22.359	48.855	62.999	1.00	50.76	C
ATOM	11371	N9	A R 112	22.374	48.914	64.462	1.00	50.69	N
ATOM	11372	C8	A R 112	21.334	49.217	65.300	1.00	50.52	C
ATOM	11373	N7	A R 112	21.656	49.203	66.574	1.00	50.61	N
ATOM	11374	C5	A R 112	23.005	48.874	66.577	1.00	50.31	C
ATOM	11375	C6	A R 112	23.949	48.692	67.611	1.00	50.06	C
ATOM	11376	N6	A R 112	23.684	48.821	68.909	1.00	50.47	N
ATOM	11377	N1	A R 112	25.203	48.369	67.272	1.00	50.18	N
ATOM	11378	C2	A R 112	25.491	48.238	65.978	1.00	50.76	C
ATOM	11379	N3	A R 112	24.701	48.375	64.911	1.00	50.63	N
ATOM	11380	C4	A R 112	23.457	48.699	65.283	1.00	50.18	C
ATOM	11381	P	C R 113	18.414	46.583	61.293	1.00	53.28	P
ATOM	11382	O1P	C R 113	18.175	45.862	60.026	1.00	49.86	O
ATOM	11383	O2P	C R 113	17.254	47.174	62.013	1.00	50.74	O
ATOM	11384	O5*	C R 113	19.202	45.647	62.333	1.00	50.15	O
ATOM	11385	C5*	C R 113	18.520	44.900	63.332	1.00	49.96	C
ATOM	11386	C4*	C R 113	19.386	44.833	64.571	1.00	49.73	C
ATOM	11387	O4*	C R 113	19.862	46.169	64.904	1.00	49.90	O
ATOM	11388	C3*	C R 113	18.695	44.339	65.827	1.00	49.53	C
ATOM	11389	O3*	C R 113	18.702	42.917	65.881	1.00	50.19	O
ATOM	11390	C2*	C R 113	19.576	44.988	66.884	1.00	49.53	C
ATOM	11391	O2*	C R 113	20.836	44.358	66.992	1.00	49.39	O
ATOM	11392	C1*	C R 113	19.697	46.390	66.294	1.00	49.53	C

ATOM	11393	N1	C R 113	18.488	47.257	66.538	1.00	49.45	N
ATOM	11394	C2	C R 113	18.180	47.682	67.844	1.00	50.37	C
ATOM	11395	O2	C R 113	18.912	47.350	68.788	1.00	51.20	O
ATOM	11396	N3	C R 113	17.079	48.450	68.056	1.00	49.73	N
ATOM	11397	C4	C R 113	16.299	48.799	67.034	1.00	49.70	C
ATOM	11398	N4	C R 113	15.229	49.555	67.283	1.00	49.38	N
ATOM	11399	C5	C R 113	16.590	48.384	65.704	1.00	49.59	C
ATOM	11400	C6	C R 113	17.672	47.623	65.506	1.00	49.20	C
ATOM	11401	P	U R 114	17.484	42.081	66.532	1.00	50.00	P
ATOM	11402	O1P	U R 114	17.693	40.630	66.302	1.00	47.49	O
ATOM	11403	O2P	U R 114	16.233	42.734	66.075	1.00	49.94	O
ATOM	11404	O5*	U R 114	17.654	42.382	68.076	1.00	49.01	O
ATOM	11405	C5*	U R 114	18.840	42.061	68.749	1.00	51.56	C
ATOM	11406	C4*	U R 114	18.687	42.308	70.235	1.00	52.09	C
ATOM	11407	O4*	U R 114	18.961	43.707	70.538	1.00	52.36	O
ATOM	11408	C3*	U R 114	17.281	42.147	70.813	1.00	53.10	C
ATOM	11409	O3*	U R 114	16.706	40.802	70.784	1.00	55.09	O
ATOM	11410	C2*	U R 114	17.561	42.852	72.149	1.00	52.66	C
ATOM	11411	O2*	U R 114	18.592	42.348	72.967	1.00	51.67	O
ATOM	11412	C1*	U R 114	18.036	44.152	71.529	1.00	52.29	C
ATOM	11413	N1	U R 114	16.875	44.917	70.956	1.00	52.23	N
ATOM	11414	C2	U R 114	15.965	45.490	71.824	1.00	52.80	C
ATOM	11415	O2	U R 114	16.046	45.438	73.044	1.00	53.75	O
ATOM	11416	N3	U R 114	14.934	46.157	71.217	1.00	52.28	N
ATOM	11417	C4	U R 114	14.692	46.310	69.866	1.00	52.91	C
ATOM	11418	O4	U R 114	13.704	46.948	69.493	1.00	52.92	O
ATOM	11419	C5	U R 114	15.668	45.678	69.014	1.00	52.88	C
ATOM	11420	C6	U R 114	16.694	45.028	69.586	1.00	52.87	C
ATOM	11421	P	U R 115	17.104	39.632	71.791	1.00	57.34	P
ATOM	11422	O1P	U R 115	18.511	39.906	72.180	1.00	59.00	O
ATOM	11423	O2P	U R 115	16.790	38.323	71.174	1.00	56.18	O
ATOM	11424	O5*	U R 115	16.153	39.924	73.046	1.00	58.01	O
ATOM	11425	C5*	U R 115	16.652	39.844	74.382	1.00	59.16	C
ATOM	11426	C4*	U R 115	15.861	40.713	75.337	1.00	59.56	C
ATOM	11427	O4*	U R 115	15.833	42.101	74.911	1.00	60.44	O
ATOM	11428	C3*	U R 115	14.389	40.381	75.416	1.00	60.15	C
ATOM	11429	O3*	U R 115	14.190	39.203	76.143	1.00	59.82	O
ATOM	11430	C2*	U R 115	13.889	41.609	76.135	1.00	60.59	C
ATOM	11431	O2*	U R 115	14.290	41.607	77.496	1.00	61.56	O
ATOM	11432	C1*	U R 115	14.602	42.684	75.316	1.00	60.49	C
ATOM	11433	N1	U R 115	13.832	43.203	74.109	1.00	60.14	N
ATOM	11434	C2	U R 115	12.878	44.194	74.296	1.00	60.30	C
ATOM	11435	O2	U R 115	12.585	44.694	75.366	1.00	60.85	O
ATOM	11436	N3	U R 115	12.243	44.613	73.164	1.00	60.32	N
ATOM	11437	C4	U R 115	12.437	44.167	71.876	1.00	60.36	C
ATOM	11438	O4	U R 115	11.768	44.670	70.979	1.00	59.98	O
ATOM	11439	C5	U R 115	13.439	43.136	71.737	1.00	59.81	C
ATOM	11440	C6	U R 115	14.080	42.708	72.836	1.00	59.72	C
ATOM	11441	P	A R 116	13.025	38.234	75.660	1.00	60.25	P
ATOM	11442	O1P	A R 116	13.225	36.946	76.359	1.00	59.53	O
ATOM	11443	O2P	A R 116	12.927	38.284	74.185	1.00	59.01	O
ATOM	11444	O5*	A R 116	11.736	38.968	76.270	1.00	59.16	O
ATOM	11445	C5*	A R 116	11.718	39.321	77.655	1.00	58.30	C
ATOM	11446	C4*	A R 116	10.575	40.263	77.997	1.00	57.91	C
ATOM	11447	O4*	A R 116	10.818	41.579	77.437	1.00	57.04	O
ATOM	11448	C3*	A R 116	9.204	39.909	77.426	1.00	57.64	C
ATOM	11449	O3*	A R 116	8.543	38.845	78.099	1.00	57.72	O
ATOM	11450	C2*	A R 116	8.487	41.232	77.624	1.00	57.02	C
ATOM	11451	O2*	A R 116	8.189	41.524	78.973	1.00	56.75	O

ATOM	11452	C1*	A R 116	9.569	42.151	77.078	1.00	55.90	C
ATOM	11453	N9	A R 116	9.515	42.307	75.631	1.00	54.56	N
ATOM	11454	C8	A R 116	10.219	41.628	74.679	1.00	54.72	C
ATOM	11455	N7	A R 116	9.960	42.010	73.448	1.00	54.62	N
ATOM	11456	C5	A R 116	9.020	43.010	73.608	1.00	54.36	C
ATOM	11457	C6	A R 116	8.333	43.828	72.691	1.00	54.38	C
ATOM	11458	N6	A R 116	8.489	43.766	71.363	1.00	53.64	N
ATOM	11459	N1	A R 116	7.459	44.721	73.216	1.00	54.74	N
ATOM	11460	C2	A R 116	7.284	44.798	74.540	1.00	54.11	C
ATOM	11461	N3	A R 116	7.875	44.079	75.489	1.00	53.95	N
ATOM	11462	C4	A R 116	8.734	43.200	74.952	1.00	54.29	C
ATOM	11463	P	G R 117	7.407	38.041	77.302	1.00	59.48	P
ATOM	11464	O1P	G R 117	7.178	36.738	77.976	1.00	57.83	O
ATOM	11465	O2P	G R 117	7.688	38.106	75.844	1.00	57.03	O
ATOM	11466	O5*	G R 117	6.146	38.975	77.616	1.00	56.87	O
ATOM	11467	C5*	G R 117	5.074	39.052	76.713	1.00	55.16	C
ATOM	11468	C4*	G R 117	4.397	40.387	76.895	1.00	54.50	C
ATOM	11469	O4*	G R 117	5.257	41.466	76.464	1.00	54.30	O
ATOM	11470	C3*	G R 117	3.140	40.532	76.071	1.00	53.58	C
ATOM	11471	O3*	G R 117	2.084	39.907	76.756	1.00	52.70	O
ATOM	11472	C2*	G R 117	3.039	42.048	75.961	1.00	53.93	C
ATOM	11473	O2*	G R 117	2.547	42.689	77.119	1.00	54.02	O
ATOM	11474	C1*	G R 117	4.506	42.398	75.703	1.00	54.69	C
ATOM	11475	N9	G R 117	4.880	42.270	74.295	1.00	54.71	N
ATOM	11476	C8	G R 117	5.818	41.420	73.757	1.00	55.35	C
ATOM	11477	N7	G R 117	5.924	41.513	72.458	1.00	55.73	N
ATOM	11478	C5	G R 117	4.988	42.483	72.118	1.00	55.45	C
ATOM	11479	C6	G R 117	4.642	43.014	70.851	1.00	55.19	C
ATOM	11480	O6	G R 117	5.108	42.720	69.746	1.00	55.27	O
ATOM	11481	N1	G R 117	3.648	43.981	70.940	1.00	54.95	N
ATOM	11482	C2	G R 117	3.056	44.381	72.103	1.00	54.97	C
ATOM	11483	N2	G R 117	2.119	45.327	71.978	1.00	55.43	N
ATOM	11484	N3	G R 117	3.367	43.894	73.297	1.00	55.04	N
ATOM	11485	C4	G R 117	4.340	42.956	73.234	1.00	54.66	C
ATOM	11486	P	U R 118	1.078	38.916	76.010	1.00	52.33	P
ATOM	11487	O1P	U R 118	0.155	38.355	77.024	1.00	53.16	O
ATOM	11488	O2P	U R 118	1.863	38.014	75.145	1.00	52.84	O
ATOM	11489	O5*	U R 118	0.233	39.894	75.072	1.00	52.62	O
ATOM	11490	C5*	U R 118	-0.437	41.049	75.588	1.00	52.35	C
ATOM	11491	C4*	U R 118	-0.959	41.893	74.438	1.00	53.23	C
ATOM	11492	O4*	U R 118	0.139	42.613	73.808	1.00	53.92	O
ATOM	11493	C3*	U R 118	-1.575	41.113	73.279	1.00	53.57	C
ATOM	11494	O3*	U R 118	-2.905	40.726	73.569	1.00	53.40	O
ATOM	11495	C2*	U R 118	-1.468	42.137	72.160	1.00	53.67	C
ATOM	11496	O2*	U R 118	-2.400	43.193	72.275	1.00	53.69	O
ATOM	11497	C1*	U R 118	-0.042	42.624	72.395	1.00	54.52	C
ATOM	11498	N1	U R 118	0.984	41.765	71.674	1.00	54.98	N
ATOM	11499	C2	U R 118	1.125	41.933	70.317	1.00	54.76	C
ATOM	11500	O2	U R 118	0.477	42.733	69.683	1.00	55.28	O
ATOM	11501	N3	U R 118	2.056	41.127	69.718	1.00	55.46	N
ATOM	11502	C4	U R 118	2.867	40.178	70.307	1.00	55.44	C
ATOM	11503	O4	U R 118	3.662	39.537	69.610	1.00	56.05	O
ATOM	11504	C5	U R 118	2.672	40.050	71.726	1.00	54.87	C
ATOM	11505	C6	U R 118	1.761	40.825	72.334	1.00	54.99	C
ATOM	11506	P	G R 119	-3.500	39.360	72.993	1.00	54.39	P
ATOM	11507	O1P	G R 119	-4.800	39.163	73.664	1.00	56.45	O
ATOM	11508	O2P	G R 119	-2.474	38.301	73.050	1.00	54.20	O
ATOM	11509	O5*	G R 119	-3.813	39.652	71.460	1.00	54.01	O
ATOM	11510	C5*	G R 119	-4.587	40.762	71.068	1.00	53.62	C

ATOM	11511	C4*	G R 119	-4.825	40.769	69.569	1.00	54.26	C
ATOM	11512	O4*	G R 119	-3.711	41.393	68.879	1.00	53.88	O
ATOM	11513	C3*	G R 119	-4.949	39.400	68.921	1.00	55.19	C
ATOM	11514	O3*	G R 119	-6.255	38.887	69.101	1.00	56.35	O
ATOM	11515	C2*	G R 119	-4.604	39.715	67.471	1.00	55.05	C
ATOM	11516	O2*	G R 119	-5.659	40.327	66.755	1.00	55.03	O
ATOM	11517	C1*	G R 119	-3.445	40.687	67.681	1.00	54.24	C
ATOM	11518	N9	G R 119	-2.138	40.059	67.843	1.00	53.95	N
ATOM	11519	C8	G R 119	-1.538	39.709	69.031	1.00	53.95	C
ATOM	11520	N7	G R 119	-0.361	39.175	68.883	1.00	54.10	N
ATOM	11521	C5	G R 119	-0.165	39.170	67.511	1.00	53.46	C
ATOM	11522	C6	G R 119	0.948	38.707	66.775	1.00	53.74	C
ATOM	11523	O6	G R 119	2.000	38.197	67.194	1.00	53.60	O
ATOM	11524	N1	G R 119	0.750	38.892	65.414	1.00	53.99	N
ATOM	11525	C2	G R 119	-0.380	39.447	64.839	1.00	54.16	C
ATOM	11526	N2	G R 119	-0.367	39.520	63.496	1.00	54.17	N
ATOM	11527	N3	G R 119	-1.434	39.884	65.522	1.00	52.14	N
ATOM	11528	C4	G R 119	-1.249	39.713	66.851	1.00	52.87	C
ATOM	11529	P	G R 120	-6.472	37.354	69.512	1.00	59.39	P
ATOM	11530	O1P	G R 120	-7.880	37.195	69.969	1.00	59.29	O
ATOM	11531	O2P	G R 120	-5.361	36.902	70.376	1.00	59.61	O
ATOM	11532	O5*	G R 120	-6.348	36.610	68.106	1.00	60.09	O
ATOM	11533	C5*	G R 120	-7.350	36.909	67.149	1.00	62.07	C
ATOM	11534	C4*	G R 120	-6.932	36.527	65.749	1.00	62.51	C
ATOM	11535	O4*	G R 120	-5.811	37.341	65.303	1.00	63.38	O
ATOM	11536	C3*	G R 120	-6.425	35.107	65.611	1.00	63.61	C
ATOM	11537	O3*	G R 120	-7.469	34.108	65.642	1.00	63.10	O
ATOM	11538	C2*	G R 120	-5.726	35.278	64.269	1.00	63.55	C
ATOM	11539	O2*	G R 120	-6.632	35.431	63.188	1.00	64.25	O
ATOM	11540	C1*	G R 120	-4.928	36.550	64.530	1.00	62.87	C
ATOM	11541	N9	G R 120	-3.654	36.311	65.231	1.00	62.89	N
ATOM	11542	C8	G R 120	-3.410	36.234	66.589	1.00	62.88	C
ATOM	11543	N7	G R 120	-2.154	35.993	66.897	1.00	62.72	N
ATOM	11544	C5	G R 120	-1.518	35.900	65.673	1.00	62.11	C
ATOM	11545	C6	G R 120	-0.160	35.658	65.365	1.00	62.44	C
ATOM	11546	O6	G R 120	0.788	35.469	66.130	1.00	62.69	O
ATOM	11547	N1	G R 120	0.076	35.641	63.996	1.00	62.79	N
ATOM	11548	C2	G R 120	-0.887	35.841	63.035	1.00	62.59	C
ATOM	11549	N2	G R 120	-0.483	35.792	61.765	1.00	62.76	N
ATOM	11550	N3	G R 120	-2.169	36.072	63.302	1.00	63.27	N
ATOM	11551	C4	G R 120	-2.419	36.091	64.641	1.00	63.13	C
ATOM	11552	P	A R 121	-7.054	32.607	66.068	1.00	64.90	P
ATOM	11553	O1P	A R 121	-8.258	31.755	65.885	1.00	63.57	O
ATOM	11554	O2P	A R 121	-6.276	32.618	67.339	1.00	62.77	O
ATOM	11555	O5*	A R 121	-6.028	32.205	64.925	1.00	60.90	O
ATOM	11556	C5*	A R 121	-6.584	32.099	63.644	1.00	59.47	C
ATOM	11557	C4*	A R 121	-5.513	32.186	62.586	1.00	58.16	C
ATOM	11558	O4*	A R 121	-4.395	33.028	62.963	1.00	56.45	O
ATOM	11559	C3*	A R 121	-4.834	30.875	62.301	1.00	56.62	C
ATOM	11560	O3*	A R 121	-5.769	30.017	61.713	1.00	56.02	O
ATOM	11561	C2*	A R 121	-3.777	31.428	61.369	1.00	56.51	C
ATOM	11562	O2*	A R 121	-4.321	31.855	60.136	1.00	57.44	O
ATOM	11563	C1*	A R 121	-3.303	32.636	62.166	1.00	55.12	C
ATOM	11564	N9	A R 121	-2.153	32.423	63.039	1.00	54.48	N
ATOM	11565	C8	A R 121	-2.114	32.304	64.401	1.00	53.91	C
ATOM	11566	N7	A R 121	-0.904	32.142	64.889	1.00	53.35	N
ATOM	11567	C5	A R 121	-0.097	32.167	63.768	1.00	53.54	C
ATOM	11568	C6	A R 121	1.298	32.056	63.590	1.00	53.75	C
ATOM	11569	N6	A R 121	2.162	31.886	64.591	1.00	53.05	N

ATOM	11570	N1	A R 121	1.774	32.126	62.328	1.00	54.07	N
ATOM	11571	C2	A R 121	0.917	32.299	61.310	1.00	53.87	C
ATOM	11572	N3	A R 121	-0.409	32.417	61.348	1.00	54.12	N
ATOM	11573	C4	A R 121	-0.850	32.342	62.620	1.00	54.11	C
ATOM	11574	P	C R 122	-5.787	28.448	62.035	1.00	56.81	P
ATOM	11575	O1P	C R 122	-6.992	27.876	61.383	1.00	55.27	O
ATOM	11576	O2P	C R 122	-5.529	28.241	63.480	1.00	54.68	O
ATOM	11577	O5*	C R 122	-4.546	27.961	61.167	1.00	53.14	O
ATOM	11578	C5*	C R 122	-4.729	27.938	59.772	1.00	52.73	C
ATOM	11579	C4*	C R 122	-3.395	27.969	59.074	1.00	51.61	C
ATOM	11580	O4*	C R 122	-2.597	29.047	59.600	1.00	50.88	O
ATOM	11581	C3*	C R 122	-2.541	26.739	59.313	1.00	50.54	C
ATOM	11582	O3*	C R 122	-3.017	25.721	58.481	1.00	48.36	O
ATOM	11583	C2*	C R 122	-1.179	27.291	58.927	1.00	50.21	C
ATOM	11584	O2*	C R 122	-1.015	27.470	57.546	1.00	49.76	O
ATOM	11585	C1*	C R 122	-1.236	28.657	59.581	1.00	50.16	C
ATOM	11586	N1	C R 122	-0.687	28.648	60.958	1.00	49.91	N
ATOM	11587	C2	C R 122	0.707	28.759	61.119	1.00	50.46	C
ATOM	11588	O2	C R 122	1.413	28.865	60.099	1.00	50.16	O
ATOM	11589	N3	C R 122	1.230	28.748	62.385	1.00	49.45	N
ATOM	11590	C4	C R 122	0.400	28.637	63.431	1.00	49.15	C
ATOM	11591	N4	C R 122	0.917	28.635	64.655	1.00	49.73	N
ATOM	11592	C5	C R 122	-1.011	28.519	63.284	1.00	48.68	C
ATOM	11593	C6	C R 122	-1.511	28.530	62.044	1.00	49.05	C
ATOM	11594	P	A R 123	-2.916	24.218	58.960	1.00	48.94	P
ATOM	11595	O1P	A R 123	-3.506	23.353	57.913	1.00	47.52	O
ATOM	11596	O2P	A R 123	-3.313	24.091	60.379	1.00	46.70	O
ATOM	11597	O5*	A R 123	-1.324	24.048	58.879	1.00	48.74	O
ATOM	11598	C5*	A R 123	-0.785	22.777	59.210	1.00	46.35	C
ATOM	11599	C4*	A R 123	0.625	22.644	58.699	1.00	45.52	C
ATOM	11600	O4*	A R 123	1.512	23.378	59.565	1.00	44.82	O
ATOM	11601	C3*	A R 123	1.159	21.234	58.742	1.00	44.73	C
ATOM	11602	O3*	A R 123	0.773	20.576	57.579	1.00	47.30	O
ATOM	11603	C2*	A R 123	2.658	21.461	58.841	1.00	43.56	C
ATOM	11604	O2*	A R 123	3.261	21.815	57.624	1.00	42.54	O
ATOM	11605	C1*	A R 123	2.724	22.662	59.763	1.00	41.67	C
ATOM	11606	N9	A R 123	2.913	22.434	61.199	1.00	40.70	N
ATOM	11607	C8	A R 123	1.962	22.408	62.186	1.00	39.86	C
ATOM	11608	N7	A R 123	2.454	22.211	63.396	1.00	39.16	N
ATOM	11609	C5	A R 123	3.812	22.089	63.190	1.00	38.39	C
ATOM	11610	C6	A R 123	4.895	21.884	64.051	1.00	38.19	C
ATOM	11611	N6	A R 123	4.774	21.725	65.361	1.00	39.67	N
ATOM	11612	N1	A R 123	6.133	21.801	63.523	1.00	38.67	N
ATOM	11613	C2	A R 123	6.263	21.937	62.209	1.00	39.11	C
ATOM	11614	N3	A R 123	5.326	22.158	61.290	1.00	39.98	N
ATOM	11615	C4	A R 123	4.108	22.228	61.847	1.00	40.32	C
ATOM	11616	P	A R 124	0.372	19.036	57.681	1.00	53.01	P
ATOM	11617	O1P	A R 124	-0.232	18.616	56.393	1.00	51.37	O
ATOM	11618	O2P	A R 124	-0.304	18.800	58.988	1.00	52.06	O
ATOM	11619	O5*	A R 124	1.839	18.395	57.743	1.00	51.91	O
ATOM	11620	C5*	A R 124	2.560	18.275	56.542	1.00	51.91	C
ATOM	11621	C4*	A R 124	3.989	17.916	56.873	1.00	51.30	C
ATOM	11622	O4*	A R 124	4.501	18.880	57.819	1.00	51.24	O
ATOM	11623	C3*	A R 124	4.163	16.595	57.582	1.00	50.99	C
ATOM	11624	O3*	A R 124	4.109	15.542	56.646	1.00	52.54	O
ATOM	11625	C2*	A R 124	5.536	16.827	58.186	1.00	50.30	C
ATOM	11626	O2*	A R 124	6.569	16.809	57.223	1.00	50.52	O
ATOM	11627	C1*	A R 124	5.374	18.238	58.734	1.00	47.83	C
ATOM	11628	N9	A R 124	4.793	18.361	60.062	1.00	46.09	N

ATOM	11629	C8	A R 124	3.465	18.467	60.395	1.00	45.97	C
ATOM	11630	N7	A R 124	3.226	18.611	61.685	1.00	45.31	N
ATOM	11631	C5	A R 124	4.488	18.595	62.229	1.00	44.98	C
ATOM	11632	C6	A R 124	4.933	18.676	63.550	1.00	44.95	C
ATOM	11633	N6	A R 124	4.124	18.807	64.584	1.00	44.48	N
ATOM	11634	N1	A R 124	6.255	18.621	63.782	1.00	45.20	N
ATOM	11635	C2	A R 124	7.062	18.516	62.721	1.00	46.31	C
ATOM	11636	N3	A R 124	6.775	18.419	61.416	1.00	45.52	N
ATOM	11637	C4	A R 124	5.456	18.450	61.244	1.00	45.42	C
ATOM	11638	P	A R 125	3.888	14.046	57.155	1.00	54.14	P
ATOM	11639	O1P	A R 125	3.849	13.200	55.938	1.00	54.82	O
ATOM	11640	O2P	A R 125	2.797	14.025	58.149	1.00	53.78	O
ATOM	11641	O5*	A R 125	5.206	13.700	57.955	1.00	52.84	O
ATOM	11642	C5*	A R 125	6.411	13.444	57.271	1.00	52.50	C
ATOM	11643	C4*	A R 125	7.535	13.272	58.288	1.00	52.73	C
ATOM	11644	O4*	A R 125	7.689	14.480	59.089	1.00	51.53	O
ATOM	11645	C3*	A R 125	7.332	12.173	59.321	1.00	51.89	C
ATOM	11646	O3*	A R 125	7.596	10.863	58.789	1.00	51.72	O
ATOM	11647	C2*	A R 125	8.327	12.639	60.370	1.00	50.64	C
ATOM	11648	O2*	A R 125	9.655	12.355	60.016	1.00	54.20	O
ATOM	11649	C1*	A R 125	8.108	14.139	60.383	1.00	49.61	C
ATOM	11650	N9	A R 125	7.050	14.500	61.293	1.00	49.68	N
ATOM	11651	C8	A R 125	5.715	14.451	61.019	1.00	49.32	C
ATOM	11652	N7	A R 125	4.951	14.806	62.022	1.00	49.72	N
ATOM	11653	C5	A R 125	5.839	15.103	63.026	1.00	48.63	C
ATOM	11654	C6	A R 125	5.622	15.532	64.338	1.00	49.21	C
ATOM	11655	N6	A R 125	4.392	15.737	64.829	1.00	49.19	N
ATOM	11656	N1	A R 125	6.711	15.760	65.097	1.00	49.19	N
ATOM	11657	C2	A R 125	7.920	15.532	64.564	1.00	50.00	C
ATOM	11658	N3	A R 125	8.239	15.111	63.329	1.00	48.93	N
ATOM	11659	C4	A R 125	7.141	14.920	62.599	1.00	48.93	C
ATOM	11660	P	G R 126	6.878	9.542	59.380	1.00	53.14	P
ATOM	11661	O1P	G R 126	7.558	8.371	58.768	1.00	52.91	O
ATOM	11662	O2P	G R 126	5.404	9.716	59.315	1.00	51.72	O
ATOM	11663	O5*	G R 126	7.262	9.513	60.941	1.00	52.23	O
ATOM	11664	C5*	G R 126	8.540	9.045	61.338	1.00	52.63	C
ATOM	11665	C4*	G R 126	8.878	9.434	62.769	1.00	52.25	C
ATOM	11666	O4*	G R 126	8.650	10.848	63.004	1.00	52.40	O
ATOM	11667	C3*	G R 126	8.022	8.762	63.822	1.00	52.61	C
ATOM	11668	O3*	G R 126	8.443	7.410	64.025	1.00	52.49	O
ATOM	11669	C2*	G R 126	8.260	9.701	65.005	1.00	52.14	C
ATOM	11670	O2*	G R 126	9.521	9.573	65.623	1.00	53.94	O
ATOM	11671	C1*	G R 126	8.145	11.041	64.306	1.00	51.32	C
ATOM	11672	N9	G R 126	6.749	11.432	64.241	1.00	50.80	N
ATOM	11673	C8	G R 126	5.872	11.390	63.183	1.00	50.87	C
ATOM	11674	N7	G R 126	4.663	11.812	63.482	1.00	50.54	N
ATOM	11675	C5	G R 126	4.771	12.132	64.812	1.00	49.76	C
ATOM	11676	C6	G R 126	3.799	12.627	65.679	1.00	51.00	C
ATOM	11677	O6	G R 126	2.609	12.871	65.405	1.00	51.68	O
ATOM	11678	N1	G R 126	4.316	12.811	66.966	1.00	50.76	N
ATOM	11679	C2	G R 126	5.602	12.559	67.348	1.00	50.30	C
ATOM	11680	N2	G R 126	5.902	12.814	68.620	1.00	50.58	N
ATOM	11681	N3	G R 126	6.523	12.077	66.537	1.00	50.79	N
ATOM	11682	C4	G R 126	6.032	11.901	65.294	1.00	50.08	C
ATOM	11683	P	G R 127	7.398	6.266	64.409	1.00	52.61	P
ATOM	11684	O1P	G R 127	8.113	4.965	64.491	1.00	53.56	O
ATOM	11685	O2P	G R 127	6.194	6.404	63.554	1.00	53.50	O
ATOM	11686	O5*	G R 127	6.917	6.654	65.881	1.00	52.63	O
ATOM	11687	C5*	G R 127	7.797	6.666	66.973	1.00	52.16	C

ATOM	11688	C4*	G R 127	7.171	7.441	68.113	1.00	52.27	C
ATOM	11689	O4*	G R 127	6.698	8.721	67.650	1.00	52.36	O
ATOM	11690	C3*	G R 127	5.913	6.839	68.690	1.00	52.41	C
ATOM	11691	O3*	G R 127	6.243	5.787	69.545	1.00	53.60	O
ATOM	11692	C2*	G R 127	5.336	8.027	69.428	1.00	51.93	C
ATOM	11693	O2*	G R 127	6.077	8.384	70.576	1.00	52.86	O
ATOM	11694	C1*	G R 127	5.512	9.073	68.353	1.00	51.55	C
ATOM	11695	N9	G R 127	4.416	9.231	67.388	1.00	50.93	N
ATOM	11696	C8	G R 127	4.450	8.973	66.039	1.00	50.61	C
ATOM	11697	N7	G R 127	3.339	9.230	65.417	1.00	49.75	N
ATOM	11698	C5	G R 127	2.531	9.706	66.423	1.00	50.19	C
ATOM	11699	C6	G R 127	1.209	10.158	66.334	1.00	50.30	C
ATOM	11700	O6	G R 127	0.519	10.211	65.312	1.00	50.21	O
ATOM	11701	N1	G R 127	0.722	10.550	67.578	1.00	50.60	N
ATOM	11702	C2	G R 127	1.435	10.533	68.751	1.00	50.40	C
ATOM	11703	N2	G R 127	0.797	10.972	69.847	1.00	49.88	N
ATOM	11704	N3	G R 127	2.689	10.113	68.833	1.00	50.44	N
ATOM	11705	C4	G R 127	3.166	9.723	67.636	1.00	49.56	C
ATOM	11706	P	U R 128	5.360	4.468	69.516	1.00	54.77	P
ATOM	11707	O1P	U R 128	6.247	3.465	70.130	1.00	56.81	O
ATOM	11708	O2P	U R 128	4.773	4.200	68.194	1.00	53.99	O
ATOM	11709	O5*	U R 128	4.147	4.791	70.510	1.00	56.29	O
ATOM	11710	C5*	U R 128	4.360	5.436	71.757	1.00	57.73	C
ATOM	11711	C4*	U R 128	3.059	5.875	72.404	1.00	59.03	C
ATOM	11712	O4*	U R 128	2.709	7.153	71.827	1.00	59.45	O
ATOM	11713	C3*	U R 128	1.811	5.020	72.170	1.00	60.11	C
ATOM	11714	O3*	U R 128	1.694	3.930	73.059	1.00	61.10	O
ATOM	11715	C2*	U R 128	0.704	6.039	72.398	1.00	60.19	C
ATOM	11716	O2*	U R 128	0.454	6.352	73.754	1.00	60.20	O
ATOM	11717	C1*	U R 128	1.304	7.214	71.640	1.00	59.27	C
ATOM	11718	N1	U R 128	0.959	7.166	70.187	1.00	58.68	N
ATOM	11719	C2	U R 128	-0.268	7.659	69.819	1.00	58.75	C
ATOM	11720	O2	U R 128	-1.068	8.120	70.622	1.00	59.07	O
ATOM	11721	N3	U R 128	-0.524	7.602	68.474	1.00	57.51	N
ATOM	11722	C4	U R 128	0.287	7.111	67.471	1.00	58.66	C
ATOM	11723	O4	U R 128	-0.111	7.132	66.305	1.00	59.25	O
ATOM	11724	C5	U R 128	1.561	6.614	67.921	1.00	57.94	C
ATOM	11725	C6	U R 128	1.830	6.658	69.234	1.00	58.95	C
ATOM	11726	P	G R 129	0.939	2.595	72.574	1.00	64.55	P
ATOM	11727	O1P	G R 129	1.258	1.608	73.632	1.00	63.37	O
ATOM	11728	O2P	G R 129	1.248	2.291	71.156	1.00	62.07	O
ATOM	11729	O5*	G R 129	-0.625	2.960	72.631	1.00	63.68	O
ATOM	11730	C5*	G R 129	-1.224	3.284	73.888	1.00	64.46	C
ATOM	11731	C4*	G R 129	-2.644	3.812	73.736	1.00	64.16	C
ATOM	11732	O4*	G R 129	-2.596	5.050	72.985	1.00	63.39	O
ATOM	11733	C3*	G R 129	-3.639	2.939	72.972	1.00	63.47	C
ATOM	11734	O3*	G R 129	-4.192	1.928	73.776	1.00	63.66	O
ATOM	11735	C2*	G R 129	-4.689	3.964	72.585	1.00	63.35	C
ATOM	11736	O2*	G R 129	-5.596	4.296	73.619	1.00	63.73	O
ATOM	11737	C1*	G R 129	-3.775	5.126	72.211	1.00	63.09	C
ATOM	11738	N9	G R 129	-3.392	5.078	70.806	1.00	63.33	N
ATOM	11739	C8	G R 129	-2.182	4.773	70.229	1.00	62.52	C
ATOM	11740	N7	G R 129	-2.199	4.828	68.932	1.00	62.12	N
ATOM	11741	C5	G R 129	-3.496	5.190	68.637	1.00	62.60	C
ATOM	11742	C6	G R 129	-4.131	5.410	67.404	1.00	62.65	C
ATOM	11743	O6	G R 129	-3.651	5.325	66.279	1.00	62.78	O
ATOM	11744	N1	G R 129	-5.474	5.748	67.559	1.00	63.26	N
ATOM	11745	C2	G R 129	-6.135	5.866	68.750	1.00	62.73	C
ATOM	11746	N2	G R 129	-7.423	6.211	68.684	1.00	63.27	N

ATOM	11747	N3	G R 129	-5.553	5.676	69.918	1.00	63.12	N
ATOM	11748	C4	G R 129	-4.246	5.340	69.776	1.00	63.11	C
ATOM	11749	P	A R 130	-4.486	0.458	73.203	1.00	64.42	P
ATOM	11750	O1P	A R 130	-4.871	-0.405	74.342	1.00	63.31	O
ATOM	11751	O2P	A R 130	-3.367	0.072	72.317	1.00	64.23	O
ATOM	11752	O5*	A R 130	-5.791	0.644	72.317	1.00	63.58	O
ATOM	11753	C5*	A R 130	-7.019	0.928	72.929	1.00	62.62	C
ATOM	11754	C4*	A R 130	-7.955	1.468	71.880	1.00	62.26	C
ATOM	11755	O4*	A R 130	-7.342	2.604	71.229	1.00	60.91	O
ATOM	11756	C3*	A R 130	-8.244	0.496	70.750	1.00	62.39	C
ATOM	11757	O3*	A R 130	-9.229	-0.438	71.161	1.00	62.55	O
ATOM	11758	C2*	A R 130	-8.699	1.456	69.654	1.00	61.98	C
ATOM	11759	O2*	A R 130	-10.050	1.860	69.772	1.00	62.21	O
ATOM	11760	C1*	A R 130	-7.708	2.609	69.858	1.00	60.85	C
ATOM	11761	N9	A R 130	-6.535	2.457	68.989	1.00	60.47	N
ATOM	11762	C8	A R 130	-5.265	2.048	69.296	1.00	60.07	C
ATOM	11763	N7	A R 130	-4.447	2.003	68.263	1.00	59.73	N
ATOM	11764	C5	A R 130	-5.233	2.400	67.207	1.00	59.41	C
ATOM	11765	C6	A R 130	-4.971	2.564	65.839	1.00	59.81	C
ATOM	11766	N6	A R 130	-3.778	2.338	65.275	1.00	59.41	N
ATOM	11767	N1	A R 130	-6.006	2.980	65.065	1.00	60.29	N
ATOM	11768	C2	A R 130	-7.209	3.210	65.607	1.00	59.87	C
ATOM	11769	N3	A R 130	-7.569	3.092	66.883	1.00	60.30	N
ATOM	11770	C4	A R 130	-6.525	2.680	67.633	1.00	60.58	C
ATOM	11771	P	A R 131	-9.275	-1.933	70.600	1.00	62.62	P
ATOM	11772	O1P	A R 131	-10.307	-2.664	71.377	1.00	62.90	O
ATOM	11773	O2P	A R 131	-7.916	-2.501	70.484	1.00	62.08	O
ATOM	11774	O5*	A R 131	-9.870	-1.659	69.148	1.00	63.30	O
ATOM	11775	C5*	A R 131	-11.236	-1.264	69.006	1.00	63.61	C
ATOM	11776	C4*	A R 131	-11.600	-1.044	67.548	1.00	63.42	C
ATOM	11777	O4*	A R 131	-10.913	0.120	67.017	1.00	64.27	O
ATOM	11778	C3*	A R 131	-11.201	-2.164	66.599	1.00	63.15	C
ATOM	11779	O3*	A R 131	-12.127	-3.231	66.666	1.00	62.96	O
ATOM	11780	C2*	A R 131	-11.191	-1.428	65.264	1.00	63.39	C
ATOM	11781	O2*	A R 131	-12.467	-1.123	64.734	1.00	63.13	O
ATOM	11782	C1*	A R 131	-10.463	-0.162	65.697	1.00	63.69	C
ATOM	11783	N9	A R 131	-9.005	-0.316	65.689	1.00	63.75	N
ATOM	11784	C8	A R 131	-8.177	-0.600	66.744	1.00	63.69	C
ATOM	11785	N7	A R 131	-6.908	-0.680	66.436	1.00	63.76	N
ATOM	11786	C5	A R 131	-6.908	-0.430	65.083	1.00	62.96	C
ATOM	11787	C6	A R 131	-5.861	-0.379	64.164	1.00	62.90	C
ATOM	11788	N6	A R 131	-4.590	-0.578	64.519	1.00	63.07	N
ATOM	11789	N1	A R 131	-6.191	-0.111	62.883	1.00	63.32	N
ATOM	11790	C2	A R 131	-7.478	0.084	62.550	1.00	63.50	C
ATOM	11791	N3	A R 131	-8.553	0.059	63.335	1.00	63.07	N
ATOM	11792	C4	A R 131	-8.185	-0.206	64.600	1.00	63.15	C
ATOM	11793	P	A R 132	-11.648	-4.740	66.430	1.00	62.82	P
ATOM	11794	O1P	A R 132	-12.846	-5.602	66.604	1.00	63.18	O
ATOM	11795	O2P	A R 132	-10.423	-4.993	67.220	1.00	61.86	O
ATOM	11796	O5*	A R 132	-11.294	-4.700	64.868	1.00	61.87	O
ATOM	11797	C5*	A R 132	-12.357	-4.476	63.927	1.00	60.53	C
ATOM	11798	C4*	A R 132	-11.827	-4.356	62.515	1.00	59.96	C
ATOM	11799	O4*	A R 132	-10.940	-3.216	62.419	1.00	59.55	O
ATOM	11800	C3*	A R 132	-10.957	-5.522	62.058	1.00	60.02	C
ATOM	11801	O3*	A R 132	-11.733	-6.665	61.712	1.00	57.68	O
ATOM	11802	C2*	A R 132	-10.218	-4.871	60.891	1.00	60.15	C
ATOM	11803	O2*	A R 132	-10.984	-4.681	59.715	1.00	60.01	O
ATOM	11804	C1*	A R 132	-9.869	-3.539	61.545	1.00	59.99	C
ATOM	11805	N9	A R 132	-8.602	-3.592	62.279	1.00	59.98	N

ATOM	11806	C8	A R 132	-8.400	-3.702	63.624	1.00	60.11	C
ATOM	11807	N7	A R 132	-7.140	-3.714	63.981	1.00	59.65	N
ATOM	11808	C5	A R 132	-6.465	-3.606	62.787	1.00	59.48	C
ATOM	11809	C6	A R 132	-5.091	-3.561	62.481	1.00	59.90	C
ATOM	11810	N6	A R 132	-4.119	-3.625	63.399	1.00	59.25	N
ATOM	11811	N1	A R 132	-4.764	-3.441	61.176	1.00	60.35	N
ATOM	11812	C2	A R 132	-5.731	-3.379	60.248	1.00	60.09	C
ATOM	11813	N3	A R 132	-7.049	-3.415	60.422	1.00	59.83	N
ATOM	11814	C4	A R 132	-7.348	-3.526	61.728	1.00	59.58	C
ATOM	11815	P	G R 133	-11.263	-8.132	62.134	1.00	56.40	P
ATOM	11816	O1P	G R 133	-12.409	-9.021	61.865	1.00	57.32	O
ATOM	11817	O2P	G R 133	-10.630	-8.171	63.465	1.00	57.44	O
ATOM	11818	O5*	G R 133	-10.115	-8.394	61.065	1.00	57.57	O
ATOM	11819	C5*	G R 133	-10.478	-8.694	59.735	1.00	57.07	C
ATOM	11820	C4*	G R 133	-9.282	-8.581	58.826	1.00	56.91	C
ATOM	11821	O4*	G R 133	-8.635	-7.304	59.050	1.00	56.07	O
ATOM	11822	C3*	G R 133	-8.177	-9.602	59.070	1.00	56.18	C
ATOM	11823	O3*	G R 133	-8.540	-10.866	58.555	1.00	56.13	O
ATOM	11824	C2*	G R 133	-7.041	-8.913	58.321	1.00	55.73	C
ATOM	11825	O2*	G R 133	-7.116	-8.978	56.912	1.00	53.95	O
ATOM	11826	C1*	G R 133	-7.249	-7.482	58.812	1.00	56.11	C
ATOM	11827	N9	G R 133	-6.496	-7.283	60.037	1.00	56.08	N
ATOM	11828	C8	G R 133	-6.926	-7.333	61.339	1.00	56.15	C
ATOM	11829	N7	G R 133	-5.980	-7.120	62.208	1.00	55.70	N
ATOM	11830	C5	G R 133	-4.855	-6.935	61.420	1.00	56.04	C
ATOM	11831	C6	G R 133	-3.520	-6.677	61.794	1.00	56.28	C
ATOM	11832	O6	G R 133	-3.064	-6.557	62.945	1.00	56.32	O
ATOM	11833	N1	G R 133	-2.697	-6.556	60.673	1.00	56.31	N
ATOM	11834	C2	G R 133	-3.098	-6.673	59.353	1.00	56.72	C
ATOM	11835	N2	G R 133	-2.148	-6.531	58.402	1.00	56.26	N
ATOM	11836	N3	G R 133	-4.352	-6.921	58.998	1.00	56.15	N
ATOM	11837	C4	G R 133	-5.158	-7.032	60.083	1.00	56.13	C
ATOM	11838	P	U R 134	-8.116	-12.233	59.263	1.00	55.34	P
ATOM	11839	O1P	U R 134	-8.749	-13.336	58.512	1.00	56.11	O
ATOM	11840	O2P	U R 134	-8.360	-12.128	60.716	1.00	55.31	O
ATOM	11841	O5*	U R 134	-6.539	-12.283	59.011	1.00	57.27	O
ATOM	11842	C5*	U R 134	-5.967	-12.181	57.717	1.00	58.93	C
ATOM	11843	C4*	U R 134	-4.476	-11.860	57.770	1.00	60.20	C
ATOM	11844	O4*	U R 134	-4.257	-10.524	58.284	1.00	60.55	O
ATOM	11845	C3*	U R 134	-3.612	-12.731	58.674	1.00	61.26	C
ATOM	11846	O3*	U R 134	-3.263	-13.954	58.046	1.00	62.75	O
ATOM	11847	C2*	U R 134	-2.401	-11.835	58.880	1.00	60.77	C
ATOM	11848	O2*	U R 134	-1.514	-11.796	57.786	1.00	60.58	O
ATOM	11849	C1*	U R 134	-3.086	-10.492	59.071	1.00	60.63	C
ATOM	11850	N1	U R 134	-3.387	-10.295	60.519	1.00	60.50	N
ATOM	11851	C2	U R 134	-2.347	-9.904	61.331	1.00	60.54	C
ATOM	11852	O2	U R 134	-1.231	-9.708	60.889	1.00	59.73	O
ATOM	11853	N3	U R 134	-2.667	-9.754	62.664	1.00	60.72	N
ATOM	11854	C4	U R 134	-3.906	-9.960	63.254	1.00	60.70	C
ATOM	11855	O4	U R 134	-4.063	-9.788	64.459	1.00	60.62	O
ATOM	11856	C5	U R 134	-4.940	-10.373	62.342	1.00	60.20	C
ATOM	11857	C6	U R 134	-4.644	-10.527	61.044	1.00	60.38	C
ATOM	11858	P	G R 135	-2.682	-15.166	58.914	1.00	65.12	P
ATOM	11859	O1P	G R 135	-2.537	-16.298	57.969	1.00	64.62	O
ATOM	11860	O2P	G R 135	-3.531	-15.298	60.127	1.00	63.68	O
ATOM	11861	O5*	G R 135	-1.212	-14.685	59.356	1.00	65.55	O
ATOM	11862	C5*	G R 135	-0.110	-14.827	58.467	1.00	67.41	C
ATOM	11863	C4*	G R 135	1.215	-14.573	59.160	1.00	68.71	C
ATOM	11864	O4*	G R 135	1.157	-13.285	59.814	1.00	69.39	O

ATOM	11865	C3*	G R 135	1.634	-15.515	60.290	1.00	69.60	C
ATOM	11866	O3*	G R 135	2.163	-16.753	59.818	1.00	70.13	O
ATOM	11867	C2*	G R 135	2.721	-14.671	60.936	1.00	69.95	C
ATOM	11868	O2*	G R 135	3.940	-14.724	60.210	1.00	69.78	O
ATOM	11869	C1*	G R 135	2.089	-13.274	60.887	1.00	70.46	C
ATOM	11870	N9	G R 135	1.416	-12.874	62.133	1.00	70.57	N
ATOM	11871	C8	G R 135	0.068	-12.808	62.385	1.00	70.60	C
ATOM	11872	N7	G R 135	-0.227	-12.424	63.593	1.00	70.24	N
ATOM	11873	C5	G R 135	1.001	-12.223	64.188	1.00	70.23	C
ATOM	11874	C6	G R 135	1.312	-11.800	65.500	1.00	70.54	C
ATOM	11875	O6	G R 135	0.534	-11.501	66.419	1.00	70.20	O
ATOM	11876	N1	G R 135	2.694	-11.729	65.696	1.00	70.86	N
ATOM	11877	C2	G R 135	3.657	-12.027	64.751	1.00	70.79	C
ATOM	11878	N2	G R 135	4.943	-11.892	65.120	1.00	70.31	N
ATOM	11879	N3	G R 135	3.364	-12.423	63.517	1.00	70.97	N
ATOM	11880	C4	G R 135	2.024	-12.496	63.307	1.00	70.67	C
ATOM	11881	P	U R 136	1.582	-18.180	60.261	1.00	71.29	P
ATOM	11882	O1P	U R 136	1.788	-19.087	59.111	1.00	70.90	O
ATOM	11883	O2P	U R 136	0.225	-18.025	60.837	1.00	71.09	O
ATOM	11884	O5*	U R 136	2.545	-18.679	61.429	1.00	71.68	O
ATOM	11885	C5*	U R 136	3.926	-18.375	61.450	1.00	72.64	C
ATOM	11886	C4*	U R 136	4.775	-19.255	60.535	1.00	73.14	C
ATOM	11887	O4*	U R 136	6.090	-18.640	60.469	1.00	73.21	O
ATOM	11888	C3*	U R 136	5.053	-20.709	60.961	1.00	73.43	C
ATOM	11889	O3*	U R 136	4.023	-21.612	60.526	1.00	73.74	O
ATOM	11890	C2*	U R 136	6.428	-20.934	60.332	1.00	73.44	C
ATOM	11891	O2*	U R 136	6.402	-21.136	58.930	1.00	73.35	O
ATOM	11892	C1*	U R 136	7.089	-19.612	60.705	1.00	73.20	C
ATOM	11893	N1	U R 136	7.587	-19.612	62.143	1.00	73.25	N
ATOM	11894	C2	U R 136	8.868	-20.059	62.393	1.00	73.12	C
ATOM	11895	O2	U R 136	9.621	-20.440	61.518	1.00	72.96	O
ATOM	11896	N3	U R 136	9.242	-20.043	63.718	1.00	73.25	N
ATOM	11897	C4	U R 136	8.494	-19.639	64.814	1.00	73.16	C
ATOM	11898	O4	U R 136	8.961	-19.673	65.948	1.00	72.79	O
ATOM	11899	C5	U R 136	7.172	-19.193	64.485	1.00	73.01	C
ATOM	11900	C6	U R 136	6.789	-19.200	63.203	1.00	73.11	C
ATOM	11901	P	G R 137	4.228	-23.090	59.930	1.00	74.38	P
ATOM	11902	O1P	G R 137	4.730	-22.928	58.543	1.00	73.80	O
ATOM	11903	O2P	G R 137	2.991	-23.862	60.200	1.00	73.36	O
ATOM	11904	O5*	G R 137	5.380	-23.760	60.800	1.00	73.56	O
ATOM	11905	C5*	G R 137	5.743	-25.100	60.500	1.00	73.20	C
ATOM	11906	C4*	G R 137	7.222	-25.226	60.176	1.00	72.95	C
ATOM	11907	O4*	G R 137	7.949	-24.000	60.452	1.00	72.90	O
ATOM	11908	C3*	G R 137	7.929	-26.293	60.993	1.00	72.74	C
ATOM	11909	O3*	G R 137	7.756	-27.537	60.333	1.00	72.14	O
ATOM	11910	C2*	G R 137	9.371	-25.787	61.033	1.00	72.79	C
ATOM	11911	O2*	G R 137	10.136	-26.072	59.878	1.00	73.17	O
ATOM	11912	C1*	G R 137	9.143	-24.285	61.160	1.00	72.68	C
ATOM	11913	N9	G R 137	9.013	-23.804	62.536	1.00	72.67	N
ATOM	11914	C8	G R 137	7.946	-23.136	63.100	1.00	72.62	C
ATOM	11915	N7	G R 137	8.126	-22.824	64.352	1.00	72.64	N
ATOM	11916	C5	G R 137	9.394	-23.313	64.640	1.00	72.66	C
ATOM	11917	C6	G R 137	10.136	-23.272	65.846	1.00	72.63	C
ATOM	11918	O6	G R 137	9.804	-22.778	66.933	1.00	72.47	O
ATOM	11919	N1	G R 137	11.382	-23.885	65.711	1.00	72.54	N
ATOM	11920	C2	G R 137	11.859	-24.466	64.558	1.00	72.62	C
ATOM	11921	N2	G R 137	13.086	-25.004	64.627	1.00	72.63	N
ATOM	11922	N3	G R 137	11.174	-24.509	63.420	1.00	72.52	N
ATOM	11923	C4	G R 137	9.956	-23.917	63.534	1.00	72.60	C

ATOM	11924	P	A R 138	7.152	-28.802	61.093	1.00	71.14	P
ATOM	11925	O1P	A R 138	6.927	-29.845	60.070	1.00	71.53	O
ATOM	11926	O2P	A R 138	6.037	-28.359	61.960	1.00	71.16	O
ATOM	11927	O5*	A R 138	8.401	-29.267	61.972	1.00	71.02	O
ATOM	11928	C5*	A R 138	9.601	-29.652	61.295	1.00	70.85	C
ATOM	11929	C4*	A R 138	10.791	-29.726	62.233	1.00	70.58	C
ATOM	11930	O4*	A R 138	11.189	-28.389	62.629	1.00	70.14	O
ATOM	11931	C3*	A R 138	10.554	-30.452	63.549	1.00	70.49	C
ATOM	11932	O3*	A R 138	10.636	-31.864	63.373	1.00	71.06	O
ATOM	11933	C2*	A R 138	11.688	-29.874	64.387	1.00	70.15	C
ATOM	11934	O2*	A R 138	12.956	-30.416	64.077	1.00	70.21	O
ATOM	11935	C1*	A R 138	11.605	-28.404	63.984	1.00	69.44	C
ATOM	11936	N9	A R 138	10.670	-27.636	64.811	1.00	69.15	N
ATOM	11937	C8	A R 138	9.443	-27.128	64.470	1.00	68.80	C
ATOM	11938	N7	A R 138	8.841	-26.482	65.442	1.00	68.69	N
ATOM	11939	C5	A R 138	9.733	-26.574	66.496	1.00	68.81	C
ATOM	11940	C6	A R 138	9.698	-26.095	67.821	1.00	68.62	C
ATOM	11941	N6	A R 138	8.678	-25.405	68.330	1.00	68.40	N
ATOM	11942	N1	A R 138	10.756	-26.368	68.610	1.00	68.52	N
ATOM	11943	C2	A R 138	11.784	-27.066	68.110	1.00	68.50	C
ATOM	11944	N3	A R 138	11.931	-27.566	66.887	1.00	68.49	N
ATOM	11945	C4	A R 138	10.863	-27.283	66.124	1.00	68.83	C
ATOM	11946	P	U R 139	9.517	-32.861	63.943	1.00	71.53	P
ATOM	11947	O1P	U R 139	9.695	-34.154	63.250	1.00	71.48	O
ATOM	11948	O2P	U R 139	8.199	-32.191	63.911	1.00	71.34	O
ATOM	11949	O5*	U R 139	9.963	-33.057	65.466	1.00	72.50	O
ATOM	11950	C5*	U R 139	11.225	-33.636	65.765	1.00	73.81	C
ATOM	11951	C4*	U R 139	11.731	-33.241	67.144	1.00	74.53	C
ATOM	11952	O4*	U R 139	11.925	-31.803	67.224	1.00	74.49	O
ATOM	11953	C3*	U R 139	10.811	-33.542	68.321	1.00	75.15	C
ATOM	11954	O3*	U R 139	10.839	-34.928	68.700	1.00	76.43	O
ATOM	11955	C2*	U R 139	11.423	-32.627	69.376	1.00	75.02	C
ATOM	11956	O2*	U R 139	12.633	-33.110	69.929	1.00	75.01	O
ATOM	11957	C1*	U R 139	11.651	-31.367	68.546	1.00	74.78	C
ATOM	11958	N1	U R 139	10.447	-30.476	68.580	1.00	74.85	N
ATOM	11959	C2	U R 139	10.177	-29.764	69.736	1.00	74.77	C
ATOM	11960	O2	U R 139	10.871	-29.806	70.736	1.00	74.81	O
ATOM	11961	N3	U R 139	9.049	-28.984	69.681	1.00	74.60	N
ATOM	11962	C4	U R 139	8.175	-28.847	68.620	1.00	74.84	C
ATOM	11963	O4	U R 139	7.204	-28.104	68.725	1.00	75.11	O
ATOM	11964	C5	U R 139	8.512	-29.618	67.450	1.00	74.82	C
ATOM	11965	C6	U R 139	9.608	-30.386	67.479	1.00	74.86	C
ATOM	11966	P	G R 140	9.519	-35.701	69.202	1.00	77.67	P
ATOM	11967	O1P	G R 140	9.820	-37.158	69.211	1.00	77.22	O
ATOM	11968	O2P	G R 140	8.357	-35.184	68.438	1.00	76.89	O
ATOM	11969	O5*	G R 140	9.362	-35.228	70.723	1.00	78.02	O
ATOM	11970	C5*	G R 140	10.380	-35.466	71.694	1.00	78.79	C
ATOM	11971	C4*	G R 140	10.148	-34.608	72.929	1.00	79.17	C
ATOM	11972	O4*	G R 140	10.270	-33.196	72.600	1.00	79.40	O
ATOM	11973	C3*	G R 140	8.758	-34.716	73.541	1.00	79.48	C
ATOM	11974	O3*	G R 140	8.646	-35.866	74.379	1.00	79.78	O
ATOM	11975	C2*	G R 140	8.647	-33.402	74.307	1.00	79.48	C
ATOM	11976	O2*	G R 140	9.318	-33.406	75.553	1.00	79.50	O
ATOM	11977	C1*	G R 140	9.306	-32.441	73.320	1.00	79.36	C
ATOM	11978	N9	G R 140	8.334	-31.831	72.408	1.00	79.41	N
ATOM	11979	C8	G R 140	8.060	-32.155	71.096	1.00	79.42	C
ATOM	11980	N7	G R 140	7.124	-31.422	70.553	1.00	79.26	N
ATOM	11981	C5	G R 140	6.745	-30.556	71.568	1.00	79.30	C
ATOM	11982	C6	G R 140	5.771	-29.525	71.579	1.00	79.37	C

ATOM	11983	O6	G R	140	5.013	-29.150	70.669	1.00	79.36	O
ATOM	11984	N1	G R	140	5.714	-28.894	72.817	1.00	79.27	N
ATOM	11985	C2	G R	140	6.490	-29.207	73.910	1.00	79.15	C
ATOM	11986	N2	G R	140	6.287	-28.481	75.015	1.00	79.08	N
ATOM	11987	N3	G R	140	7.405	-30.167	73.916	1.00	79.24	N
ATOM	11988	C4	G R	140	7.479	-30.797	72.716	1.00	79.39	C
ATOM	11989	P	A R	141	7.219	-36.568	74.598	1.00	80.30	P
ATOM	11990	O1P	A R	141	7.459	-37.884	75.241	1.00	79.46	O
ATOM	11991	O2P	A R	141	6.462	-36.503	73.326	1.00	80.02	O
ATOM	11992	O5*	A R	141	6.497	-35.589	75.641	1.00	79.36	O
ATOM	11993	C5*	A R	141	6.941	-35.471	76.983	1.00	79.03	C
ATOM	11994	C4*	A R	141	6.112	-34.447	77.739	1.00	78.72	C
ATOM	11995	O4*	A R	141	6.238	-33.152	77.093	1.00	78.73	O
ATOM	11996	C3*	A R	141	4.614	-34.726	77.791	1.00	78.58	C
ATOM	11997	O3*	A R	141	4.274	-35.571	78.890	1.00	78.31	O
ATOM	11998	C2*	A R	141	4.040	-33.322	77.943	1.00	78.49	C
ATOM	11999	O2*	A R	141	4.027	-32.890	79.291	1.00	78.20	O
ATOM	12000	C1*	A R	141	4.991	-32.475	77.089	1.00	78.61	C
ATOM	12001	N9	A R	141	4.523	-32.275	75.709	1.00	78.61	N
ATOM	12002	C8	A R	141	4.687	-33.120	74.640	1.00	78.58	C
ATOM	12003	N7	A R	141	4.154	-32.694	73.520	1.00	78.43	N
ATOM	12004	C5	A R	141	3.591	-31.481	73.870	1.00	78.51	C
ATOM	12005	C6	A R	141	2.870	-30.526	73.120	1.00	78.65	C
ATOM	12006	N6	A R	141	2.604	-30.685	71.817	1.00	78.59	N
ATOM	12007	N1	A R	141	2.441	-29.410	73.760	1.00	78.52	N
ATOM	12008	C2	A R	141	2.719	-29.274	75.067	1.00	78.44	C
ATOM	12009	N3	A R	141	3.389	-30.107	75.875	1.00	78.49	N
ATOM	12010	C4	A R	141	3.807	-31.203	75.213	1.00	78.45	C
TER	12011		A R	141						
ATOM	12012	N	ARG D	7	39.351	91.813	89.126	1.00	66.41	N
ATOM	12013	CA	ARG D	7	40.661	91.102	89.143	1.00	67.30	C
ATOM	12014	C	ARG D	7	40.729	90.157	87.952	1.00	67.90	C
ATOM	12015	O	ARG D	7	40.225	89.036	88.036	1.00	68.54	O
ATOM	12016	N	PRO D	8	41.319	90.614	86.826	1.00	68.30	N
ATOM	12017	CA	PRO D	8	41.384	89.790	85.603	1.00	67.83	C
ATOM	12018	C	PRO D	8	42.155	88.466	85.747	1.00	66.60	C
ATOM	12019	O	PRO D	8	43.234	88.430	86.348	1.00	65.74	O
ATOM	12020	CB	PRO D	8	42.061	90.718	84.579	1.00	68.21	C
ATOM	12021	CG	PRO D	8	41.875	92.097	85.121	1.00	68.10	C
ATOM	12022	CD	PRO D	8	41.917	91.945	86.611	1.00	68.20	C
ATOM	12023	N	ASN D	9	41.586	87.405	85.172	1.00	64.83	N
ATOM	12024	CA	ASN D	9	42.087	86.041	85.321	1.00	63.28	C
ATOM	12025	C	ASN D	9	41.871	85.229	84.046	1.00	63.28	C
ATOM	12026	O	ASN D	9	41.041	85.591	83.205	1.00	63.07	O
ATOM	12027	CB	ASN D	9	41.389	85.341	86.488	1.00	62.32	C
ATOM	12028	CG	ASN D	9	42.019	84.004	86.819	1.00	61.90	C
ATOM	12029	OD1	ASN D	9	43.209	83.921	87.113	1.00	61.34	O
ATOM	12030	ND2	ASN D	9	41.230	82.950	86.746	1.00	61.40	N
ATOM	12031	N	HIS D	10	42.622	84.134	83.916	1.00	62.79	N
ATOM	12032	CA	HIS D	10	42.558	83.264	82.737	1.00	62.21	C
ATOM	12033	C	HIS D	10	41.179	82.662	82.552	1.00	60.85	C
ATOM	12034	O	HIS D	10	40.608	82.701	81.464	1.00	61.34	O
ATOM	12035	CB	HIS D	10	43.589	82.138	82.847	1.00	61.98	C
ATOM	12036	CG	HIS D	10	44.997	82.612	82.711	1.00	62.52	C
ATOM	12037	ND1	HIS D	10	45.657	83.278	83.720	1.00	62.91	N
ATOM	12038	CD2	HIS D	10	45.864	82.544	81.673	1.00	62.93	C
ATOM	12039	CE1	HIS D	10	46.875	83.589	83.314	1.00	63.40	C
ATOM	12040	NE2	HIS D	10	47.026	83.156	82.075	1.00	63.07	N
ATOM	12041	N	THR D	11	40.652	82.112	83.632	1.00	59.90	N

ATOM	12042	CA	THR	D	11	39.401	81.379	83.583	1.00	59.69	C
ATOM	12043	C	THR	D	11	38.225	82.294	83.924	1.00	58.46	C
ATOM	12044	O	THR	D	11	38.290	83.072	84.873	1.00	58.53	O
ATOM	12045	CB	THR	D	11	39.447	80.172	84.545	1.00	58.88	C
ATOM	12046	OG1	THR	D	11	40.772	79.617	84.557	1.00	57.10	O
ATOM	12047	CG2	THR	D	11	38.451	79.115	84.110	1.00	59.20	C
ATOM	12048	N	ILE	D	12	37.162	82.213	83.136	1.00	57.93	N
ATOM	12049	CA	ILE	D	12	35.959	82.993	83.410	1.00	58.83	C
ATOM	12050	C	ILE	D	12	34.989	82.131	84.192	1.00	59.50	C
ATOM	12051	O	ILE	D	12	34.865	80.935	83.938	1.00	59.75	O
ATOM	12052	CB	ILE	D	12	35.278	83.528	82.116	1.00	59.13	C
ATOM	12053	CG1	ILE	D	12	34.631	82.392	81.309	1.00	59.03	C
ATOM	12054	CG2	ILE	D	12	36.280	84.322	81.265	1.00	59.03	C
ATOM	12055	CD1	ILE	D	12	34.402	82.715	79.839	1.00	58.94	C
ATOM	12056	N	TYR	D	13	34.320	82.747	85.159	1.00	61.29	N
ATOM	12057	CA	TYR	D	13	33.308	82.071	85.966	1.00	61.59	C
ATOM	12058	C	TYR	D	13	31.905	82.378	85.426	1.00	61.86	C
ATOM	12059	O	TYR	D	13	31.295	83.400	85.760	1.00	61.82	O
ATOM	12060	CB	TYR	D	13	33.432	82.484	87.435	1.00	61.24	C
ATOM	12061	CG	TYR	D	13	32.337	81.938	88.315	1.00	60.96	C
ATOM	12062	CD1	TYR	D	13	32.267	80.581	88.614	1.00	61.30	C
ATOM	12063	CD2	TYR	D	13	31.366	82.778	88.848	1.00	61.13	C
ATOM	12064	CE1	TYR	D	13	31.251	80.069	89.427	1.00	61.24	C
ATOM	12065	CE2	TYR	D	13	30.351	82.286	89.656	1.00	61.36	C
ATOM	12066	CZ	TYR	D	13	30.296	80.930	89.945	1.00	61.76	C
ATOM	12067	OH	TYR	D	13	29.286	80.455	90.755	1.00	61.66	O
ATOM	12068	N	ILE	D	14	31.404	81.481	84.586	1.00	61.48	N
ATOM	12069	CA	ILE	D	14	30.051	81.589	84.075	1.00	60.88	C
ATOM	12070	C	ILE	D	14	29.087	80.955	85.085	1.00	61.09	C
ATOM	12071	O	ILE	D	14	29.140	79.738	85.317	1.00	60.89	O
ATOM	12072	CB	ILE	D	14	29.882	80.864	82.712	1.00	61.10	C
ATOM	12073	CG1	ILE	D	14	31.048	81.167	81.761	1.00	61.01	C
ATOM	12074	CG2	ILE	D	14	28.552	81.257	82.079	1.00	62.17	C
ATOM	12075	CD1	ILE	D	14	30.911	80.519	80.402	1.00	60.12	C
ATOM	12076	N	ASN	D	15	28.228	81.767	85.703	1.00	60.95	N
ATOM	12077	CA	ASN	D	15	27.079	81.226	86.457	1.00	60.84	C
ATOM	12078	C	ASN	D	15	25.760	81.560	85.746	1.00	60.30	C
ATOM	12079	O	ASN	D	15	25.773	81.999	84.588	1.00	62.10	O
ATOM	12080	CB	ASN	D	15	27.098	81.636	87.948	1.00	61.17	C
ATOM	12081	CG	ASN	D	15	26.816	83.111	88.174	1.00	62.37	C
ATOM	12082	OD1	ASN	D	15	27.480	83.983	87.604	1.00	63.13	O
ATOM	12083	ND2	ASN	D	15	25.844	83.397	89.038	1.00	62.50	N
ATOM	12084	N	ASN	D	16	24.637	81.307	86.414	1.00	58.73	N
ATOM	12085	CA	ASN	D	16	23.303	81.471	85.826	1.00	57.49	C
ATOM	12086	C	ASN	D	16	23.116	80.634	84.548	1.00	57.32	C
ATOM	12087	O	ASN	D	16	22.474	81.075	83.582	1.00	58.10	O
ATOM	12088	CB	ASN	D	16	22.984	82.957	85.575	1.00	55.89	C
ATOM	12089	CG	ASN	D	16	21.490	83.215	85.393	1.00	55.51	C
ATOM	12090	OD1	ASN	D	16	20.681	82.782	86.200	1.00	53.68	O
ATOM	12091	ND2	ASN	D	16	21.125	83.923	84.325	1.00	55.15	N
ATOM	12092	N	LEU	D	17	23.684	79.427	84.553	1.00	56.96	N
ATOM	12093	CA	LEU	D	17	23.497	78.472	83.455	1.00	58.01	C
ATOM	12094	C	LEU	D	17	22.366	77.481	83.779	1.00	58.49	C
ATOM	12095	O	LEU	D	17	22.109	77.164	84.957	1.00	57.67	O
ATOM	12096	CB	LEU	D	17	24.799	77.713	83.152	1.00	57.74	C
ATOM	12097	CG	LEU	D	17	25.940	78.521	82.523	1.00	58.12	C
ATOM	12098	CD1	LEU	D	17	27.203	77.668	82.365	1.00	58.07	C
ATOM	12099	CD2	LEU	D	17	25.526	79.105	81.190	1.00	56.99	C
ATOM	12100	N	ASN	D	18	21.707	76.994	82.725	1.00	57.47	N

ATOM	12101	CA	ASN	D	18	20.540	76.130	82.875	1.00	56.73	C
ATOM	12102	C	ASN	D	18	20.920	74.808	83.521	1.00	57.33	C
ATOM	12103	O	ASN	D	18	21.725	74.043	82.986	1.00	57.27	O
ATOM	12104	CB	ASN	D	18	19.855	75.898	81.525	1.00	56.34	C
ATOM	12105	CG	ASN	D	18	18.466	75.281	81.663	1.00	56.15	C
ATOM	12106	OD1	ASN	D	18	18.171	74.562	82.626	1.00	54.84	O
ATOM	12107	ND2	ASN	D	18	17.604	75.563	80.689	1.00	55.73	N
ATOM	12108	N	GLU	D	19	20.310	74.552	84.675	1.00	58.70	N
ATOM	12109	CA	GLU	D	19	20.676	73.427	85.535	1.00	58.94	C
ATOM	12110	C	GLU	D	19	20.102	72.085	85.068	1.00	58.63	C
ATOM	12111	O	GLU	D	19	20.432	71.053	85.641	1.00	58.54	O
ATOM	12112	CB	GLU	D	19	20.253	73.711	86.985	1.00	58.30	C
ATOM	12113	CG	GLU	D	19	20.910	74.956	87.591	1.00	58.30	C
ATOM	12114	CD	GLU	D	19	20.395	75.297	88.983	1.00	58.66	C
ATOM	12115	OE1	GLU	D	19	19.782	74.419	89.621	1.00	58.39	O
ATOM	12116	OE2	GLU	D	19	20.607	76.441	89.445	1.00	58.70	O
ATOM	12117	N	LYS	D	20	19.255	72.103	84.038	1.00	59.12	N
ATOM	12118	CA	LYS	D	20	18.680	70.879	83.465	1.00	59.73	C
ATOM	12119	C	LYS	D	20	19.564	70.245	82.375	1.00	59.30	C
ATOM	12120	O	LYS	D	20	19.241	69.175	81.867	1.00	59.35	O
ATOM	12121	CB	LYS	D	20	17.276	71.162	82.897	1.00	60.46	C
ATOM	12122	CG	LYS	D	20	16.209	71.474	83.952	1.00	61.03	C
ATOM	12123	N	ILE	D	21	20.678	70.891	82.031	1.00	60.11	N
ATOM	12124	CA	ILE	D	21	21.554	70.430	80.943	1.00	59.84	C
ATOM	12125	C	ILE	D	21	22.613	69.467	81.484	1.00	61.12	C
ATOM	12126	O	ILE	D	21	23.048	69.600	82.632	1.00	60.70	O
ATOM	12127	CB	ILE	D	21	22.269	71.616	80.232	1.00	58.43	C
ATOM	12128	CG1	ILE	D	21	21.309	72.789	80.007	1.00	57.94	C
ATOM	12129	CG2	ILE	D	21	22.873	71.163	78.922	1.00	58.12	C
ATOM	12130	CD1	ILE	D	21	19.937	72.394	79.495	1.00	57.68	C
ATOM	12131	N	LYS	D	22	23.021	68.505	80.654	1.00	62.56	N
ATOM	12132	CA	LYS	D	22	24.017	67.501	81.049	1.00	64.10	C
ATOM	12133	C	LYS	D	22	25.426	68.070	80.929	1.00	64.31	C
ATOM	12134	O	LYS	D	22	25.669	68.959	80.114	1.00	64.87	O
ATOM	12135	CB	LYS	D	22	23.907	66.248	80.182	1.00	64.89	C
ATOM	12136	CG	LYS	D	22	22.531	65.584	80.187	1.00	65.19	C
ATOM	12137	CD	LYS	D	22	22.392	64.637	78.998	1.00	65.37	C
ATOM	12138	CE	LYS	D	22	20.986	64.063	78.871	1.00	65.57	C
ATOM	12139	NZ	LYS	D	22	19.949	65.109	78.654	1.00	65.36	N
ATOM	12140	N	LYS	D	23	26.349	67.543	81.735	1.00	64.74	N
ATOM	12141	CA	LYS	D	23	27.720	68.065	81.804	1.00	64.66	C
ATOM	12142	C	LYS	D	23	28.396	68.133	80.435	1.00	64.56	C
ATOM	12143	O	LYS	D	23	28.974	69.151	80.075	1.00	62.96	O
ATOM	12144	CB	LYS	D	23	28.588	67.217	82.748	1.00	64.63	C
ATOM	12145	CG	LYS	D	23	29.970	67.832	83.017	1.00	64.92	C
ATOM	12146	CD	LYS	D	23	30.973	66.843	83.610	1.00	65.02	C
ATOM	12147	CE	LYS	D	23	32.405	67.378	83.490	1.00	64.80	C
ATOM	12148	NZ	LYS	D	23	33.351	66.685	84.402	1.00	64.65	N
ATOM	12149	N	ASP	D	24	28.319	67.041	79.682	1.00	65.62	N
ATOM	12150	CA	ASP	D	24	29.071	66.911	78.437	1.00	65.90	C
ATOM	12151	C	ASP	D	24	28.476	67.800	77.349	1.00	64.97	C
ATOM	12152	O	ASP	D	24	29.212	68.410	76.568	1.00	64.34	O
ATOM	12153	CB	ASP	D	24	29.097	65.447	77.981	1.00	67.95	C
ATOM	12154	CG	ASP	D	24	30.508	64.941	77.702	1.00	68.98	C
ATOM	12155	OD1	ASP	D	24	31.418	65.189	78.532	1.00	68.79	O
ATOM	12156	OD2	ASP	D	24	30.693	64.274	76.659	1.00	69.54	O
ATOM	12157	N	GLU	D	25	27.142	67.864	77.311	1.00	63.87	N
ATOM	12158	CA	GLU	D	25	26.413	68.744	76.392	1.00	62.41	C
ATOM	12159	C	GLU	D	25	26.695	70.201	76.725	1.00	61.51	C

ATOM	12160	O	GLU	D	25	27.079	70.974	75.850	1.00	63.43	O
ATOM	12161	CB	GLU	D	25	24.901	68.493	76.479	1.00	62.28	C
ATOM	12162	CG	GLU	D	25	24.062	69.329	75.504	1.00	62.51	C
ATOM	12163	CD	GLU	D	25	22.558	69.168	75.707	1.00	62.70	C
ATOM	12164	OE1	GLU	D	25	22.129	68.186	76.360	1.00	62.61	O
ATOM	12165	OE2	GLU	D	25	21.801	70.026	75.192	1.00	62.39	O
ATOM	12166	N	LEU	D	26	26.506	70.559	77.995	1.00	59.07	N
ATOM	12167	CA	LEU	D	26	26.680	71.932	78.454	1.00	58.40	C
ATOM	12168	C	LEU	D	26	28.108	72.434	78.248	1.00	58.42	C
ATOM	12169	O	LEU	D	26	28.328	73.641	78.112	1.00	59.71	O
ATOM	12170	CB	LEU	D	26	26.296	72.056	79.933	1.00	58.18	C
ATOM	12171	CG	LEU	D	26	26.376	73.439	80.601	1.00	58.56	C
ATOM	12172	CD1	LEU	D	26	25.511	74.478	79.889	1.00	57.94	C
ATOM	12173	CD2	LEU	D	26	25.974	73.329	82.076	1.00	58.44	C
ATOM	12174	N	LYS	D	27	29.078	71.527	78.236	1.00	57.15	N
ATOM	12175	CA	LYS	D	27	30.458	71.947	78.051	1.00	56.82	C
ATOM	12176	C	LYS	D	27	30.800	72.016	76.585	1.00	55.05	C
ATOM	12177	O	LYS	D	27	31.579	72.871	76.194	1.00	57.06	O
ATOM	12178	CB	LYS	D	27	31.451	71.086	78.847	1.00	57.57	C
ATOM	12179	CG	LYS	D	27	31.594	69.643	78.434	1.00	58.58	C
ATOM	12180	CD	LYS	D	27	32.222	68.790	79.547	1.00	58.15	C
ATOM	12181	CE	LYS	D	27	33.447	69.455	80.169	1.00	58.29	C
ATOM	12182	NZ	LYS	D	27	34.345	68.489	80.865	1.00	58.66	N
ATOM	12183	N	LYS	D	28	30.196	71.155	75.771	1.00	53.54	N
ATOM	12184	CA	LYS	D	28	30.360	71.240	74.317	1.00	53.80	C
ATOM	12185	C	LYS	D	28	29.642	72.468	73.718	1.00	54.53	C
ATOM	12186	O	LYS	D	28	30.213	73.186	72.892	1.00	53.22	O
ATOM	12187	CB	LYS	D	28	29.882	69.950	73.650	1.00	54.71	C
ATOM	12188	CG	LYS	D	28	30.911	68.813	73.698	1.00	55.25	C
ATOM	12189	CD	LYS	D	28	30.401	67.543	73.005	1.00	55.37	C
ATOM	12190	CE	LYS	D	28	30.048	66.418	73.974	1.00	55.84	C
ATOM	12191	NZ	LYS	D	28	29.311	65.312	73.304	1.00	55.15	N
ATOM	12192	N	SER	D	29	28.398	72.699	74.149	1.00	55.39	N
ATOM	12193	CA	SER	D	29	27.616	73.884	73.758	1.00	54.29	C
ATOM	12194	C	SER	D	29	28.325	75.186	74.117	1.00	56.07	C
ATOM	12195	O	SER	D	29	28.391	76.117	73.308	1.00	56.99	O
ATOM	12196	CB	SER	D	29	26.247	73.884	74.437	1.00	52.67	C
ATOM	12197	OG	SER	D	29	25.416	72.880	73.908	1.00	54.01	O
ATOM	12198	N	LEU	D	30	28.822	75.259	75.346	1.00	56.90	N
ATOM	12199	CA	LEU	D	30	29.642	76.388	75.768	1.00	57.55	C
ATOM	12200	C	LEU	D	30	30.842	76.500	74.852	1.00	57.53	C
ATOM	12201	O	LEU	D	30	31.094	77.566	74.299	1.00	57.43	O
ATOM	12202	CB	LEU	D	30	30.115	76.222	77.214	1.00	58.67	C
ATOM	12203	CG	LEU	D	30	29.123	76.653	78.290	1.00	58.81	C
ATOM	12204	CD1	LEU	D	30	29.493	76.011	79.626	1.00	58.87	C
ATOM	12205	CD2	LEU	D	30	29.075	78.194	78.377	1.00	58.46	C
ATOM	12206	N	HIS	D	31	31.566	75.393	74.680	1.00	57.43	N
ATOM	12207	CA	HIS	D	31	32.749	75.398	73.842	1.00	57.99	C
ATOM	12208	C	HIS	D	31	32.428	75.998	72.478	1.00	57.86	C
ATOM	12209	O	HIS	D	31	33.185	76.830	71.985	1.00	58.60	O
ATOM	12210	CB	HIS	D	31	33.340	74.003	73.671	1.00	59.74	C
ATOM	12211	CG	HIS	D	31	34.743	74.019	73.158	1.00	60.62	C
ATOM	12212	ND1	HIS	D	31	35.046	74.178	71.821	1.00	60.91	N
ATOM	12213	CD2	HIS	D	31	35.927	73.926	73.805	1.00	60.56	C
ATOM	12214	CE1	HIS	D	31	36.358	74.174	71.667	1.00	61.00	C
ATOM	12215	NE2	HIS	D	31	36.915	74.019	72.855	1.00	61.25	N
ATOM	12216	N	ALA	D	32	31.303	75.597	71.884	1.00	57.17	N
ATOM	12217	CA	ALA	D	32	30.856	76.159	70.598	1.00	57.45	C
ATOM	12218	C	ALA	D	32	30.732	77.694	70.629	1.00	57.90	C

ATOM	12219	O	ALA	D	32	31.167	78.373	69.697	1.00	57.09	O
ATOM	12220	CB	ALA	D	32	29.529	75.533	70.176	1.00	56.55	C
ATOM	12221	N	ILE	D	33	30.139	78.224	71.700	1.00	59.09	N
ATOM	12222	CA	ILE	D	33	29.995	79.671	71.896	1.00	59.58	C
ATOM	12223	C	ILE	D	33	31.354	80.359	71.964	1.00	58.80	C
ATOM	12224	O	ILE	D	33	31.607	81.300	71.217	1.00	60.43	O
ATOM	12225	CB	ILE	D	33	29.224	80.012	73.222	1.00	61.64	C
ATOM	12226	CG1	ILE	D	33	27.709	79.990	73.025	1.00	62.19	C
ATOM	12227	CG2	ILE	D	33	29.597	81.401	73.742	1.00	62.75	C
ATOM	12228	CD1	ILE	D	33	26.948	80.537	74.237	1.00	61.02	C
ATOM	12229	N	PHE	D	34	32.219	79.876	72.859	1.00	57.64	N
ATOM	12230	CA	PHE	D	34	33.418	80.618	73.280	1.00	57.98	C
ATOM	12231	C	PHE	D	34	34.702	80.362	72.465	1.00	57.70	C
ATOM	12232	O	PHE	D	34	35.734	80.994	72.719	1.00	57.32	O
ATOM	12233	CB	PHE	D	34	33.686	80.384	74.783	1.00	59.38	C
ATOM	12234	CG	PHE	D	34	32.803	81.207	75.688	1.00	60.05	C
ATOM	12235	CD1	PHE	D	34	33.117	82.527	75.963	1.00	59.90	C
ATOM	12236	CD2	PHE	D	34	31.648	80.671	76.248	1.00	60.37	C
ATOM	12237	CE1	PHE	D	34	32.306	83.292	76.776	1.00	59.52	C
ATOM	12238	CE2	PHE	D	34	30.828	81.446	77.064	1.00	59.59	C
ATOM	12239	CZ	PHE	D	34	31.161	82.754	77.321	1.00	59.34	C
ATOM	12240	N	SER	D	35	34.649	79.466	71.484	1.00	57.21	N
ATOM	12241	CA	SER	D	35	35.832	79.171	70.682	1.00	57.01	C
ATOM	12242	C	SER	D	35	36.371	80.423	69.965	1.00	58.33	C
ATOM	12243	O	SER	D	35	37.587	80.594	69.839	1.00	59.98	O
ATOM	12244	CB	SER	D	35	35.529	78.091	69.643	1.00	56.54	C
ATOM	12245	OG	SER	D	35	34.579	77.160	70.109	1.00	56.37	O
ATOM	12246	N	ARG	D	36	35.470	81.297	69.510	1.00	58.33	N
ATOM	12247	CA	ARG	D	36	35.852	82.438	68.665	1.00	58.66	C
ATOM	12248	C	ARG	D	36	36.841	83.398	69.332	1.00	59.12	C
ATOM	12249	O	ARG	D	36	37.556	84.143	68.643	1.00	58.48	O
ATOM	12250	CB	ARG	D	36	34.613	83.224	68.217	1.00	58.88	C
ATOM	12251	CG	ARG	D	36	34.035	84.191	69.272	1.00	59.25	C
ATOM	12252	CD	ARG	D	36	33.393	85.448	68.638	1.00	59.31	C
ATOM	12253	NE	ARG	D	36	31.960	85.530	68.928	1.00	59.37	N
ATOM	12254	CZ	ARG	D	36	31.343	86.552	69.526	1.00	59.36	C
ATOM	12255	NH1	ARG	D	36	32.001	87.651	69.885	1.00	59.33	N
ATOM	12256	NH2	ARG	D	36	30.036	86.480	69.751	1.00	59.90	N
ATOM	12257	N	PHE	D	37	36.860	83.384	70.667	1.00	58.65	N
ATOM	12258	CA	PHE	D	37	37.619	84.350	71.452	1.00	58.07	C
ATOM	12259	C	PHE	D	37	39.065	83.936	71.603	1.00	58.76	C
ATOM	12260	O	PHE	D	37	39.947	84.787	71.616	1.00	59.62	O
ATOM	12261	CB	PHE	D	37	36.959	84.559	72.819	1.00	57.38	C
ATOM	12262	CG	PHE	D	37	35.586	85.173	72.731	1.00	57.12	C
ATOM	12263	CD1	PHE	D	37	35.437	86.549	72.577	1.00	56.97	C
ATOM	12264	CD2	PHE	D	37	34.451	84.376	72.763	1.00	56.55	C
ATOM	12265	CE1	PHE	D	37	34.184	87.115	72.475	1.00	56.70	C
ATOM	12266	CE2	PHE	D	37	33.197	84.930	72.664	1.00	56.36	C
ATOM	12267	CZ	PHE	D	37	33.057	86.301	72.523	1.00	56.69	C
ATOM	12268	N	GLY	D	38	39.303	82.633	71.704	1.00	59.41	N
ATOM	12269	CA	GLY	D	38	40.658	82.097	71.740	1.00	60.21	C
ATOM	12270	C	GLY	D	38	40.689	80.608	72.037	1.00	61.54	C
ATOM	12271	O	GLY	D	38	39.646	79.962	72.176	1.00	60.85	O
ATOM	12272	N	GLN	D	39	41.899	80.066	72.140	1.00	63.16	N
ATOM	12273	CA	GLN	D	39	42.099	78.661	72.495	1.00	63.36	C
ATOM	12274	C	GLN	D	39	41.548	78.325	73.896	1.00	63.27	C
ATOM	12275	O	GLN	D	39	41.805	79.053	74.864	1.00	62.38	O
ATOM	12276	CB	GLN	D	39	43.587	78.308	72.413	1.00	63.54	C
ATOM	12277	CG	GLN	D	39	43.883	76.828	72.621	1.00	64.20	C

ATOM	12278	CD	GLN	D	39	45.290	76.453	72.209	1.00	64.03	C
ATOM	12279	OE1	GLN	D	39	45.698	76.689	71.071	1.00	63.71	O
ATOM	12280	NE2	GLN	D	39	46.039	75.858	73.132	1.00	64.14	N
ATOM	12281	N	ILE	D	40	40.792	77.225	73.981	1.00	62.65	N
ATOM	12282	CA	ILE	D	40	40.231	76.721	75.240	1.00	62.35	C
ATOM	12283	C	ILE	D	40	41.031	75.492	75.705	1.00	62.82	C
ATOM	12284	O	ILE	D	40	41.170	74.517	74.962	1.00	63.16	O
ATOM	12285	CB	ILE	D	40	38.726	76.326	75.082	1.00	62.25	C
ATOM	12286	CG1	ILE	D	40	37.867	77.531	74.664	1.00	62.60	C
ATOM	12287	CG2	ILE	D	40	38.178	75.732	76.380	1.00	62.23	C
ATOM	12288	CD1	ILE	D	40	36.399	77.189	74.367	1.00	61.99	C
ATOM	12289	N	LEU	D	41	41.548	75.548	76.933	1.00	63.24	N
ATOM	12290	CA	LEU	D	41	42.342	74.455	77.507	1.00	63.64	C
ATOM	12291	C	LEU	D	41	41.440	73.391	78.129	1.00	64.72	C
ATOM	12292	O	LEU	D	41	41.659	72.186	77.948	1.00	64.99	O
ATOM	12293	CB	LEU	D	41	43.307	74.995	78.569	1.00	63.06	C
ATOM	12294	CG	LEU	D	41	44.315	76.032	78.070	1.00	63.01	C
ATOM	12295	CD1	LEU	D	41	44.996	76.726	79.241	1.00	62.59	C
ATOM	12296	CD2	LEU	D	41	45.334	75.387	77.135	1.00	62.47	C
ATOM	12297	N	ASP	D	42	40.444	73.846	78.882	1.00	65.12	N
ATOM	12298	CA	ASP	D	42	39.438	72.961	79.452	1.00	65.20	C
ATOM	12299	C	ASP	D	42	38.182	73.761	79.779	1.00	64.29	C
ATOM	12300	O	ASP	D	42	38.226	74.979	79.928	1.00	63.70	O
ATOM	12301	CB	ASP	D	42	39.976	72.272	80.718	1.00	66.53	C
ATOM	12302	CG	ASP	D	42	39.421	70.851	80.908	1.00	67.54	C
ATOM	12303	OD1	ASP	D	42	38.224	70.623	80.604	1.00	67.80	O
ATOM	12304	OD2	ASP	D	42	40.186	69.961	81.360	1.00	66.98	O
ATOM	12305	N	ILE	D	43	37.055	73.069	79.847	1.00	64.53	N
ATOM	12306	CA	ILE	D	43	35.852	73.618	80.453	1.00	64.23	C
ATOM	12307	C	ILE	D	43	35.489	72.689	81.610	1.00	65.16	C
ATOM	12308	O	ILE	D	43	35.290	71.484	81.415	1.00	65.11	O
ATOM	12309	CB	ILE	D	43	34.669	73.701	79.471	1.00	63.87	C
ATOM	12310	CG1	ILE	D	43	35.045	74.511	78.229	1.00	63.72	C
ATOM	12311	CG2	ILE	D	43	33.460	74.324	80.166	1.00	64.44	C
ATOM	12312	CD1	ILE	D	43	33.853	74.913	77.382	1.00	63.64	C
ATOM	12313	N	LEU	D	44	35.443	73.254	82.814	1.00	64.17	N
ATOM	12314	CA	LEU	D	44	35.109	72.500	84.001	1.00	62.63	C
ATOM	12315	C	LEU	D	44	33.635	72.705	84.267	1.00	62.13	C
ATOM	12316	O	LEU	D	44	33.118	73.814	84.138	1.00	61.26	O
ATOM	12317	CB	LEU	D	44	35.948	72.958	85.196	1.00	63.07	C
ATOM	12318	CG	LEU	D	44	37.365	72.376	85.316	1.00	63.52	C
ATOM	12319	CD1	LEU	D	44	37.322	70.918	85.766	1.00	63.99	C
ATOM	12320	CD2	LEU	D	44	38.150	72.513	84.013	1.00	64.02	C
ATOM	12321	N	VAL	D	45	32.957	71.623	84.627	1.00	62.01	N
ATOM	12322	CA	VAL	D	45	31.529	71.669	84.887	1.00	61.48	C
ATOM	12323	C	VAL	D	45	31.155	70.580	85.885	1.00	61.17	C
ATOM	12324	O	VAL	D	45	31.527	69.423	85.711	1.00	62.37	O
ATOM	12325	CB	VAL	D	45	30.726	71.476	83.585	1.00	60.70	C
ATOM	12326	CG1	VAL	D	45	29.232	71.493	83.864	1.00	60.55	C
ATOM	12327	CG2	VAL	D	45	31.084	72.547	82.576	1.00	60.66	C
ATOM	12328	N	SER	D	46	30.435	70.963	86.935	1.00	61.20	N
ATOM	12329	CA	SER	D	46	29.888	70.006	87.893	1.00	61.17	C
ATOM	12330	C	SER	D	46	28.394	70.240	88.074	1.00	61.81	C
ATOM	12331	O	SER	D	46	27.909	71.360	87.913	1.00	62.41	O
ATOM	12332	CB	SER	D	46	30.602	70.123	89.235	1.00	61.02	C
ATOM	12333	OG	SER	D	46	30.076	69.194	90.170	1.00	61.59	O
ATOM	12334	N	ARG	D	47	27.673	69.172	88.404	1.00	62.96	N
ATOM	12335	CA	ARG	D	47	26.227	69.237	88.628	1.00	64.03	C
ATOM	12336	C	ARG	D	47	25.886	69.086	90.116	1.00	63.59	C

ATOM	12337	O	ARG	D	47	24.742	68.793	90.463	1.00	62.71	O
ATOM	12338	CB	ARG	D	47	25.514	68.137	87.824	1.00	64.86	C
ATOM	12339	CG	ARG	D	47	24.114	68.520	87.361	1.00	65.29	C
ATOM	12340	CD	ARG	D	47	24.079	68.908	85.886	1.00	65.59	C
ATOM	12341	NE	ARG	D	47	23.669	67.786	85.043	1.00	65.80	N
ATOM	12342	CZ	ARG	D	47	22.408	67.389	84.854	1.00	65.85	C
ATOM	12343	NH1	ARG	D	47	21.397	68.010	85.450	1.00	65.45	N
ATOM	12344	NH2	ARG	D	47	22.149	66.354	84.060	1.00	66.19	N
ATOM	12345	N	SER	D	48	26.879	69.288	90.982	1.00	63.86	N
ATOM	12346	CA	SER	D	48	26.704	69.137	92.430	1.00	64.42	C
ATOM	12347	C	SER	D	48	25.901	70.301	93.014	1.00	64.62	C
ATOM	12348	O	SER	D	48	25.846	71.383	92.425	1.00	63.03	O
ATOM	12349	CB	SER	D	48	28.069	69.040	93.131	1.00	64.52	C
ATOM	12350	OG	SER	D	48	28.796	70.259	93.060	1.00	64.62	O
ATOM	12351	N	LEU	D	49	25.301	70.076	94.182	1.00	64.24	N
ATOM	12352	CA	LEU	D	49	24.466	71.093	94.827	1.00	64.76	C
ATOM	12353	C	LEU	D	49	25.141	72.470	94.809	1.00	65.30	C
ATOM	12354	O	LEU	D	49	24.509	73.470	94.460	1.00	66.03	O
ATOM	12355	CB	LEU	D	49	24.112	70.683	96.270	1.00	64.16	C
ATOM	12356	CG	LEU	D	49	23.018	71.502	96.974	1.00	63.77	C
ATOM	12357	CD1	LEU	D	49	21.697	71.374	96.233	1.00	63.05	C
ATOM	12358	CD2	LEU	D	49	22.855	71.079	98.429	1.00	63.32	C
ATOM	12359	N	LYS	D	50	26.426	72.509	95.162	1.00	65.77	N
ATOM	12360	CA	LYS	D	50	27.171	73.767	95.241	1.00	66.42	C
ATOM	12361	C	LYS	D	50	27.483	74.338	93.865	1.00	65.34	C
ATOM	12362	O	LYS	D	50	27.155	75.484	93.589	1.00	63.76	O
ATOM	12363	CB	LYS	D	50	28.477	73.581	96.027	1.00	67.75	C
ATOM	12364	CG	LYS	D	50	28.305	73.378	97.540	1.00	68.98	C
ATOM	12365	CD	LYS	D	50	27.887	74.674	98.276	1.00	69.44	C
ATOM	12366	CE	LYS	D	50	26.360	74.825	98.423	1.00	69.64	C
ATOM	12367	NZ	LYS	D	50	25.893	76.233	98.175	1.00	68.99	N
ATOM	12368	N	MET	D	51	28.092	73.515	93.013	1.00	66.03	N
ATOM	12369	CA	MET	D	51	28.671	73.951	91.728	1.00	66.65	C
ATOM	12370	C	MET	D	51	27.711	73.879	90.523	1.00	66.17	C
ATOM	12371	O	MET	D	51	28.090	74.200	89.393	1.00	66.11	O
ATOM	12372	CB	MET	D	51	29.916	73.106	91.425	1.00	66.94	C
ATOM	12373	CG	MET	D	51	30.987	73.140	92.509	1.00	66.47	C
ATOM	12374	SD	MET	D	51	31.547	74.809	92.871	1.00	67.45	S
ATOM	12375	CE	MET	D	51	32.384	75.248	91.359	1.00	66.15	C
ATOM	12376	N	ARG	D	52	26.478	73.458	90.780	1.00	65.57	N
ATOM	12377	CA	ARG	D	52	25.431	73.340	89.760	1.00	64.13	C
ATOM	12378	C	ARG	D	52	25.010	74.699	89.206	1.00	62.69	C
ATOM	12379	O	ARG	D	52	24.768	75.629	89.964	1.00	63.40	O
ATOM	12380	CB	ARG	D	52	24.235	72.599	90.379	1.00	64.13	C
ATOM	12381	CG	ARG	D	52	22.845	72.886	89.835	1.00	63.65	C
ATOM	12382	CD	ARG	D	52	21.802	72.240	90.740	1.00	63.41	C
ATOM	12383	NE	ARG	D	52	22.252	70.944	91.247	1.00	63.21	N
ATOM	12384	CZ	ARG	D	52	21.643	70.249	92.203	1.00	62.82	C
ATOM	12385	NH1	ARG	D	52	20.525	70.684	92.761	1.00	62.07	N
ATOM	12386	NH2	ARG	D	52	22.153	69.087	92.590	1.00	63.03	N
ATOM	12387	N	GLY	D	53	24.915	74.797	87.883	1.00	61.82	N
ATOM	12388	CA	GLY	D	53	24.553	76.044	87.210	1.00	61.13	C
ATOM	12389	C	GLY	D	53	25.736	76.980	87.036	1.00	60.58	C
ATOM	12390	O	GLY	D	53	25.558	78.188	86.908	1.00	61.18	O
ATOM	12391	N	GLN	D	54	26.943	76.418	87.030	1.00	59.51	N
ATOM	12392	CA	GLN	D	54	28.171	77.199	86.935	1.00	58.73	C
ATOM	12393	C	GLN	D	54	29.132	76.569	85.921	1.00	59.23	C
ATOM	12394	O	GLN	D	54	28.936	75.421	85.503	1.00	59.63	O
ATOM	12395	CB	GLN	D	54	28.829	77.283	88.314	1.00	58.08	C

ATOM	12396	CG	GLN	D	54	27.946	77.942	89.371	1.00	57.38	C
ATOM	12397	CD	GLN	D	54	28.276	77.512	90.798	1.00	57.39	C
ATOM	12398	OE1	GLN	D	54	29.327	77.842	91.339	1.00	56.97	O
ATOM	12399	NE2	GLN	D	54	27.351	76.802	91.422	1.00	56.54	N
ATOM	12400	N	ALA	D	55	30.162	77.316	85.522	1.00	57.84	N
ATOM	12401	CA	ALA	D	55	31.177	76.788	84.608	1.00	57.64	C
ATOM	12402	C	ALA	D	55	32.426	77.659	84.576	1.00	58.77	C
ATOM	12403	O	ALA	D	55	32.345	78.875	84.725	1.00	59.67	O
ATOM	12404	CB	ALA	D	55	30.607	76.650	83.209	1.00	59.11	C
ATOM	12405	N	PHE	D	56	33.576	77.017	84.379	1.00	59.65	N
ATOM	12406	CA	PHE	D	56	34.877	77.682	84.351	1.00	59.27	C
ATOM	12407	C	PHE	D	56	35.502	77.413	83.011	1.00	60.47	C
ATOM	12408	O	PHE	D	56	35.819	76.262	82.704	1.00	60.88	O
ATOM	12409	CB	PHE	D	56	35.813	77.091	85.405	1.00	59.57	C
ATOM	12410	CG	PHE	D	56	35.392	77.353	86.811	1.00	59.52	C
ATOM	12411	CD1	PHE	D	56	34.386	76.595	87.395	1.00	59.68	C
ATOM	12412	CD2	PHE	D	56	36.016	78.337	87.563	1.00	59.11	C
ATOM	12413	CE1	PHE	D	56	33.987	76.829	88.696	1.00	59.23	C
ATOM	12414	CE2	PHE	D	56	35.627	78.576	88.864	1.00	59.09	C
ATOM	12415	CZ	PHE	D	56	34.605	77.819	89.435	1.00	59.16	C
ATOM	12416	N	VAL	D	57	35.696	78.453	82.209	1.00	61.85	N
ATOM	12417	CA	VAL	D	57	36.375	78.286	80.921	1.00	61.43	C
ATOM	12418	C	VAL	D	57	37.807	78.798	81.020	1.00	61.59	C
ATOM	12419	O	VAL	D	57	38.029	80.000	81.138	1.00	61.83	O
ATOM	12420	CB	VAL	D	57	35.632	78.999	79.774	1.00	60.46	C
ATOM	12421	CG1	VAL	D	57	36.423	78.889	78.478	1.00	59.83	C
ATOM	12422	CG2	VAL	D	57	34.236	78.404	79.599	1.00	60.51	C
ATOM	12423	N	ILE	D	58	38.765	77.873	80.989	1.00	61.43	N
ATOM	12424	CA	ILE	D	58	40.181	78.215	80.955	1.00	61.80	C
ATOM	12425	C	ILE	D	58	40.572	78.570	79.525	1.00	63.24	C
ATOM	12426	O	ILE	D	58	40.501	77.719	78.634	1.00	63.70	O
ATOM	12427	CB	ILE	D	58	41.078	77.037	81.406	1.00	61.47	C
ATOM	12428	CG1	ILE	D	58	40.659	76.521	82.785	1.00	61.52	C
ATOM	12429	CG2	ILE	D	58	42.554	77.456	81.405	1.00	61.35	C
ATOM	12430	CD1	ILE	D	58	41.541	75.416	83.306	1.00	61.40	C
ATOM	12431	N	PHE	D	59	40.967	79.824	79.305	1.00	64.08	N
ATOM	12432	CA	PHE	D	59	41.591	80.238	78.042	1.00	63.67	C
ATOM	12433	C	PHE	D	59	43.105	80.188	78.211	1.00	64.66	C
ATOM	12434	O	PHE	D	59	43.621	80.368	79.320	1.00	65.67	O
ATOM	12435	CB	PHE	D	59	41.169	81.655	77.648	1.00	63.01	C
ATOM	12436	CG	PHE	D	59	39.767	81.750	77.099	1.00	63.20	C
ATOM	12437	CD1	PHE	D	59	39.530	81.626	75.731	1.00	63.46	C
ATOM	12438	CD2	PHE	D	59	38.686	81.986	77.943	1.00	63.03	C
ATOM	12439	CE1	PHE	D	59	38.233	81.721	75.210	1.00	63.15	C
ATOM	12440	CE2	PHE	D	59	37.388	82.079	77.432	1.00	63.32	C
ATOM	12441	CZ	PHE	D	59	37.162	81.947	76.061	1.00	62.97	C
ATOM	12442	N	LYS	D	60	43.823	79.936	77.124	1.00	64.95	N
ATOM	12443	CA	LYS	D	60	45.280	79.962	77.187	1.00	65.23	C
ATOM	12444	C	LYS	D	60	45.738	81.404	77.414	1.00	64.54	C
ATOM	12445	O	LYS	D	60	46.776	81.636	78.043	1.00	64.60	O
ATOM	12446	CB	LYS	D	60	45.902	79.367	75.917	1.00	66.19	C
ATOM	12447	CG	LYS	D	60	47.410	79.101	76.004	1.00	66.43	C
ATOM	12448	CD	LYS	D	60	48.242	80.276	75.466	1.00	66.77	C
ATOM	12449	CE	LYS	D	60	49.743	79.985	75.498	1.00	66.85	C
ATOM	12450	NZ	LYS	D	60	50.207	79.253	74.285	1.00	66.65	N
ATOM	12451	N	GLU	D	61	44.949	82.363	76.919	1.00	63.84	N
ATOM	12452	CA	GLU	D	61	45.262	83.788	77.058	1.00	63.16	C
ATOM	12453	C	GLU	D	61	44.192	84.597	77.797	1.00	61.01	C
ATOM	12454	O	GLU	D	61	43.030	84.616	77.410	1.00	59.31	O

ATOM	12455	CB	GLU	D	61	45.532	84.407	75.681	1.00	64.06	C
ATOM	12456	CG	GLU	D	61	46.936	84.130	75.168	1.00	65.04	C
ATOM	12457	CD	GLU	D	61	48.009	84.529	76.178	1.00	65.73	C
ATOM	12458	OE1	GLU	D	61	47.995	85.699	76.627	1.00	66.55	O
ATOM	12459	OE2	GLU	D	61	48.852	83.671	76.533	1.00	66.23	O
ATOM	12460	N	VAL	D	62	44.617	85.262	78.870	1.00	60.16	N
ATOM	12461	CA	VAL	D	62	43.801	86.254	79.574	1.00	59.68	C
ATOM	12462	C	VAL	D	62	43.137	87.239	78.611	1.00	58.09	C
ATOM	12463	O	VAL	D	62	41.942	87.494	78.714	1.00	57.89	O
ATOM	12464	CB	VAL	D	62	44.639	87.047	80.624	1.00	60.39	C
ATOM	12465	CG1	VAL	D	62	44.824	86.222	81.900	1.00	60.47	C
ATOM	12466	CG2	VAL	D	62	46.005	87.477	80.045	1.00	60.65	C
ATOM	12467	N	SER	D	63	43.922	87.780	77.684	1.00	57.05	N
ATOM	12468	CA	SER	D	63	43.425	88.652	76.615	1.00	56.84	C
ATOM	12469	C	SER	D	63	42.037	88.259	76.102	1.00	56.93	C
ATOM	12470	O	SER	D	63	41.137	89.096	76.030	1.00	55.11	O
ATOM	12471	CB	SER	D	63	44.429	88.657	75.448	1.00	56.68	C
ATOM	12472	OG	SER	D	63	43.783	88.641	74.186	1.00	56.12	O
ATOM	12473	N	SER	D	64	41.881	86.982	75.755	1.00	58.02	N
ATOM	12474	CA	SER	D	64	40.635	86.455	75.186	1.00	58.44	C
ATOM	12475	C	SER	D	64	39.535	86.245	76.225	1.00	58.02	C
ATOM	12476	O	SER	D	64	38.351	86.387	75.917	1.00	57.54	O
ATOM	12477	CB	SER	D	64	40.910	85.141	74.452	1.00	59.15	C
ATOM	12478	OG	SER	D	64	41.802	84.322	75.177	1.00	59.19	O
ATOM	12479	N	ALA	D	65	39.928	85.900	77.450	1.00	57.97	N
ATOM	12480	CA	ALA	D	65	38.978	85.760	78.558	1.00	58.16	C
ATOM	12481	C	ALA	D	65	38.322	87.095	78.919	1.00	57.83	C
ATOM	12482	O	ALA	D	65	37.200	87.124	79.431	1.00	58.92	O
ATOM	12483	CB	ALA	D	65	39.663	85.155	79.787	1.00	57.78	C
ATOM	12484	N	THR	D	66	39.028	88.193	78.665	1.00	56.98	N
ATOM	12485	CA	THR	D	66	38.464	89.522	78.835	1.00	56.70	C
ATOM	12486	C	THR	D	66	37.384	89.728	77.776	1.00	56.44	C
ATOM	12487	O	THR	D	66	36.278	90.135	78.106	1.00	57.27	O
ATOM	12488	CB	THR	D	66	39.560	90.632	78.756	1.00	57.18	C
ATOM	12489	OG1	THR	D	66	40.665	90.286	79.606	1.00	56.80	O
ATOM	12490	CG2	THR	D	66	39.008	92.002	79.179	1.00	56.44	C
ATOM	12491	N	ASN	D	67	37.688	89.414	76.519	1.00	56.08	N
ATOM	12492	CA	ASN	D	67	36.701	89.540	75.435	1.00	57.08	C
ATOM	12493	C	ASN	D	67	35.508	88.613	75.596	1.00	56.14	C
ATOM	12494	O	ASN	D	67	34.377	88.970	75.252	1.00	53.97	O
ATOM	12495	CB	ASN	D	67	37.347	89.278	74.078	1.00	58.13	C
ATOM	12496	CG	ASN	D	67	38.217	90.406	73.638	1.00	58.55	C
ATOM	12497	OD1	ASN	D	67	38.728	91.169	74.460	1.00	59.18	O
ATOM	12498	ND2	ASN	D	67	38.391	90.535	72.333	1.00	59.71	N
ATOM	12499	N	ALA	D	68	35.777	87.413	76.097	1.00	56.55	N
ATOM	12500	CA	ALA	D	68	34.722	86.484	76.463	1.00	56.84	C
ATOM	12501	C	ALA	D	68	33.739	87.187	77.394	1.00	57.19	C
ATOM	12502	O	ALA	D	68	32.571	87.383	77.042	1.00	58.61	O
ATOM	12503	CB	ALA	D	68	35.313	85.260	77.136	1.00	55.80	C
ATOM	12504	N	LEU	D	69	34.243	87.602	78.557	1.00	57.37	N
ATOM	12505	CA	LEU	D	69	33.440	88.254	79.605	1.00	57.18	C
ATOM	12506	C	LEU	D	69	32.754	89.542	79.124	1.00	56.38	C
ATOM	12507	O	LEU	D	69	31.669	89.880	79.584	1.00	56.81	O
ATOM	12508	CB	LEU	D	69	34.330	88.544	80.823	1.00	57.97	C
ATOM	12509	CG	LEU	D	69	33.694	89.017	82.134	1.00	58.23	C
ATOM	12510	CD1	LEU	D	69	34.632	88.735	83.291	1.00	58.81	C
ATOM	12511	CD2	LEU	D	69	33.347	90.502	82.095	1.00	59.37	C
ATOM	12512	N	ARG	D	70	33.396	90.244	78.198	1.00	56.56	N
ATOM	12513	CA	ARG	D	70	32.868	91.478	77.629	1.00	55.98	C

ATOM	12514	C	ARG	D	70	31.769	91.247	76.612	1.00	55.44	C
ATOM	12515	O	ARG	D	70	30.874	92.078	76.485	1.00	56.94	O
ATOM	12516	CB	ARG	D	70	33.983	92.271	76.945	1.00	56.71	C
ATOM	12517	CG	ARG	D	70	34.812	93.103	77.881	1.00	57.12	C
ATOM	12518	CD	ARG	D	70	35.880	93.834	77.114	1.00	58.01	C
ATOM	12519	NE	ARG	D	70	36.751	94.588	78.007	1.00	58.96	N
ATOM	12520	CZ	ARG	D	70	37.822	95.270	77.617	1.00	59.08	C
ATOM	12521	NH1	ARG	D	70	38.173	95.311	76.334	1.00	59.36	N
ATOM	12522	NH2	ARG	D	70	38.548	95.916	78.522	1.00	59.54	N
ATOM	12523	N	SER	D	71	31.845	90.148	75.868	1.00	54.78	N
ATOM	12524	CA	SER	D	71	30.892	89.902	74.789	1.00	55.25	C
ATOM	12525	C	SER	D	71	29.753	88.984	75.215	1.00	56.02	C
ATOM	12526	O	SER	D	71	28.609	89.200	74.839	1.00	58.64	O
ATOM	12527	CB	SER	D	71	31.589	89.317	73.557	1.00	55.04	C
ATOM	12528	OG	SER	D	71	32.390	90.288	72.903	1.00	55.15	O
ATOM	12529	N	MET	D	72	30.050	87.952	75.987	1.00	55.48	N
ATOM	12530	CA	MET	D	72	29.041	86.936	76.260	1.00	56.08	C
ATOM	12531	C	MET	D	72	28.313	87.177	77.582	1.00	55.88	C
ATOM	12532	O	MET	D	72	27.589	86.296	78.077	1.00	56.69	O
ATOM	12533	CB	MET	D	72	29.684	85.546	76.236	1.00	56.46	C
ATOM	12534	CG	MET	D	72	30.471	85.241	74.947	1.00	55.94	C
ATOM	12535	SD	MET	D	72	29.536	85.429	73.430	1.00	55.44	S
ATOM	12536	CE	MET	D	72	28.164	84.332	73.744	1.00	54.59	C
ATOM	12537	N	GLN	D	73	28.507	88.366	78.150	1.00	54.30	N
ATOM	12538	CA	GLN	D	73	27.814	88.758	79.371	1.00	53.32	C
ATOM	12539	C	GLN	D	73	26.332	88.865	79.045	1.00	53.39	C
ATOM	12540	O	GLN	D	73	25.942	89.582	78.127	1.00	54.49	O
ATOM	12541	CB	GLN	D	73	28.372	90.082	79.908	1.00	53.15	C
ATOM	12542	CG	GLN	D	73	27.742	90.571	81.186	1.00	53.17	C
ATOM	12543	CD	GLN	D	73	27.909	89.590	82.311	1.00	54.28	C
ATOM	12544	OE1	GLN	D	73	26.994	88.815	82.610	1.00	55.19	O
ATOM	12545	NE2	GLN	D	73	29.087	89.597	82.937	1.00	54.55	N
ATOM	12546	N	GLY	D	74	25.513	88.107	79.762	1.00	54.06	N
ATOM	12547	CA	GLY	D	74	24.071	88.083	79.508	1.00	53.86	C
ATOM	12548	C	GLY	D	74	23.652	87.371	78.236	1.00	52.38	C
ATOM	12549	O	GLY	D	74	22.501	87.487	77.828	1.00	52.40	O
ATOM	12550	N	PHE	D	75	24.568	86.625	77.618	1.00	51.27	N
ATOM	12551	CA	PHE	D	75	24.270	85.950	76.367	1.00	51.60	C
ATOM	12552	C	PHE	D	75	23.221	84.860	76.551	1.00	53.45	C
ATOM	12553	O	PHE	D	75	23.492	83.866	77.227	1.00	56.38	O
ATOM	12554	CB	PHE	D	75	25.522	85.320	75.784	1.00	52.85	C
ATOM	12555	CG	PHE	D	75	25.300	84.686	74.444	1.00	52.46	C
ATOM	12556	CD1	PHE	D	75	25.032	83.336	74.340	1.00	52.90	C
ATOM	12557	CD2	PHE	D	75	25.340	85.449	73.296	1.00	52.70	C
ATOM	12558	CE1	PHE	D	75	24.823	82.754	73.115	1.00	52.86	C
ATOM	12559	CE2	PHE	D	75	25.128	84.878	72.073	1.00	53.39	C
ATOM	12560	CZ	PHE	D	75	24.870	83.518	71.982	1.00	53.45	C
ATOM	12561	N	PRO	D	76	22.027	85.028	75.942	1.00	52.92	N
ATOM	12562	CA	PRO	D	76	20.971	84.033	76.127	1.00	52.37	C
ATOM	12563	C	PRO	D	76	21.423	82.654	75.699	1.00	51.90	C
ATOM	12564	O	PRO	D	76	21.908	82.467	74.587	1.00	52.24	O
ATOM	12565	CB	PRO	D	76	19.834	84.552	75.241	1.00	52.55	C
ATOM	12566	CG	PRO	D	76	20.077	86.017	75.184	1.00	52.82	C
ATOM	12567	CD	PRO	D	76	21.565	86.130	75.078	1.00	52.71	C
ATOM	12568	N	PHE	D	77	21.276	81.702	76.605	1.00	51.81	N
ATOM	12569	CA	PHE	D	77	21.877	80.399	76.435	1.00	52.20	C
ATOM	12570	C	PHE	D	77	21.039	79.418	77.231	1.00	52.87	C
ATOM	12571	O	PHE	D	77	20.959	79.521	78.460	1.00	54.63	O
ATOM	12572	CB	PHE	D	77	23.313	80.461	76.954	1.00	52.50	C

ATOM	12573	CG	PHE	D	77	24.133	79.254	76.639	1.00	52.36	C
ATOM	12574	CD1	PHE	D	77	24.412	78.911	75.321	1.00	52.42	C
ATOM	12575	CD2	PHE	D	77	24.649	78.468	77.663	1.00	52.68	C
ATOM	12576	CE1	PHE	D	77	25.184	77.794	75.026	1.00	52.69	C
ATOM	12577	CE2	PHE	D	77	25.427	77.345	77.380	1.00	53.00	C
ATOM	12578	CZ	PHE	D	77	25.698	77.008	76.057	1.00	52.30	C
ATOM	12579	N	TYR	D	78	20.393	78.488	76.530	1.00	52.87	N
ATOM	12580	CA	TYR	D	78	19.406	77.593	77.142	1.00	52.86	C
ATOM	12581	C	TYR	D	78	18.334	78.402	77.868	1.00	53.45	C
ATOM	12582	O	TYR	D	78	18.004	78.127	79.022	1.00	55.10	O
ATOM	12583	CB	TYR	D	78	20.081	76.589	78.087	1.00	52.50	C
ATOM	12584	CG	TYR	D	78	20.960	75.600	77.363	1.00	52.70	C
ATOM	12585	CD1	TYR	D	78	20.396	74.579	76.602	1.00	53.00	C
ATOM	12586	CD2	TYR	D	78	22.347	75.680	77.431	1.00	52.36	C
ATOM	12587	CE1	TYR	D	78	21.186	73.661	75.933	1.00	52.84	C
ATOM	12588	CE2	TYR	D	78	23.148	74.767	76.760	1.00	52.51	C
ATOM	12589	CZ	TYR	D	78	22.561	73.757	76.016	1.00	53.10	C
ATOM	12590	OH	TYR	D	78	23.335	72.834	75.342	1.00	53.17	O
ATOM	12591	N	ASP	D	79	17.820	79.422	77.182	1.00	54.90	N
ATOM	12592	CA	ASP	D	79	16.735	80.268	77.689	1.00	56.41	C
ATOM	12593	C	ASP	D	79	17.101	81.083	78.943	1.00	56.06	C
ATOM	12594	O	ASP	D	79	16.212	81.616	79.616	1.00	54.70	O
ATOM	12595	CB	ASP	D	79	15.474	79.421	77.959	1.00	57.27	C
ATOM	12596	CG	ASP	D	79	15.137	78.478	76.806	1.00	57.57	C
ATOM	12597	OD1	ASP	D	79	14.865	78.970	75.689	1.00	57.18	O
ATOM	12598	OD2	ASP	D	79	15.142	77.245	77.023	1.00	57.66	O
ATOM	12599	N	LYS	D	80	18.396	81.183	79.246	1.00	56.30	N
ATOM	12600	CA	LYS	D	80	18.881	81.950	80.406	1.00	57.44	C
ATOM	12601	C	LYS	D	80	20.113	82.788	80.029	1.00	57.67	C
ATOM	12602	O	LYS	D	80	21.030	82.288	79.363	1.00	57.69	O
ATOM	12603	CB	LYS	D	80	19.245	81.028	81.581	1.00	57.61	C
ATOM	12604	CG	LYS	D	80	18.135	80.090	82.036	1.00	57.70	C
ATOM	12605	CD	LYS	D	80	18.406	79.507	83.426	1.00	57.65	C
ATOM	12606	CE	LYS	D	80	18.155	80.535	84.526	1.00	58.01	C
ATOM	12607	NZ	LYS	D	80	17.984	79.920	85.876	1.00	58.23	N
ATOM	12608	N	PRO	D	81	20.142	84.062	80.462	1.00	57.86	N
ATOM	12609	CA	PRO	D	81	21.268	84.931	80.156	1.00	57.94	C
ATOM	12610	C	PRO	D	81	22.462	84.606	81.044	1.00	57.53	C
ATOM	12611	O	PRO	D	81	22.399	84.792	82.257	1.00	56.66	O
ATOM	12612	CB	PRO	D	81	20.720	86.324	80.472	1.00	57.42	C
ATOM	12613	CG	PRO	D	81	19.751	86.093	81.552	1.00	57.22	C
ATOM	12614	CD	PRO	D	81	19.124	84.761	81.270	1.00	57.76	C
ATOM	12615	N	MET	D	82	23.537	84.113	80.440	1.00	58.64	N
ATOM	12616	CA	MET	D	82	24.725	83.737	81.197	1.00	59.44	C
ATOM	12617	C	MET	D	82	25.170	84.913	82.022	1.00	57.60	C
ATOM	12618	O	MET	D	82	25.156	86.035	81.538	1.00	56.81	O
ATOM	12619	CB	MET	D	82	25.882	83.402	80.260	1.00	60.49	C
ATOM	12620	CG	MET	D	82	25.791	82.085	79.550	1.00	60.90	C
ATOM	12621	SD	MET	D	82	26.748	82.110	78.020	1.00	61.55	S
ATOM	12622	CE	MET	D	82	28.144	83.119	78.508	1.00	61.76	C
ATOM	12623	N	ARG	D	83	25.578	84.655	83.255	1.00	57.86	N
ATOM	12624	CA	ARG	D	83	26.336	85.641	84.007	1.00	59.75	C
ATOM	12625	C	ARG	D	83	27.807	85.238	83.928	1.00	58.87	C
ATOM	12626	O	ARG	D	83	28.124	84.041	83.944	1.00	58.11	O
ATOM	12627	CB	ARG	D	83	25.861	85.735	85.456	1.00	60.95	C
ATOM	12628	CG	ARG	D	83	26.028	87.128	86.026	1.00	62.17	C
ATOM	12629	CD	ARG	D	83	25.734	87.224	87.517	1.00	63.08	C
ATOM	12630	NE	ARG	D	83	24.567	86.449	87.952	1.00	64.23	N
ATOM	12631	CZ	ARG	D	83	23.299	86.747	87.666	1.00	64.79	C

ATOM	12632	NH1	ARG	D	83	22.984	87.813	86.924	1.00	65.62	N
ATOM	12633	NH2	ARG	D	83	22.330	85.963	88.123	1.00	64.53	N
ATOM	12634	N	ILE	D	84	28.689	86.238	83.812	1.00	57.51	N
ATOM	12635	CA	ILE	D	84	30.128	86.013	83.669	1.00	56.11	C
ATOM	12636	C	ILE	D	84	30.927	86.931	84.593	1.00	56.03	C
ATOM	12637	O	ILE	D	84	30.660	88.135	84.672	1.00	55.55	O
ATOM	12638	CB	ILE	D	84	30.609	86.257	82.210	1.00	55.79	C
ATOM	12639	CG1	ILE	D	84	29.579	85.723	81.208	1.00	55.55	C
ATOM	12640	CG2	ILE	D	84	31.991	85.642	81.993	1.00	54.71	C
ATOM	12641	CD1	ILE	D	84	30.067	85.643	79.791	1.00	55.80	C
ATOM	12642	N	GLN	D	85	31.898	86.341	85.289	1.00	55.30	N
ATOM	12643	CA	GLN	D	85	32.930	87.070	86.030	1.00	54.82	C
ATOM	12644	C	GLN	D	85	34.293	86.473	85.672	1.00	51.95	C
ATOM	12645	O	GLN	D	85	34.361	85.489	84.921	1.00	51.68	O
ATOM	12646	CB	GLN	D	85	32.719	86.937	87.543	1.00	56.11	C
ATOM	12647	CG	GLN	D	85	31.363	87.408	88.059	1.00	56.89	C
ATOM	12648	CD	GLN	D	85	31.229	87.263	89.575	1.00	56.78	C
ATOM	12649	OE1	GLN	D	85	30.314	86.599	90.071	1.00	57.20	O
ATOM	12650	NE2	GLN	D	85	32.150	87.875	90.312	1.00	57.08	N
ATOM	12651	N	TYR	D	86	35.367	87.068	86.197	1.00	47.62	N
ATOM	12652	CA	TYR	D	86	36.691	86.421	86.196	1.00	44.22	C
ATOM	12653	C	TYR	D	86	36.823	85.482	87.388	1.00	46.62	C
ATOM	12654	O	TYR	D	86	36.344	85.796	88.489	1.00	46.19	O
ATOM	12655	CB	TYR	D	86	37.809	87.442	86.331	1.00	40.72	C
ATOM	12656	CG	TYR	D	86	38.099	88.243	85.104	1.00	39.36	C
ATOM	12657	CD1	TYR	D	86	38.642	87.638	83.980	1.00	38.92	C
ATOM	12658	CD2	TYR	D	86	37.885	89.625	85.085	1.00	38.23	C
ATOM	12659	CE1	TYR	D	86	38.944	88.387	82.838	1.00	39.48	C
ATOM	12660	CE2	TYR	D	86	38.177	90.379	83.962	1.00	38.80	C
ATOM	12661	CZ	TYR	D	86	38.703	89.756	82.835	1.00	39.73	C
ATOM	12662	OH	TYR	D	86	38.998	90.506	81.717	1.00	39.87	O
ATOM	12663	N	ALA	D	87	37.510	84.356	87.192	1.00	49.10	N
ATOM	12664	CA	ALA	D	87	37.784	83.439	88.300	1.00	50.80	C
ATOM	12665	C	ALA	D	87	38.603	84.177	89.360	1.00	53.70	C
ATOM	12666	O	ALA	D	87	39.416	85.049	89.025	1.00	55.31	O
ATOM	12667	CB	ALA	D	87	38.510	82.201	87.820	1.00	50.22	C
ATOM	12668	N	LYS	D	88	38.399	83.821	90.627	1.00	56.34	N
ATOM	12669	CA	LYS	D	88	38.970	84.579	91.743	1.00	58.66	C
ATOM	12670	C	LYS	D	88	40.465	84.287	91.861	1.00	60.72	C
ATOM	12671	O	LYS	D	88	41.281	85.208	91.908	1.00	60.47	O
ATOM	12672	CB	LYS	D	88	38.241	84.252	93.053	1.00	58.37	C
ATOM	12673	N	THR	D	89	40.806	82.997	91.904	1.00	63.96	N
ATOM	12674	CA	THR	D	89	42.197	82.532	91.885	1.00	65.40	C
ATOM	12675	C	THR	D	89	42.432	81.645	90.665	1.00	66.44	C
ATOM	12676	O	THR	D	89	41.481	81.178	90.034	1.00	65.44	O
ATOM	12677	CB	THR	D	89	42.562	81.721	93.151	1.00	65.43	C
ATOM	12678	OG1	THR	D	89	41.661	80.616	93.294	1.00	65.51	O
ATOM	12679	CG2	THR	D	89	42.505	82.595	94.400	1.00	65.40	C
ATOM	12680	N	ASP	D	90	43.707	81.411	90.354	1.00	67.73	N
ATOM	12681	CA	ASP	D	90	44.099	80.606	89.194	1.00	68.55	C
ATOM	12682	C	ASP	D	90	43.620	79.155	89.292	1.00	68.33	C
ATOM	12683	O	ASP	D	90	43.672	78.544	90.362	1.00	68.42	O
ATOM	12684	CB	ASP	D	90	45.631	80.601	89.025	1.00	69.36	C
ATOM	12685	CG	ASP	D	90	46.168	81.862	88.359	1.00	70.04	C
ATOM	12686	OD1	ASP	D	90	45.425	82.518	87.598	1.00	71.33	O
ATOM	12687	OD2	ASP	D	90	47.356	82.183	88.581	1.00	69.89	O
ATOM	12688	N	SER	D	91	43.148	78.619	88.165	1.00	68.11	N
ATOM	12689	CA	SER	D	91	43.018	77.176	87.988	1.00	67.66	C
ATOM	12690	C	SER	D	91	44.424	76.607	88.064	1.00	68.27	C

ATOM	12691	O	SER	D	91	45.346	77.171	87.475	1.00	67.07	O
ATOM	12692	CB	SER	D	91	42.410	76.839	86.628	1.00	67.08	C
ATOM	12693	OG	SER	D	91	41.183	77.509	86.431	1.00	67.21	O
ATOM	12694	N	ASP	D	92	44.605	75.504	88.783	1.00	69.73	N
ATOM	12695	CA	ASP	D	92	45.958	74.986	89.014	1.00	71.94	C
ATOM	12696	C	ASP	D	92	46.650	74.480	87.732	1.00	72.42	C
ATOM	12697	O	ASP	D	92	47.879	74.377	87.687	1.00	71.43	O
ATOM	12698	CB	ASP	D	92	45.979	73.932	90.139	1.00	72.15	C
ATOM	12699	CG	ASP	D	92	45.133	72.705	89.834	1.00	72.39	C
ATOM	12700	OD1	ASP	D	92	44.706	72.041	90.807	1.00	72.82	O
ATOM	12701	OD2	ASP	D	92	44.893	72.403	88.641	1.00	72.48	O
ATOM	12702	N	ILE	D	93	45.868	74.188	86.691	1.00	75.05	N
ATOM	12703	CA	ILE	D	93	46.441	73.868	85.368	1.00	76.99	C
ATOM	12704	C	ILE	D	93	47.072	75.098	84.673	1.00	78.58	C
ATOM	12705	O	ILE	D	93	47.817	74.945	83.698	1.00	79.99	O
ATOM	12706	CB	ILE	D	93	45.395	73.208	84.411	1.00	76.43	C
ATOM	12707	CG1	ILE	D	93	46.099	72.551	83.204	1.00	76.08	C
ATOM	12708	CG2	ILE	D	93	44.357	74.243	83.951	1.00	76.12	C
ATOM	12709	CD1	ILE	D	93	45.259	71.501	82.453	1.00	76.34	C
ATOM	12710	N	ILE	D	94	46.756	76.304	85.159	1.00	80.10	N
ATOM	12711	CA	ILE	D	94	47.405	77.556	84.699	1.00	81.96	C
ATOM	12712	C	ILE	D	94	48.570	77.950	85.628	1.00	84.63	C
ATOM	12713	O	ILE	D	94	49.577	78.500	85.166	1.00	84.88	O
ATOM	12714	CB	ILE	D	94	46.371	78.738	84.567	1.00	79.71	C
ATOM	12715	CG1	ILE	D	94	45.537	78.582	83.287	1.00	79.06	C
ATOM	12716	CG2	ILE	D	94	47.059	80.105	84.546	1.00	78.89	C
ATOM	12717	CD1	ILE	D	94	46.314	78.887	82.004	1.00	78.39	C
ATOM	12718	N	ALA	D	95	48.429	77.666	86.926	1.00	88.55	N
ATOM	12719	CA	ALA	D	95	49.528	77.851	87.890	1.00	91.22	C
ATOM	12720	C	ALA	D	95	50.694	76.892	87.599	1.00	93.90	C
ATOM	12721	O	ALA	D	95	51.861	77.301	87.628	1.00	94.13	O
ATOM	12722	CB	ALA	D	95	49.031	77.666	89.330	1.00	90.48	C
ATOM	12723	N	LYS	D	96	50.365	75.632	87.299	1.00	96.12	N
ATOM	12724	CA	LYS	D	96	51.366	74.591	87.029	1.00	97.29	C
ATOM	12725	C	LYS	D	96	52.418	75.030	86.002	1.00	100.36	C
ATOM	12726	O	LYS	D	96	53.619	74.793	86.184	1.00	102.60	O
ATOM	12727	CB	LYS	D	96	50.678	73.307	86.543	1.00	97.96	C
TER	12728		LYS	D	96						
ATOM	12729	O5*	A	H	-1	26.154	23.680	82.012	1.00	45.00	O
ATOM	12730	C5*	A	H	-1	25.190	24.137	81.064	1.00	44.38	C
ATOM	12731	C4*	A	H	-1	24.732	23.100	80.011	1.00	43.53	C
ATOM	12732	O4*	A	H	-1	25.319	23.395	78.727	1.00	41.33	O
ATOM	12733	C3*	A	H	-1	25.071	21.605	80.110	1.00	43.07	C
ATOM	12734	O3*	A	H	-1	24.043	20.880	80.794	1.00	44.25	O
ATOM	12735	C2*	A	H	-1	25.127	21.086	78.670	1.00	42.27	C
ATOM	12736	O2*	A	H	-1	24.107	20.168	78.341	1.00	43.73	O
ATOM	12737	C1*	A	H	-1	24.826	22.345	77.913	1.00	40.71	C
ATOM	12738	N9	A	H	-1	25.424	22.508	76.613	1.00	39.12	N
ATOM	12739	C8	A	H	-1	26.711	22.329	76.217	1.00	38.24	C
ATOM	12740	N7	A	H	-1	26.894	22.638	74.955	1.00	38.98	N
ATOM	12741	C5	A	H	-1	25.643	23.059	74.524	1.00	38.33	C
ATOM	12742	C6	A	H	-1	25.151	23.520	73.291	1.00	38.70	C
ATOM	12743	N6	A	H	-1	25.907	23.644	72.198	1.00	38.76	N
ATOM	12744	N1	A	H	-1	23.844	23.849	73.226	1.00	38.31	N
ATOM	12745	C2	A	H	-1	23.085	23.715	74.320	1.00	38.23	C
ATOM	12746	N3	A	H	-1	23.427	23.298	75.530	1.00	36.89	N
ATOM	12747	C4	A	H	-1	24.727	22.984	75.547	1.00	38.37	C
HETATM	12748	P	A2M	H	0	24.356	19.711	81.858	1.00	44.55	P
HETATM	12749	O1P	A2M	H	0	25.850	19.491	81.972	1.00	43.10	O

HETATM12750	O2P	A2M	H	0	23.443	18.540	81.578	1.00	44.00	O
HETATM12751	O5*	A2M	H	0	23.921	20.404	83.242	1.00	43.32	O
HETATM12752	C5*	A2M	H	0	24.015	21.812	83.473	1.00	40.82	C
HETATM12753	C4*	A2M	H	0	22.923	22.265	84.437	1.00	39.47	C
HETATM12754	O4*	A2M	H	0	21.785	22.614	83.642	1.00	39.85	O
HETATM12755	C3*	A2M	H	0	22.428	21.211	85.433	1.00	38.00	C
HETATM12756	O3*	A2M	H	0	22.085	21.860	86.667	1.00	38.29	O
HETATM12757	C2*	A2M	H	0	21.205	20.659	84.750	1.00	38.01	C
HETATM12758	O2*	A2M	H	0	20.291	20.037	85.638	1.00	39.73	O
HETATM12759	C1*	A2M	H	0	20.632	21.926	84.151	1.00	37.46	C
HETATM12760	CM*	A2M	H	0	19.378	19.189	84.921	1.00	37.57	C
HETATM12761	N9	A2M	H	0	19.595	21.645	83.144	1.00	35.95	N
HETATM12762	C8	A2M	H	0	19.778	20.998	81.989	1.00	37.81	C
HETATM12763	N7	A2M	H	0	18.599	20.916	81.318	1.00	36.32	N
HETATM12764	C5	A2M	H	0	17.680	21.529	82.081	1.00	37.05	C
HETATM12765	C6	A2M	H	0	16.320	21.751	81.918	1.00	36.63	C
HETATM12766	N6	A2M	H	0	15.685	21.315	80.800	1.00	37.41	N
HETATM12767	N1	A2M	H	0	15.648	22.414	82.870	1.00	35.84	N
HETATM12768	C2	A2M	H	0	16.278	22.849	83.967	1.00	36.29	C
HETATM12769	N3	A2M	H	0	17.590	22.643	84.152	1.00	36.48	N
HETATM12770	C4	A2M	H	0	18.317	21.991	83.222	1.00	35.74	C
ATOM 12771	P	G	H	1	21.636	21.227	88.077	1.00	34.37	P
ATOM 12772	O1P	G	H	1	22.089	19.836	88.147	1.00	36.44	O
ATOM 12773	O2P	G	H	1	20.187	21.534	88.232	1.00	35.96	O
ATOM 12774	O5*	G	H	1	22.509	22.105	89.054	1.00	33.17	O
ATOM 12775	C5*	G	H	1	23.909	22.275	88.747	1.00	37.02	C
ATOM 12776	C4*	G	H	1	24.280	23.746	88.596	1.00	37.24	C
ATOM 12777	O4*	G	H	1	23.750	24.460	89.742	1.00	37.69	O
ATOM 12778	C3*	G	H	1	25.776	24.104	88.526	1.00	36.05	C
ATOM 12779	O3*	G	H	1	26.008	25.153	87.586	1.00	34.66	O
ATOM 12780	C2*	G	H	1	26.100	24.603	89.933	1.00	37.08	C
ATOM 12781	O2*	G	H	1	27.127	25.582	89.996	1.00	35.93	O
ATOM 12782	C1*	G	H	1	24.771	25.219	90.363	1.00	37.94	C
ATOM 12783	N9	G	H	1	24.431	25.146	91.769	1.00	38.27	N
ATOM 12784	C8	G	H	1	25.057	24.451	92.776	1.00	38.82	C
ATOM 12785	N7	G	H	1	24.472	24.577	93.932	1.00	39.00	N
ATOM 12786	C5	G	H	1	23.391	25.392	93.650	1.00	38.01	C
ATOM 12787	C6	G	H	1	22.389	25.856	94.508	1.00	39.31	C
ATOM 12788	O6	G	H	1	22.281	25.646	95.721	1.00	39.55	O
ATOM 12789	N1	G	H	1	21.456	26.650	93.839	1.00	39.92	N
ATOM 12790	C2	G	H	1	21.485	26.959	92.502	1.00	39.03	C
ATOM 12791	N2	G	H	1	20.488	27.737	92.073	1.00	38.51	N
ATOM 12792	N3	G	H	1	22.434	26.526	91.678	1.00	39.78	N
ATOM 12793	C4	G	H	1	23.339	25.747	92.330	1.00	37.92	C
ATOM 12794	P	C	H	2	26.246	24.903	86.017	1.00	33.82	P
ATOM 12795	O1P	C	H	2	26.622	23.507	85.768	1.00	35.15	O
ATOM 12796	O2P	C	H	2	27.110	26.017	85.567	1.00	35.75	O
ATOM 12797	O5*	C	H	2	24.821	25.070	85.347	1.00	34.19	O
ATOM 12798	C5*	C	H	2	24.001	26.112	85.768	1.00	34.14	C
ATOM 12799	C4*	C	H	2	22.763	26.067	84.923	1.00	34.88	C
ATOM 12800	O4*	C	H	2	21.830	25.074	85.418	1.00	34.71	O
ATOM 12801	C3*	C	H	2	21.991	27.361	84.900	1.00	34.59	C
ATOM 12802	O3*	C	H	2	22.613	28.181	83.944	1.00	35.53	O
ATOM 12803	C2*	C	H	2	20.645	26.843	84.463	1.00	33.32	C
ATOM 12804	O2*	C	H	2	20.689	26.544	83.108	1.00	33.32	O
ATOM 12805	C1*	C	H	2	20.519	25.569	85.271	1.00	33.48	C
ATOM 12806	N1	C	H	2	19.947	25.796	86.630	1.00	33.63	N
ATOM 12807	C2	C	H	2	18.576	26.083	86.751	1.00	33.64	C
ATOM 12808	O2	C	H	2	17.887	26.144	85.727	1.00	32.87	O

ATOM	12809	N3	C H	2	18.051	26.288	87.984	1.00	31.52	N
ATOM	12810	C4	C H	2	18.825	26.206	89.062	1.00	32.06	C
ATOM	12811	N4	C H	2	18.276	26.406	90.261	1.00	33.23	N
ATOM	12812	C5	C H	2	20.206	25.905	88.965	1.00	32.93	C
ATOM	12813	C6	C H	2	20.719	25.708	87.743	1.00	32.83	C
ATOM	12814	P	G H	3	22.422	29.768	83.979	1.00	38.17	P
ATOM	12815	O1P	G H	3	23.229	30.337	82.877	1.00	37.51	O
ATOM	12816	O2P	G H	3	22.630	30.227	85.370	1.00	33.97	O
ATOM	12817	O5*	G H	3	20.878	29.913	83.576	1.00	37.93	O
ATOM	12818	C5*	G H	3	20.470	29.865	82.227	1.00	38.77	C
ATOM	12819	C4*	G H	3	19.025	30.316	82.077	1.00	39.71	C
ATOM	12820	O4*	G H	3	18.151	29.414	82.800	1.00	40.89	O
ATOM	12821	C3*	G H	3	18.688	31.683	82.650	1.00	39.98	C
ATOM	12822	O3*	G H	3	19.049	32.696	81.732	1.00	41.36	O
ATOM	12823	C2*	G H	3	17.186	31.550	82.882	1.00	39.49	C
ATOM	12824	O2*	G H	3	16.370	31.618	81.729	1.00	38.39	O
ATOM	12825	C1*	G H	3	17.130	30.150	83.451	1.00	39.59	C
ATOM	12826	N9	G H	3	17.309	30.031	84.896	1.00	39.56	N
ATOM	12827	C8	G H	3	18.416	29.616	85.589	1.00	39.76	C
ATOM	12828	N7	G H	3	18.239	29.598	86.882	1.00	40.06	N
ATOM	12829	C5	G H	3	16.933	30.013	87.048	1.00	38.47	C
ATOM	12830	C6	G H	3	16.186	30.187	88.233	1.00	40.18	C
ATOM	12831	O6	G H	3	16.567	29.986	89.407	1.00	39.51	O
ATOM	12832	N1	G H	3	14.888	30.644	87.958	1.00	39.44	N
ATOM	12833	C2	G H	3	14.380	30.890	86.702	1.00	40.23	C
ATOM	12834	N2	G H	3	13.110	31.311	86.619	1.00	39.34	N
ATOM	12835	N3	G H	3	15.086	30.717	85.586	1.00	40.91	N
ATOM	12836	C4	G H	3	16.350	30.284	85.842	1.00	39.02	C
ATOM	12837	P	C H	4	19.392	34.183	82.223	1.00	44.16	P
ATOM	12838	O1P	C H	4	19.801	34.931	81.016	1.00	45.07	O
ATOM	12839	O2P	C H	4	20.281	34.207	83.404	1.00	43.11	O
ATOM	12840	O5*	C H	4	17.958	34.683	82.719	1.00	44.58	O
ATOM	12841	C5*	C H	4	16.854	34.839	81.825	1.00	44.49	C
ATOM	12842	C4*	C H	4	15.579	35.072	82.608	1.00	44.47	C
ATOM	12843	O4*	C H	4	15.358	34.007	83.559	1.00	44.88	O
ATOM	12844	C3*	C H	4	15.612	36.307	83.479	1.00	44.96	C
ATOM	12845	O3*	C H	4	15.289	37.415	82.681	1.00	47.06	O
ATOM	12846	C2*	C H	4	14.571	36.007	84.552	1.00	45.44	C
ATOM	12847	O2*	C H	4	13.224	36.247	84.157	1.00	46.43	O
ATOM	12848	C1*	C H	4	14.796	34.517	84.763	1.00	44.83	C
ATOM	12849	N1	C H	4	15.659	34.132	85.949	1.00	45.07	N
ATOM	12850	C2	C H	4	15.117	34.150	87.238	1.00	44.62	C
ATOM	12851	O2	C H	4	13.949	34.510	87.421	1.00	44.34	O
ATOM	12852	N3	C H	4	15.902	33.774	88.276	1.00	44.45	N
ATOM	12853	C4	C H	4	17.164	33.397	88.095	1.00	43.76	C
ATOM	12854	N4	C H	4	17.878	33.038	89.163	1.00	43.72	N
ATOM	12855	C5	C H	4	17.736	33.361	86.803	1.00	44.21	C
ATOM	12856	C6	C H	4	16.964	33.735	85.779	1.00	44.76	C
ATOM	12857	P	C H	5	15.995	38.815	82.947	1.00	48.11	P
ATOM	12858	O1P	C H	5	15.517	39.767	81.924	1.00	48.99	O
ATOM	12859	O2P	C H	5	17.445	38.578	83.115	1.00	48.88	O
ATOM	12860	O5*	C H	5	15.339	39.196	84.350	1.00	49.40	O
ATOM	12861	C5*	C H	5	13.937	39.404	84.434	1.00	50.14	C
ATOM	12862	C4*	C H	5	13.530	39.781	85.845	1.00	50.95	C
ATOM	12863	O4*	C H	5	14.037	38.806	86.787	1.00	51.27	O
ATOM	12864	C3*	C H	5	14.087	41.115	86.318	1.00	51.63	C
ATOM	12865	O3*	C H	5	13.139	41.804	87.134	1.00	53.15	O
ATOM	12866	C2*	C H	5	15.312	40.702	87.116	1.00	51.39	C
ATOM	12867	O2*	C H	5	15.711	41.739	87.985	1.00	51.49	O

ATOM	12868	C1*	C H	5	14.724	39.483	87.816	1.00	51.27	C
ATOM	12869	N1	C H	5	15.685	38.515	88.458	1.00	51.53	N
ATOM	12870	C2	C H	5	15.459	38.082	89.770	1.00	51.51	C
ATOM	12871	O2	C H	5	14.487	38.489	90.412	1.00	51.11	O
ATOM	12872	N3	C H	5	16.328	37.212	90.329	1.00	51.70	N
ATOM	12873	C4	C H	5	17.377	36.755	89.662	1.00	50.71	C
ATOM	12874	N4	C H	5	18.170	35.900	90.310	1.00	50.36	N
ATOM	12875	C5	C H	5	17.627	37.167	88.323	1.00	51.00	C
ATOM	12876	C6	C H	5	16.763	38.032	87.768	1.00	51.43	C
ATOM	12877	P	A H	6	12.849	43.348	86.870	1.00	53.44	P
ATOM	12878	O1P	A H	6	12.119	43.416	85.584	1.00	53.56	O
ATOM	12879	O2P	A H	6	14.108	44.103	87.070	1.00	53.95	O
ATOM	12880	O5*	A H	6	11.867	43.732	88.070	1.00	56.01	O
ATOM	12881	C5*	A H	6	12.206	43.438	89.431	1.00	57.15	C
ATOM	12882	C4*	A H	6	10.954	43.244	90.273	1.00	57.22	C
ATOM	12883	O4*	A H	6	10.557	41.845	90.301	1.00	58.23	O
ATOM	12884	C3*	A H	6	11.105	43.602	91.738	1.00	57.07	C
ATOM	12885	O3*	A H	6	11.017	45.010	91.889	1.00	56.34	O
ATOM	12886	C2*	A H	6	9.933	42.831	92.363	1.00	57.69	C
ATOM	12887	O2*	A H	6	8.684	43.502	92.305	1.00	56.96	O
ATOM	12888	C1*	A H	6	9.893	41.553	91.519	1.00	57.71	C
ATOM	12889	P	G H	7	12.141	45.873	92.631	1.00	56.37	P
ATOM	12890	O1P	G H	7	11.567	47.196	92.962	1.00	56.24	O
ATOM	12891	O2P	G H	7	13.357	45.806	91.805	1.00	55.60	O
ATOM	12892	O5*	G H	7	12.395	45.077	93.997	1.00	55.64	O
ATOM	12893	C5*	G H	7	11.468	45.186	95.047	1.00	55.16	C
ATOM	12894	C4*	G H	7	11.912	44.416	96.272	1.00	55.31	C
ATOM	12895	O4*	G H	7	12.089	43.005	95.968	1.00	55.36	O
ATOM	12896	C3*	G H	7	13.238	44.863	96.856	1.00	55.28	C
ATOM	12897	O3*	G H	7	13.063	46.025	97.653	1.00	55.40	O
ATOM	12898	C2*	G H	7	13.624	43.622	97.662	1.00	55.57	C
ATOM	12899	O2*	G H	7	12.970	43.512	98.909	1.00	55.16	O
ATOM	12900	C1*	G H	7	13.184	42.495	96.720	1.00	55.68	C
ATOM	12901	N9	G H	7	14.248	42.054	95.809	1.00	55.76	N
ATOM	12902	C8	G H	7	14.240	42.083	94.428	1.00	55.91	C
ATOM	12903	N7	G H	7	15.330	41.641	93.868	1.00	55.11	N
ATOM	12904	C5	G H	7	16.122	41.299	94.953	1.00	55.86	C
ATOM	12905	C6	G H	7	17.424	40.749	94.976	1.00	55.45	C
ATOM	12906	O6	G H	7	18.127	40.458	94.008	1.00	55.53	O
ATOM	12907	N1	G H	7	17.890	40.539	96.272	1.00	55.35	N
ATOM	12908	C2	G H	7	17.182	40.818	97.416	1.00	55.41	C
ATOM	12909	N2	G H	7	17.804	40.544	98.570	1.00	55.47	N
ATOM	12910	N3	G H	7	15.949	41.326	97.418	1.00	55.73	N
ATOM	12911	C4	G H	7	15.480	41.541	96.155	1.00	56.08	C
ATOM	12912	P	A H	8	13.980	47.332	97.497	1.00	56.50	P
ATOM	12913	O1P	A H	8	13.368	48.416	98.301	1.00	55.46	O
ATOM	12914	O2P	A H	8	14.225	47.577	96.054	1.00	55.84	O
ATOM	12915	O5*	A H	8	15.378	46.885	98.142	1.00	56.04	O
ATOM	12916	C5*	A H	8	15.503	46.203	99.384	1.00	56.92	C
ATOM	12917	C4*	A H	8	16.873	45.548	99.532	1.00	57.46	C
ATOM	12918	O4*	A H	8	16.886	44.259	98.876	1.00	58.14	O
ATOM	12919	C3*	A H	8	18.046	46.285	98.901	1.00	57.68	C
ATOM	12920	O3*	A H	8	18.582	47.213	99.821	1.00	58.45	O
ATOM	12921	C2*	A H	8	19.032	45.164	98.616	1.00	57.68	C
ATOM	12922	O2*	A H	8	19.808	44.796	99.732	1.00	57.58	O
ATOM	12923	C1*	A H	8	18.095	44.058	98.176	1.00	57.52	C
ATOM	12924	N9	A H	8	17.862	44.126	96.740	1.00	57.99	N
ATOM	12925	C8	A H	8	16.790	44.673	96.097	1.00	58.65	C
ATOM	12926	N7	A H	8	16.865	44.612	94.784	1.00	59.25	N

ATOM	12927	C5	A H	8	18.072	43.995	94.547	1.00	57.66	C
ATOM	12928	C6	A H	8	18.714	43.634	93.356	1.00	57.61	C
ATOM	12929	N6	A H	8	18.199	43.870	92.148	1.00	57.76	N
ATOM	12930	N1	A H	8	19.915	43.029	93.461	1.00	57.76	N
ATOM	12931	C2	A H	8	20.424	42.799	94.678	1.00	58.40	C
ATOM	12932	N3	A H	8	19.900	43.088	95.875	1.00	58.06	C
ATOM	12933	C4	A H	8	18.706	43.692	95.737	1.00	58.22	N
ATOM	12934	P	A H	9	18.717	48.767	99.492	1.00	58.72	P
ATOM	12935	O1P	A H	9	18.443	49.541	100.723	1.00	58.45	O
ATOM	12936	O2P	A H	9	17.964	49.056	98.248	1.00	59.15	O
ATOM	12937	O5*	A H	9	20.274	48.863	99.150	1.00	59.64	O
ATOM	12938	C5*	A H	9	21.263	48.256	99.972	1.00	60.36	C
ATOM	12939	C4*	A H	9	22.321	47.623	99.094	1.00	60.90	C
ATOM	12940	O4*	A H	9	21.718	46.574	98.301	1.00	60.98	O
ATOM	12941	C3*	A H	9	22.934	48.550	98.057	1.00	61.59	C
ATOM	12942	O3*	A H	9	23.933	49.382	98.639	1.00	61.72	O
ATOM	12943	C2*	A H	9	23.473	47.544	97.047	1.00	61.41	C
ATOM	12944	O2*	A H	9	24.697	46.964	97.446	1.00	62.72	O
ATOM	12945	C1*	A H	9	22.350	46.509	97.033	1.00	60.92	C
ATOM	12946	N9	A H	9	21.345	46.704	95.981	1.00	60.84	N
ATOM	12947	C8	A H	9	20.071	47.203	96.086	1.00	60.74	C
ATOM	12948	N7	A H	9	19.407	47.246	94.950	1.00	60.64	N
ATOM	12949	C5	A H	9	20.302	46.744	94.025	1.00	60.64	C
ATOM	12950	C6	A H	9	20.222	46.522	92.631	1.00	60.24	C
ATOM	12951	N6	A H	9	19.151	46.781	91.871	1.00	59.70	N
ATOM	12952	N1	A H	9	21.319	46.004	92.039	1.00	60.71	N
ATOM	12953	C2	A H	9	22.409	45.729	92.767	1.00	60.59	C
ATOM	12954	N3	A H	9	22.604	45.895	94.072	1.00	60.35	N
ATOM	12955	C4	A H	9	21.504	46.410	94.647	1.00	61.06	C
ATOM	12956	P	C H	10	24.087	50.897	98.136	1.00	63.55	P
ATOM	12957	O1P	C H	10	25.039	51.582	99.044	1.00	62.58	O
ATOM	12958	O2P	C H	10	22.735	51.472	97.923	1.00	62.87	O
ATOM	12959	O5*	C H	10	24.755	50.735	96.689	1.00	62.78	O
ATOM	12960	C5*	C H	10	26.005	50.071	96.484	1.00	62.37	C
ATOM	12961	C4*	C H	10	26.302	49.905	94.999	1.00	61.76	C
ATOM	12962	O4*	C H	10	25.463	48.870	94.422	1.00	61.65	O
ATOM	12963	C3*	C H	10	26.012	51.117	94.129	1.00	61.04	C
ATOM	12964	O3*	C H	10	27.050	52.084	94.241	1.00	60.84	O
ATOM	12965	C2*	C H	10	25.922	50.475	92.751	1.00	60.89	C
ATOM	12966	O2*	C H	10	27.171	50.152	92.176	1.00	60.35	O
ATOM	12967	C1*	C H	10	25.118	49.225	93.095	1.00	60.70	C
ATOM	12968	N1	C H	10	23.645	49.440	92.983	1.00	60.35	N
ATOM	12969	C2	C H	10	23.059	49.454	91.713	1.00	60.22	C
ATOM	12970	O2	C H	10	23.743	49.291	90.705	1.00	61.11	O
ATOM	12971	N3	C H	10	21.731	49.652	91.594	1.00	60.60	N
ATOM	12972	C4	C H	10	20.974	49.834	92.670	1.00	60.79	C
ATOM	12973	N4	C H	10	19.669	50.011	92.458	1.00	60.67	N
ATOM	12974	C5	C H	10	21.534	49.829	93.983	1.00	60.70	C
ATOM	12975	C6	C H	10	22.859	49.634	94.088	1.00	60.71	C
ATOM	12976	P	U H	11	26.753	53.630	93.950	1.00	60.19	P
ATOM	12977	O1P	U H	11	27.962	54.408	94.316	1.00	60.77	O
ATOM	12978	O2P	U H	11	25.439	53.977	94.536	1.00	60.49	O
ATOM	12979	O5*	U H	11	26.595	53.651	92.365	1.00	60.18	O
ATOM	12980	C5*	U H	11	27.755	53.561	91.546	1.00	60.11	C
ATOM	12981	C4*	U H	11	27.377	53.434	90.083	1.00	59.85	C
ATOM	12982	O4*	U H	11	26.328	52.443	89.940	1.00	60.17	O
ATOM	12983	C3*	U H	11	26.823	54.698	89.458	1.00	59.40	C
ATOM	12984	O3*	U H	11	27.893	55.524	88.997	1.00	59.60	O
ATOM	12985	C2*	U H	11	25.969	54.133	88.330	1.00	59.46	C

ATOM	12986	O2*	U	H	11	26.707	53.882	87.156	1.00	59.70	O
ATOM	12987	C1*	U	H	11	25.466	52.806	88.884	1.00	59.70	C
ATOM	12988	N1	U	H	11	24.061	52.845	89.380	1.00	59.80	N
ATOM	12989	C2	U	H	11	23.049	52.903	88.451	1.00	59.71	C
ATOM	12990	O2	U	H	11	23.242	52.924	87.249	1.00	60.17	O
ATOM	12991	N3	U	H	11	21.788	52.927	88.984	1.00	60.22	N
ATOM	12992	C4	U	H	11	21.429	52.905	90.325	1.00	60.37	C
ATOM	12993	O4	U	H	11	20.243	52.935	90.649	1.00	59.84	O
ATOM	12994	C5	U	H	11	22.540	52.839	91.239	1.00	60.15	C
ATOM	12995	C6	U	H	11	23.781	52.814	90.736	1.00	60.01	C
TER	12996		U	H	11						
HETATM	12997	PG	GTP	S	12	27.461	61.732	90.623	1.00	85.51	P
HETATM	12998	O1G	GTP	S	12	27.970	62.844	89.730	1.00	85.23	O
HETATM	12999	O2G	GTP	S	12	26.075	61.997	91.171	1.00	85.14	O
HETATM	13000	O3G	GTP	S	12	28.468	61.260	91.647	1.00	85.20	O
HETATM	13001	O3B	GTP	S	12	27.309	60.486	89.595	1.00	84.60	O
HETATM	13002	PB	GTP	S	12	26.686	59.029	89.941	1.00	84.12	P
HETATM	13003	O1B	GTP	S	12	27.276	58.040	88.969	1.00	83.54	O
HETATM	13004	O2B	GTP	S	12	26.838	58.754	91.418	1.00	83.82	O
HETATM	13005	O3A	GTP	S	12	25.117	59.192	89.600	1.00	82.34	O
HETATM	13006	PA	GTP	S	12	24.537	60.031	88.340	1.00	81.92	P
HETATM	13007	O1A	GTP	S	12	23.091	59.626	88.210	1.00	81.97	O
HETATM	13008	O2A	GTP	S	12	24.855	61.507	88.459	1.00	80.82	O
HETATM	13009	O5*	GTP	S	12	25.327	59.433	87.070	1.00	78.85	O
HETATM	13010	C5*	GTP	S	12	25.229	58.056	86.746	1.00	75.59	C
HETATM	13011	C4*	GTP	S	12	24.572	57.824	85.391	1.00	74.14	C
HETATM	13012	O4*	GTP	S	12	24.056	56.487	85.378	1.00	73.51	O
HETATM	13013	C3*	GTP	S	12	23.397	58.727	85.052	1.00	72.78	C
HETATM	13014	O3*	GTP	S	12	23.771	59.865	84.265	1.00	72.52	O
HETATM	13015	C2*	GTP	S	12	22.442	57.811	84.319	1.00	72.38	C
HETATM	13016	O2*	GTP	S	12	22.713	57.746	82.917	1.00	72.48	O
HETATM	13017	C1*	GTP	S	12	22.691	56.461	84.962	1.00	71.44	C
HETATM	13018	N9	GTP	S	12	21.779	56.295	86.123	1.00	70.97	N
HETATM	13019	C8	GTP	S	12	22.083	56.242	87.434	1.00	70.51	C
HETATM	13020	N7	GTP	S	12	20.943	56.098	88.148	1.00	69.86	N
HETATM	13021	C5	GTP	S	12	19.928	56.063	87.266	1.00	70.06	C
HETATM	13022	C6	GTP	S	12	18.556	55.935	87.386	1.00	70.24	C
HETATM	13023	O6	GTP	S	12	18.047	55.813	88.518	1.00	70.54	O
HETATM	13024	N1	GTP	S	12	17.784	55.940	86.273	1.00	70.48	N
HETATM	13025	C2	GTP	S	12	18.338	56.066	85.043	1.00	70.26	C
HETATM	13026	N2	GTP	S	12	17.573	56.069	83.927	1.00	70.42	N
HETATM	13027	N3	GTP	S	12	19.671	56.187	84.909	1.00	70.35	N
HETATM	13028	C4	GTP	S	12	20.465	56.187	86.001	1.00	70.30	C
ATOM	13029	P	G	S	13	22.949	61.222	84.163	1.00	72.69	P
ATOM	13030	O1P	G	S	13	23.597	62.205	83.267	1.00	72.81	O
ATOM	13031	O2P	G	S	13	22.866	61.500	85.614	1.00	71.77	O
ATOM	13032	O5*	G	S	13	21.489	60.960	83.573	1.00	73.41	O
ATOM	13033	C5*	G	S	13	21.319	60.735	82.177	1.00	74.73	C
ATOM	13034	C4*	G	S	13	19.864	60.497	81.819	1.00	75.39	C
ATOM	13035	O4*	G	S	13	19.387	59.253	82.389	1.00	75.64	O
ATOM	13036	C3*	G	S	13	18.886	61.522	82.369	1.00	76.38	C
ATOM	13037	O3*	G	S	13	18.909	62.742	81.626	1.00	78.25	O
ATOM	13038	C2*	G	S	13	17.587	60.735	82.248	1.00	75.94	C
ATOM	13039	O2*	G	S	13	17.139	60.546	80.919	1.00	75.59	O
ATOM	13040	C1*	G	S	13	18.051	59.420	82.842	1.00	75.74	C
ATOM	13041	N9	G	S	13	18.008	59.359	84.307	1.00	75.84	N
ATOM	13042	C8	G	S	13	19.050	59.521	85.193	1.00	75.73	C
ATOM	13043	N7	G	S	13	18.714	59.388	86.445	1.00	75.48	N
ATOM	13044	C5	G	S	13	17.356	59.121	86.393	1.00	75.77	C

ATOM	13045	C6	G S	13	16.441	58.885	87.445	1.00	75.82	C
ATOM	13046	O6	G S	13	16.667	58.866	88.663	1.00	75.81	O
ATOM	13047	N1	G S	13	15.151	58.652	86.963	1.00	75.89	N
ATOM	13048	C2	G S	13	14.792	58.649	85.632	1.00	75.68	C
ATOM	13049	N2	G S	13	13.502	58.400	85.358	1.00	75.54	N
ATOM	13050	N3	G S	13	15.645	58.867	84.637	1.00	75.91	N
ATOM	13051	C4	G S	13	16.905	59.099	85.088	1.00	75.89	C
ATOM	13052	P	C S	14	18.120	64.021	82.185	1.00	80.72	P
ATOM	13053	O1P	C S	14	18.477	65.160	81.311	1.00	81.13	O
ATOM	13054	O2P	C S	14	18.351	64.142	83.644	1.00	79.97	O
ATOM	13055	O5*	C S	14	16.591	63.616	81.905	1.00	81.21	O
ATOM	13056	C5*	C S	14	15.514	64.467	82.252	1.00	82.63	C
ATOM	13057	C4*	C S	14	14.252	63.680	82.569	1.00	83.39	C
ATOM	13058	O4*	C S	14	14.558	62.361	83.093	1.00	84.05	O
ATOM	13059	C3*	C S	14	13.375	64.301	83.644	1.00	83.77	C
ATOM	13060	O3*	C S	14	12.525	65.270	83.076	1.00	84.05	O
ATOM	13061	C2*	C S	14	12.611	63.103	84.185	1.00	84.12	C
ATOM	13062	O2*	C S	14	11.569	62.635	83.348	1.00	84.52	O
ATOM	13063	C1*	C S	14	13.755	62.104	84.237	1.00	84.49	C
ATOM	13064	N1	C S	14	14.565	62.218	85.500	1.00	84.64	N
ATOM	13065	C2	C S	14	14.056	61.677	86.698	1.00	84.77	C
ATOM	13066	O2	C S	14	12.950	61.114	86.709	1.00	84.49	O
ATOM	13067	N3	C S	14	14.803	61.779	87.830	1.00	84.95	N
ATOM	13068	C4	C S	14	15.994	62.385	87.811	1.00	84.79	C
ATOM	13069	N4	C S	14	16.680	62.454	88.958	1.00	84.54	N
ATOM	13070	C5	C S	14	16.527	62.944	86.609	1.00	84.62	C
ATOM	13071	C6	C S	14	15.788	62.841	85.495	1.00	84.57	C
ATOM	13072	P	A S	15	12.667	66.815	83.462	1.00	83.98	P
ATOM	13073	O1P	A S	15	13.399	67.487	82.362	1.00	84.41	O
ATOM	13074	O2P	A S	15	13.141	66.957	84.860	1.00	82.88	O
ATOM	13075	O5*	A S	15	11.129	67.228	83.363	1.00	84.26	O
ATOM	13076	C5*	A S	15	10.491	67.953	84.398	1.00	84.60	C
ATOM	13077	C4*	A S	15	9.741	67.057	85.375	1.00	84.28	C
ATOM	13078	O4*	A S	15	10.330	65.750	85.633	1.00	84.52	O
ATOM	13079	C3*	A S	15	9.701	67.608	86.781	1.00	83.56	C
ATOM	13080	O3*	A S	15	9.023	68.847	86.779	1.00	81.65	O
ATOM	13081	C2*	A S	15	9.041	66.442	87.509	1.00	83.81	C
ATOM	13082	O2*	A S	15	7.668	66.246	87.220	1.00	83.49	O
ATOM	13083	C1*	A S	15	9.921	65.331	86.938	1.00	84.54	C
ATOM	13084	N9	A S	15	11.095	65.095	87.780	1.00	84.89	N
ATOM	13085	C8	A S	15	12.388	65.479	87.546	1.00	84.86	C
ATOM	13086	N7	A S	15	13.233	65.134	88.485	1.00	84.90	N
ATOM	13087	C5	A S	15	12.440	64.477	89.411	1.00	85.14	C
ATOM	13088	C6	A S	15	12.734	63.865	90.650	1.00	84.99	C
ATOM	13089	N6	A S	15	13.967	63.826	91.161	1.00	85.01	N
ATOM	13090	N1	A S	15	11.715	63.304	91.340	1.00	84.74	N
ATOM	13091	C2	A S	15	10.481	63.358	90.814	1.00	84.86	C
ATOM	13092	N3	A S	15	10.083	63.897	89.658	1.00	85.11	N
ATOM	13093	C4	A S	15	11.119	64.448	88.997	1.00	85.15	C
ATOM	13094	P	C S	16	9.748	70.060	87.518	1.00	80.83	P
ATOM	13095	O1P	C S	16	9.036	71.327	87.213	1.00	80.48	O
ATOM	13096	O2P	C S	16	11.207	69.967	87.271	1.00	79.97	O
ATOM	13097	O5*	C S	16	9.436	69.650	89.035	1.00	79.86	O
ATOM	13098	C5*	C S	16	8.135	69.162	89.406	1.00	78.58	C
ATOM	13099	C4*	C S	16	7.985	68.921	90.902	1.00	77.97	C
ATOM	13100	O4*	C S	16	8.377	67.565	91.246	1.00	77.75	O
ATOM	13101	C3*	C S	16	8.815	69.809	91.822	1.00	77.56	C
ATOM	13102	O3*	C S	16	8.176	71.067	91.986	1.00	77.04	O
ATOM	13103	C2*	C S	16	8.849	68.961	93.089	1.00	77.38	C

ATOM	13104	O2*	C S	16	7.658	69.015	93.850	1.00	77.64	O
ATOM	13105	C1*	C S	16	9.076	67.581	92.482	1.00	77.75	C
ATOM	13106	N1	C S	16	10.545	67.318	92.283	1.00	77.76	N
ATOM	13107	C2	C S	16	11.310	66.834	93.352	1.00	77.42	C
ATOM	13108	O2	C S	16	10.778	66.608	94.446	1.00	77.61	O
ATOM	13109	N3	C S	16	12.632	66.619	93.156	1.00	77.56	N
ATOM	13110	C4	C S	16	13.206	66.865	91.978	1.00	77.83	C
ATOM	13111	N4	C S	16	14.516	66.624	91.849	1.00	77.84	N
ATOM	13112	C5	C S	16	12.452	67.364	90.880	1.00	77.90	C
ATOM	13113	C6	C S	16	11.147	67.572	91.077	1.00	77.90	C
ATOM	13114	P	C S	17A	8.973	72.363	92.488	1.00	77.45	P
ATOM	13115	O1P	C S	17A	7.979	73.448	92.674	1.00	76.47	O
ATOM	13116	O2P	C S	17A	10.147	72.582	91.609	1.00	77.04	O
ATOM	13117	O5*	C S	17A	9.499	71.904	93.924	1.00	76.23	O
ATOM	13118	C5*	C S	17A	8.729	72.074	95.100	1.00	75.64	C
ATOM	13119	C4*	C S	17A	9.574	71.726	96.308	1.00	75.33	C
ATOM	13120	O4*	C S	17A	10.148	70.402	96.147	1.00	75.19	O
ATOM	13121	C3*	C S	17A	10.796	72.606	96.519	1.00	75.42	C
ATOM	13122	O3*	C S	17A	10.456	73.878	97.084	1.00	75.22	O
ATOM	13123	C2*	C S	17A	11.614	71.693	97.428	1.00	75.34	C
ATOM	13124	O2*	C S	17A	11.103	71.567	98.743	1.00	74.90	O
ATOM	13125	C1*	C S	17A	11.469	70.380	96.670	1.00	75.03	C
ATOM	13126	N1	C S	17A	12.515	70.136	95.576	1.00	75.18	N
ATOM	13127	C2	C S	17A	13.827	69.802	95.945	1.00	75.37	C
ATOM	13128	O2	C S	17A	14.117	69.727	97.146	1.00	75.59	O
ATOM	13129	N3	C S	17A	14.757	69.570	94.974	1.00	75.01	N
ATOM	13130	C4	C S	17A	14.442	69.649	93.681	1.00	74.84	C
ATOM	13131	N4	C S	17A	15.397	69.410	92.780	1.00	74.63	N
ATOM	13132	C5	C S	17A	13.120	69.983	93.273	1.00	75.09	C
ATOM	13133	C6	C S	17A	12.210	70.211	94.236	1.00	75.29	C
ATOM	13134	P	A S	17B	11.123	75.233	96.529	1.00	75.94	P
ATOM	13135	O1P	A S	17B	10.437	76.386	97.155	1.00	74.95	O
ATOM	13136	O2P	A S	17B	11.236	75.152	95.053	1.00	75.52	O
ATOM	13137	O5*	A S	17B	12.587	75.152	97.151	1.00	75.33	O
ATOM	13138	C5*	A S	17B	12.776	75.117	98.556	1.00	75.04	C
ATOM	13139	C4*	A S	17B	14.188	74.671	98.890	1.00	74.55	C
ATOM	13140	O4*	A S	17B	14.403	73.327	98.400	1.00	73.70	O
ATOM	13141	C3*	A S	17B	15.307	75.475	98.243	1.00	74.33	C
ATOM	13142	O3*	A S	17B	15.593	76.677	98.954	1.00	75.04	O
ATOM	13143	C2*	A S	17B	16.448	74.478	98.308	1.00	73.81	C
ATOM	13144	O2*	A S	17B	16.998	74.347	99.604	1.00	74.04	O
ATOM	13145	C1*	A S	17B	15.710	73.221	97.869	1.00	72.77	C
ATOM	13146	N9	A S	17B	15.637	73.080	96.416	1.00	72.32	N
ATOM	13147	C8	A S	17B	14.565	73.313	95.594	1.00	71.90	C
ATOM	13148	N7	A S	17B	14.808	73.091	94.325	1.00	72.16	N
ATOM	13149	C5	A S	17B	16.130	72.684	94.310	1.00	71.74	C
ATOM	13150	C6	A S	17B	16.986	72.303	93.267	1.00	71.14	C
ATOM	13151	N6	A S	17B	16.616	72.269	91.991	1.00	71.67	N
ATOM	13152	N1	A S	17B	18.241	71.965	93.588	1.00	71.43	N
ATOM	13153	C2	A S	17B	18.619	71.997	94.870	1.00	71.76	C
ATOM	13154	N3	A S	17B	17.910	72.336	95.942	1.00	71.67	N
ATOM	13155	C4	A S	17B	16.659	72.674	95.589	1.00	71.90	C
ATOM	13156	P	U S	17C	16.013	77.981	98.129	1.00	75.30	P
ATOM	13157	O1P	U S	17C	16.168	79.121	99.066	1.00	75.57	O
ATOM	13158	O2P	U S	17C	15.114	78.080	96.956	1.00	75.55	O
ATOM	13159	O5*	U S	17C	17.444	77.573	97.566	1.00	74.93	O
ATOM	13160	C5*	U S	17C	18.509	77.177	98.399	1.00	74.52	C
ATOM	13161	C4*	U S	17C	19.659	76.781	97.502	1.00	74.57	C
ATOM	13162	O4*	U S	17C	19.315	75.631	96.690	1.00	74.12	O

ATOM	13163	C3*	U S	17C	20.015	77.820	96.456	1.00	74.33	C
ATOM	13164	O3*	U S	17C	20.699	78.893	97.054	1.00	75.11	O
ATOM	13165	C2*	U S	17C	20.863	76.983	95.514	1.00	74.20	C
ATOM	13166	O2*	U S	17C	22.168	76.750	96.012	1.00	73.90	O
ATOM	13167	C1*	U S	17C	20.027	75.700	95.464	1.00	73.53	C
ATOM	13168	N1	U S	17C	19.060	75.631	94.293	1.00	73.14	N
ATOM	13169	C2	U S	17C	19.458	74.982	93.137	1.00	72.70	C
ATOM	13170	O2	U S	17C	20.545	74.455	93.004	1.00	72.74	O
ATOM	13171	N3	U S	17C	18.533	74.965	92.125	1.00	72.14	N
ATOM	13172	C4	U S	17C	17.270	75.512	92.132	1.00	72.53	C
ATOM	13173	O4	U S	17C	16.565	75.402	91.136	1.00	72.39	O
ATOM	13174	C5	U S	17C	16.910	76.176	93.359	1.00	72.91	C
ATOM	13175	C6	U S	17C	17.799	76.209	94.368	1.00	72.96	C
ATOM	13176	P	U S	17D	20.472	80.369	96.489	1.00	76.58	P
ATOM	13177	O1P	U S	17D	21.256	81.297	97.339	1.00	76.01	O
ATOM	13178	O2P	U S	17D	19.023	80.601	96.280	1.00	76.44	O
ATOM	13179	O5*	U S	17D	21.171	80.255	95.050	1.00	76.77	O
ATOM	13180	C5*	U S	17D	22.578	80.039	94.948	1.00	76.66	C
ATOM	13181	C4*	U S	17D	23.218	81.069	94.037	1.00	76.65	C
ATOM	13182	O4*	U S	17D	22.734	80.820	92.701	1.00	76.97	O
ATOM	13183	C3*	U S	17D	22.909	82.540	94.333	1.00	76.18	C
ATOM	13184	O3*	U S	17D	24.052	83.364	94.092	1.00	75.68	O
ATOM	13185	C2*	U S	17D	21.788	82.837	93.344	1.00	76.29	C
ATOM	13186	O2*	U S	17D	21.638	84.191	92.996	1.00	75.93	O
ATOM	13187	C1*	U S	17D	22.308	82.047	92.159	1.00	77.37	C
ATOM	13188	N1	U S	17D	21.304	81.743	91.113	1.00	78.12	N
ATOM	13189	C2	U S	17D	21.405	82.351	89.877	1.00	77.81	C
ATOM	13190	O2	U S	17D	22.279	83.145	89.582	1.00	77.96	O
ATOM	13191	N3	U S	17D	20.430	81.985	88.989	1.00	77.63	N
ATOM	13192	C4	U S	17D	19.391	81.099	89.198	1.00	77.76	C
ATOM	13193	O4	U S	17D	18.592	80.878	88.297	1.00	78.04	O
ATOM	13194	C5	U S	17D	19.355	80.497	90.505	1.00	78.47	C
ATOM	13195	C6	U S	17D	20.296	80.834	91.395	1.00	78.44	C
ATOM	13196	P	G S	17E	25.254	83.577	95.144	1.00	75.51	P
ATOM	13197	O1P	G S	17E	24.658	83.861	96.469	1.00	75.54	O
ATOM	13198	O2P	G S	17E	26.181	84.584	94.561	1.00	75.20	O
ATOM	13199	O5*	G S	17E	25.992	82.142	95.147	1.00	73.96	O
ATOM	13200	C5*	G S	17E	26.437	81.473	96.338	1.00	72.66	C
ATOM	13201	C4*	G S	17E	26.786	80.011	96.080	1.00	71.94	C
ATOM	13202	O4*	G S	17E	25.722	79.395	95.311	1.00	71.75	O
ATOM	13203	C3*	G S	17E	28.030	79.763	95.234	1.00	71.66	C
ATOM	13204	O3*	G S	17E	29.239	79.774	95.980	1.00	70.28	O
ATOM	13205	C2*	G S	17E	27.749	78.412	94.586	1.00	71.76	C
ATOM	13206	O2*	G S	17E	28.007	77.296	95.423	1.00	72.41	O
ATOM	13207	C1*	G S	17E	26.258	78.575	94.280	1.00	71.95	C
ATOM	13208	N9	G S	17E	25.980	79.117	92.933	1.00	71.87	N
ATOM	13209	C8	G S	17E	26.708	80.038	92.204	1.00	71.68	C
ATOM	13210	N7	G S	17E	26.210	80.298	91.028	1.00	71.69	N
ATOM	13211	C5	G S	17E	25.072	79.501	90.958	1.00	71.79	C
ATOM	13212	C6	G S	17E	24.104	79.346	89.926	1.00	71.59	C
ATOM	13213	O6	G S	17E	24.052	79.891	88.820	1.00	71.63	O
ATOM	13214	N1	G S	17E	23.105	78.438	90.267	1.00	71.93	N
ATOM	13215	C2	G S	17E	23.042	77.750	91.459	1.00	71.95	C
ATOM	13216	N2	G S	17E	22.013	76.909	91.618	1.00	71.73	N
ATOM	13217	N3	G S	17E	23.939	77.880	92.430	1.00	71.83	N
ATOM	13218	C4	G S	17E	24.922	78.768	92.120	1.00	71.85	C
ATOM	13219	P	C S	17F	30.361	80.865	95.632	1.00	69.87	P
ATOM	13220	O1P	C S	17F	30.651	81.629	96.859	1.00	70.23	O
ATOM	13221	O2P	C S	17F	29.969	81.631	94.424	1.00	69.82	O

ATOM	13222	O5*	C S	17F	31.637	79.952	95.328	1.00	69.05	O
ATOM	13223	C5*	C S	17F	31.724	79.115	94.171	1.00	67.84	C
ATOM	13224	C4*	C S	17F	33.161	78.901	93.690	1.00	66.89	C
ATOM	13225	O4*	C S	17F	33.420	79.678	92.486	1.00	66.50	O
ATOM	13226	C3*	C S	17F	34.291	79.271	94.655	1.00	66.00	C
ATOM	13227	O3*	C S	17F	35.296	78.277	94.590	1.00	64.66	O
ATOM	13228	C2*	C S	17F	34.814	80.605	94.138	1.00	65.95	C
ATOM	13229	O2*	C S	17F	36.183	80.830	94.419	1.00	65.94	O
ATOM	13230	C1*	C S	17F	34.593	80.452	92.640	1.00	65.99	C
ATOM	13231	N1	C S	17F	34.409	81.759	91.972	1.00	65.99	N
ATOM	13232	C2	C S	17F	33.196	82.453	92.096	1.00	66.14	C
ATOM	13233	O2	C S	17F	32.274	81.970	92.757	1.00	66.03	O
ATOM	13234	N3	C S	17F	33.048	83.653	91.484	1.00	66.21	N
ATOM	13235	C4	C S	17F	34.051	84.163	90.778	1.00	65.87	C
ATOM	13236	N4	C S	17F	33.879	85.345	90.186	1.00	65.92	N
ATOM	13237	C5	C S	17F	35.283	83.477	90.648	1.00	65.85	C
ATOM	13238	C6	C S	17F	35.429	82.292	91.250	1.00	65.83	C
ATOM	13239	P	A S	17G	36.106	77.788	95.869	1.00	62.56	P
ATOM	13240	O1P	A S	17G	35.185	77.769	97.027	1.00	62.59	O
ATOM	13241	O2P	A S	17G	37.372	78.558	95.925	1.00	62.51	O
ATOM	13242	O5*	A S	17G	36.402	76.271	95.458	1.00	62.13	O
ATOM	13243	C5*	A S	17G	35.342	75.325	95.309	1.00	61.29	C
ATOM	13244	C4*	A S	17G	35.317	74.750	93.905	1.00	61.32	C
ATOM	13245	O4*	A S	17G	35.295	75.829	92.940	1.00	60.62	O
ATOM	13246	C3*	A S	17G	36.529	73.934	93.474	1.00	61.44	C
ATOM	13247	O3*	A S	17G	36.523	72.619	94.044	1.00	63.12	O
ATOM	13248	C2*	A S	17G	36.326	73.947	91.960	1.00	60.86	C
ATOM	13249	O2*	A S	17G	35.314	73.063	91.513	1.00	60.15	O
ATOM	13250	C1*	A S	17G	35.891	75.394	91.728	1.00	59.84	C
ATOM	13251	N9	A S	17G	36.959	76.321	91.342	1.00	59.23	N
ATOM	13252	C8	A S	17G	37.419	77.407	92.035	1.00	58.96	C
ATOM	13253	N7	A S	17G	38.378	78.063	91.433	1.00	58.71	N
ATOM	13254	C5	A S	17G	38.559	77.363	90.260	1.00	58.65	C
ATOM	13255	C6	A S	17G	39.435	77.554	89.181	1.00	58.83	C
ATOM	13256	N6	A S	17G	40.318	78.552	89.142	1.00	59.10	N
ATOM	13257	N1	A S	17G	39.368	76.681	88.153	1.00	58.93	N
ATOM	13258	C2	A S	17G	38.478	75.682	88.209	1.00	58.89	C
ATOM	13259	N3	A S	17G	37.602	75.402	89.175	1.00	58.91	N
ATOM	13260	C4	A S	17G	37.696	76.289	90.182	1.00	58.87	C
ATOM	13261	P	C S	17H	37.855	71.901	94.575	1.00	64.18	P
ATOM	13262	O1P	C S	17H	37.418	70.675	95.277	1.00	64.03	O
ATOM	13263	O2P	C S	17H	38.688	72.904	95.276	1.00	64.12	O
ATOM	13264	O5*	C S	17H	38.627	71.464	93.243	1.00	65.44	O
ATOM	13265	C5*	C S	17H	38.114	70.462	92.374	1.00	66.94	C
ATOM	13266	C4*	C S	17H	39.098	70.172	91.255	1.00	67.77	C
ATOM	13267	O4*	C S	17H	39.239	71.361	90.446	1.00	68.06	O
ATOM	13268	C3*	C S	17H	40.492	69.773	91.725	1.00	68.52	C
ATOM	13269	O3*	C S	17H	40.684	68.381	91.480	1.00	69.59	O
ATOM	13270	C2*	C S	17H	41.469	70.641	90.931	1.00	68.67	C
ATOM	13271	O2*	C S	17H	42.222	69.900	89.987	1.00	68.54	O
ATOM	13272	C1*	C S	17H	40.596	71.685	90.228	1.00	68.74	C
ATOM	13273	N1	C S	17H	40.863	73.099	90.696	1.00	69.00	N
ATOM	13274	C2	C S	17H	41.924	73.817	90.132	1.00	68.82	C
ATOM	13275	O2	C S	17H	42.607	73.288	89.259	1.00	69.11	O
ATOM	13276	N3	C S	17H	42.184	75.081	90.543	1.00	68.88	N
ATOM	13277	C4	C S	17H	41.428	75.647	91.481	1.00	68.95	C
ATOM	13278	N4	C S	17H	41.718	76.896	91.853	1.00	68.94	N
ATOM	13279	C5	C S	17H	40.339	74.946	92.080	1.00	69.21	C
ATOM	13280	C6	C S	17H	40.097	73.694	91.665	1.00	69.15	C

ATOM	13281	P	U S	17I	41.113	67.383	92.654	1.00	70.72	P
ATOM	13282	O1P	U S	17I	40.352	67.739	93.873	1.00	70.44	O
ATOM	13283	O2P	U S	17I	42.594	67.350	92.680	1.00	70.42	O
ATOM	13284	O5*	U S	17I	40.585	65.965	92.126	1.00	71.46	O
ATOM	13285	C5*	U S	17I	41.204	64.747	92.541	1.00	72.52	C
ATOM	13286	C4*	U S	17I	40.173	63.645	92.693	1.00	73.16	C
ATOM	13287	O4*	U S	17I	40.741	62.560	93.472	1.00	73.30	O
ATOM	13288	C3*	U S	17I	38.899	64.058	93.421	1.00	73.75	C
ATOM	13289	O3*	U S	17I	37.926	64.564	92.489	1.00	74.81	O
ATOM	13290	C2*	U S	17I	38.470	62.758	94.102	1.00	73.64	C
ATOM	13291	O2*	U S	17I	37.707	61.901	93.272	1.00	73.39	O
ATOM	13292	C1*	U S	17I	39.815	62.124	94.449	1.00	73.49	C
ATOM	13293	P	C S	17J	37.035	65.880	92.742	1.00	75.60	P
ATOM	13294	O1P	C S	17J	37.242	66.779	91.585	1.00	75.53	O
ATOM	13295	O2P	C S	17J	37.279	66.395	94.109	1.00	75.57	O
ATOM	13296	O5*	C S	17J	35.540	65.298	92.672	1.00	75.83	O
ATOM	13297	C5*	C S	17J	34.994	64.831	91.439	1.00	75.96	C
ATOM	13298	C4*	C S	17J	33.981	63.712	91.631	1.00	76.19	C
ATOM	13299	O4*	C S	17J	34.585	62.560	92.274	1.00	76.30	O
ATOM	13300	C3*	C S	17J	32.791	64.038	92.522	1.00	76.25	C
ATOM	13301	O3*	C S	17J	31.825	64.812	91.821	1.00	76.01	O
ATOM	13302	C2*	C S	17J	32.286	62.643	92.877	1.00	76.38	C
ATOM	13303	O2*	C S	17J	31.470	62.057	91.880	1.00	76.23	O
ATOM	13304	C1*	C S	17J	33.602	61.880	93.044	1.00	76.53	C
ATOM	13305	N1	C S	17J	34.027	61.785	94.487	1.00	76.73	N
ATOM	13306	C2	C S	17J	33.301	60.958	95.370	1.00	76.79	C
ATOM	13307	O2	C S	17J	32.325	60.310	94.958	1.00	76.62	O
ATOM	13308	N3	C S	17J	33.693	60.887	96.673	1.00	76.79	N
ATOM	13309	C4	C S	17J	34.750	61.588	97.104	1.00	76.78	C
ATOM	13310	N4	C S	17J	35.094	61.486	98.393	1.00	76.65	N
ATOM	13311	C5	C S	17J	35.495	62.438	96.228	1.00	76.76	C
ATOM	13312	C6	C S	17J	35.104	62.505	94.947	1.00	76.74	C
ATOM	13313	P	C S	17K	30.845	65.805	92.605	1.00	75.88	P
ATOM	13314	O1P	C S	17K	29.924	66.395	91.609	1.00	75.52	O
ATOM	13315	O2P	C S	17K	31.681	66.691	93.447	1.00	75.55	O
ATOM	13316	O5*	C S	17K	30.034	64.809	93.565	1.00	75.62	O
ATOM	13317	C5*	C S	17K	28.614	64.861	93.664	1.00	75.43	C
ATOM	13318	C4*	C S	17K	28.099	64.130	94.896	1.00	75.52	C
ATOM	13319	O4*	C S	17K	29.089	63.173	95.364	1.00	75.69	O
ATOM	13320	C3*	C S	17K	27.773	65.019	96.093	1.00	75.28	C
ATOM	13321	O3*	C S	17K	26.390	65.414	96.060	1.00	74.46	O
ATOM	13322	C2*	C S	17K	28.086	64.119	97.293	1.00	75.46	C
ATOM	13323	O2*	C S	17K	26.980	63.344	97.727	1.00	74.54	O
ATOM	13324	C1*	C S	17K	29.195	63.204	96.777	1.00	75.40	C
ATOM	13325	N1	C S	17K	30.591	63.641	97.156	1.00	75.41	N
ATOM	13326	C2	C S	17K	31.337	62.902	98.092	1.00	75.28	C
ATOM	13327	O2	C S	17K	30.855	61.887	98.616	1.00	75.22	O
ATOM	13328	N3	C S	17K	32.589	63.328	98.404	1.00	75.35	N
ATOM	13329	C4	C S	17K	33.106	64.424	97.834	1.00	75.41	C
ATOM	13330	N4	C S	17K	34.346	64.795	98.176	1.00	75.30	N
ATOM	13331	C5	C S	17K	32.369	65.186	96.882	1.00	75.29	C
ATOM	13332	C6	C S	17K	31.133	64.763	96.580	1.00	75.39	C
ATOM	13333	P	G S	17L	25.909	66.938	96.136	1.00	73.24	P
ATOM	13334	O1P	G S	17L	24.841	67.092	95.130	1.00	73.31	O
ATOM	13335	O2P	G S	17L	27.096	67.817	96.090	1.00	72.52	O
ATOM	13336	O5*	G S	17L	25.202	67.041	97.573	1.00	73.46	O
ATOM	13337	C5*	G S	17L	24.359	65.974	98.044	1.00	73.89	C
ATOM	13338	C4*	G S	17L	23.304	66.404	99.065	1.00	73.87	C
ATOM	13339	O4*	G S	17L	22.850	67.770	98.851	1.00	73.98	O

ATOM	13340	C3*	G S	17L	22.021	65.581	99.036	1.00	74.08	C
ATOM	13341	O3*	G S	17L	22.155	64.417	99.825	1.00	75.49	O
ATOM	13342	C2*	G S	17L	21.005	66.545	99.628	1.00	73.89	C
ATOM	13343	O2*	G S	17L	21.083	66.648	101.038	1.00	73.52	O
ATOM	13344	C1*	G S	17L	21.434	67.831	98.932	1.00	73.06	C
ATOM	13345	N9	G S	17L	20.848	67.945	97.596	1.00	72.67	N
ATOM	13346	C8	G S	17L	21.478	67.821	96.376	1.00	72.56	C
ATOM	13347	N7	G S	17L	20.679	67.965	95.356	1.00	72.35	N
ATOM	13348	C5	G S	17L	19.440	68.200	95.935	1.00	72.42	C
ATOM	13349	C6	G S	17L	18.183	68.436	95.331	1.00	72.42	C
ATOM	13350	O6	G S	17L	17.896	68.481	94.125	1.00	72.27	O
ATOM	13351	N1	G S	17L	17.191	68.630	96.291	1.00	72.58	N
ATOM	13352	C2	G S	17L	17.371	68.594	97.653	1.00	72.17	C
ATOM	13353	N2	G S	17L	16.281	68.801	98.396	1.00	71.91	N
ATOM	13354	N3	G S	17L	18.542	68.374	98.230	1.00	72.25	N
ATOM	13355	C4	G S	17L	19.526	68.188	97.313	1.00	72.37	C
ATOM	13356	P	G S	18	21.693	62.997	99.263	1.00	77.40	P
ATOM	13357	O1P	G S	18	22.259	61.965	100.165	1.00	77.22	O
ATOM	13358	O2P	G S	18	22.010	62.984	97.813	1.00	76.84	O
ATOM	13359	O5*	G S	18	20.099	62.992	99.486	1.00	78.21	O
ATOM	13360	C5*	G S	18	19.551	62.868	100.807	1.00	79.14	C
ATOM	13361	C4*	G S	18	18.232	63.610	100.993	1.00	79.85	C
ATOM	13362	O4*	G S	18	18.218	64.902	100.338	1.00	80.66	O
ATOM	13363	C3*	G S	18	17.015	62.926	100.400	1.00	80.71	C
ATOM	13364	O3*	G S	18	16.622	61.835	101.216	1.00	81.56	O
ATOM	13365	C2*	G S	18	16.002	64.066	100.370	1.00	80.77	C
ATOM	13366	O2*	G S	18	15.412	64.396	101.616	1.00	81.02	O
ATOM	13367	C1*	G S	18	16.906	65.190	99.879	1.00	80.74	C
ATOM	13368	N9	G S	18	16.883	65.298	98.427	1.00	80.85	N
ATOM	13369	C8	G S	18	17.922	65.163	97.531	1.00	80.76	C
ATOM	13370	N7	G S	18	17.553	65.316	96.291	1.00	80.66	N
ATOM	13371	C5	G S	18	16.189	65.571	96.378	1.00	80.74	C
ATOM	13372	C6	G S	18	15.238	65.818	95.363	1.00	80.68	C
ATOM	13373	O6	G S	18	15.441	65.862	94.141	1.00	80.75	O
ATOM	13374	N1	G S	18	13.955	66.026	95.891	1.00	80.95	N
ATOM	13375	C2	G S	18	13.624	66.001	97.233	1.00	81.01	C
ATOM	13376	N2	G S	18	12.338	66.227	97.559	1.00	80.61	N
ATOM	13377	N3	G S	18	14.513	65.767	98.191	1.00	80.94	N
ATOM	13378	C4	G S	18	15.761	65.563	97.687	1.00	80.87	C
ATOM	13379	P	U S	19	16.224	60.466	100.510	1.00	82.50	P
ATOM	13380	O1P	U S	19	15.880	59.481	101.562	1.00	82.31	O
ATOM	13381	O2P	U S	19	17.279	60.147	99.521	1.00	81.92	O
ATOM	13382	O5*	U S	19	14.872	60.900	99.756	1.00	83.92	O
ATOM	13383	C5*	U S	19	13.752	61.451	100.481	1.00	85.17	C
ATOM	13384	C4*	U S	19	12.590	61.868	99.583	1.00	85.77	C
ATOM	13385	O4*	U S	19	12.898	63.055	98.794	1.00	86.27	O
ATOM	13386	C3*	U S	19	12.170	60.839	98.540	1.00	86.14	C
ATOM	13387	O3*	U S	19	11.441	59.790	99.163	1.00	86.82	O
ATOM	13388	C2*	U S	19	11.362	61.730	97.599	1.00	86.24	C
ATOM	13389	O2*	U S	19	10.100	62.127	98.104	1.00	85.61	O
ATOM	13390	C1*	U S	19	12.319	62.921	97.500	1.00	86.43	C
ATOM	13391	N1	U S	19	13.408	62.776	96.438	1.00	86.68	N
ATOM	13392	C2	U S	19	13.063	62.833	95.097	1.00	86.83	C
ATOM	13393	O2	U S	19	11.920	62.985	94.701	1.00	87.28	O
ATOM	13394	N3	U S	19	14.109	62.689	94.212	1.00	86.80	N
ATOM	13395	C4	U S	19	15.450	62.503	94.512	1.00	86.73	C
ATOM	13396	O4	U S	19	16.282	62.395	93.614	1.00	86.38	O
ATOM	13397	C5	U S	19	15.740	62.456	95.922	1.00	86.69	C
ATOM	13398	C6	U S	19	14.736	62.591	96.803	1.00	86.64	C

ATOM	13399	P	G S	20	11.230	58.356	98.475	1.00	88.05	P
ATOM	13400	O1P	G S	20	11.100	57.330	99.538	1.00	87.71	O
ATOM	13401	O2P	G S	20	12.241	58.162	97.409	1.00	87.58	O
ATOM	13402	O5*	G S	20	9.772	58.567	97.839	1.00	87.48	O
ATOM	13403	C5*	G S	20	9.236	57.678	96.863	1.00	86.26	C
ATOM	13404	C4*	G S	20	8.659	58.437	95.674	1.00	85.68	C
ATOM	13405	O4*	G S	20	9.318	59.717	95.440	1.00	86.52	O
ATOM	13406	C3*	G S	20	8.798	57.691	94.363	1.00	84.98	C
ATOM	13407	O3*	G S	20	7.759	56.712	94.300	1.00	83.38	O
ATOM	13408	C2*	G S	20	8.669	58.823	93.353	1.00	85.11	C
ATOM	13409	O2*	G S	20	7.317	59.185	93.126	1.00	85.42	O
ATOM	13410	C1*	G S	20	9.466	59.937	94.044	1.00	86.10	C
ATOM	13411	N9	G S	20	10.896	59.972	93.707	1.00	86.05	N
ATOM	13412	C8	G S	20	11.966	59.805	94.558	1.00	86.09	C
ATOM	13413	N7	G S	20	13.130	59.887	93.978	1.00	85.99	N
ATOM	13414	C5	G S	20	12.821	60.126	92.648	1.00	86.20	C
ATOM	13415	C6	G S	20	13.677	60.306	91.532	1.00	86.07	C
ATOM	13416	O6	G S	20	14.912	60.287	91.513	1.00	86.09	O
ATOM	13417	N1	G S	20	12.963	60.521	90.351	1.00	86.22	N
ATOM	13418	C2	G S	20	11.586	60.561	90.261	1.00	86.46	C
ATOM	13419	N2	G S	20	11.067	60.782	89.041	1.00	86.68	N
ATOM	13420	N3	G S	20	10.772	60.395	91.306	1.00	86.29	N
ATOM	13421	C4	G S	20	11.453	60.184	92.465	1.00	86.16	C
ATOM	13422	P	C S	21	8.063	55.189	93.903	1.00	81.07	P
ATOM	13423	O1P	C S	21	6.826	54.417	94.174	1.00	80.54	O
ATOM	13424	O2P	C S	21	9.346	54.760	94.520	1.00	80.24	O
ATOM	13425	O5*	C S	21	8.237	55.343	92.311	1.00	78.79	O
ATOM	13426	C5*	C S	21	7.212	56.000	91.533	1.00	76.10	C
ATOM	13427	C4*	C S	21	7.659	56.402	90.131	1.00	74.41	C
ATOM	13428	O4*	C S	21	8.413	57.646	90.201	1.00	73.56	O
ATOM	13429	C3*	C S	21	8.583	55.451	89.365	1.00	72.59	C
ATOM	13430	O3*	C S	21	7.905	54.334	88.772	1.00	70.51	O
ATOM	13431	C2*	C S	21	9.117	56.427	88.326	1.00	72.57	C
ATOM	13432	O2*	C S	21	8.169	56.766	87.329	1.00	72.04	O
ATOM	13433	C1*	C S	21	9.453	57.607	89.239	1.00	72.94	C
ATOM	13434	N1	C S	21	10.813	57.424	89.884	1.00	72.95	N
ATOM	13435	C2	C S	21	11.976	57.724	89.145	1.00	72.95	C
ATOM	13436	O2	C S	21	11.876	58.161	87.989	1.00	72.98	O
ATOM	13437	N3	C S	21	13.197	57.546	89.723	1.00	72.89	N
ATOM	13438	C4	C S	21	13.295	57.076	90.968	1.00	72.75	C
ATOM	13439	N4	C S	21	14.520	56.920	91.476	1.00	72.52	N
ATOM	13440	C5	C S	21	12.135	56.756	91.738	1.00	72.84	C
ATOM	13441	C6	C S	21	10.935	56.939	91.165	1.00	72.85	C
ATOM	13442	P	C S	22	8.594	52.881	88.617	1.00	68.23	P
ATOM	13443	O1P	C S	22	7.500	51.915	88.367	1.00	68.25	O
ATOM	13444	O2P	C S	22	9.517	52.647	89.748	1.00	67.75	O
ATOM	13445	O5*	C S	22	9.462	53.008	87.275	1.00	65.75	O
ATOM	13446	C5*	C S	22	8.885	53.501	86.063	1.00	62.97	C
ATOM	13447	C4*	C S	22	9.936	53.983	85.077	1.00	61.03	C
ATOM	13448	O4*	C S	22	10.596	55.184	85.560	1.00	60.49	O
ATOM	13449	C3*	C S	22	11.081	53.024	84.814	1.00	59.09	C
ATOM	13450	O3*	C S	22	10.660	51.976	83.961	1.00	56.79	O
ATOM	13451	C2*	C S	22	12.105	53.989	84.214	1.00	59.31	C
ATOM	13452	O2*	C S	22	11.847	54.432	82.891	1.00	58.64	O
ATOM	13453	C1*	C S	22	11.965	55.146	85.193	1.00	59.29	C
ATOM	13454	N1	C S	22	12.836	54.967	86.402	1.00	59.29	N
ATOM	13455	C2	C S	22	14.178	55.364	86.348	1.00	58.70	C
ATOM	13456	O2	C S	22	14.620	55.862	85.311	1.00	58.52	O
ATOM	13457	N3	C S	22	14.963	55.196	87.443	1.00	58.73	N

ATOM	13458	C4	C S	22	14.466	54.655	88.555	1.00	58.75	C
ATOM	13459	N4	C S	22	15.275	54.511	89.606	1.00	58.84	N
ATOM	13460	C5	C S	22	13.105	54.238	88.638	1.00	59.01	C
ATOM	13461	C6	C S	22	12.341	54.408	87.552	1.00	59.21	C
ATOM	13462	P	A S	23	11.319	50.523	84.094	1.00	55.92	P
ATOM	13463	O1P	A S	23	10.609	49.673	83.116	1.00	56.22	O
ATOM	13464	O2P	A S	23	11.392	50.094	85.505	1.00	55.82	O
ATOM	13465	O5*	A S	23	12.822	50.769	83.625	1.00	54.50	O
ATOM	13466	C5*	A S	23	13.023	51.169	82.289	1.00	53.54	C
ATOM	13467	C4*	A S	23	14.445	51.621	82.041	1.00	52.81	C
ATOM	13468	O4*	A S	23	14.791	52.765	82.860	1.00	52.11	O
ATOM	13469	C3*	A S	23	15.507	50.596	82.374	1.00	52.10	C
ATOM	13470	O3*	A S	23	15.596	49.651	81.329	1.00	51.54	O
ATOM	13471	C2*	A S	23	16.725	51.493	82.472	1.00	51.57	C
ATOM	13472	O2*	A S	23	17.208	51.913	81.218	1.00	50.72	O
ATOM	13473	C1*	A S	23	16.145	52.661	83.248	1.00	51.37	C
ATOM	13474	N9	A S	23	16.222	52.451	84.686	1.00	51.41	N
ATOM	13475	C8	A S	23	15.218	52.099	85.548	1.00	51.44	C
ATOM	13476	N7	A S	23	15.604	51.989	86.797	1.00	51.47	N
ATOM	13477	C5	A S	23	16.953	52.283	86.750	1.00	51.56	C
ATOM	13478	C6	A S	23	17.950	52.338	87.748	1.00	51.82	C
ATOM	13479	N6	A S	23	17.709	52.080	89.039	1.00	51.06	N
ATOM	13480	N1	A S	23	19.205	52.662	87.354	1.00	51.07	N
ATOM	13481	C2	A S	23	19.437	52.913	86.060	1.00	50.88	C
ATOM	13482	N3	A S	23	18.584	52.893	85.037	1.00	50.80	N
ATOM	13483	C4	A S	23	17.351	52.571	85.455	1.00	51.30	C
ATOM	13484	P	G S	24	15.948	48.128	81.649	1.00	52.04	P
ATOM	13485	O1P	G S	24	15.783	47.408	80.365	1.00	51.52	O
ATOM	13486	O2P	G S	24	15.247	47.666	82.871	1.00	50.99	O
ATOM	13487	O5*	G S	24	17.482	48.241	82.052	1.00	49.89	O
ATOM	13488	C5*	G S	24	18.440	48.510	81.058	1.00	48.66	C
ATOM	13489	C4*	G S	24	19.708	48.964	81.737	1.00	47.81	C
ATOM	13490	O4*	G S	24	19.366	49.906	82.776	1.00	46.68	O
ATOM	13491	C3*	G S	24	20.455	47.903	82.523	1.00	47.12	C
ATOM	13492	O3*	G S	24	21.164	47.012	81.675	1.00	47.01	O
ATOM	13493	C2*	G S	24	21.350	48.792	83.372	1.00	46.60	C
ATOM	13494	O2*	G S	24	22.371	49.435	82.644	1.00	45.43	O
ATOM	13495	C1*	G S	24	20.328	49.826	83.812	1.00	46.17	C
ATOM	13496	N9	G S	24	19.662	49.568	85.081	1.00	45.78	N
ATOM	13497	C8	G S	24	18.336	49.333	85.322	1.00	46.20	C
ATOM	13498	N7	G S	24	18.056	49.173	86.589	1.00	46.35	N
ATOM	13499	C5	G S	24	19.271	49.316	87.231	1.00	46.07	C
ATOM	13500	C6	G S	24	19.612	49.252	88.606	1.00	46.20	C
ATOM	13501	O6	G S	24	18.890	49.047	89.593	1.00	45.81	O
ATOM	13502	N1	G S	24	20.975	49.458	88.793	1.00	46.29	N
ATOM	13503	C2	G S	24	21.889	49.698	87.796	1.00	45.99	C
ATOM	13504	N2	G S	24	23.166	49.872	88.158	1.00	46.29	N
ATOM	13505	N3	G S	24	21.570	49.760	86.521	1.00	45.62	N
ATOM	13506	C4	G S	24	20.259	49.561	86.309	1.00	45.76	C
ATOM	13507	P	U S	25	21.269	45.472	82.082	1.00	47.08	P
ATOM	13508	O1P	U S	25	21.612	44.694	80.877	1.00	45.48	O
ATOM	13509	O2P	U S	25	20.078	45.119	82.891	1.00	47.60	O
ATOM	13510	O5*	U S	25	22.463	45.454	83.132	1.00	46.65	O
ATOM	13511	C5*	U S	25	23.760	45.966	82.873	1.00	46.06	C
ATOM	13512	C4*	U S	25	24.527	45.876	84.179	1.00	46.22	C
ATOM	13513	O4*	U S	25	24.018	46.850	85.125	1.00	46.39	O
ATOM	13514	C3*	U S	25	24.345	44.569	84.929	1.00	45.93	C
ATOM	13515	O3*	U S	25	25.145	43.562	84.353	1.00	45.39	O
ATOM	13516	C2*	U S	25	24.755	44.964	86.338	1.00	46.45	C

ATOM	13517	O2*	U S	25	26.150	45.063	86.539	1.00	47.78	O
ATOM	13518	C1*	U S	25	24.087	46.330	86.444	1.00	46.20	C
ATOM	13519	N1	U S	25	22.727	46.235	87.045	1.00	45.80	N
ATOM	13520	C2	U S	25	22.606	46.143	88.413	1.00	45.89	C
ATOM	13521	O2	U S	25	23.555	46.147	89.167	1.00	45.27	O
ATOM	13522	N3	U S	25	21.313	46.056	88.873	1.00	46.32	N
ATOM	13523	C4	U S	25	20.151	46.037	88.125	1.00	46.06	C
ATOM	13524	O4	U S	25	19.061	45.953	88.680	1.00	46.13	O
ATOM	13525	C5	U S	25	20.352	46.125	86.708	1.00	45.85	C
ATOM	13526	C6	U S	25	21.602	46.213	86.238	1.00	46.43	C
ATOM	13527	P	U S	26	24.778	42.032	84.588	1.00	45.27	P
ATOM	13528	O1P	U S	26	25.807	41.253	83.878	1.00	43.47	O
ATOM	13529	O2P	U S	26	23.347	41.763	84.334	1.00	44.06	O
ATOM	13530	O5*	U S	26	24.998	41.933	86.169	1.00	44.44	O
ATOM	13531	C5*	U S	26	26.320	41.853	86.660	1.00	44.62	C
ATOM	13532	C4*	U S	26	26.360	41.747	88.165	1.00	44.11	C
ATOM	13533	O4*	U S	26	25.578	42.813	88.745	1.00	44.87	O
ATOM	13534	C3*	U S	26	25.765	40.467	88.719	1.00	44.45	C
ATOM	13535	O3*	U S	26	26.729	39.426	88.719	1.00	43.43	O
ATOM	13536	C2*	U S	26	25.410	40.897	90.130	1.00	45.06	C
ATOM	13537	O2*	U S	26	26.513	40.811	91.007	1.00	44.50	O
ATOM	13538	C1*	U S	26	24.950	42.338	89.917	1.00	45.19	C
ATOM	13539	N1	U S	26	23.444	42.460	89.804	1.00	45.67	N
ATOM	13540	C2	U S	26	22.729	42.540	90.979	1.00	45.83	C
ATOM	13541	O2	U S	26	23.270	42.515	92.066	1.00	46.36	O
ATOM	13542	N3	U S	26	21.364	42.654	90.840	1.00	45.50	N
ATOM	13543	C4	U S	26	20.636	42.698	89.662	1.00	46.16	C
ATOM	13544	O4	U S	26	19.404	42.805	89.705	1.00	45.81	O
ATOM	13545	C5	U S	26	21.444	42.604	88.464	1.00	45.39	C
ATOM	13546	C6	U S	26	22.778	42.490	88.583	1.00	45.36	C
ATOM	13547	P	G S	27	26.451	38.010	88.030	1.00	42.53	P
ATOM	13548	O1P	G S	27	27.660	37.179	88.274	1.00	42.08	O
ATOM	13549	O2P	G S	27	25.904	38.187	86.660	1.00	38.78	O
ATOM	13550	O5*	G S	27	25.303	37.495	89.003	1.00	40.70	O
ATOM	13551	C5*	G S	27	25.620	37.267	90.344	1.00	39.92	C
ATOM	13552	C4*	G S	27	24.344	37.093	91.126	1.00	39.95	C
ATOM	13553	O4*	G S	27	23.627	38.345	91.084	1.00	40.13	O
ATOM	13554	C3*	G S	27	23.352	36.062	90.595	1.00	39.60	C
ATOM	13555	O3*	G S	27	23.699	34.740	91.015	1.00	40.26	O
ATOM	13556	C2*	G S	27	22.083	36.577	91.249	1.00	39.11	C
ATOM	13557	O2*	G S	27	22.021	36.300	92.620	1.00	39.18	O
ATOM	13558	C1*	G S	27	22.246	38.075	91.076	1.00	39.11	C
ATOM	13559	N9	G S	27	21.674	38.550	89.832	1.00	39.19	N
ATOM	13560	C8	G S	27	22.162	38.423	88.551	1.00	39.38	C
ATOM	13561	N7	G S	27	21.371	38.945	87.651	1.00	39.80	N
ATOM	13562	C5	G S	27	20.297	39.442	88.392	1.00	39.40	C
ATOM	13563	C6	G S	27	19.125	40.130	87.994	1.00	39.45	C
ATOM	13564	O6	G S	27	18.762	40.469	86.855	1.00	39.57	O
ATOM	13565	N1	G S	27	18.318	40.433	89.089	1.00	39.34	N
ATOM	13566	C2	G S	27	18.597	40.125	90.394	1.00	39.09	C
ATOM	13567	N2	G S	27	17.702	40.502	91.312	1.00	39.31	N
ATOM	13568	N3	G S	27	19.690	39.502	90.772	1.00	38.55	N
ATOM	13569	C4	G S	27	20.480	39.198	89.729	1.00	38.45	C
ATOM	13570	P	A S	28	23.777	33.530	89.976	1.00	38.92	P
ATOM	13571	O1P	A S	28	24.376	34.001	88.703	1.00	40.03	O
ATOM	13572	O2P	A S	28	22.436	32.900	89.969	1.00	41.04	O
ATOM	13573	O5*	A S	28	24.800	32.561	90.703	1.00	39.18	O
ATOM	13574	C5*	A S	28	26.213	32.762	90.702	1.00	37.78	C
ATOM	13575	C4*	A S	28	26.935	31.444	90.453	1.00	37.29	C

ATOM	13576	O4*	A	S	28	26.655	30.478	91.501	1.00	37.19	O
ATOM	13577	C3*	A	S	28	26.551	30.711	89.180	1.00	37.38	C
ATOM	13578	O3*	A	S	28	27.656	29.961	88.750	1.00	37.70	O
ATOM	13579	C2*	A	S	28	25.375	29.840	89.622	1.00	37.16	C
ATOM	13580	O2*	A	S	28	25.206	28.642	88.897	1.00	38.49	O
ATOM	13581	C1*	A	S	28	25.751	29.503	91.054	1.00	36.27	C
ATOM	13582	N9	A	S	28	24.681	29.582	92.024	1.00	37.34	N
ATOM	13583	C8	A	S	28	23.477	30.248	91.965	1.00	36.47	C
ATOM	13584	N7	A	S	28	22.752	30.115	93.046	1.00	36.85	N
ATOM	13585	C5	A	S	28	23.531	29.310	93.856	1.00	36.22	C
ATOM	13586	C6	A	S	28	23.339	28.793	95.133	1.00	35.56	C
ATOM	13587	N6	A	S	28	22.242	29.024	95.840	1.00	36.49	N
ATOM	13588	N1	A	S	28	24.311	28.025	95.657	1.00	36.46	N
ATOM	13589	C2	A	S	28	25.404	27.791	94.935	1.00	36.10	C
ATOM	13590	N3	A	S	28	25.704	28.221	93.715	1.00	36.68	N
ATOM	13591	C4	A	S	28	24.719	28.982	93.244	1.00	36.67	C
ATOM	13592	P	C	S	29	28.762	30.561	87.764	1.00	38.54	P
ATOM	13593	O1P	C	S	29	28.596	32.021	87.546	1.00	38.54	O
ATOM	13594	O2P	C	S	29	28.762	29.630	86.623	1.00	37.93	O
ATOM	13595	O5*	C	S	29	30.117	30.347	88.575	1.00	38.41	O
ATOM	13596	C5*	C	S	29	31.358	30.305	87.884	1.00	39.41	C
ATOM	13597	C4*	C	S	29	32.275	29.224	88.413	1.00	39.89	C
ATOM	13598	O4*	C	S	29	32.209	29.218	89.860	1.00	40.60	O
ATOM	13599	C3*	C	S	29	31.925	27.794	88.043	1.00	40.50	C
ATOM	13600	O3*	C	S	29	32.360	27.424	86.722	1.00	41.06	O
ATOM	13601	C2*	C	S	29	32.700	27.085	89.138	1.00	40.51	C
ATOM	13602	O2*	C	S	29	34.072	27.080	88.907	1.00	40.66	O
ATOM	13603	C1*	C	S	29	32.412	27.929	90.370	1.00	41.07	C
ATOM	13604	N1	C	S	29	31.211	27.474	91.145	1.00	41.32	N
ATOM	13605	C2	C	S	29	31.225	26.202	91.735	1.00	41.73	C
ATOM	13606	O2	C	S	29	32.221	25.470	91.627	1.00	42.36	O
ATOM	13607	N3	C	S	29	30.142	25.799	92.434	1.00	42.78	N
ATOM	13608	C4	C	S	29	29.071	26.584	92.554	1.00	42.71	C
ATOM	13609	N4	C	S	29	28.025	26.124	93.244	1.00	41.50	N
ATOM	13610	C5	C	S	29	29.034	27.873	91.949	1.00	43.05	C
ATOM	13611	C6	C	S	29	30.112	28.273	91.261	1.00	42.15	C
ATOM	13612	P	G	S	30	31.268	27.101	85.602	1.00	41.73	P
ATOM	13613	O1P	G	S	30	31.718	27.575	84.290	1.00	41.67	O
ATOM	13614	O2P	G	S	30	29.978	27.554	86.157	1.00	43.61	O
ATOM	13615	O5*	G	S	30	31.187	25.503	85.558	1.00	43.44	O
ATOM	13616	C5*	G	S	30	32.242	24.653	85.103	1.00	43.00	C
ATOM	13617	C4*	G	S	30	32.897	23.915	86.255	1.00	42.88	C
ATOM	13618	O4*	G	S	30	32.469	24.507	87.500	1.00	43.58	O
ATOM	13619	C3*	G	S	30	32.525	22.461	86.473	1.00	43.25	C
ATOM	13620	O3*	G	S	30	33.194	21.592	85.575	1.00	43.15	O
ATOM	13621	C2*	G	S	30	33.013	22.260	87.893	1.00	43.22	C
ATOM	13622	O2*	G	S	30	34.407	22.085	87.968	1.00	44.10	O
ATOM	13623	C1*	G	S	30	32.599	23.574	88.548	1.00	42.42	C
ATOM	13624	N9	G	S	30	31.318	23.535	89.222	1.00	42.07	N
ATOM	13625	C8	G	S	30	30.257	24.382	89.032	1.00	42.42	C
ATOM	13626	N7	G	S	30	29.228	24.103	89.772	1.00	41.78	N
ATOM	13627	C5	G	S	30	29.631	22.998	90.487	1.00	41.61	C
ATOM	13628	C6	G	S	30	28.933	22.255	91.450	1.00	42.43	C
ATOM	13629	O6	G	S	30	27.785	22.429	91.893	1.00	42.64	O
ATOM	13630	N1	G	S	30	29.718	21.220	91.936	1.00	42.79	N
ATOM	13631	C2	G	S	30	30.993	20.927	91.551	1.00	42.05	C
ATOM	13632	N2	G	S	30	31.555	19.875	92.147	1.00	42.47	N
ATOM	13633	N3	G	S	30	31.655	21.615	90.651	1.00	42.12	N
ATOM	13634	C4	G	S	30	30.911	22.634	90.165	1.00	41.69	C

ATOM	13635	P	A S	31	32.480	20.239	85.121	1.00	43.02	P
ATOM	13636	O1P	A S	31	33.288	19.640	84.043	1.00	41.62	O
ATOM	13637	O2P	A S	31	31.020	20.439	84.916	1.00	40.94	O
ATOM	13638	O5*	A S	31	32.717	19.426	86.476	1.00	43.72	O
ATOM	13639	C5*	A S	31	33.722	18.440	86.583	1.00	44.27	C
ATOM	13640	C4*	A S	31	33.385	17.465	87.694	1.00	45.43	C
ATOM	13641	O4*	A S	31	32.974	18.189	88.884	1.00	45.65	O
ATOM	13642	C3*	A S	31	32.214	16.545	87.391	1.00	46.24	C
ATOM	13643	O3*	A S	31	32.592	15.394	86.647	1.00	45.14	O
ATOM	13644	C2*	A S	31	31.790	16.172	88.793	1.00	46.41	C
ATOM	13645	O2*	A S	31	32.645	15.181	89.301	1.00	48.04	O
ATOM	13646	C1*	A S	31	31.939	17.490	89.540	1.00	46.98	C
ATOM	13647	N9	A S	31	30.689	18.264	89.556	1.00	48.05	N
ATOM	13648	C8	A S	31	30.342	19.373	88.833	1.00	48.16	C
ATOM	13649	N7	A S	31	29.129	19.822	89.087	1.00	48.74	N
ATOM	13650	C5	A S	31	28.639	18.946	90.032	1.00	47.93	C
ATOM	13651	C6	A S	31	27.409	18.866	90.715	1.00	47.52	C
ATOM	13652	N6	A S	31	26.397	19.716	90.550	1.00	47.46	N
ATOM	13653	N1	A S	31	27.256	17.864	91.597	1.00	47.75	N
ATOM	13654	C2	A S	31	28.259	16.996	91.785	1.00	48.43	C
ATOM	13655	N3	A S	31	29.461	16.972	91.201	1.00	48.38	N
ATOM	13656	C4	A S	31	29.587	17.986	90.330	1.00	47.97	C
ATOM	13657	P	G S	32	31.532	14.763	85.639	1.00	45.04	P
ATOM	13658	O1P	G S	32	32.131	13.593	84.967	1.00	47.30	O
ATOM	13659	O2P	G S	32	30.956	15.816	84.765	1.00	46.55	O
ATOM	13660	O5*	G S	32	30.425	14.301	86.680	1.00	44.39	O
ATOM	13661	C5*	G S	32	30.630	13.287	87.634	1.00	44.38	C
ATOM	13662	C4*	G S	32	29.310	12.963	88.318	1.00	44.13	C
ATOM	13663	O4*	G S	32	28.847	14.044	89.183	1.00	43.20	O
ATOM	13664	C3*	G S	32	28.191	12.744	87.315	1.00	44.47	C
ATOM	13665	O3*	G S	32	28.228	11.401	86.827	1.00	44.04	O
ATOM	13666	C2*	G S	32	26.972	13.089	88.163	1.00	44.06	C
ATOM	13667	O2*	G S	32	26.599	12.027	89.003	1.00	45.33	O
ATOM	13668	C1*	G S	32	27.467	14.273	88.979	1.00	43.30	C
ATOM	13669	N9	G S	32	27.237	15.560	88.313	1.00	43.14	N
ATOM	13670	C8	G S	32	28.031	16.211	87.402	1.00	43.07	C
ATOM	13671	N7	G S	32	27.553	17.350	86.993	1.00	42.72	N
ATOM	13672	C5	G S	32	26.351	17.477	87.665	1.00	43.34	C
ATOM	13673	C6	G S	32	25.366	18.509	87.640	1.00	43.46	C
ATOM	13674	O6	G S	32	25.339	19.558	86.998	1.00	43.50	O
ATOM	13675	N1	G S	32	24.296	18.246	88.481	1.00	42.82	N
ATOM	13676	C2	G S	32	24.175	17.122	89.257	1.00	43.18	C
ATOM	13677	N2	G S	32	23.063	17.054	90.001	1.00	43.61	N
ATOM	13678	N3	G S	32	25.080	16.145	89.302	1.00	43.49	N
ATOM	13679	C4	G S	32	26.142	16.381	88.481	1.00	43.73	C
ATOM	13680	P	G S	33	27.254	10.963	85.643	1.00	43.38	P
ATOM	13681	O1P	G S	33	27.485	9.539	85.328	1.00	45.08	O
ATOM	13682	O2P	G S	33	27.381	11.969	84.575	1.00	43.95	O
ATOM	13683	O5*	G S	33	25.801	11.070	86.288	1.00	44.06	O
ATOM	13684	C5*	G S	33	25.149	10.004	86.953	1.00	43.25	C
ATOM	13685	C4*	G S	33	23.791	10.498	87.416	1.00	43.73	C
ATOM	13686	O4*	G S	33	23.928	11.851	87.932	1.00	43.99	O
ATOM	13687	C3*	G S	33	22.724	10.594	86.339	1.00	43.45	C
ATOM	13688	O3*	G S	33	22.021	9.351	86.201	1.00	44.49	O
ATOM	13689	C2*	G S	33	21.824	11.701	86.876	1.00	43.64	C
ATOM	13690	O2*	G S	33	20.832	11.267	87.789	1.00	42.86	O
ATOM	13691	C1*	G S	33	22.806	12.631	87.583	1.00	44.06	C
ATOM	13692	N9	G S	33	23.195	13.767	86.745	1.00	44.45	N
ATOM	13693	C8	G S	33	24.171	13.843	85.774	1.00	44.17	C

ATOM	13694	N7	G S	33	24.254	15.011	85.195	1.00	43.59	N
ATOM	13695	C5	G S	33	23.257	15.746	85.816	1.00	43.73	C
ATOM	13696	C6	G S	33	22.849	17.079	85.620	1.00	44.03	C
ATOM	13697	O6	G S	33	23.286	17.928	84.842	1.00	44.93	O
ATOM	13698	N1	G S	33	21.805	17.436	86.450	1.00	44.44	N
ATOM	13699	C2	G S	33	21.208	16.624	87.369	1.00	44.13	C
ATOM	13700	N2	G S	33	20.216	17.197	88.067	1.00	44.19	N
ATOM	13701	N3	G S	33	21.571	15.363	87.571	1.00	43.90	N
ATOM	13702	C4	G S	33	22.597	15.001	86.764	1.00	43.98	C
ATOM	13703	P	U S	34	21.537	8.752	84.796	1.00	45.25	P
ATOM	13704	O1P	U S	34	21.586	7.273	84.894	1.00	45.39	O
ATOM	13705	O2P	U S	34	22.265	9.458	83.720	1.00	44.88	O
ATOM	13706	O5*	U S	34	20.003	9.154	84.707	1.00	46.51	O
ATOM	13707	C5*	U S	34	19.179	8.994	85.848	1.00	49.75	C
ATOM	13708	C4*	U S	34	17.707	9.000	85.479	1.00	51.14	C
ATOM	13709	O4*	U S	34	17.326	10.305	84.972	1.00	52.45	O
ATOM	13710	C3*	U S	34	17.317	8.025	84.375	1.00	52.07	C
ATOM	13711	O3*	U S	34	16.001	7.547	84.599	1.00	52.54	O
ATOM	13712	C2*	U S	34	17.395	8.890	83.123	1.00	52.16	C
ATOM	13713	O2*	U S	34	16.697	8.356	82.019	1.00	51.38	O
ATOM	13714	C1*	U S	34	16.756	10.154	83.684	1.00	52.44	C
ATOM	13715	N1	U S	34	16.991	11.421	82.915	1.00	53.08	N
ATOM	13716	C2	U S	34	15.938	12.306	82.751	1.00	53.05	C
ATOM	13717	O2	U S	34	14.816	12.106	83.190	1.00	53.14	O
ATOM	13718	N3	U S	34	16.250	13.443	82.039	1.00	53.28	N
ATOM	13719	C4	U S	34	17.478	13.783	81.489	1.00	53.17	C
ATOM	13720	O4	U S	34	17.611	14.838	80.871	1.00	53.50	O
ATOM	13721	C5	U S	34	18.526	12.819	81.707	1.00	53.30	C
ATOM	13722	C6	U S	34	18.247	11.703	82.397	1.00	53.18	C
ATOM	13723	P	G S	35	15.728	6.076	85.166	1.00	52.74	P
ATOM	13724	O1P	G S	35	15.436	6.194	86.612	1.00	51.31	O
ATOM	13725	O2P	G S	35	16.800	5.170	84.669	1.00	52.71	O
ATOM	13726	O5*	G S	35	14.350	5.743	84.433	1.00	52.34	O
ATOM	13727	C5*	G S	35	14.252	5.693	83.022	1.00	52.87	C
ATOM	13728	C4*	G S	35	12.988	4.950	82.666	1.00	53.11	C
ATOM	13729	O4*	G S	35	13.092	3.587	83.160	1.00	53.16	O
ATOM	13730	C3*	G S	35	11.733	5.512	83.321	1.00	53.13	C
ATOM	13731	O3*	G S	35	11.170	6.582	82.564	1.00	52.92	O
ATOM	13732	C2*	G S	35	10.833	4.286	83.363	1.00	53.18	C
ATOM	13733	O2*	G S	35	10.187	4.038	82.129	1.00	52.45	O
ATOM	13734	C1*	G S	35	11.846	3.195	83.714	1.00	53.70	C
ATOM	13735	N9	G S	35	11.979	2.959	85.154	1.00	53.82	N
ATOM	13736	C8	G S	35	13.047	3.244	85.972	1.00	54.32	C
ATOM	13737	N7	G S	35	12.863	2.908	87.221	1.00	54.51	N
ATOM	13738	C5	G S	35	11.591	2.359	87.238	1.00	54.14	C
ATOM	13739	C6	G S	35	10.846	1.817	88.313	1.00	54.01	C
ATOM	13740	O6	G S	35	11.179	1.711	89.502	1.00	53.83	O
ATOM	13741	N1	G S	35	9.594	1.363	87.896	1.00	54.21	N
ATOM	13742	C2	G S	35	9.112	1.427	86.609	1.00	54.29	C
ATOM	13743	N2	G S	35	7.878	0.941	86.407	1.00	54.12	N
ATOM	13744	N3	G S	35	9.804	1.938	85.593	1.00	54.52	N
ATOM	13745	C4	G S	35	11.033	2.383	85.976	1.00	54.25	C
ATOM	13746	P	G S	36	10.302	7.718	83.298	1.00	53.56	P
ATOM	13747	O1P	G S	36	9.879	8.708	82.278	1.00	53.10	O
ATOM	13748	O2P	G S	36	11.076	8.161	84.485	1.00	52.44	O
ATOM	13749	O5*	G S	36	8.985	6.954	83.780	1.00	51.67	O
ATOM	13750	C5*	G S	36	7.986	6.614	82.848	1.00	51.67	C
ATOM	13751	C4*	G S	36	6.761	6.080	83.561	1.00	51.60	C
ATOM	13752	O4*	G S	36	7.041	4.795	84.179	1.00	51.33	O

ATOM	13753	C3*	G S	36	6.273	6.926	84.727	1.00	51.43	C
ATOM	13754	O3*	G S	36	5.586	8.085	84.284	1.00	51.61	O
ATOM	13755	C2*	G S	36	5.378	5.917	85.427	1.00	50.99	C
ATOM	13756	O2*	G S	36	4.156	5.701	84.748	1.00	50.83	O
ATOM	13757	C1*	G S	36	6.303	4.698	85.390	1.00	50.60	C
ATOM	13758	N9	G S	36	7.215	4.656	86.538	1.00	50.54	N
ATOM	13759	C8	G S	36	8.551	4.994	86.601	1.00	50.36	C
ATOM	13760	N7	G S	36	9.079	4.855	87.787	1.00	50.01	N
ATOM	13761	C5	G S	36	8.026	4.405	88.565	1.00	49.89	C
ATOM	13762	C6	G S	36	7.980	4.074	89.939	1.00	49.95	C
ATOM	13763	O6	G S	36	8.887	4.110	90.786	1.00	49.85	O
ATOM	13764	N1	G S	36	6.705	3.657	90.312	1.00	50.24	N
ATOM	13765	C2	G S	36	5.610	3.565	89.487	1.00	50.21	C
ATOM	13766	N2	G S	36	4.471	3.142	90.050	1.00	50.19	N
ATOM	13767	N3	G S	36	5.640	3.870	88.198	1.00	50.15	N
ATOM	13768	C4	G S	36	6.875	4.280	87.813	1.00	50.22	C
ATOM	13769	P	G S	37	5.565	9.382	85.216	1.00	52.40	P
ATOM	13770	O1P	G S	37	4.871	10.471	84.482	1.00	52.38	O
ATOM	13771	O2P	G S	37	6.935	9.590	85.738	1.00	51.42	O
ATOM	13772	O5*	G S	37	4.610	8.914	86.405	1.00	51.65	O
ATOM	13773	C5*	G S	37	3.234	8.737	86.149	1.00	51.66	C
ATOM	13774	C4*	G S	37	2.536	8.209	87.381	1.00	51.62	C
ATOM	13775	O4*	G S	37	3.102	6.934	87.773	1.00	51.47	O
ATOM	13776	C3*	G S	37	2.696	9.055	88.630	1.00	51.71	C
ATOM	13777	O3*	G S	37	1.872	10.206	88.565	1.00	52.20	O
ATOM	13778	C2*	G S	37	2.280	8.037	89.686	1.00	51.62	C
ATOM	13779	O2*	G S	37	0.898	7.736	89.720	1.00	51.77	O
ATOM	13780	C1*	G S	37	3.083	6.842	89.189	1.00	51.30	C
ATOM	13781	N9	G S	37	4.443	6.867	89.716	1.00	51.22	N
ATOM	13782	C8	G S	37	5.604	7.199	89.057	1.00	51.00	C
ATOM	13783	N7	G S	37	6.664	7.138	89.808	1.00	51.03	N
ATOM	13784	C5	G S	37	6.176	6.747	91.046	1.00	50.98	C
ATOM	13785	C6	G S	37	6.864	6.508	92.260	1.00	51.14	C
ATOM	13786	O6	G S	37	8.080	6.606	92.485	1.00	51.29	O
ATOM	13787	N1	G S	37	5.990	6.123	93.276	1.00	51.17	N
ATOM	13788	C2	G S	37	4.628	5.982	93.147	1.00	50.77	C
ATOM	13789	N2	G S	37	3.976	5.604	94.252	1.00	50.48	N
ATOM	13790	N3	G S	37	3.970	6.197	92.013	1.00	50.73	N
ATOM	13791	C4	G S	37	4.808	6.575	91.009	1.00	51.09	C
ATOM	13792	P	G S	38	2.365	11.624	89.118	1.00	53.24	P
ATOM	13793	O1P	G S	38	1.380	12.616	88.643	1.00	53.61	O
ATOM	13794	O2P	G S	38	3.798	11.804	88.800	1.00	52.97	O
ATOM	13795	O5*	G S	38	2.206	11.506	90.705	1.00	53.17	O
ATOM	13796	C5*	G S	38	0.980	11.068	91.269	1.00	54.00	C
ATOM	13797	C4*	G S	38	1.197	10.602	92.690	1.00	54.40	C
ATOM	13798	O4*	G S	38	1.972	9.376	92.709	1.00	55.04	O
ATOM	13799	C3*	G S	38	2.007	11.548	93.554	1.00	54.72	C
ATOM	13800	O3*	G S	38	1.183	12.614	93.982	1.00	54.69	O
ATOM	13801	C2*	G S	38	2.454	10.584	94.649	1.00	55.24	C
ATOM	13802	O2*	G S	38	1.427	10.147	95.524	1.00	54.81	O
ATOM	13803	C1*	G S	38	2.928	9.440	93.759	1.00	55.68	C
ATOM	13804	N9	G S	38	4.288	9.598	93.209	1.00	56.00	N
ATOM	13805	C8	G S	38	4.659	9.879	91.909	1.00	55.99	C
ATOM	13806	N7	G S	38	5.949	9.942	91.725	1.00	55.92	N
ATOM	13807	C5	G S	38	6.478	9.683	92.982	1.00	56.10	C
ATOM	13808	C6	G S	38	7.828	9.616	93.411	1.00	56.18	C
ATOM	13809	O6	G S	38	8.857	9.782	92.742	1.00	56.31	O
ATOM	13810	N1	G S	38	7.932	9.331	94.771	1.00	56.04	N
ATOM	13811	C2	G S	38	6.872	9.131	95.623	1.00	55.99	C

ATOM	13812	N2	G S	38	7.169	8.866	96.903	1.00	56.00	N
ATOM	13813	N3	G S	38	5.602	9.188	95.234	1.00	56.34	N
ATOM	13814	C4	G S	38	5.475	9.468	93.905	1.00	56.07	C
ATOM	13815	P	U S	39	1.682	14.132	93.919	1.00	55.07	P
ATOM	13816	O1P	U S	39	0.493	15.012	93.938	1.00	55.06	O
ATOM	13817	O2P	U S	39	2.673	14.285	92.828	1.00	55.39	O
ATOM	13818	O5*	U S	39	2.422	14.271	95.333	1.00	54.79	O
ATOM	13819	C5*	U S	39	1.823	13.785	96.543	1.00	53.74	C
ATOM	13820	C4*	U S	39	2.868	13.510	97.612	1.00	53.35	C
ATOM	13821	O4*	U S	39	3.619	12.313	97.284	1.00	52.81	O
ATOM	13822	C3*	U S	39	3.949	14.570	97.786	1.00	53.39	C
ATOM	13823	O3*	U S	39	3.483	15.674	98.553	1.00	53.08	O
ATOM	13824	C2*	U S	39	5.023	13.751	98.490	1.00	53.20	C
ATOM	13825	O2*	U S	39	4.713	13.405	99.829	1.00	53.40	O
ATOM	13826	C1*	U S	39	4.993	12.518	97.604	1.00	52.67	C
ATOM	13827	N1	U S	39	5.843	12.624	96.358	1.00	52.02	N
ATOM	13828	C2	U S	39	7.211	12.481	96.479	1.00	52.00	C
ATOM	13829	O2	U S	39	7.774	12.289	97.542	1.00	52.25	O
ATOM	13830	N3	U S	39	7.912	12.569	95.300	1.00	51.60	N
ATOM	13831	C4	U S	39	7.407	12.784	94.034	1.00	51.68	C
ATOM	13832	O4	U S	39	8.166	12.836	93.074	1.00	51.50	O
ATOM	13833	C5	U S	39	5.973	12.925	93.979	1.00	52.09	C
ATOM	13834	C6	U S	39	5.267	12.840	95.115	1.00	51.90	C
ATOM	13835	P	U S	40	3.674	17.183	98.055	1.00	53.94	P
ATOM	13836	O1P	U S	40	2.567	17.953	98.674	1.00	52.96	O
ATOM	13837	O2P	U S	40	3.853	17.196	96.581	1.00	52.61	O
ATOM	13838	O5*	U S	40	5.065	17.625	98.730	1.00	52.99	O
ATOM	13839	C5*	U S	40	5.482	17.216	100.053	1.00	52.71	C
ATOM	13840	C4*	U S	40	7.000	17.086	100.203	1.00	52.52	C
ATOM	13841	O4*	U S	40	7.471	15.850	99.600	1.00	52.07	O
ATOM	13842	C3*	U S	40	7.863	18.166	99.550	1.00	52.34	C
ATOM	13843	O3*	U S	40	7.991	19.316	100.369	1.00	52.13	O
ATOM	13844	C2*	U S	40	9.197	17.448	99.408	1.00	52.33	C
ATOM	13845	O2*	U S	40	9.927	17.394	100.619	1.00	52.26	O
ATOM	13846	C1*	U S	40	8.712	16.073	98.955	1.00	52.11	C
ATOM	13847	N1	U S	40	8.554	16.032	97.467	1.00	52.14	N
ATOM	13848	C2	U S	40	9.688	15.896	96.698	1.00	51.87	C
ATOM	13849	O2	U S	40	10.796	15.795	97.182	1.00	51.92	O
ATOM	13850	N3	U S	40	9.477	15.876	95.340	1.00	52.03	N
ATOM	13851	C4	U S	40	8.267	15.987	94.678	1.00	51.79	C
ATOM	13852	O4	U S	40	8.235	15.950	93.454	1.00	51.90	O
ATOM	13853	C5	U S	40	7.122	16.133	95.540	1.00	51.91	C
ATOM	13854	C6	U S	40	7.307	16.151	96.870	1.00	52.07	C
ATOM	13855	P	U S	41	8.372	20.716	99.717	1.00	52.31	P
ATOM	13856	O1P	U S	41	8.188	21.746	100.754	1.00	52.38	O
ATOM	13857	O2P	U S	41	7.647	20.828	98.436	1.00	52.37	O
ATOM	13858	O5*	U S	41	9.940	20.608	99.418	1.00	53.33	O
ATOM	13859	C5*	U S	41	10.633	21.767	98.948	1.00	54.92	C
ATOM	13860	C4*	U S	41	12.031	21.902	99.531	1.00	55.62	C
ATOM	13861	O4*	U S	41	12.001	22.601	100.806	1.00	57.47	O
ATOM	13862	C3*	U S	41	12.755	20.590	99.814	1.00	56.12	C
ATOM	13863	O3*	U S	41	14.170	20.705	99.534	1.00	54.28	O
ATOM	13864	C2*	U S	41	12.423	20.386	101.293	1.00	56.71	C
ATOM	13865	O2*	U S	41	13.280	19.463	101.926	1.00	56.51	O
ATOM	13866	C1*	U S	41	12.564	21.813	101.844	1.00	58.74	C
ATOM	13867	N1	U S	41	11.800	22.170	103.110	1.00	60.04	N
ATOM	13868	C2	U S	41	11.431	21.197	104.042	1.00	61.09	C
ATOM	13869	O2	U S	41	11.695	20.005	103.954	1.00	60.80	O
ATOM	13870	N3	U S	41	10.719	21.675	105.126	1.00	61.20	N

ATOM	13871	C4	U S	41	10.335	22.986	105.383	1.00	60.70	C
ATOM	13872	O4	U S	41	9.690	23.237	106.404	1.00	60.56	O
ATOM	13873	C5	U S	41	10.743	23.942	104.378	1.00	60.57	C
ATOM	13874	C6	U S	41	11.440	23.504	103.312	1.00	60.86	C
ATOM	13875	P	A S	42	14.723	20.845	98.025	1.00	53.05	P
ATOM	13876	O1P	A S	42	15.940	21.687	98.112	1.00	51.33	O
ATOM	13877	O2P	A S	42	13.611	21.174	97.096	1.00	52.52	O
ATOM	13878	O5*	A S	42	15.093	19.352	97.615	1.00	49.47	O
ATOM	13879	C5*	A S	42	15.989	18.582	98.372	1.00	46.81	C
ATOM	13880	C4*	A S	42	16.926	17.900	97.407	1.00	45.23	C
ATOM	13881	O4*	A S	42	16.137	17.288	96.354	1.00	44.08	O
ATOM	13882	C3*	A S	42	17.895	18.844	96.713	1.00	43.73	C
ATOM	13883	O3*	A S	42	19.132	18.198	96.620	1.00	43.02	O
ATOM	13884	C2*	A S	42	17.261	19.057	95.341	1.00	43.99	C
ATOM	13885	O2*	A S	42	18.196	19.383	94.328	1.00	42.96	O
ATOM	13886	C1*	A S	42	16.645	17.681	95.101	1.00	42.85	C
ATOM	13887	N9	A S	42	15.573	17.638	94.110	1.00	42.31	N
ATOM	13888	C8	A S	42	14.247	17.969	94.250	1.00	42.23	C
ATOM	13889	N7	A S	42	13.533	17.814	93.154	1.00	41.58	N
ATOM	13890	C5	A S	42	14.458	17.351	92.229	1.00	41.92	C
ATOM	13891	C6	A S	42	14.371	16.985	90.867	1.00	41.97	C
ATOM	13892	N6	A S	42	13.251	17.022	90.149	1.00	41.81	N
ATOM	13893	N1	A S	42	15.496	16.560	90.249	1.00	42.27	N
ATOM	13894	C2	A S	42	16.641	16.511	90.943	1.00	42.04	C
ATOM	13895	N3	A S	42	16.853	16.821	92.217	1.00	41.94	N
ATOM	13896	C4	A S	42	15.717	17.239	92.805	1.00	42.36	C
ATOM	13897	P	U S	43	20.303	18.567	97.629	1.00	43.11	P
ATOM	13898	O1P	U S	43	19.820	18.393	99.018	1.00	41.93	O
ATOM	13899	O2P	U S	43	20.880	19.840	97.157	1.00	41.02	O
ATOM	13900	O5*	U S	43	21.368	17.415	97.352	1.00	43.03	O
ATOM	13901	C5*	U S	43	21.082	16.077	97.665	1.00	43.10	C
ATOM	13902	C4*	U S	43	22.252	15.173	97.323	1.00	43.34	C
ATOM	13903	O4*	U S	43	22.200	14.813	95.919	1.00	43.80	O
ATOM	13904	C3*	U S	43	23.639	15.773	97.531	1.00	43.49	C
ATOM	13905	O3*	U S	43	24.049	15.577	98.845	1.00	42.53	O
ATOM	13906	C2*	U S	43	24.451	14.930	96.570	1.00	44.12	C
ATOM	13907	O2*	U S	43	24.682	13.625	97.052	1.00	45.20	O
ATOM	13908	C1*	U S	43	23.505	14.918	95.378	1.00	44.98	C
ATOM	13909	N1	U S	43	23.635	16.161	94.555	1.00	45.83	N
ATOM	13910	C2	U S	43	24.772	16.330	93.800	1.00	45.59	C
ATOM	13911	O2	U S	43	25.673	15.518	93.763	1.00	46.98	O
ATOM	13912	N3	U S	43	24.820	17.484	93.070	1.00	45.77	N
ATOM	13913	C4	U S	43	23.884	18.493	93.017	1.00	45.52	C
ATOM	13914	O4	U S	43	24.087	19.475	92.311	1.00	45.26	O
ATOM	13915	C5	U S	43	22.725	18.262	93.833	1.00	46.16	C
ATOM	13916	C6	U S	43	22.646	17.132	94.552	1.00	46.44	C
ATOM	13917	P	C S	44	24.996	16.584	99.639	1.00	43.79	P
ATOM	13918	O1P	C S	44	25.217	15.938	100.962	1.00	42.82	O
ATOM	13919	O2P	C S	44	24.437	17.949	99.584	1.00	43.20	O
ATOM	13920	O5*	C S	44	26.350	16.597	98.795	1.00	41.65	O
ATOM	13921	C5*	C S	44	27.309	15.611	99.045	1.00	43.20	C
ATOM	13922	C4*	C S	44	28.447	15.704	98.051	1.00	43.45	C
ATOM	13923	O4*	C S	44	27.927	15.803	96.705	1.00	42.97	O
ATOM	13924	C3*	C S	44	29.341	16.924	98.168	1.00	43.58	C
ATOM	13925	O3*	C S	44	30.264	16.806	99.230	1.00	43.48	O
ATOM	13926	C2*	C S	44	30.008	16.902	96.804	1.00	44.09	C
ATOM	13927	O2*	C S	44	30.959	15.872	96.613	1.00	45.14	O
ATOM	13928	C1*	C S	44	28.790	16.631	95.937	1.00	43.57	C
ATOM	13929	N1	C S	44	28.127	17.903	95.493	1.00	43.69	N

ATOM	13930	C2	C S	44	28.758	18.672	94.514	1.00	43.63	C
ATOM	13931	O2	C S	44	29.842	18.311	94.045	1.00	43.48	O
ATOM	13932	N3	C S	44	28.166	19.814	94.098	1.00	43.48	N
ATOM	13933	C4	C S	44	27.008	20.210	94.597	1.00	42.00	C
ATOM	13934	N4	C S	44	26.513	21.347	94.129	1.00	42.32	N
ATOM	13935	C5	C S	44	26.344	19.457	95.595	1.00	42.57	C
ATOM	13936	C6	C S	44	26.929	18.322	96.006	1.00	43.42	C
ATOM	13937	P	G S	45	30.017	17.638	100.574	1.00	46.67	P
ATOM	13938	O1P	G S	45	30.454	16.828	101.736	1.00	47.54	O
ATOM	13939	O2P	G S	45	28.618	18.102	100.549	1.00	47.78	O
ATOM	13940	O5*	G S	45	30.946	18.946	100.451	1.00	44.85	O
ATOM	13941	C5*	G S	45	32.340	18.958	100.707	1.00	43.57	C
ATOM	13942	C4*	G S	45	33.099	19.148	99.406	1.00	43.79	C
ATOM	13943	O4*	G S	45	32.211	18.893	98.284	1.00	44.42	O
ATOM	13944	C3*	G S	45	33.638	20.532	99.082	1.00	43.03	C
ATOM	13945	O3*	G S	45	34.875	20.753	99.682	1.00	42.59	O
ATOM	13946	C2*	G S	45	33.823	20.426	97.581	1.00	43.28	C
ATOM	13947	O2*	G S	45	34.900	19.583	97.228	1.00	42.37	O
ATOM	13948	C1*	G S	45	32.522	19.749	97.203	1.00	42.78	C
ATOM	13949	N9	G S	45	31.382	20.621	96.969	1.00	42.89	N
ATOM	13950	C8	G S	45	30.139	20.566	97.564	1.00	42.97	C
ATOM	13951	N7	G S	45	29.304	21.459	97.125	1.00	42.78	N
ATOM	13952	C5	G S	45	30.038	22.140	96.162	1.00	42.46	C
ATOM	13953	C6	G S	45	29.671	23.220	95.335	1.00	42.35	C
ATOM	13954	O6	G S	45	28.583	23.804	95.281	1.00	42.70	O
ATOM	13955	N1	G S	45	30.711	23.616	94.500	1.00	42.59	N
ATOM	13956	C2	G S	45	31.950	23.036	94.457	1.00	42.69	C
ATOM	13957	N2	G S	45	32.826	23.557	93.584	1.00	43.32	N
ATOM	13958	N3	G S	45	32.309	22.022	95.231	1.00	42.27	N
ATOM	13959	C4	G S	45	31.311	21.632	96.050	1.00	42.51	C
ATOM	13960	P	A S	46	35.179	22.133	100.428	1.00	43.84	P
ATOM	13961	O1P	A S	46	36.456	21.960	101.164	1.00	41.26	O
ATOM	13962	O2P	A S	46	33.969	22.595	101.175	1.00	41.07	O
ATOM	13963	O5*	A S	46	35.453	23.027	99.127	1.00	41.98	O
ATOM	13964	C5*	A S	46	36.688	22.842	98.457	1.00	41.37	C
ATOM	13965	C4*	A S	46	36.882	23.869	97.368	1.00	40.58	C
ATOM	13966	O4*	A S	46	35.845	23.715	96.377	1.00	40.43	O
ATOM	13967	C3*	A S	46	36.724	25.303	97.807	1.00	40.45	C
ATOM	13968	O3*	A S	46	37.890	25.766	98.431	1.00	40.42	O
ATOM	13969	C2*	A S	46	36.450	25.987	96.487	1.00	39.66	C
ATOM	13970	O2*	A S	46	37.609	26.091	95.695	1.00	39.63	O
ATOM	13971	C1*	A S	46	35.461	24.996	95.901	1.00	39.90	C
ATOM	13972	N9	A S	46	34.046	25.233	96.229	1.00	39.99	N
ATOM	13973	C8	A S	46	33.209	24.497	97.026	1.00	39.14	C
ATOM	13974	N7	A S	46	31.989	24.972	97.092	1.00	39.14	N
ATOM	13975	C5	A S	46	32.026	26.090	96.286	1.00	39.07	C
ATOM	13976	C6	A S	46	31.060	27.045	95.916	1.00	38.79	C
ATOM	13977	N6	A S	46	29.801	27.041	96.338	1.00	39.70	N
ATOM	13978	N1	A S	46	31.432	28.041	95.104	1.00	39.18	N
ATOM	13979	C2	A S	46	32.690	28.081	94.661	1.00	39.42	C
ATOM	13980	N3	A S	46	33.680	27.239	94.927	1.00	39.73	N
ATOM	13981	C4	A S	46	33.280	26.260	95.749	1.00	39.37	C
ATOM	13982	P	G S	47	37.748	26.850	99.596	1.00	39.74	P
ATOM	13983	O1P	G S	47	39.147	27.138	100.002	1.00	41.89	O
ATOM	13984	O2P	G S	47	36.730	26.402	100.569	1.00	38.82	O
ATOM	13985	O5*	G S	47	37.159	28.125	98.860	1.00	41.42	O
ATOM	13986	C5*	G S	47	37.904	28.785	97.871	1.00	42.72	C
ATOM	13987	C4*	G S	47	37.055	29.876	97.265	1.00	44.10	C
ATOM	13988	O4*	G S	47	35.837	29.312	96.723	1.00	44.44	O

ATOM	13989	C3*	G S	47	36.585	30.941	98.226	1.00	45.39	C
ATOM	13990	O3*	G S	47	37.582	31.948	98.343	1.00	46.94	O
ATOM	13991	C2*	G S	47	35.326	31.428	97.520	1.00	45.72	C
ATOM	13992	O2*	G S	47	35.598	32.299	96.444	1.00	46.35	O
ATOM	13993	C1*	G S	47	34.742	30.165	96.931	1.00	45.23	C
ATOM	13994	N9	G S	47	33.761	29.425	97.722	1.00	45.39	N
ATOM	13995	C8	G S	47	33.974	28.247	98.408	1.00	45.43	C
ATOM	13996	N7	G S	47	32.917	27.781	98.997	1.00	45.50	N
ATOM	13997	C5	G S	47	31.939	28.709	98.664	1.00	45.89	C
ATOM	13998	C6	G S	47	30.577	28.722	99.024	1.00	45.33	C
ATOM	13999	O6	G S	47	30.017	27.879	99.722	1.00	45.87	O
ATOM	14000	N1	G S	47	29.887	29.825	98.517	1.00	45.13	N
ATOM	14001	C2	G S	47	30.460	30.799	97.729	1.00	45.73	C
ATOM	14002	N2	G S	47	29.636	31.787	97.322	1.00	45.25	N
ATOM	14003	N3	G S	47	31.757	30.794	97.371	1.00	45.58	N
ATOM	14004	C4	G S	47	32.430	29.724	97.873	1.00	44.88	C
ATOM	14005	P	A S	48	37.783	32.753	99.705	1.00	49.79	P
ATOM	14006	O1P	A S	48	38.871	33.729	99.477	1.00	50.06	O
ATOM	14007	O2P	A S	48	37.836	31.832	100.867	1.00	48.51	O
ATOM	14008	O5*	A S	48	36.427	33.572	99.780	1.00	51.20	O
ATOM	14009	C5*	A S	48	36.102	34.545	98.818	1.00	52.92	C
ATOM	14010	C4*	A S	48	34.675	34.984	99.061	1.00	54.05	C
ATOM	14011	O4*	A S	48	33.835	33.813	99.194	1.00	54.12	O
ATOM	14012	C3*	A S	48	34.488	35.760	100.355	1.00	55.06	C
ATOM	14013	O3*	A S	48	33.390	36.636	100.234	1.00	56.96	O
ATOM	14014	C2*	A S	48	34.204	34.662	101.367	1.00	55.28	C
ATOM	14015	O2*	A S	48	33.566	35.123	102.549	1.00	55.66	O
ATOM	14016	C1*	A S	48	33.303	33.775	100.508	1.00	54.90	C
ATOM	14017	N9	A S	48	33.199	32.402	100.999	1.00	54.42	N
ATOM	14018	C8	A S	48	34.198	31.526	101.322	1.00	54.28	C
ATOM	14019	N7	A S	48	33.772	30.362	101.751	1.00	53.88	N
ATOM	14020	C5	A S	48	32.392	30.484	101.699	1.00	54.33	C
ATOM	14021	C6	A S	48	31.329	29.607	102.028	1.00	54.81	C
ATOM	14022	N6	A S	48	31.504	28.366	102.489	1.00	55.07	N
ATOM	14023	N1	A S	48	30.062	30.051	101.866	1.00	54.66	N
ATOM	14024	C2	A S	48	29.874	31.294	101.401	1.00	54.96	C
ATOM	14025	N3	A S	48	30.785	32.214	101.064	1.00	54.80	N
ATOM	14026	C4	A S	48	32.029	31.738	101.242	1.00	54.43	C
ATOM	14027	P	U S	49	33.593	38.197	99.977	1.00	59.77	P
ATOM	14028	O1P	U S	49	33.561	38.437	98.510	1.00	59.10	O
ATOM	14029	O2P	U S	49	34.757	38.659	100.773	1.00	58.94	O
ATOM	14030	O5*	U S	49	32.250	38.765	100.645	1.00	60.91	O
ATOM	14031	C5*	U S	49	31.786	40.080	100.367	1.00	62.77	C
ATOM	14032	C4*	U S	49	30.420	40.315	100.991	1.00	63.59	C
ATOM	14033	O4*	U S	49	30.255	41.741	101.201	1.00	63.81	O
ATOM	14034	C3*	U S	49	29.239	39.874	100.121	1.00	64.26	C
ATOM	14035	O3*	U S	49	28.065	39.525	100.893	1.00	63.69	O
ATOM	14036	C2*	U S	49	29.045	41.115	99.245	1.00	64.43	C
ATOM	14037	O2*	U S	49	27.722	41.267	98.763	1.00	64.71	O
ATOM	14038	C1*	U S	49	29.426	42.268	100.182	1.00	64.37	C
ATOM	14039	P	U S	50	27.408	38.054	100.945	1.00	63.62	P
ATOM	14040	O1P	U S	50	26.116	38.187	101.661	1.00	63.83	O
ATOM	14041	O2P	U S	50	28.430	37.073	101.382	1.00	63.37	O
ATOM	14042	O5*	U S	50	27.093	37.691	99.428	1.00	61.58	O
ATOM	14043	C5*	U S	50	26.325	36.553	99.090	1.00	58.56	C
ATOM	14044	C4*	U S	50	25.440	36.909	97.912	1.00	57.36	C
ATOM	14045	O4*	U S	50	24.349	37.743	98.391	1.00	57.15	O
ATOM	14046	C3*	U S	50	26.106	37.721	96.796	1.00	55.57	C
ATOM	14047	O3*	U S	50	25.738	37.192	95.529	1.00	53.46	O

ATOM	14048	C2*	U S	50	25.571	39.142	97.009	1.00	55.83	C
ATOM	14049	O2*	U S	50	25.536	39.969	95.856	1.00	55.58	O
ATOM	14050	C1*	U S	50	24.161	38.812	97.476	1.00	55.85	C
ATOM	14051	N1	U S	50	23.413	39.970	98.089	1.00	55.40	N
ATOM	14052	C2	U S	50	22.822	40.899	97.246	1.00	54.84	C
ATOM	14053	O2	U S	50	22.880	40.843	96.032	1.00	54.41	O
ATOM	14054	N3	U S	50	22.153	41.913	97.894	1.00	55.20	N
ATOM	14055	C4	U S	50	22.017	42.085	99.262	1.00	54.75	C
ATOM	14056	O4	U S	50	21.394	43.037	99.685	1.00	54.87	O
ATOM	14057	C5	U S	50	22.648	41.089	100.081	1.00	54.81	C
ATOM	14058	C6	U S	50	23.309	40.090	99.473	1.00	55.41	C
ATOM	14059	P	U S	51	26.757	36.338	94.652	1.00	50.78	P
ATOM	14060	O1P	U S	51	28.040	36.285	95.374	1.00	52.11	O
ATOM	14061	O2P	U S	51	26.687	36.814	93.262	1.00	50.25	O
ATOM	14062	O5*	U S	51	26.193	34.862	94.666	1.00	49.96	O
ATOM	14063	C5*	U S	51	24.837	34.545	94.558	1.00	49.41	C
ATOM	14064	C4*	U S	51	24.689	33.134	95.094	1.00	49.06	C
ATOM	14065	O4*	U S	51	25.619	32.257	94.412	1.00	48.60	O
ATOM	14066	C3*	U S	51	25.033	32.962	96.563	1.00	47.95	C
ATOM	14067	O3*	U S	51	24.276	31.956	97.107	1.00	48.77	O
ATOM	14068	C2*	U S	51	26.473	32.476	96.576	1.00	48.31	C
ATOM	14069	O2*	U S	51	26.802	31.730	97.737	1.00	47.79	O
ATOM	14070	C1*	U S	51	26.458	31.606	95.339	1.00	46.76	C
ATOM	14071	N1	U S	51	27.773	31.446	94.691	1.00	46.90	N
ATOM	14072	C2	U S	51	28.490	30.295	94.889	1.00	46.07	C
ATOM	14073	O2	U S	51	28.119	29.388	95.597	1.00	46.44	O
ATOM	14074	N3	U S	51	29.684	30.241	94.233	1.00	45.81	N
ATOM	14075	C4	U S	51	30.239	31.186	93.410	1.00	46.10	C
ATOM	14076	O4	U S	51	31.335	30.976	92.891	1.00	47.25	O
ATOM	14077	C5	U S	51	29.437	32.361	93.236	1.00	46.04	C
ATOM	14078	C6	U S	51	28.260	32.439	93.864	1.00	46.50	C
ATOM	14079	P	C S	52	22.826	32.203	97.694	1.00	50.19	P
ATOM	14080	O1P	C S	52	22.572	31.135	98.693	1.00	48.30	O
ATOM	14081	O2P	C S	52	21.995	32.374	96.480	1.00	48.48	O
ATOM	14082	O5*	C S	52	22.911	33.582	98.478	1.00	50.98	O
ATOM	14083	C5*	C S	52	22.994	33.694	99.895	1.00	51.98	C
ATOM	14084	C4*	C S	52	22.199	34.907	100.337	1.00	52.48	C
ATOM	14085	O4*	C S	52	22.655	36.091	99.645	1.00	52.59	O
ATOM	14086	C3*	C S	52	20.716	34.868	99.984	1.00	53.43	C
ATOM	14087	O3*	C S	52	20.035	33.965	100.843	1.00	53.89	O
ATOM	14088	C2*	C S	52	20.357	36.337	100.169	1.00	53.51	C
ATOM	14089	O2*	C S	52	20.265	36.755	101.509	1.00	55.66	O
ATOM	14090	C1*	C S	52	21.563	36.993	99.523	1.00	53.45	C
ATOM	14091	N1	C S	52	21.261	37.279	98.110	1.00	53.81	N
ATOM	14092	C2	C S	52	20.472	38.395	97.792	1.00	54.74	C
ATOM	14093	O2	C S	52	20.050	39.133	98.707	1.00	54.05	O
ATOM	14094	N3	C S	52	20.212	38.636	96.481	1.00	52.80	N
ATOM	14095	C4	C S	52	20.657	37.811	95.540	1.00	52.79	C
ATOM	14096	N4	C S	52	20.362	38.067	94.265	1.00	53.34	N
ATOM	14097	C5	C S	52	21.440	36.677	95.850	1.00	53.47	C
ATOM	14098	C6	C S	52	21.715	36.451	97.132	1.00	54.18	C
ATOM	14099	P	G S	53	18.544	33.500	100.547	1.00	53.96	P
ATOM	14100	O1P	G S	53	18.053	32.855	101.780	1.00	53.84	O
ATOM	14101	O2P	G S	53	18.471	32.756	99.273	1.00	54.08	O
ATOM	14102	O5*	G S	53	17.843	34.914	100.303	1.00	54.52	O
ATOM	14103	C5*	G S	53	16.873	35.481	101.182	1.00	56.00	C
ATOM	14104	C4*	G S	53	15.932	36.372	100.395	1.00	55.77	C
ATOM	14105	O4*	G S	53	16.671	37.272	99.528	1.00	56.49	O
ATOM	14106	C3*	G S	53	15.044	35.621	99.427	1.00	56.10	C

ATOM	14107	O3*	G S	53	13.938	35.084	100.099	1.00	54.13	O
ATOM	14108	C2*	G S	53	14.656	36.720	98.455	1.00	56.71	C
ATOM	14109	O2*	G S	53	13.651	37.564	98.979	1.00	58.58	O
ATOM	14110	C1*	G S	53	15.988	37.446	98.295	1.00	56.74	C
ATOM	14111	N9	G S	53	16.743	36.887	97.179	1.00	56.68	N
ATOM	14112	C8	G S	53	17.778	35.988	97.220	1.00	56.93	C
ATOM	14113	N7	G S	53	18.226	35.644	96.052	1.00	56.65	N
ATOM	14114	C5	G S	53	17.435	36.355	95.176	1.00	56.44	C
ATOM	14115	C6	G S	53	17.461	36.394	93.769	1.00	57.19	C
ATOM	14116	O6	G S	53	18.212	35.785	92.995	1.00	57.17	O
ATOM	14117	N1	G S	53	16.491	37.249	93.259	1.00	56.86	N
ATOM	14118	C2	G S	53	15.601	37.972	94.006	1.00	57.32	C
ATOM	14119	N2	G S	53	14.738	38.737	93.311	1.00	56.67	N
ATOM	14120	N3	G S	53	15.570	37.940	95.339	1.00	57.22	N
ATOM	14121	C4	G S	53	16.518	37.121	95.849	1.00	56.42	C
ATOM	14122	P	G S	54	13.312	33.720	99.567	1.00	52.88	P
ATOM	14123	O1P	G S	54	12.173	33.332	100.431	1.00	53.29	O
ATOM	14124	O2P	G S	54	14.405	32.751	99.346	1.00	54.15	O
ATOM	14125	O5*	G S	54	12.730	34.226	98.184	1.00	54.78	O
ATOM	14126	C5*	G S	54	11.582	35.040	98.244	1.00	56.27	C
ATOM	14127	C4*	G S	54	11.135	35.468	96.868	1.00	56.23	C
ATOM	14128	O4*	G S	54	12.197	36.125	96.152	1.00	58.43	O
ATOM	14129	C3*	G S	54	10.787	34.325	95.955	1.00	57.02	C
ATOM	14130	O3*	G S	54	9.553	33.790	96.368	1.00	54.60	O
ATOM	14131	C2*	G S	54	10.789	35.078	94.631	1.00	57.72	C
ATOM	14132	O2*	G S	54	9.712	35.983	94.503	1.00	59.29	O
ATOM	14133	C1*	G S	54	12.095	35.848	94.764	1.00	58.88	C
ATOM	14134	N9	G S	54	13.251	35.097	94.281	1.00	58.94	N
ATOM	14135	C8	G S	54	14.162	34.355	95.001	1.00	59.66	C
ATOM	14136	N7	G S	54	15.078	33.779	94.259	1.00	59.23	N
ATOM	14137	C5	G S	54	14.750	34.163	92.968	1.00	59.15	C
ATOM	14138	C6	G S	54	15.365	33.863	91.724	1.00	59.77	C
ATOM	14139	O6	G S	54	16.366	33.175	91.470	1.00	60.10	O
ATOM	14140	N1	G S	54	14.700	34.463	90.663	1.00	59.72	N
ATOM	14141	C2	G S	54	13.587	35.253	90.760	1.00	59.74	C
ATOM	14142	N2	G S	54	13.120	35.725	89.599	1.00	59.86	N
ATOM	14143	N3	G S	54	12.998	35.546	91.911	1.00	59.76	N
ATOM	14144	C4	G S	54	13.629	34.971	92.968	1.00	59.32	C
ATOM	14145	P	C S	55	9.182	32.276	96.058	1.00	55.06	P
ATOM	14146	O1P	C S	55	7.806	32.024	96.530	1.00	55.46	O
ATOM	14147	O2P	C S	55	10.276	31.399	96.528	1.00	54.73	O
ATOM	14148	O5*	C S	55	9.131	32.261	94.463	1.00	54.41	O
ATOM	14149	C5*	C S	55	8.155	33.037	93.775	1.00	53.57	C
ATOM	14150	C4*	C S	55	8.344	32.960	92.269	1.00	53.80	C
ATOM	14151	O4*	C S	55	9.565	33.622	91.851	1.00	53.77	O
ATOM	14152	C3*	C S	55	8.533	31.560	91.716	1.00	54.14	C
ATOM	14153	O3*	C S	55	7.308	30.875	91.638	1.00	54.08	O
ATOM	14154	C2*	C S	55	9.161	31.873	90.365	1.00	53.32	C
ATOM	14155	O2*	C S	55	8.293	32.426	89.417	1.00	53.07	O
ATOM	14156	C1*	C S	55	10.167	32.924	90.772	1.00	53.72	C
ATOM	14157	N1	C S	55	11.492	32.244	91.106	1.00	54.50	N
ATOM	14158	C2	C S	55	12.382	31.941	90.072	1.00	53.68	C
ATOM	14159	O2	C S	55	12.099	32.238	88.908	1.00	53.92	O
ATOM	14160	N3	C S	55	13.544	31.325	90.367	1.00	53.53	N
ATOM	14161	C4	C S	55	13.848	30.988	91.604	1.00	53.29	C
ATOM	14162	N4	C S	55	15.018	30.379	91.818	1.00	53.68	N
ATOM	14163	C5	C S	55	12.964	31.267	92.671	1.00	53.69	C
ATOM	14164	C6	C S	55	11.816	31.884	92.381	1.00	54.48	C
ATOM	14165	P	G S	56	7.314	29.285	91.578	1.00	55.54	P

ATOM	14166	O1P	G S	56	5.904	28.835	91.500	1.00	57.21	O
ATOM	14167	O2P	G S	56	8.166	28.747	92.655	1.00	56.96	O
ATOM	14168	O5*	G S	56	8.038	29.017	90.173	1.00	56.39	O
ATOM	14169	C5*	G S	56	7.446	29.443	88.950	1.00	57.31	C
ATOM	14170	C4*	G S	56	8.337	29.111	87.766	1.00	58.25	C
ATOM	14171	O4*	G S	56	9.635	29.753	87.880	1.00	58.03	O
ATOM	14172	C3*	G S	56	8.684	27.634	87.631	1.00	58.83	C
ATOM	14173	O3*	G S	56	7.630	26.886	87.040	1.00	59.27	O
ATOM	14174	C2*	G S	56	9.896	27.738	86.727	1.00	58.64	C
ATOM	14175	O2*	G S	56	9.566	28.078	85.395	1.00	59.00	O
ATOM	14176	C1*	G S	56	10.639	28.877	87.405	1.00	57.83	C
ATOM	14177	N9	G S	56	11.558	28.438	88.466	1.00	57.42	N
ATOM	14178	C8	G S	56	11.377	28.384	89.832	1.00	57.45	C
ATOM	14179	N7	G S	56	12.426	27.952	90.495	1.00	56.54	N
ATOM	14180	C5	G S	56	13.370	27.712	89.499	1.00	56.94	C
ATOM	14181	C6	G S	56	14.701	27.235	89.584	1.00	56.49	C
ATOM	14182	O6	G S	56	15.367	26.895	90.572	1.00	57.12	O
ATOM	14183	N1	G S	56	15.289	27.137	88.343	1.00	56.60	N
ATOM	14184	C2	G S	56	14.704	27.448	87.151	1.00	57.26	C
ATOM	14185	N2	G S	56	15.484	27.265	86.079	1.00	57.09	N
ATOM	14186	N3	G S	56	13.460	27.899	87.035	1.00	57.25	N
ATOM	14187	C4	G S	56	12.853	28.004	88.251	1.00	57.67	C
ATOM	14188	P	G S	57	7.614	25.285	87.143	1.00	60.90	P
ATOM	14189	O1P	G S	57	6.376	24.828	86.447	1.00	59.60	O
ATOM	14190	O2P	G S	57	7.907	24.836	88.528	1.00	59.30	O
ATOM	14191	O5*	G S	57	8.883	24.930	86.240	1.00	57.87	O
ATOM	14192	C5*	G S	57	9.619	23.750	86.478	1.00	55.90	C
ATOM	14193	C4*	G S	57	10.803	23.745	85.542	1.00	54.53	C
ATOM	14194	O4*	G S	57	11.703	24.825	85.875	1.00	53.62	O
ATOM	14195	C3*	G S	57	11.651	22.494	85.591	1.00	53.72	C
ATOM	14196	O3*	G S	57	11.199	21.638	84.596	1.00	52.24	O
ATOM	14197	C2*	G S	57	13.019	23.020	85.243	1.00	52.82	C
ATOM	14198	O2*	G S	57	13.122	23.200	83.852	1.00	53.02	O
ATOM	14199	C1*	G S	57	13.016	24.347	85.976	1.00	52.49	C
ATOM	14200	N9	G S	57	13.374	24.266	87.385	1.00	52.15	N
ATOM	14201	C8	G S	57	12.602	24.533	88.486	1.00	52.09	C
ATOM	14202	N7	G S	57	13.230	24.376	89.615	1.00	51.77	N
ATOM	14203	C5	G S	57	14.499	23.985	89.239	1.00	52.15	C
ATOM	14204	C6	G S	57	15.626	23.673	90.019	1.00	52.66	C
ATOM	14205	O6	G S	57	15.695	23.681	91.252	1.00	52.99	O
ATOM	14206	N1	G S	57	16.730	23.330	89.233	1.00	52.36	N
ATOM	14207	C2	G S	57	16.731	23.296	87.862	1.00	51.50	C
ATOM	14208	N2	G S	57	17.853	22.950	87.232	1.00	52.20	N
ATOM	14209	N3	G S	57	15.682	23.585	87.133	1.00	51.96	N
ATOM	14210	C4	G S	57	14.607	23.920	87.876	1.00	52.11	C
ATOM	14211	P	A S	58	10.844	20.147	84.972	1.00	53.66	P
ATOM	14212	O1P	A S	58	10.381	19.458	83.743	1.00	51.39	O
ATOM	14213	O2P	A S	58	9.982	20.217	86.175	1.00	52.58	O
ATOM	14214	O5*	A S	58	12.249	19.550	85.446	1.00	52.02	O
ATOM	14215	C5*	A S	58	13.384	19.534	84.611	1.00	52.16	C
ATOM	14216	C4*	A S	58	14.632	19.220	85.429	1.00	52.27	C
ATOM	14217	O4*	A S	58	15.000	20.353	86.263	1.00	52.27	O
ATOM	14218	C3*	A S	58	14.523	18.096	86.453	1.00	51.82	C
ATOM	14219	O3*	A S	58	14.596	16.814	85.872	1.00	50.73	O
ATOM	14220	C2*	A S	58	15.751	18.387	87.295	1.00	51.77	C
ATOM	14221	O2*	A S	58	16.947	18.049	86.628	1.00	52.83	O
ATOM	14222	C1*	A S	58	15.603	19.886	87.461	1.00	51.61	C
ATOM	14223	N9	A S	58	14.761	20.220	88.600	1.00	51.43	N
ATOM	14224	C8	A S	58	13.420	20.487	88.593	1.00	51.93	C

ATOM	14225	N7	A S	58	12.917	20.761	89.774	1.00	51.57	N
ATOM	14226	C5	A S	58	13.997	20.664	90.613	1.00	51.29	C
ATOM	14227	C6	A S	58	14.115	20.840	91.996	1.00	51.37	C
ATOM	14228	N6	A S	58	13.078	21.156	92.765	1.00	50.86	N
ATOM	14229	N1	A S	58	15.342	20.687	92.544	1.00	51.83	N
ATOM	14230	C2	A S	58	16.371	20.366	91.739	1.00	51.50	C
ATOM	14231	N3	A S	58	16.380	20.168	90.421	1.00	51.56	N
ATOM	14232	C4	A S	58	15.148	20.335	89.912	1.00	52.12	C
ATOM	14233	P	U S	59	13.513	15.687	86.218	1.00	50.38	P
ATOM	14234	O1P	U S	59	12.594	15.581	85.057	1.00	49.55	O
ATOM	14235	O2P	U S	59	13.010	15.930	87.587	1.00	48.73	O
ATOM	14236	O5*	U S	59	14.398	14.354	86.252	1.00	49.51	O
ATOM	14237	C5*	U S	59	15.354	14.222	87.254	1.00	50.93	C
ATOM	14238	C4*	U S	59	16.226	13.011	87.026	1.00	51.22	C
ATOM	14239	O4*	U S	59	16.905	13.105	85.755	1.00	51.67	O
ATOM	14240	C3*	U S	59	17.350	12.868	88.024	1.00	51.69	C
ATOM	14241	O3*	U S	59	17.720	11.504	88.070	1.00	53.08	O
ATOM	14242	C2*	U S	59	18.419	13.776	87.421	1.00	51.78	C
ATOM	14243	O2*	U S	59	19.719	13.489	87.907	1.00	52.17	O
ATOM	14244	C1*	U S	59	18.266	13.436	85.945	1.00	51.61	C
ATOM	14245	N1	U S	59	18.577	14.509	84.952	1.00	51.97	N
ATOM	14246	C2	U S	59	19.798	14.529	84.307	1.00	51.96	C
ATOM	14247	O2	U S	59	20.690	13.734	84.514	1.00	52.33	O
ATOM	14248	N3	U S	59	19.968	15.546	83.401	1.00	52.18	N
ATOM	14249	C4	U S	59	19.059	16.528	83.056	1.00	51.99	C
ATOM	14250	O4	U S	59	19.363	17.373	82.212	1.00	52.59	O
ATOM	14251	C5	U S	59	17.798	16.445	83.748	1.00	52.10	C
ATOM	14252	C6	U S	59	17.616	15.466	84.649	1.00	52.62	C
ATOM	14253	P	G S	60	17.192	10.588	89.270	1.00	54.43	P
ATOM	14254	O1P	G S	60	17.933	9.302	89.205	1.00	53.17	O
ATOM	14255	O2P	G S	60	15.716	10.645	89.304	1.00	54.29	O
ATOM	14256	O5*	G S	60	17.638	11.378	90.569	1.00	53.49	O
ATOM	14257	C5*	G S	60	19.001	11.401	90.954	1.00	53.77	C
ATOM	14258	C4*	G S	60	19.106	12.161	92.258	1.00	52.81	C
ATOM	14259	O4*	G S	60	18.361	13.398	92.181	1.00	52.30	O
ATOM	14260	C3*	G S	60	18.464	11.418	93.397	1.00	52.20	C
ATOM	14261	O3*	G S	60	19.374	10.442	93.832	1.00	52.43	O
ATOM	14262	C2*	G S	60	18.201	12.542	94.382	1.00	52.54	C
ATOM	14263	O2*	G S	60	19.350	12.902	95.120	1.00	51.67	O
ATOM	14264	C1*	G S	60	17.756	13.657	93.429	1.00	52.67	C
ATOM	14265	N9	G S	60	16.309	13.785	93.234	1.00	52.44	N
ATOM	14266	C8	G S	60	15.572	13.583	92.093	1.00	52.53	C
ATOM	14267	N7	G S	60	14.291	13.791	92.254	1.00	52.30	N
ATOM	14268	C5	G S	60	14.170	14.155	93.581	1.00	52.06	C
ATOM	14269	C6	G S	60	13.029	14.515	94.341	1.00	52.93	C
ATOM	14270	O6	G S	60	11.843	14.566	93.980	1.00	53.37	O
ATOM	14271	N1	G S	60	13.353	14.814	95.664	1.00	52.78	N
ATOM	14272	C2	G S	60	14.620	14.776	96.184	1.00	52.50	C
ATOM	14273	N2	G S	60	14.748	15.099	97.476	1.00	52.58	N
ATOM	14274	N3	G S	60	15.693	14.455	95.477	1.00	53.01	N
ATOM	14275	C4	G S	60	15.398	14.156	94.192	1.00	52.40	C
ATOM	14276	P	A S	61	18.846	9.116	94.549	1.00	50.28	P
ATOM	14277	O1P	A S	61	20.055	8.408	95.012	1.00	51.50	O
ATOM	14278	O2P	A S	61	17.865	8.450	93.678	1.00	50.56	O
ATOM	14279	O5*	A S	61	18.045	9.702	95.783	1.00	50.89	O
ATOM	14280	C5*	A S	61	18.656	9.913	97.020	1.00	52.28	C
ATOM	14281	C4*	A S	61	17.580	10.334	97.994	1.00	52.90	C
ATOM	14282	O4*	A S	61	16.854	11.448	97.427	1.00	53.82	O
ATOM	14283	C3*	A S	61	16.507	9.292	98.255	1.00	53.46	C

ATOM	14284	O3*	A S	61	16.987	8.334	99.192	1.00	52.83	O
ATOM	14285	C2*	A S	61	15.371	10.195	98.748	1.00	53.87	C
ATOM	14286	O2*	A S	61	15.519	10.682	100.069	1.00	54.03	O
ATOM	14287	C1*	A S	61	15.483	11.363	97.773	1.00	54.24	C
ATOM	14288	N9	A S	61	14.683	11.256	96.548	1.00	54.36	N
ATOM	14289	C8	A S	61	15.067	10.806	95.314	1.00	54.74	C
ATOM	14290	N7	A S	61	14.120	10.841	94.403	1.00	54.77	N
ATOM	14291	C5	A S	61	13.039	11.353	95.085	1.00	54.25	C
ATOM	14292	C6	A S	61	11.723	11.646	94.683	1.00	54.23	C
ATOM	14293	N6	A S	61	11.262	11.456	93.443	1.00	54.38	N
ATOM	14294	N1	A S	61	10.896	12.160	95.612	1.00	54.44	N
ATOM	14295	C2	A S	61	11.352	12.363	96.855	1.00	54.84	C
ATOM	14296	N3	A S	61	12.568	12.131	97.349	1.00	54.51	N
ATOM	14297	C4	A S	61	13.369	11.618	96.403	1.00	54.42	C
ATOM	14298	P	C S	62	16.704	6.755	99.106	1.00	53.94	P
ATOM	14299	O1P	C S	62	17.557	6.137	100.146	1.00	53.21	O
ATOM	14300	O2P	C S	62	16.774	6.266	97.708	1.00	51.73	O
ATOM	14301	O5*	C S	62	15.191	6.640	99.614	1.00	53.78	O
ATOM	14302	C5*	C S	62	14.865	7.010	100.934	1.00	54.98	C
ATOM	14303	C4*	C S	62	13.382	7.317	101.094	1.00	56.08	C
ATOM	14304	O4*	C S	62	12.997	8.530	100.390	1.00	56.55	O
ATOM	14305	C3*	C S	62	12.429	6.272	100.539	1.00	56.40	C
ATOM	14306	O3*	C S	62	12.392	5.124	101.380	1.00	57.18	O
ATOM	14307	C2*	C S	62	11.137	7.083	100.501	1.00	56.31	C
ATOM	14308	O2*	C S	62	10.534	7.280	101.759	1.00	57.11	O
ATOM	14309	C1*	C S	62	11.656	8.401	99.948	1.00	56.15	C
ATOM	14310	N1	C S	62	11.599	8.416	98.456	1.00	55.93	N
ATOM	14311	C2	C S	62	10.430	8.864	97.836	1.00	56.02	C
ATOM	14312	O2	C S	62	9.482	9.249	98.530	1.00	55.93	O
ATOM	14313	N3	C S	62	10.378	8.873	96.480	1.00	56.04	N
ATOM	14314	C4	C S	62	11.412	8.452	95.750	1.00	55.85	C
ATOM	14315	N4	C S	62	11.294	8.488	94.420	1.00	55.73	N
ATOM	14316	C5	C S	62	12.608	7.979	96.362	1.00	55.87	C
ATOM	14317	C6	C S	62	12.655	7.978	97.698	1.00	55.74	C
ATOM	14318	P	U S	63	12.235	3.673	100.730	1.00	57.81	P
ATOM	14319	O1P	U S	63	12.520	2.657	101.768	1.00	58.39	O
ATOM	14320	O2P	U S	63	12.962	3.635	99.446	1.00	58.39	O
ATOM	14321	O5*	U S	63	10.681	3.648	100.399	1.00	59.15	O
ATOM	14322	C5*	U S	63	9.711	3.864	101.406	1.00	60.92	C
ATOM	14323	C4*	U S	63	8.355	4.049	100.755	1.00	62.07	C
ATOM	14324	O4*	U S	63	8.353	5.299	100.022	1.00	62.67	O
ATOM	14325	C3*	U S	63	7.967	3.005	99.709	1.00	62.80	C
ATOM	14326	O3*	U S	63	7.494	1.805	100.332	1.00	63.37	O
ATOM	14327	C2*	U S	63	6.929	3.784	98.901	1.00	62.77	C
ATOM	14328	O2*	U S	63	5.657	3.919	99.506	1.00	62.94	O
ATOM	14329	C1*	U S	63	7.630	5.134	98.816	1.00	63.25	C
ATOM	14330	N1	U S	63	8.541	5.220	97.625	1.00	63.65	N
ATOM	14331	C2	U S	63	7.957	5.483	96.406	1.00	63.87	C
ATOM	14332	O2	U S	63	6.754	5.644	96.283	1.00	63.91	O
ATOM	14333	N3	U S	63	8.830	5.552	95.343	1.00	63.93	N
ATOM	14334	C4	U S	63	10.203	5.381	95.364	1.00	63.62	C
ATOM	14335	O4	U S	63	10.847	5.471	94.321	1.00	63.41	O
ATOM	14336	C5	U S	63	10.744	5.105	96.671	1.00	63.86	C
ATOM	14337	C6	U S	63	9.912	5.033	97.722	1.00	63.62	C
ATOM	14338	P	C S	64	7.143	0.507	99.464	1.00	64.22	P
ATOM	14339	O1P	C S	64	6.929	-0.620	100.402	1.00	64.27	O
ATOM	14340	O2P	C S	64	8.121	0.367	98.361	1.00	63.84	O
ATOM	14341	O5*	C S	64	5.726	0.932	98.856	1.00	64.97	O
ATOM	14342	C5*	C S	64	4.871	-0.026	98.255	1.00	65.97	C

ATOM	14343	C4*	C S	64	4.015	0.594	97.157	1.00	66.51	C
ATOM	14344	O4*	C S	64	4.457	1.947	96.864	1.00	66.05	O
ATOM	14345	C3*	C S	64	4.058	-0.122	95.807	1.00	66.92	C
ATOM	14346	O3*	C S	64	3.139	-1.223	95.748	1.00	67.56	O
ATOM	14347	C2*	C S	64	3.703	0.986	94.821	1.00	66.68	C
ATOM	14348	O2*	C S	64	2.305	1.200	94.663	1.00	66.66	O
ATOM	14349	C1*	C S	64	4.427	2.172	95.464	1.00	65.77	C
ATOM	14350	N1	C S	64	5.828	2.350	94.944	1.00	65.34	N
ATOM	14351	C2	C S	64	6.012	2.805	93.631	1.00	65.04	C
ATOM	14352	O2	C S	64	5.026	3.050	92.923	1.00	64.59	O
ATOM	14353	N3	C S	64	7.278	2.964	93.162	1.00	65.01	N
ATOM	14354	C4	C S	64	8.333	2.695	93.927	1.00	64.83	C
ATOM	14355	N4	C S	64	9.543	2.877	93.396	1.00	64.82	N
ATOM	14356	C5	C S	64	8.175	2.232	95.267	1.00	65.02	C
ATOM	14357	C6	C S	64	6.923	2.073	95.724	1.00	65.29	C
ATOM	14358	P	C S	65	3.727	-2.714	95.681	1.00	68.99	P
ATOM	14359	O1P	C S	65	2.626	-3.647	95.321	1.00	68.55	O
ATOM	14360	O2P	C S	65	4.521	-2.942	96.913	1.00	68.28	O
ATOM	14361	O5*	C S	65	4.769	-2.595	94.472	1.00	68.61	O
ATOM	14362	C5*	C S	65	4.558	-3.248	93.237	1.00	68.60	C
ATOM	14363	C4*	C S	65	3.563	-2.537	92.330	1.00	68.48	C
ATOM	14364	O4*	C S	65	3.594	-1.090	92.464	1.00	68.17	O
ATOM	14365	C3*	C S	65	3.845	-2.807	90.859	1.00	68.54	C
ATOM	14366	O3*	C S	65	3.125	-3.959	90.433	1.00	68.89	O
ATOM	14367	C2*	C S	65	3.422	-1.507	90.190	1.00	68.35	C
ATOM	14368	O2*	C S	65	2.027	-1.371	90.018	1.00	68.31	O
ATOM	14369	C1*	C S	65	3.949	-0.513	91.220	1.00	68.04	C
ATOM	14370	N1	C S	65	5.442	-0.277	91.189	1.00	68.04	N
ATOM	14371	C2	C S	65	6.082	0.104	89.993	1.00	68.05	C
ATOM	14372	O2	C S	65	5.427	0.243	88.951	1.00	68.04	O
ATOM	14373	N3	C S	65	7.424	0.313	90.004	1.00	67.57	N
ATOM	14374	C4	C S	65	8.134	0.169	91.128	1.00	67.90	C
ATOM	14375	N4	C S	65	9.452	0.386	91.079	1.00	67.60	N
ATOM	14376	C5	C S	65	7.512	-0.215	92.353	1.00	68.04	C
ATOM	14377	C6	C S	65	6.187	-0.420	92.337	1.00	68.08	C
ATOM	14378	P	C S	66	3.899	-5.338	90.170	1.00	69.32	P
ATOM	14379	O1P	C S	66	2.894	-6.419	90.043	1.00	69.56	O
ATOM	14380	O2P	C S	66	4.986	-5.476	91.164	1.00	69.54	O
ATOM	14381	O5*	C S	66	4.554	-5.095	88.736	1.00	69.21	O
ATOM	14382	C5*	C S	66	3.827	-4.465	87.691	1.00	69.28	C
ATOM	14383	C4*	C S	66	4.773	-3.962	86.619	1.00	69.49	C
ATOM	14384	O4*	C S	66	5.345	-2.686	86.996	1.00	69.58	O
ATOM	14385	C3*	C S	66	5.987	-4.840	86.368	1.00	69.64	C
ATOM	14386	O3*	C S	66	5.610	-5.940	85.566	1.00	69.89	O
ATOM	14387	C2*	C S	66	6.926	-3.857	85.685	1.00	69.69	C
ATOM	14388	O2*	C S	66	6.595	-3.577	84.340	1.00	69.89	O
ATOM	14389	C1*	C S	66	6.699	-2.645	86.580	1.00	69.41	C
ATOM	14390	N1	C S	66	7.593	-2.645	87.778	1.00	69.34	N
ATOM	14391	C2	C S	66	8.937	-2.285	87.609	1.00	69.36	C
ATOM	14392	O2	C S	66	9.353	-1.980	86.484	1.00	69.47	O
ATOM	14393	N3	C S	66	9.753	-2.281	88.693	1.00	69.13	N
ATOM	14394	C4	C S	66	9.288	-2.618	89.896	1.00	69.26	C
ATOM	14395	N4	C S	66	10.150	-2.591	90.918	1.00	68.94	N
ATOM	14396	C5	C S	66	7.920	-2.991	90.093	1.00	69.25	C
ATOM	14397	C6	C S	66	7.120	-2.991	89.019	1.00	69.13	C
ATOM	14398	P	G S	67	6.186	-7.401	85.872	1.00	70.66	P
ATOM	14399	O1P	G S	67	5.448	-8.373	85.025	1.00	69.41	O
ATOM	14400	O2P	G S	67	6.249	-7.594	87.343	1.00	69.97	O
ATOM	14401	O5*	G S	67	7.674	-7.246	85.295	1.00	69.84	O

ATOM	14402	C5*	G S	67	7.860	-7.025	83.897	1.00	69.28	C
ATOM	14403	C4*	G S	67	9.311	-6.739	83.562	1.00	68.66	C
ATOM	14404	O4*	G S	67	9.666	-5.418	84.046	1.00	68.45	O
ATOM	14405	C3*	G S	67	10.338	-7.664	84.204	1.00	68.05	C
ATOM	14406	O3*	G S	67	10.475	-8.887	83.515	1.00	66.98	O
ATOM	14407	C2*	G S	67	11.591	-6.812	84.088	1.00	68.43	C
ATOM	14408	O2*	G S	67	12.171	-6.817	82.800	1.00	68.82	O
ATOM	14409	C1*	G S	67	11.014	-5.453	84.471	1.00	68.52	C
ATOM	14410	N9	G S	67	11.098	-5.328	85.913	1.00	68.51	N
ATOM	14411	C8	G S	67	10.122	-5.514	86.865	1.00	68.50	C
ATOM	14412	N7	G S	67	10.556	-5.345	88.082	1.00	68.42	N
ATOM	14413	C5	G S	67	11.903	-5.041	87.918	1.00	68.50	C
ATOM	14414	C6	G S	67	12.908	-4.752	88.871	1.00	68.53	C
ATOM	14415	O6	G S	67	12.807	-4.709	90.103	1.00	68.55	O
ATOM	14416	N1	G S	67	14.140	-4.502	88.265	1.00	68.68	N
ATOM	14417	C2	G S	67	14.386	-4.525	86.910	1.00	68.65	C
ATOM	14418	N2	G S	67	15.643	-4.260	86.519	1.00	68.63	N
ATOM	14419	N3	G S	67	13.455	-4.795	86.006	1.00	68.53	N
ATOM	14420	C4	G S	67	12.251	-5.038	86.587	1.00	68.49	C
ATOM	14421	P	G S	68	11.441	-10.033	84.082	1.00	66.74	P
ATOM	14422	O1P	G S	68	11.154	-11.280	83.338	1.00	66.04	O
ATOM	14423	O2P	G S	68	11.359	-10.027	85.560	1.00	66.56	O
ATOM	14424	O5*	G S	68	12.894	-9.537	83.643	1.00	65.33	O
ATOM	14425	C5*	G S	68	14.030	-10.264	84.069	1.00	64.28	C
ATOM	14426	C4*	G S	68	15.178	-9.325	84.371	1.00	63.85	C
ATOM	14427	O4*	G S	68	14.705	-8.034	84.854	1.00	64.03	O
ATOM	14428	C3*	G S	68	16.088	-9.791	85.492	1.00	63.35	C
ATOM	14429	O3*	G S	68	16.982	-10.805	85.071	1.00	62.47	O
ATOM	14430	C2*	G S	68	16.764	-8.473	85.848	1.00	63.50	C
ATOM	14431	O2*	G S	68	17.620	-7.955	84.846	1.00	63.05	O
ATOM	14432	C1*	G S	68	15.505	-7.624	85.961	1.00	63.39	C
ATOM	14433	N9	G S	68	14.789	-7.788	87.241	1.00	63.27	N
ATOM	14434	C8	G S	68	13.520	-8.287	87.441	1.00	63.00	C
ATOM	14435	N7	G S	68	13.149	-8.311	88.694	1.00	63.03	N
ATOM	14436	C5	G S	68	14.240	-7.800	89.384	1.00	62.74	C
ATOM	14437	C6	G S	68	14.425	-7.582	90.775	1.00	62.81	C
ATOM	14438	O6	G S	68	13.639	-7.803	91.707	1.00	62.90	O
ATOM	14439	N1	G S	68	15.682	-7.045	91.051	1.00	62.92	N
ATOM	14440	C2	G S	68	16.640	-6.746	90.103	1.00	63.06	C
ATOM	14441	N2	G S	68	17.799	-6.238	90.550	1.00	63.02	N
ATOM	14442	N3	G S	68	16.475	-6.948	88.798	1.00	62.99	N
ATOM	14443	C4	G S	68	15.257	-7.475	88.506	1.00	62.94	C
ATOM	14444	P	U S	69	17.373	-11.986	86.076	1.00	61.15	P
ATOM	14445	O1P	U S	69	17.729	-13.157	85.249	1.00	61.18	O
ATOM	14446	O2P	U S	69	16.342	-12.086	87.133	1.00	61.12	O
ATOM	14447	O5*	U S	69	18.702	-11.458	86.771	1.00	61.10	O
ATOM	14448	C5*	U S	69	19.799	-11.034	85.993	1.00	61.23	C
ATOM	14449	C4*	U S	69	20.794	-10.345	86.898	1.00	61.16	C
ATOM	14450	O4*	U S	69	20.176	-9.226	87.579	1.00	61.27	O
ATOM	14451	C3*	U S	69	21.275	-11.196	88.055	1.00	61.10	C
ATOM	14452	O3*	U S	69	22.209	-12.178	87.629	1.00	60.70	O
ATOM	14453	C2*	U S	69	21.858	-10.122	88.958	1.00	61.06	C
ATOM	14454	O2*	U S	69	23.085	-9.602	88.481	1.00	60.57	O
ATOM	14455	C1*	U S	69	20.724	-9.097	88.887	1.00	61.62	C
ATOM	14456	N1	U S	69	19.644	-9.271	89.931	1.00	61.77	N
ATOM	14457	C2	U S	69	19.970	-9.104	91.266	1.00	62.01	C
ATOM	14458	O2	U S	69	21.090	-8.826	91.658	1.00	62.00	O
ATOM	14459	N3	U S	69	18.929	-9.288	92.150	1.00	62.14	N
ATOM	14460	C4	U S	69	17.615	-9.614	91.846	1.00	62.16	C

ATOM	14461	O4	U S	69	16.784	-9.751	92.743	1.00	61.94	O
ATOM	14462	C5	U S	69	17.349	-9.771	90.438	1.00	62.05	C
ATOM	14463	C6	U S	69	18.347	-9.594	89.560	1.00	62.04	C
ATOM	14464	P	U S	70	22.358	-13.497	88.515	1.00	59.90	P
ATOM	14465	O1P	U S	70	23.370	-14.369	87.878	1.00	60.77	O
ATOM	14466	O2P	U S	70	21.008	-14.029	88.807	1.00	59.57	O
ATOM	14467	O5*	U S	70	22.964	-12.917	89.871	1.00	60.00	O
ATOM	14468	C5*	U S	70	24.357	-12.746	90.074	1.00	59.85	C
ATOM	14469	C4*	U S	70	24.616	-12.381	91.522	1.00	59.70	C
ATOM	14470	O4*	U S	70	23.716	-11.323	91.931	1.00	59.19	O
ATOM	14471	C3*	U S	70	24.329	-13.467	92.544	1.00	59.96	C
ATOM	14472	O3*	U S	70	25.366	-14.452	92.594	1.00	61.35	O
ATOM	14473	C2*	U S	70	24.218	-12.625	93.809	1.00	59.48	C
ATOM	14474	O2*	U S	70	25.442	-12.082	94.266	1.00	59.25	O
ATOM	14475	C1*	U S	70	23.336	-11.506	93.285	1.00	58.69	C
ATOM	14476	N1	U S	70	21.849	-11.749	93.399	1.00	58.32	N
ATOM	14477	C2	U S	70	21.249	-11.652	94.649	1.00	57.99	C
ATOM	14478	O2	U S	70	21.854	-11.406	95.683	1.00	57.72	O
ATOM	14479	N3	U S	70	19.888	-11.869	94.647	1.00	57.95	N
ATOM	14480	C4	U S	70	19.074	-12.162	93.560	1.00	58.13	C
ATOM	14481	O4	U S	70	17.867	-12.330	93.721	1.00	57.99	O
ATOM	14482	C5	U S	70	19.764	-12.244	92.297	1.00	57.85	C
ATOM	14483	C6	U S	70	21.089	-12.034	92.271	1.00	57.89	C
ATOM	14484	P	G S	71	25.002	-15.994	92.837	1.00	61.95	P
ATOM	14485	O1P	G S	71	26.257	-16.778	92.795	1.00	61.75	O
ATOM	14486	O2P	G S	71	23.868	-16.350	91.954	1.00	61.94	O
ATOM	14487	O5*	G S	71	24.481	-15.975	94.348	1.00	64.89	O
ATOM	14488	C5*	G S	71	25.389	-15.807	95.440	1.00	67.42	C
ATOM	14489	C4*	G S	71	24.641	-15.719	96.757	1.00	68.96	C
ATOM	14490	O4*	G S	71	23.699	-14.620	96.705	1.00	69.36	O
ATOM	14491	C3*	G S	71	23.770	-16.914	97.095	1.00	70.55	C
ATOM	14492	O3*	G S	71	24.517	-17.969	97.676	1.00	74.23	O
ATOM	14493	C2*	G S	71	22.777	-16.321	98.077	1.00	70.17	C
ATOM	14494	O2*	G S	71	23.301	-16.197	99.386	1.00	69.65	O
ATOM	14495	C1*	G S	71	22.532	-14.958	97.439	1.00	69.61	C
ATOM	14496	N9	G S	71	21.372	-14.920	96.550	1.00	69.44	N
ATOM	14497	C8	G S	71	21.344	-14.941	95.174	1.00	69.40	C
ATOM	14498	N7	G S	71	20.141	-14.888	94.674	1.00	69.29	N
ATOM	14499	C5	G S	71	19.316	-14.825	95.788	1.00	69.30	C
ATOM	14500	C6	G S	71	17.904	-14.748	95.885	1.00	69.36	C
ATOM	14501	O6	G S	71	17.069	-14.720	94.970	1.00	69.54	O
ATOM	14502	N1	G S	71	17.475	-14.708	97.211	1.00	69.60	N
ATOM	14503	C2	G S	71	18.303	-14.731	98.315	1.00	69.68	C
ATOM	14504	N2	G S	71	17.711	-14.686	99.521	1.00	69.62	N
ATOM	14505	N3	G S	71	19.629	-14.798	98.233	1.00	69.64	N
ATOM	14506	C4	G S	71	20.061	-14.844	96.948	1.00	69.33	C
ATOM	14507	P	U S	72	23.930	-19.454	97.607	1.00	77.68	P
ATOM	14508	O1P	U S	72	22.507	-19.370	97.195	1.00	77.54	O
ATOM	14509	O2P	U S	72	24.310	-20.157	98.853	1.00	77.71	O
ATOM	14510	O5*	U S	72	24.767	-20.119	96.422	1.00	80.80	O
ATOM	14511	C5*	U S	72	25.249	-19.329	95.338	1.00	84.58	C
ATOM	14512	C4*	U S	72	25.403	-20.129	94.055	1.00	86.63	C
ATOM	14513	O4*	U S	72	26.742	-19.997	93.518	1.00	88.36	O
ATOM	14514	C3*	U S	72	25.322	-21.645	94.131	1.00	88.08	C
ATOM	14515	O3*	U S	72	25.315	-22.200	92.818	1.00	88.56	O
ATOM	14516	C2*	U S	72	26.625	-21.929	94.881	1.00	88.74	C
ATOM	14517	O2*	U S	72	27.056	-23.275	94.793	1.00	88.74	O
ATOM	14518	C1*	U S	72	27.578	-20.923	94.200	1.00	89.57	C
ATOM	14519	N1	U S	72	28.503	-20.121	95.119	1.00	90.31	N

ATOM	14520	C2	U S	72	29.186	-20.733	96.176	1.00	90.82	C
ATOM	14521	O2	U S	72	29.112	-21.927	96.463	1.00	90.69	O
ATOM	14522	N3	U S	72	29.983	-19.875	96.915	1.00	90.86	N
ATOM	14523	C4	U S	72	30.171	-18.507	96.720	1.00	90.76	C
ATOM	14524	O4	U S	72	30.918	-17.872	97.465	1.00	90.64	O
ATOM	14525	C5	U S	72	29.437	-17.944	95.612	1.00	90.64	C
ATOM	14526	C6	U S	72	28.659	-18.753	94.876	1.00	90.56	C
ATOM	14527	P	U S	73	24.404	-21.560	91.669	1.00	89.92	P
ATOM	14528	O1P	U S	73	25.074	-20.369	91.096	1.00	89.89	O
ATOM	14529	O2P	U S	73	23.025	-21.441	92.189	1.00	89.73	O
ATOM	14530	O5*	U S	73	24.459	-22.698	90.562	1.00	90.77	O
ATOM	14531	C5*	U S	73	25.661	-22.929	89.850	1.00	91.62	C
ATOM	14532	C4*	U S	73	25.388	-23.695	88.571	1.00	92.15	C
ATOM	14533	O4*	U S	73	25.633	-25.109	88.793	1.00	92.45	O
ATOM	14534	C3*	U S	73	23.958	-23.600	88.043	1.00	92.59	C
ATOM	14535	O3*	U S	73	23.831	-22.482	87.157	1.00	93.31	O
ATOM	14536	C2*	U S	73	23.817	-24.962	87.375	1.00	92.62	C
ATOM	14537	O2*	U S	73	24.480	-25.042	86.127	1.00	92.27	O
ATOM	14538	C1*	U S	73	24.485	-25.849	88.429	1.00	92.65	C
ATOM	14539	N1	U S	73	23.644	-26.165	89.664	1.00	92.84	N
ATOM	14540	C2	U S	73	22.455	-26.867	89.516	1.00	92.93	C
ATOM	14541	O2	U S	73	22.025	-27.255	88.442	1.00	92.96	O
ATOM	14542	N3	U S	73	21.761	-27.105	90.682	1.00	92.76	N
ATOM	14543	C4	U S	73	22.114	-26.730	91.964	1.00	92.57	C
ATOM	14544	O4	U S	73	21.380	-27.022	92.902	1.00	92.61	O
ATOM	14545	C5	U S	73	23.359	-26.011	92.056	1.00	92.60	C
ATOM	14546	C6	U S	73	24.056	-25.768	90.934	1.00	92.78	C
ATOM	14547	P	C S	74	22.788	-21.291	87.431	1.00	94.08	P
ATOM	14548	O1P	C S	74	23.135	-20.162	86.535	1.00	93.89	O
ATOM	14549	O2P	C S	74	22.668	-21.068	88.889	1.00	93.88	O
ATOM	14550	O5*	C S	74	21.423	-21.926	86.899	1.00	94.45	O
ATOM	14551	C5*	C S	74	21.326	-22.395	85.552	1.00	94.92	C
ATOM	14552	C4*	C S	74	20.366	-23.566	85.463	1.00	95.03	C
ATOM	14553	O4*	C S	74	20.793	-24.667	86.303	1.00	94.94	O
ATOM	14554	C3*	C S	74	18.968	-23.307	85.994	1.00	95.10	C
ATOM	14555	O3*	C S	74	18.232	-22.451	85.139	1.00	95.26	O
ATOM	14556	C2*	C S	74	18.446	-24.735	86.061	1.00	94.99	C
ATOM	14557	O2*	C S	74	18.178	-25.323	84.805	1.00	95.00	O
ATOM	14558	C1*	C S	74	19.648	-25.388	86.735	1.00	94.94	C
ATOM	14559	N1	C S	74	19.506	-25.368	88.232	1.00	95.01	N
ATOM	14560	C2	C S	74	18.610	-26.274	88.825	1.00	95.15	C
ATOM	14561	O2	C S	74	17.976	-27.057	88.101	1.00	95.00	O
ATOM	14562	N3	C S	74	18.458	-26.275	90.180	1.00	95.01	N
ATOM	14563	C4	C S	74	19.148	-25.418	90.936	1.00	94.87	C
ATOM	14564	N4	C S	74	18.960	-25.466	92.258	1.00	94.84	N
ATOM	14565	C5	C S	74	20.065	-24.484	90.357	1.00	94.96	C
ATOM	14566	C6	C S	74	20.209	-24.489	89.020	1.00	95.06	C
ATOM	14567	P	A S	75	17.819	-21.015	85.703	1.00	95.64	P
ATOM	14568	O1P	A S	75	16.937	-20.372	84.703	1.00	95.55	O
ATOM	14569	O2P	A S	75	19.051	-20.329	86.156	1.00	95.44	O
ATOM	14570	O5*	A S	75	16.982	-21.398	87.013	1.00	95.67	O
ATOM	14571	C5*	A S	75	15.576	-21.190	87.086	1.00	95.94	C
ATOM	14572	C4*	A S	75	14.788	-22.178	86.235	1.00	96.03	C
ATOM	14573	O4*	A S	75	15.415	-23.493	86.207	1.00	96.04	O
ATOM	14574	C3*	A S	75	13.364	-22.413	86.734	1.00	96.08	C
ATOM	14575	O3*	A S	75	12.455	-21.563	86.038	1.00	96.02	O
ATOM	14576	C2*	A S	75	13.150	-23.900	86.461	1.00	96.06	C
ATOM	14577	O2*	A S	75	12.796	-24.185	85.122	1.00	96.05	O
ATOM	14578	C1*	A S	75	14.539	-24.439	86.790	1.00	96.08	C

ATOM	14579	N9	A S	75	14.855	-24.522	88.217	1.00	96.13	N
ATOM	14580	C8	A S	75	15.975	-24.021	88.828	1.00	96.20	C
ATOM	14581	N7	A S	75	16.020	-24.221	90.121	1.00	96.31	N
ATOM	14582	C5	A S	75	14.848	-24.900	90.389	1.00	96.28	C
ATOM	14583	C6	A S	75	14.311	-25.399	91.595	1.00	96.16	C
ATOM	14584	N6	A S	75	14.933	-25.265	92.771	1.00	96.08	N
ATOM	14585	N1	A S	75	13.117	-26.034	91.535	1.00	96.19	N
ATOM	14586	C2	A S	75	12.512	-26.154	90.339	1.00	96.23	C
ATOM	14587	N3	A S	75	12.923	-25.725	89.140	1.00	96.17	N
ATOM	14588	C4	A S	75	14.112	-25.097	89.229	1.00	96.22	C
ATOM	14589	P	U S	76	11.430	-20.631	86.840	1.00	95.98	P
ATOM	14590	O1P	U S	76	10.677	-19.829	85.847	1.00	96.02	O
ATOM	14591	O2P	U S	76	12.155	-19.963	87.947	1.00	95.68	O
ATOM	14592	O5*	U S	76	10.444	-21.716	87.474	1.00	95.68	O
ATOM	14593	C5*	U S	76	9.087	-21.402	87.743	1.00	95.53	C
ATOM	14594	C4*	U S	76	8.631	-22.032	89.046	1.00	95.44	C
ATOM	14595	O4*	U S	76	9.500	-23.134	89.432	1.00	95.30	O
ATOM	14596	C3*	U S	76	8.662	-21.112	90.256	1.00	95.39	C
ATOM	14597	O3*	U S	76	7.552	-20.205	90.254	1.00	95.58	O
ATOM	14598	C2*	U S	76	8.618	-22.154	91.369	1.00	95.31	C
ATOM	14599	O2*	U S	76	7.355	-22.775	91.531	1.00	95.15	O
ATOM	14600	C1*	U S	76	9.664	-23.131	90.841	1.00	95.08	C
ATOM	14601	N1	U S	76	11.066	-22.728	91.223	1.00	95.00	N
ATOM	14602	C2	U S	76	11.489	-22.927	92.526	1.00	94.81	C
ATOM	14603	O2	U S	76	10.787	-23.422	93.391	1.00	94.65	O
ATOM	14604	N3	U S	76	12.779	-22.520	92.782	1.00	94.89	N
ATOM	14605	C4	U S	76	13.673	-21.945	91.891	1.00	94.91	C
ATOM	14606	O4	U S	76	14.798	-21.633	92.268	1.00	94.89	O
ATOM	14607	C5	U S	76	13.165	-21.765	90.556	1.00	94.83	C
ATOM	14608	C6	U S	76	11.912	-22.154	90.288	1.00	94.89	C
ATOM	14609	P	C S	77	7.706	-18.641	90.591	1.00	95.71	P
ATOM	14610	O1P	C S	77	6.731	-17.904	89.758	1.00	95.69	O
ATOM	14611	O2P	C S	77	9.138	-18.266	90.541	1.00	95.39	O
ATOM	14612	O5*	C S	77	7.197	-18.543	92.106	1.00	95.83	O
ATOM	14613	C5*	C S	77	6.029	-19.224	92.579	1.00	95.90	C
ATOM	14614	C4*	C S	77	6.233	-19.727	93.999	1.00	95.99	C
ATOM	14615	O4*	C S	77	7.255	-20.761	94.022	1.00	95.93	O
ATOM	14616	C3*	C S	77	6.747	-18.704	95.006	1.00	96.19	C
ATOM	14617	O3*	C S	77	5.709	-17.833	95.483	1.00	96.43	O
ATOM	14618	C2*	C S	77	7.294	-19.634	96.083	1.00	96.07	C
ATOM	14619	O2*	C S	77	6.285	-20.237	96.871	1.00	96.15	O
ATOM	14620	C1*	C S	77	8.014	-20.667	95.221	1.00	95.87	C
ATOM	14621	N1	C S	77	9.464	-20.304	94.946	1.00	95.71	N
ATOM	14622	C2	C S	77	10.442	-20.537	95.932	1.00	95.48	C
ATOM	14623	O2	C S	77	10.121	-21.041	97.015	1.00	95.36	O
ATOM	14624	N3	C S	77	11.735	-20.203	95.671	1.00	95.42	N
ATOM	14625	C4	C S	77	12.075	-19.661	94.499	1.00	95.56	C
ATOM	14626	N4	C S	77	13.359	-19.353	94.295	1.00	95.58	N
ATOM	14627	C5	C S	77	11.105	-19.411	93.484	1.00	95.46	C
ATOM	14628	C6	C S	77	9.834	-19.740	93.749	1.00	95.56	C
ATOM	14629	P	A S	78	5.737	-16.244	95.238	1.00	96.65	P
ATOM	14630	O1P	A S	78	4.669	-15.928	94.263	1.00	96.54	O
ATOM	14631	O2P	A S	78	7.128	-15.809	94.968	1.00	96.43	O
ATOM	14632	O5*	A S	78	5.263	-15.673	96.656	1.00	96.56	O
ATOM	14633	C5*	A S	78	6.133	-14.916	97.484	1.00	96.59	C
ATOM	14634	C4*	A S	78	6.846	-15.814	98.474	1.00	96.66	C
ATOM	14635	O4*	A S	78	7.569	-16.888	97.825	1.00	96.46	O
ATOM	14636	C3*	A S	78	7.936	-15.121	99.259	1.00	96.80	C
ATOM	14637	O3*	A S	78	7.340	-14.251	100.209	1.00	97.36	O

ATOM	14638	C2*	A S	78	8.661	-16.322	99.851	1.00	96.54	C
ATOM	14639	O2*	A S	78	7.989	-16.899	100.954	1.00	96.54	O
ATOM	14640	C1*	A S	78	8.662	-17.267	98.649	1.00	96.10	C
ATOM	14641	N9	A S	78	9.905	-17.229	97.876	1.00	95.85	N
ATOM	14642	C8	A S	78	10.086	-16.849	96.573	1.00	95.71	C
ATOM	14643	N7	A S	78	11.328	-16.930	96.162	1.00	95.64	N
ATOM	14644	C5	A S	78	12.012	-17.398	97.269	1.00	95.61	C
ATOM	14645	C6	A S	78	13.371	-17.701	97.494	1.00	95.66	C
ATOM	14646	N6	A S	78	14.324	-17.569	96.567	1.00	95.64	N
ATOM	14647	N1	A S	78	13.717	-18.149	98.722	1.00	95.72	N
ATOM	14648	C2	A S	78	12.768	-18.281	99.659	1.00	95.71	C
ATOM	14649	N3	A S	78	11.461	-18.030	99.564	1.00	95.67	N
ATOM	14650	C4	A S	78	11.148	-17.588	98.333	1.00	95.68	C
ATOM	14651	P	C S	79	7.776	-12.716	100.270	1.00	97.89	P
ATOM	14652	O1P	C S	79	6.816	-12.003	101.141	1.00	97.77	O
ATOM	14653	O2P	C S	79	8.021	-12.236	98.889	1.00	97.93	O
ATOM	14654	O5*	C S	79	9.168	-12.823	101.051	1.00	98.14	O
ATOM	14655	C5*	C S	79	9.205	-13.420	102.348	1.00	98.23	C
ATOM	14656	C4*	C S	79	10.605	-13.860	102.736	1.00	98.18	C
ATOM	14657	O4*	C S	79	11.035	-14.992	101.934	1.00	98.04	O
ATOM	14658	C3*	C S	79	11.712	-12.840	102.515	1.00	98.21	C
ATOM	14659	O3*	C S	79	11.667	-11.791	103.488	1.00	98.41	O
ATOM	14660	C2*	C S	79	12.919	-13.768	102.620	1.00	98.09	C
ATOM	14661	O2*	C S	79	13.199	-14.221	103.933	1.00	98.01	O
ATOM	14662	C1*	C S	79	12.436	-14.905	101.722	1.00	97.82	C
ATOM	14663	N1	C S	79	12.743	-14.668	100.263	1.00	97.67	N
ATOM	14664	C2	C S	79	14.068	-14.802	99.807	1.00	97.56	C
ATOM	14665	O2	C S	79	14.973	-15.115	100.593	1.00	97.40	O
ATOM	14666	N3	C S	79	14.336	-14.582	98.495	1.00	97.40	N
ATOM	14667	C4	C S	79	13.360	-14.243	97.652	1.00	97.48	C
ATOM	14668	N4	C S	79	13.690	-14.041	96.374	1.00	97.51	N
ATOM	14669	C5	C S	79	12.008	-14.098	98.087	1.00	97.43	C
ATOM	14670	C6	C S	79	11.749	-14.316	99.383	1.00	97.49	C
ATOM	14671	P	A S	80	12.224	-10.327	103.148	1.00	98.56	P
ATOM	14672	O1P	A S	80	11.863	-9.411	104.252	1.00	98.76	O
ATOM	14673	O2P	A S	80	11.866	-9.971	101.757	1.00	98.71	O
ATOM	14674	O5*	A S	80	13.792	-10.582	103.196	1.00	98.32	O
ATOM	14675	C5*	A S	80	14.449	-10.923	104.406	1.00	97.95	C
ATOM	14676	C4*	A S	80	15.935	-10.693	104.234	1.00	97.85	C
ATOM	14677	O4*	A S	80	16.538	-11.824	103.552	1.00	97.59	O
ATOM	14678	C3*	A S	80	16.296	-9.495	103.365	1.00	97.70	C
ATOM	14679	O3*	A S	80	16.214	-8.283	104.104	1.00	97.88	O
ATOM	14680	C2*	A S	80	17.704	-9.879	102.939	1.00	97.57	C
ATOM	14681	O2*	A S	80	18.659	-9.730	103.970	1.00	97.42	O
ATOM	14682	C1*	A S	80	17.462	-11.347	102.590	1.00	97.44	C
ATOM	14683	N9	A S	80	16.914	-11.535	101.243	1.00	97.47	N
ATOM	14684	C8	A S	80	15.609	-11.756	100.885	1.00	97.32	C
ATOM	14685	N7	A S	80	15.413	-11.879	99.596	1.00	97.25	N
ATOM	14686	C5	A S	80	16.680	-11.727	99.064	1.00	97.37	C
ATOM	14687	C6	A S	80	17.159	-11.751	97.740	1.00	97.33	C
ATOM	14688	N6	A S	80	16.369	-11.954	96.681	1.00	97.29	N
ATOM	14689	N1	A S	80	18.487	-11.567	97.551	1.00	97.39	N
ATOM	14690	C2	A S	80	19.282	-11.368	98.611	1.00	97.33	C
ATOM	14691	N3	A S	80	18.944	-11.323	99.901	1.00	97.38	N
ATOM	14692	C4	A S	80	17.619	-11.512	100.062	1.00	97.42	C
ATOM	14693	P	A S	81	16.039	-6.877	103.361	1.00	97.84	P
ATOM	14694	O1P	A S	81	15.388	-5.956	104.315	1.00	97.94	O
ATOM	14695	O2P	A S	81	15.422	-7.080	102.031	1.00	98.06	O
ATOM	14696	O5*	A S	81	17.565	-6.436	103.188	1.00	97.43	O

ATOM	14697	C5*	A S	81	17.932	-5.300	102.421	1.00	97.20	C
ATOM	14698	C4*	A S	81	19.315	-5.488	101.820	1.00	97.10	C
ATOM	14699	O4*	A S	81	19.601	-6.909	101.649	1.00	97.16	O
ATOM	14700	C3*	A S	81	19.515	-4.880	100.432	1.00	96.90	C
ATOM	14701	O3*	A S	81	19.847	-3.476	100.473	1.00	95.91	O
ATOM	14702	C2*	A S	81	20.624	-5.787	99.895	1.00	96.98	C
ATOM	14703	O2*	A S	81	21.901	-5.541	100.458	1.00	96.49	O
ATOM	14704	C1*	A S	81	20.054	-7.139	100.327	1.00	97.23	C
ATOM	14705	N9	A S	81	18.938	-7.594	99.484	1.00	97.39	N
ATOM	14706	C8	A S	81	17.614	-7.685	99.828	1.00	97.36	C
ATOM	14707	N7	A S	81	16.828	-8.112	98.869	1.00	97.31	N
ATOM	14708	C5	A S	81	17.697	-8.313	97.810	1.00	97.41	C
ATOM	14709	C6	A S	81	17.493	-8.760	96.487	1.00	97.36	C
ATOM	14710	N6	A S	81	16.291	-9.099	96.016	1.00	97.33	N
ATOM	14711	N1	A S	81	18.570	-8.854	95.672	1.00	97.39	N
ATOM	14712	C2	A S	81	19.775	-8.514	96.153	1.00	97.43	C
ATOM	14713	N3	A S	81	20.090	-8.078	97.376	1.00	97.66	N
ATOM	14714	C4	A S	81	18.998	-7.997	98.165	1.00	97.50	C
ATOM	14715	P	C S	82	18.912	-2.397	99.723	1.00	95.98	P
ATOM	14716	O1P	C S	82	19.306	-1.034	100.155	1.00	95.62	O
ATOM	14717	O2P	C S	82	17.495	-2.819	99.853	1.00	94.74	O
ATOM	14718	O5*	C S	82	19.378	-2.560	98.199	1.00	94.46	O
ATOM	14719	C5*	C S	82	20.686	-2.182	97.785	1.00	92.84	C
ATOM	14720	C4*	C S	82	21.203	-3.074	96.666	1.00	92.12	C
ATOM	14721	O4*	C S	82	20.638	-4.409	96.759	1.00	91.61	O
ATOM	14722	C3*	C S	82	20.842	-2.638	95.254	1.00	91.43	C
ATOM	14723	O3*	C S	82	21.691	-1.587	94.774	1.00	90.59	O
ATOM	14724	C2*	C S	82	21.062	-3.940	94.505	1.00	91.28	C
ATOM	14725	O2*	C S	82	22.435	-4.233	94.326	1.00	91.51	O
ATOM	14726	C1*	C S	82	20.410	-4.941	95.461	1.00	91.29	C
ATOM	14727	N1	C S	82	18.925	-5.204	95.251	1.00	91.04	N
ATOM	14728	C2	C S	82	18.440	-5.670	94.014	1.00	90.89	C
ATOM	14729	O2	C S	82	19.212	-5.861	93.068	1.00	90.89	O
ATOM	14730	N3	C S	82	17.108	-5.897	93.867	1.00	90.82	N
ATOM	14731	C4	C S	82	16.258	-5.695	94.876	1.00	90.91	C
ATOM	14732	N4	C S	82	14.959	-5.940	94.672	1.00	90.74	N
ATOM	14733	C5	C S	82	16.719	-5.232	96.142	1.00	90.97	C
ATOM	14734	C6	C S	82	18.036	-5.008	96.280	1.00	91.22	C
ATOM	14735	P	C S	83	21.086	-0.169	94.328	1.00	89.51	P
ATOM	14736	O1P	C S	83	22.150	0.861	94.409	1.00	89.37	O
ATOM	14737	O2P	C S	83	19.810	-0.003	95.058	1.00	89.12	O
ATOM	14738	O5*	C S	83	20.788	-0.347	92.771	1.00	88.90	O
ATOM	14739	C5*	C S	83	21.869	-0.546	91.868	1.00	88.27	C
ATOM	14740	C4*	C S	83	21.415	-1.351	90.664	1.00	87.67	C
ATOM	14741	O4*	C S	83	20.661	-2.518	91.059	1.00	86.91	O
ATOM	14742	C3*	C S	83	20.441	-0.612	89.777	1.00	87.22	C
ATOM	14743	O3*	C S	83	21.147	0.312	88.969	1.00	87.63	O
ATOM	14744	C2*	C S	83	19.815	-1.749	88.992	1.00	86.68	C
ATOM	14745	O2*	C S	83	20.645	-2.217	87.951	1.00	85.89	O
ATOM	14746	C1*	C S	83	19.671	-2.813	90.079	1.00	86.61	C
ATOM	14747	N1	C S	83	18.306	-2.949	90.736	1.00	86.41	N
ATOM	14748	C2	C S	83	17.154	-3.161	89.958	1.00	86.23	C
ATOM	14749	O2	C S	83	17.238	-3.218	88.724	1.00	86.00	O
ATOM	14750	N3	C S	83	15.954	-3.295	90.587	1.00	86.45	N
ATOM	14751	C4	C S	83	15.858	-3.241	91.920	1.00	86.54	C
ATOM	14752	N4	C S	83	14.651	-3.380	92.484	1.00	86.13	N
ATOM	14753	C5	C S	83	17.014	-3.035	92.728	1.00	86.38	C
ATOM	14754	C6	C S	83	18.193	-2.905	92.105	1.00	86.46	C
ATOM	14755	P	G S	84	20.531	1.758	88.700	1.00	87.78	P

ATOM	14756	O1P	G S	84	21.658	2.660	88.353	1.00	87.34	O
ATOM	14757	O2P	G S	84	19.648	2.085	89.845	1.00	87.20	O
ATOM	14758	O5*	G S	84	19.632	1.512	87.390	1.00	87.53	O
ATOM	14759	C5*	G S	84	20.186	0.897	86.228	1.00	87.80	C
ATOM	14760	C4*	G S	84	19.105	0.492	85.242	1.00	88.12	C
ATOM	14761	O4*	G S	84	18.091	-0.299	85.917	1.00	88.15	O
ATOM	14762	C3*	G S	84	18.382	1.658	84.571	1.00	88.37	C
ATOM	14763	O3*	G S	84	18.295	1.441	83.157	1.00	89.38	O
ATOM	14764	C2*	G S	84	17.005	1.692	85.245	1.00	88.38	C
ATOM	14765	O2*	G S	84	15.953	2.106	84.384	1.00	87.93	O
ATOM	14766	C1*	G S	84	16.805	0.245	85.700	1.00	88.06	C
ATOM	14767	N9	G S	84	16.060	0.117	86.950	1.00	87.86	N
ATOM	14768	C8	G S	84	16.473	0.528	88.196	1.00	87.88	C
ATOM	14769	N7	G S	84	15.613	0.293	89.143	1.00	87.61	N
ATOM	14770	C5	G S	84	14.560	-0.314	88.481	1.00	87.81	C
ATOM	14771	C6	G S	84	13.335	-0.801	88.991	1.00	88.04	C
ATOM	14772	O6	G S	84	12.938	-0.783	90.163	1.00	88.15	O
ATOM	14773	N1	G S	84	12.534	-1.355	87.994	1.00	88.07	N
ATOM	14774	C2	G S	84	12.870	-1.430	86.663	1.00	88.08	C
ATOM	14775	N2	G S	84	11.964	-2.002	85.853	1.00	87.86	N
ATOM	14776	N3	G S	84	14.020	-0.971	86.171	1.00	88.18	N
ATOM	14777	C4	G S	84	14.814	-0.431	87.132	1.00	87.75	C
ATOM	14778	P	C S	85	19.429	1.972	82.153	1.00	90.64	P
ATOM	14779	O1P	C S	85	19.596	3.429	82.375	1.00	90.09	O
ATOM	14780	O2P	C S	85	19.083	1.483	80.796	1.00	90.03	O
ATOM	14781	O5*	C S	85	20.750	1.228	82.687	1.00	90.42	O
ATOM	14782	C5*	C S	85	21.850	0.934	81.821	1.00	90.70	C
ATOM	14783	C4*	C S	85	22.011	-0.566	81.620	1.00	90.81	C
ATOM	14784	O4*	C S	85	20.714	-1.177	81.388	1.00	91.02	O
ATOM	14785	C3*	C S	85	22.881	-0.984	80.431	1.00	90.79	C
ATOM	14786	O3*	C S	85	23.963	-1.819	80.871	1.00	91.08	O
ATOM	14787	C2*	C S	85	21.903	-1.682	79.470	1.00	90.75	C
ATOM	14788	O2*	C S	85	22.482	-2.734	78.721	1.00	90.01	O
ATOM	14789	C1*	C S	85	20.835	-2.205	80.423	1.00	90.88	C
ATOM	14790	N1	C S	85	19.459	-2.470	79.847	1.00	91.03	N
ATOM	14791	C2	C S	85	18.894	-3.768	79.826	1.00	91.22	C
ATOM	14792	O2	C S	85	19.519	-4.747	80.259	1.00	90.99	O
ATOM	14793	N3	C S	85	17.645	-3.929	79.309	1.00	91.41	N
ATOM	14794	C4	C S	85	16.964	-2.876	78.836	1.00	91.37	C
ATOM	14795	N4	C S	85	15.740	-3.088	78.336	1.00	91.36	N
ATOM	14796	C5	C S	85	17.512	-1.557	78.853	1.00	91.12	C
ATOM	14797	C6	C S	85	18.741	-1.407	79.364	1.00	91.14	C
ATOM	14798	P	A S	86	25.279	-1.205	81.561	1.00	91.25	P
ATOM	14799	O1P	A S	86	25.079	0.247	81.782	1.00	91.65	O
ATOM	14800	O2P	A S	86	26.439	-1.677	80.776	1.00	91.90	O
ATOM	14801	O5*	A S	86	25.328	-1.925	82.995	1.00	91.61	O
ATOM	14802	C5*	A S	86	26.243	-1.533	84.044	1.00	91.11	C
ATOM	14803	C4*	A S	86	25.547	-1.292	85.384	1.00	90.73	C
ATOM	14804	O4*	A S	86	24.139	-0.973	85.178	1.00	90.27	O
ATOM	14805	C3*	A S	86	25.563	-2.477	86.348	1.00	90.48	C
ATOM	14806	O3*	A S	86	26.661	-2.402	87.269	1.00	90.53	O
ATOM	14807	C2*	A S	86	24.186	-2.399	87.025	1.00	90.18	C
ATOM	14808	O2*	A S	86	24.117	-1.521	88.139	1.00	89.86	O
ATOM	14809	C1*	A S	86	23.313	-1.880	85.887	1.00	89.22	C
ATOM	14810	N9	A S	86	22.789	-2.913	84.978	1.00	88.61	N
ATOM	14811	C8	A S	86	23.489	-3.768	84.163	1.00	88.18	C
ATOM	14812	N7	A S	86	22.744	-4.583	83.459	1.00	88.12	N
ATOM	14813	C5	A S	86	21.457	-4.252	83.833	1.00	88.08	C
ATOM	14814	C6	A S	86	20.200	-4.757	83.441	1.00	88.06	C

ATOM	14815	N6	A S	86	20.059	-5.744	82.553	1.00	88.16	N
ATOM	14816	N1	A S	86	19.097	-4.212	84.002	1.00	88.17	N
ATOM	14817	C2	A S	86	19.249	-3.223	84.894	1.00	88.24	C
ATOM	14818	N3	A S	86	20.379	-2.664	85.338	1.00	88.27	N
ATOM	14819	C4	A S	86	21.462	-3.226	84.766	1.00	88.26	C
ATOM	14820	P	A S	87	27.233	-3.750	87.946	1.00	90.45	P
ATOM	14821	O1P	A S	87	28.332	-3.330	88.848	1.00	90.63	O
ATOM	14822	O2P	A S	87	27.466	-4.766	86.889	1.00	89.31	O
ATOM	14823	O5*	A S	87	26.034	-4.246	88.877	1.00	88.26	O
ATOM	14824	C5*	A S	87	25.769	-3.582	90.110	1.00	86.68	C
ATOM	14825	C4*	A S	87	24.462	-4.082	90.685	1.00	85.38	C
ATOM	14826	O4*	A S	87	23.439	-4.059	89.659	1.00	84.19	O
ATOM	14827	C3*	A S	87	24.530	-5.523	91.157	1.00	84.56	C
ATOM	14828	O3*	A S	87	24.923	-5.572	92.521	1.00	84.91	O
ATOM	14829	C2*	A S	87	23.113	-6.046	90.927	1.00	83.94	C
ATOM	14830	O2*	A S	87	22.262	-5.878	92.047	1.00	83.59	O
ATOM	14831	C1*	A S	87	22.619	-5.216	89.744	1.00	82.72	C
ATOM	14832	N9	A S	87	22.635	-5.930	88.463	1.00	81.92	N
ATOM	14833	C8	A S	87	23.716	-6.470	87.813	1.00	81.60	C
ATOM	14834	N7	A S	87	23.425	-7.049	86.671	1.00	81.11	N
ATOM	14835	C5	A S	87	22.056	-6.877	86.564	1.00	81.09	C
ATOM	14836	C6	A S	87	21.122	-7.263	85.579	1.00	81.38	C
ATOM	14837	N6	A S	87	21.460	-7.935	84.476	1.00	81.59	N
ATOM	14838	N1	A S	87	19.824	-6.940	85.776	1.00	81.48	N
ATOM	14839	C2	A S	87	19.483	-6.268	86.886	1.00	81.44	C
ATOM	14840	N3	A S	87	20.269	-5.852	87.881	1.00	81.21	N
ATOM	14841	C4	A S	87	21.553	-6.186	87.654	1.00	81.21	C
ATOM	14842	P	G S	88	25.515	-6.929	93.128	1.00	85.91	P
ATOM	14843	O1P	G S	88	26.931	-6.678	93.483	1.00	85.58	O
ATOM	14844	O2P	G S	88	25.176	-8.042	92.207	1.00	85.52	O
ATOM	14845	O5*	G S	88	24.670	-7.125	94.478	1.00	86.11	O
ATOM	14846	C5*	G S	88	24.880	-6.312	95.622	1.00	86.47	C
ATOM	14847	C4*	G S	88	24.190	-6.861	96.863	1.00	86.73	C
ATOM	14848	O4*	G S	88	24.253	-8.311	96.913	1.00	87.18	O
ATOM	14849	C3*	G S	88	24.826	-6.395	98.163	1.00	87.11	C
ATOM	14850	O3*	G S	88	24.194	-5.198	98.587	1.00	87.66	O
ATOM	14851	C2*	G S	88	24.644	-7.567	99.123	1.00	87.14	C
ATOM	14852	O2*	G S	88	23.402	-7.602	99.801	1.00	87.28	O
ATOM	14853	C1*	G S	88	24.777	-8.744	98.161	1.00	87.03	C
ATOM	14854	N9	G S	88	26.154	-9.224	97.985	1.00	86.98	N
ATOM	14855	C8	G S	88	26.885	-9.296	96.817	1.00	86.88	C
ATOM	14856	N7	G S	88	28.088	-9.774	96.972	1.00	86.62	N
ATOM	14857	C5	G S	88	28.166	-10.038	98.330	1.00	86.82	C
ATOM	14858	C6	G S	88	29.231	-10.579	99.088	1.00	86.89	C
ATOM	14859	O6	G S	88	30.354	-10.927	98.693	1.00	86.89	O
ATOM	14860	N1	G S	88	28.897	-10.689	100.439	1.00	86.92	N
ATOM	14861	C2	G S	88	27.688	-10.326	100.992	1.00	86.88	C
ATOM	14862	N2	G S	88	27.557	-10.510	102.316	1.00	86.79	N
ATOM	14863	N3	G S	88	26.679	-9.823	100.287	1.00	86.76	N
ATOM	14864	C4	G S	88	26.987	-9.708	98.969	1.00	86.82	C
ATOM	14865	P	C S	89	25.024	-3.840	98.478	1.00	88.24	P
ATOM	14866	O1P	C S	89	24.126	-2.728	98.864	1.00	88.67	O
ATOM	14867	O2P	C S	89	25.707	-3.799	97.163	1.00	87.60	O
ATOM	14868	O5*	C S	89	26.113	-4.055	99.640	1.00	89.01	O
ATOM	14869	C5*	C S	89	25.803	-3.765	101.017	1.00	89.79	C
ATOM	14870	C4*	C S	89	26.585	-4.620	102.008	1.00	90.08	C
ATOM	14871	O4*	C S	89	26.665	-5.995	101.539	1.00	90.17	O
ATOM	14872	C3*	C S	89	28.054	-4.271	102.237	1.00	90.42	C
ATOM	14873	O3*	C S	89	28.282	-3.106	103.055	1.00	91.01	O

ATOM	14874	C2*	C S	89	28.516	-5.558	102.913	1.00	90.34	C
ATOM	14875	O2*	C S	89	28.044	-5.718	104.241	1.00	90.17	O
ATOM	14876	C1*	C S	89	27.885	-6.582	101.974	1.00	90.15	C
ATOM	14877	N1	C S	89	28.790	-6.933	100.811	1.00	90.16	N
ATOM	14878	C2	C S	89	29.927	-7.737	101.032	1.00	89.90	C
ATOM	14879	O2	C S	89	30.181	-8.158	102.165	1.00	89.75	O
ATOM	14880	N3	C S	89	30.738	-8.044	99.988	1.00	89.88	N
ATOM	14881	C4	C S	89	30.467	-7.587	98.766	1.00	90.04	C
ATOM	14882	N4	C S	89	31.303	-7.927	97.781	1.00	89.94	N
ATOM	14883	C5	C S	89	29.325	-6.770	98.509	1.00	90.08	C
ATOM	14884	C6	C S	89	28.528	-6.469	99.545	1.00	90.19	C
ATOM	14885	P	U S	90	29.518	-2.121	102.749	1.00	91.83	P
ATOM	14886	O1P	U S	90	28.972	-0.754	102.594	1.00	91.73	O
ATOM	14887	O2P	U S	90	30.295	-2.692	101.633	1.00	91.94	O
ATOM	14888	O5*	U S	90	30.452	-2.131	104.056	1.00	92.77	O
ATOM	14889	C5*	U S	90	30.450	-3.180	105.024	1.00	94.34	C
ATOM	14890	C4*	U S	90	31.844	-3.672	105.411	1.00	95.24	C
ATOM	14891	O4*	U S	90	31.985	-5.070	105.017	1.00	95.46	O
ATOM	14892	C3*	U S	90	33.069	-2.994	104.794	1.00	95.81	C
ATOM	14893	O3*	U S	90	33.412	-1.757	105.429	1.00	97.34	O
ATOM	14894	C2*	U S	90	34.108	-4.086	105.038	1.00	95.81	C
ATOM	14895	O2*	U S	90	34.544	-4.173	106.384	1.00	95.74	O
ATOM	14896	C1*	U S	90	33.324	-5.327	104.622	1.00	95.50	C
ATOM	14897	N1	U S	90	33.415	-5.612	103.135	1.00	95.44	N
ATOM	14898	C2	U S	90	34.415	-6.443	102.650	1.00	95.37	C
ATOM	14899	O2	U S	90	35.251	-6.987	103.356	1.00	94.98	O
ATOM	14900	N3	U S	90	34.401	-6.627	101.283	1.00	95.35	N
ATOM	14901	C4	U S	90	33.518	-6.075	100.362	1.00	95.35	C
ATOM	14902	O4	U S	90	33.624	-6.326	99.165	1.00	95.08	O
ATOM	14903	C5	U S	90	32.512	-5.220	100.935	1.00	95.23	C
ATOM	14904	C6	U S	90	32.505	-5.029	102.262	1.00	95.44	C
ATOM	14905	P	U S	91	34.203	-0.580	104.665	1.00	98.30	P
ATOM	14906	O1P	U S	91	34.123	0.622	105.520	1.00	98.17	O
ATOM	14907	O2P	U S	91	33.700	-0.513	103.280	1.00	98.11	O
ATOM	14908	O5*	U S	91	35.736	-1.056	104.634	1.00	99.94	O
ATOM	14909	C5*	U S	91	36.443	-1.437	105.826	1.00	101.78	C
ATOM	14910	C4*	U S	91	37.664	-2.308	105.539	1.00	102.75	C
ATOM	14911	O4*	U S	91	37.276	-3.564	104.913	1.00	103.00	O
ATOM	14912	C3*	U S	91	38.698	-1.705	104.596	1.00	103.52	C
ATOM	14913	O3*	U S	91	39.608	-0.870	105.322	1.00	104.85	O
ATOM	14914	C2*	U S	91	39.370	-2.957	104.036	1.00	103.43	C
ATOM	14915	O2*	U S	91	40.343	-3.509	104.904	1.00	103.36	O
ATOM	14916	C1*	U S	91	38.189	-3.910	103.881	1.00	103.01	C
ATOM	14917	N1	U S	91	37.539	-3.857	102.508	1.00	102.89	N
ATOM	14918	C2	U S	91	38.161	-4.489	101.441	1.00	102.70	C
ATOM	14919	O2	U S	91	39.217	-5.092	101.533	1.00	102.58	O
ATOM	14920	N3	U S	91	37.497	-4.389	100.240	1.00	102.54	N
ATOM	14921	C4	U S	91	36.298	-3.738	99.994	1.00	102.62	C
ATOM	14922	O4	U S	91	35.818	-3.730	98.866	1.00	102.59	O
ATOM	14923	C5	U S	91	35.707	-3.106	101.143	1.00	102.58	C
ATOM	14924	C6	U S	91	36.338	-3.188	102.319	1.00	102.70	C
ATOM	14925	P	U S	92	40.230	0.490	104.741	1.00	106.11	P
ATOM	14926	O1P	U S	92	41.695	0.406	104.952	1.00	105.86	O
ATOM	14927	O2P	U S	92	39.470	1.608	105.342	1.00	105.92	O
ATOM	14928	O5*	U S	92	39.926	0.465	103.163	1.00	107.13	O
ATOM	14929	C5*	U S	92	40.871	0.965	102.208	1.00	108.16	C
ATOM	14930	C4*	U S	92	41.886	-0.102	101.817	1.00	108.80	C
ATOM	14931	O4*	U S	92	41.240	-1.401	101.692	1.00	109.09	O
ATOM	14932	C3*	U S	92	42.580	0.103	100.475	1.00	109.13	C

ATOM	14933	O3*	U S	92	43.703	0.981	100.588	1.00109.34	O
ATOM	14934	C2*	U S	92	42.967	-1.334	100.131	1.00109.25	C
ATOM	14935	O2*	U S	92	44.052	-1.847	100.882	1.00109.04	O
ATOM	14936	C1*	U S	92	41.673	-2.048	100.507	1.00109.39	C
ATOM	14937	N1	U S	92	40.608	-1.987	99.432	1.00109.68	N
ATOM	14938	C2	U S	92	40.793	-2.719	98.268	1.00109.70	C
ATOM	14939	O2	U S	92	41.773	-3.415	98.059	1.00109.60	O
ATOM	14940	N3	U S	92	39.783	-2.609	97.338	1.00109.71	N
ATOM	14941	C4	U S	92	38.622	-1.859	97.445	1.00109.67	C
ATOM	14942	O4	U S	92	37.808	-1.863	96.524	1.00109.55	O
ATOM	14943	C5	U S	92	38.491	-1.122	98.680	1.00109.76	C
ATOM	14944	C6	U S	92	39.466	-1.211	99.601	1.00109.77	C
ATOM	14945	P	U S	93	43.809	2.291	99.673	1.00109.73	P
ATOM	14946	O1P	U S	93	45.066	2.990	100.028	1.00109.63	O
ATOM	14947	O2P	U S	93	42.516	3.007	99.760	1.00109.52	O
ATOM	14948	O5*	U S	93	43.966	1.696	98.193	1.00109.75	O
ATOM	14949	C5*	U S	93	45.120	0.939	97.818	1.00109.78	C
ATOM	14950	C4*	U S	93	44.998	0.361	96.412	1.00109.72	C
ATOM	14951	O4*	U S	93	43.893	-0.583	96.357	1.00109.87	O
ATOM	14952	C3*	U S	93	44.691	1.355	95.294	1.00109.59	C
ATOM	14953	O3*	U S	93	45.861	2.014	94.796	1.00108.92	O
ATOM	14954	C2*	U S	93	44.066	0.443	94.250	1.00109.65	C
ATOM	14955	O2*	U S	93	44.996	-0.353	93.542	1.00109.57	O
ATOM	14956	C1*	U S	93	43.170	-0.411	95.148	1.00109.94	C
ATOM	14957	N1	U S	93	41.817	0.210	95.410	1.00110.12	N
ATOM	14958	C2	U S	93	40.999	0.472	94.324	1.00110.35	C
ATOM	14959	O2	U S	93	41.327	0.219	93.177	1.00110.27	O
ATOM	14960	N3	U S	93	39.781	1.045	94.624	1.00110.35	N
ATOM	14961	C4	U S	93	39.299	1.375	95.880	1.00110.20	C
ATOM	14962	O4	U S	93	38.185	1.879	95.993	1.00110.06	O
ATOM	14963	C5	U S	93	40.202	1.077	96.967	1.00110.29	C
ATOM	14964	C6	U S	93	41.395	0.519	96.696	1.00110.21	C
ATOM	14965	P	A S	94	46.063	3.602	94.920	1.00108.34	P
ATOM	14966	O1P	A S	94	47.503	3.832	95.190	1.00108.42	O
ATOM	14967	O2P	A S	94	45.047	4.136	95.858	1.00108.37	O
ATOM	14968	O5*	A S	94	45.720	4.159	93.454	1.00106.93	O
ATOM	14969	C5*	A S	94	46.709	4.308	92.431	1.00105.43	C
ATOM	14970	C4*	A S	94	46.137	3.951	91.069	1.00104.55	C
ATOM	14971	O4*	A S	94	45.187	2.865	91.221	1.00104.43	O
ATOM	14972	C3*	A S	94	45.359	5.061	90.372	1.00103.87	C
ATOM	14973	O3*	A S	94	46.231	5.925	89.626	1.00102.52	O
ATOM	14974	C2*	A S	94	44.395	4.274	89.484	1.00103.89	C
ATOM	14975	O2*	A S	94	44.946	3.913	88.231	1.00103.71	O
ATOM	14976	C1*	A S	94	44.102	3.030	90.323	1.00104.18	C
ATOM	14977	N9	A S	94	42.835	3.111	91.057	1.00104.28	N
ATOM	14978	C8	A S	94	42.626	3.362	92.390	1.00104.20	C
ATOM	14979	N7	A S	94	41.361	3.370	92.739	1.00104.21	N
ATOM	14980	C5	A S	94	40.691	3.107	91.554	1.00104.25	C
ATOM	14981	C6	A S	94	39.320	2.981	91.237	1.00104.22	C
ATOM	14982	N6	A S	94	38.343	3.111	92.142	1.00104.11	N
ATOM	14983	N1	A S	94	38.996	2.712	89.949	1.00104.10	N
ATOM	14984	C2	A S	94	39.972	2.583	89.040	1.00104.08	C
ATOM	14985	N3	A S	94	41.290	2.679	89.220	1.00104.12	N
ATOM	14986	C4	A S	94	41.584	2.945	90.508	1.00104.26	C
ATOM	14987	P	C S	95	45.804	7.431	89.264	1.00101.48	P
ATOM	14988	O1P	C S	95	46.849	7.995	88.380	1.00101.37	O
ATOM	14989	O2P	C S	95	45.453	8.132	90.521	1.00101.05	O
ATOM	14990	O5*	C S	95	44.473	7.234	88.394	1.00100.18	O
ATOM	14991	C5*	C S	95	44.527	6.916	87.000	1.00 98.80	C

ATOM	14992	C4*	C S	95	43.130	6.783	86.411	1.00	97.98	C
ATOM	14993	O4*	C S	95	42.353	5.774	87.113	1.00	97.77	O
ATOM	14994	C3*	C S	95	42.255	8.024	86.527	1.00	97.18	C
ATOM	14995	O3*	C S	95	42.633	9.029	85.592	1.00	95.39	O
ATOM	14996	C2*	C S	95	40.880	7.420	86.258	1.00	97.27	C
ATOM	14997	O2*	C S	95	40.625	7.141	84.892	1.00	97.51	O
ATOM	14998	C1*	C S	95	40.974	6.135	87.075	1.00	97.31	C
ATOM	14999	N1	C S	95	40.397	6.264	88.478	1.00	97.14	N
ATOM	15000	C2	C S	95	39.069	5.869	88.717	1.00	96.90	C
ATOM	15001	O2	C S	95	38.380	5.424	87.789	1.00	96.80	O
ATOM	15002	N3	C S	95	38.565	5.981	89.974	1.00	96.55	N
ATOM	15003	C4	C S	95	39.303	6.462	90.973	1.00	96.79	C
ATOM	15004	N4	C S	95	38.732	6.542	92.179	1.00	96.81	N
ATOM	15005	C5	C S	95	40.653	6.876	90.761	1.00	96.89	C
ATOM	15006	C6	C S	95	41.148	6.761	89.517	1.00	97.16	C
ATOM	15007	P	U S	96	42.308	10.558	85.914	1.00	93.82	P
ATOM	15008	O1P	U S	96	42.838	11.394	84.813	1.00	93.46	O
ATOM	15009	O2P	U S	96	42.703	10.836	87.315	1.00	93.55	O
ATOM	15010	O5*	U S	96	40.716	10.568	85.810	1.00	92.94	O
ATOM	15011	C5*	U S	96	40.071	10.269	84.574	1.00	91.54	C
ATOM	15012	C4*	U S	96	38.568	10.132	84.758	1.00	90.70	C
ATOM	15013	O4*	U S	96	38.240	9.041	85.656	1.00	90.27	O
ATOM	15014	C3*	U S	96	37.889	11.325	85.412	1.00	89.76	C
ATOM	15015	O3*	U S	96	37.700	12.369	84.483	1.00	88.50	O
ATOM	15016	C2*	U S	96	36.580	10.702	85.864	1.00	89.74	C
ATOM	15017	O2*	U S	96	35.681	10.463	84.798	1.00	89.71	O
ATOM	15018	C1*	U S	96	37.118	9.403	86.454	1.00	89.91	C
ATOM	15019	N1	U S	96	37.487	9.518	87.925	1.00	89.77	N
ATOM	15020	C2	U S	96	36.472	9.455	88.858	1.00	89.67	C
ATOM	15021	O2	U S	96	35.305	9.314	88.548	1.00	89.41	O
ATOM	15022	N3	U S	96	36.871	9.560	90.174	1.00	89.81	N
ATOM	15023	C4	U S	96	38.160	9.721	90.656	1.00	89.74	C
ATOM	15024	O4	U S	96	38.361	9.800	91.866	1.00	89.38	O
ATOM	15025	C5	U S	96	39.171	9.778	89.629	1.00	89.89	C
ATOM	15026	C6	U S	96	38.802	9.681	88.341	1.00	90.01	C
ATOM	15027	P	U S	97	37.887	13.894	84.923	1.00	87.80	P
ATOM	15028	O1P	U S	97	38.550	13.957	86.250	1.00	87.27	O
ATOM	15029	O2P	U S	97	36.590	14.571	84.704	1.00	87.88	O
ATOM	15030	O5*	U S	97	38.906	14.424	83.808	1.00	86.99	O
ATOM	15031	C5*	U S	97	40.281	14.029	83.790	1.00	85.89	C
ATOM	15032	C4*	U S	97	41.193	15.242	83.712	1.00	85.00	C
ATOM	15033	O4*	U S	97	41.343	15.622	82.317	1.00	85.43	O
ATOM	15034	C3*	U S	97	40.694	16.494	84.444	1.00	83.82	C
ATOM	15035	O3*	U S	97	41.770	17.246	85.014	1.00	79.49	O
ATOM	15036	C2*	U S	97	40.005	17.264	83.325	1.00	84.52	C
ATOM	15037	O2*	U S	97	39.876	18.645	83.597	1.00	84.67	O
ATOM	15038	C1*	U S	97	40.976	16.980	82.177	1.00	86.07	C
ATOM	15039	N1	U S	97	40.409	17.203	80.807	1.00	86.81	N
ATOM	15040	C2	U S	97	41.058	18.044	79.909	1.00	87.43	C
ATOM	15041	O2	U S	97	42.098	18.641	80.145	1.00	87.61	O
ATOM	15042	N3	U S	97	40.432	18.168	78.690	1.00	87.60	N
ATOM	15043	C4	U S	97	39.257	17.554	78.285	1.00	87.29	C
ATOM	15044	O4	U S	97	38.819	17.760	77.159	1.00	87.18	O
ATOM	15045	C5	U S	97	38.643	16.696	79.268	1.00	87.46	C
ATOM	15046	C6	U S	97	39.232	16.558	80.463	1.00	87.22	C
ATOM	15047	P	A S	98	42.019	17.265	86.595	1.00	76.75	P
ATOM	15048	O1P	A S	98	43.167	18.174	86.835	1.00	75.24	O
ATOM	15049	O2P	A S	98	42.070	15.864	87.071	1.00	76.43	O
ATOM	15050	O5*	A S	98	40.667	17.899	87.187	1.00	72.01	O

ATOM	15051	C5*	A S	98	40.551	19.286	87.436	1.00	68.21	C
ATOM	15052	C4*	A S	98	39.172	19.768	87.028	1.00	66.52	C
ATOM	15053	O4*	A S	98	38.191	19.326	88.007	1.00	65.63	O
ATOM	15054	C3*	A S	98	39.008	21.278	86.933	1.00	64.51	C
ATOM	15055	O3*	A S	98	39.186	21.706	85.604	1.00	62.51	O
ATOM	15056	C2*	A S	98	37.563	21.472	87.346	1.00	64.23	C
ATOM	15057	O2*	A S	98	36.670	21.243	86.273	1.00	64.72	O
ATOM	15058	C1*	A S	98	37.395	20.414	88.418	1.00	63.54	C
ATOM	15059	N9	A S	98	37.777	20.810	89.776	1.00	63.15	N
ATOM	15060	C8	A S	98	39.002	20.762	90.389	1.00	62.59	C
ATOM	15061	N7	A S	98	39.000	21.179	91.629	1.00	62.01	N
ATOM	15062	C5	A S	98	37.675	21.522	91.844	1.00	62.22	C
ATOM	15063	C6	A S	98	36.994	22.028	92.959	1.00	62.03	C
ATOM	15064	N6	A S	98	37.579	22.301	94.125	1.00	63.02	N
ATOM	15065	N1	A S	98	35.677	22.258	92.837	1.00	63.08	N
ATOM	15066	C2	A S	98	35.072	21.991	91.673	1.00	62.92	C
ATOM	15067	N3	A S	98	35.601	21.515	90.555	1.00	62.47	N
ATOM	15068	C4	A S	98	36.914	21.301	90.718	1.00	62.62	C
ATOM	15069	P	A S	99	40.154	22.913	85.237	1.00	61.74	P
ATOM	15070	O1P	A S	99	40.442	22.797	83.788	1.00	61.74	O
ATOM	15071	O2P	A S	99	41.286	22.928	86.194	1.00	62.76	O
ATOM	15072	O5*	A S	99	39.237	24.194	85.465	1.00	58.90	O
ATOM	15073	C5*	A S	99	38.189	24.449	84.551	1.00	57.15	C
ATOM	15074	C4*	A S	99	36.994	25.062	85.243	1.00	56.28	C
ATOM	15075	O4*	A S	99	36.560	24.233	86.357	1.00	56.92	O
ATOM	15076	C3*	A S	99	37.240	26.419	85.875	1.00	55.26	C
ATOM	15077	O3*	A S	99	37.259	27.446	84.889	1.00	54.48	O
ATOM	15078	C2*	A S	99	36.073	26.501	86.856	1.00	54.94	C
ATOM	15079	O2*	A S	99	34.805	26.776	86.287	1.00	53.99	O
ATOM	15080	C1*	A S	99	36.104	25.077	87.417	1.00	55.52	C
ATOM	15081	N9	A S	99	36.998	24.960	88.569	1.00	55.58	N
ATOM	15082	C8	A S	99	38.351	24.739	88.557	1.00	54.95	C
ATOM	15083	N7	A S	99	38.896	24.691	89.745	1.00	54.93	N
ATOM	15084	C5	A S	99	37.832	24.904	90.601	1.00	55.25	C
ATOM	15085	C6	A S	99	37.742	24.974	92.003	1.00	54.91	C
ATOM	15086	N6	A S	99	38.776	24.826	92.825	1.00	54.84	N
ATOM	15087	N1	A S	99	36.537	25.198	92.542	1.00	54.43	N
ATOM	15088	C2	A S	99	35.497	25.342	91.721	1.00	54.70	C
ATOM	15089	N3	A S	99	35.451	25.296	90.394	1.00	54.11	N
ATOM	15090	C4	A S	99	36.658	25.064	89.891	1.00	54.66	C
ATOM	15091	P	A S	100	38.314	28.651	85.025	1.00	52.78	P
ATOM	15092	O1P	A S	100	38.163	29.514	83.828	1.00	50.60	O
ATOM	15093	O2P	A S	100	39.627	28.087	85.408	1.00	48.80	O
ATOM	15094	O5*	A S	100	37.715	29.428	86.285	1.00	49.89	O
ATOM	15095	C5*	A S	100	36.690	30.382	86.090	1.00	48.95	C
ATOM	15096	C4*	A S	100	35.939	30.661	87.382	1.00	48.79	C
ATOM	15097	O4*	A S	100	35.837	29.440	88.156	1.00	48.48	O
ATOM	15098	C3*	A S	100	36.556	31.634	88.380	1.00	47.66	C
ATOM	15099	O3*	A S	100	36.363	32.987	88.027	1.00	46.23	O
ATOM	15100	C2*	A S	100	35.731	31.269	89.601	1.00	48.13	C
ATOM	15101	O2*	A S	100	34.403	31.728	89.505	1.00	48.46	O
ATOM	15102	C1*	A S	100	35.781	29.753	89.533	1.00	48.54	C
ATOM	15103	N9	A S	100	36.927	29.188	90.256	1.00	48.90	N
ATOM	15104	C8	A S	100	38.160	28.828	89.781	1.00	49.21	C
ATOM	15105	N7	A S	100	38.978	28.358	90.700	1.00	48.78	N
ATOM	15106	C5	A S	100	38.228	28.417	91.856	1.00	48.72	C
ATOM	15107	C6	A S	100	38.507	28.065	93.187	1.00	48.90	C
ATOM	15108	N6	A S	100	39.683	27.562	93.579	1.00	49.44	N
ATOM	15109	N1	A S	100	37.537	28.246	94.103	1.00	48.40	N

ATOM	15110	C2	A S 100	36.371	28.754	93.695	1.00	48.76	C
ATOM	15111	N3	A S 100	35.989	29.126	92.478	1.00	48.76	N
ATOM	15112	C4	A S 100	36.972	28.925	91.599	1.00	48.59	C
ATOM	15113	P	U S 101	37.452	34.110	88.408	1.00	46.83	P
ATOM	15114	O1P	U S 101	36.916	35.432	87.985	1.00	43.57	O
ATOM	15115	O2P	U S 101	38.780	33.642	87.945	1.00	46.91	O
ATOM	15116	O5*	U S 101	37.567	34.038	89.994	1.00	47.96	O
ATOM	15117	C5*	U S 101	36.520	34.452	90.844	1.00	49.48	C
ATOM	15118	C4*	U S 101	36.821	34.007	92.263	1.00	50.46	C
ATOM	15119	O4*	U S 101	37.124	32.589	92.311	1.00	51.21	O
ATOM	15120	C3*	U S 101	38.066	34.604	92.886	1.00	51.64	C
ATOM	15121	O3*	U S 101	37.868	35.943	93.269	1.00	51.99	O
ATOM	15122	C2*	U S 101	38.257	33.668	94.069	1.00	51.85	C
ATOM	15123	O2*	U S 101	37.355	33.887	95.127	1.00	52.85	O
ATOM	15124	C1*	U S 101	37.987	32.326	93.400	1.00	52.13	C
ATOM	15125	N1	U S 101	39.238	31.726	92.913	1.00	52.64	N
ATOM	15126	C2	U S 101	40.157	31.305	93.851	1.00	53.09	C
ATOM	15127	O2	U S 101	39.984	31.397	95.050	1.00	53.21	O
ATOM	15128	N3	U S 101	41.306	30.767	93.330	1.00	54.01	N
ATOM	15129	C4	U S 101	41.623	30.614	91.990	1.00	52.96	C
ATOM	15130	O4	U S 101	42.695	30.115	91.681	1.00	53.07	O
ATOM	15131	C5	U S 101	40.619	31.069	91.068	1.00	53.00	C
ATOM	15132	C6	U S 101	39.489	31.605	91.555	1.00	53.01	C
ATOM	15133	P	C S 102	38.892	37.086	92.830	1.00	52.32	P
ATOM	15134	O1P	C S 102	38.651	38.236	93.732	1.00	52.53	O
ATOM	15135	O2P	C S 102	38.774	37.256	91.369	1.00	51.62	O
ATOM	15136	O5*	C S 102	40.322	36.474	93.188	1.00	53.86	O
ATOM	15137	C5*	C S 102	40.762	36.327	94.530	1.00	55.82	C
ATOM	15138	C4*	C S 102	42.186	35.783	94.588	1.00	56.96	C
ATOM	15139	O4*	C S 102	42.218	34.400	94.145	1.00	57.18	O
ATOM	15140	C3*	C S 102	43.205	36.499	93.711	1.00	57.83	C
ATOM	15141	O3*	C S 102	43.772	37.608	94.398	1.00	59.54	O
ATOM	15142	C2*	C S 102	44.235	35.405	93.481	1.00	58.07	C
ATOM	15143	O2*	C S 102	45.108	35.218	94.579	1.00	58.95	O
ATOM	15144	C1*	C S 102	43.347	34.182	93.315	1.00	57.85	C
ATOM	15145	N1	C S 102	42.941	33.921	91.886	1.00	57.61	N
ATOM	15146	C2	C S 102	43.879	33.422	90.970	1.00	57.77	C
ATOM	15147	O2	C S 102	45.048	33.201	91.323	1.00	57.80	O
ATOM	15148	N3	C S 102	43.477	33.187	89.696	1.00	57.57	N
ATOM	15149	C4	C S 102	42.230	33.420	89.309	1.00	57.19	C
ATOM	15150	N4	C S 102	41.907	33.169	88.042	1.00	57.33	N
ATOM	15151	C5	C S 102	41.265	33.931	90.216	1.00	57.79	C
ATOM	15152	C6	C S 102	41.661	34.157	91.474	1.00	57.83	C
ATOM	15153	P	A S 103	43.823	39.088	93.784	1.00	60.42	P
ATOM	15154	O1P	A S 103	44.264	39.945	94.910	1.00	60.31	O
ATOM	15155	O2P	A S 103	42.562	39.361	93.047	1.00	60.79	O
ATOM	15156	O5*	A S 103	45.001	39.037	92.712	1.00	60.41	O
ATOM	15157	C5*	A S 103	46.352	38.965	93.146	1.00	60.95	C
ATOM	15158	C4*	A S 103	47.211	38.404	92.036	1.00	60.64	C
ATOM	15159	O4*	A S 103	46.706	37.105	91.633	1.00	60.99	O
ATOM	15160	C3*	A S 103	47.178	39.196	90.745	1.00	60.75	C
ATOM	15161	O3*	A S 103	47.958	40.385	90.831	1.00	61.60	O
ATOM	15162	C2*	A S 103	47.740	38.152	89.792	1.00	60.68	C
ATOM	15163	O2*	A S 103	49.137	37.988	89.895	1.00	60.07	O
ATOM	15164	C1*	A S 103	47.018	36.894	90.262	1.00	60.61	C
ATOM	15165	N9	A S 103	45.828	36.610	89.452	1.00	60.61	N
ATOM	15166	C8	A S 103	44.503	36.723	89.791	1.00	60.82	C
ATOM	15167	N7	A S 103	43.669	36.389	88.828	1.00	60.40	N
ATOM	15168	C5	A S 103	44.504	36.040	87.782	1.00	60.32	C

ATOM	15169	C6	A S 103	44.255	35.589	86.472	1.00	59.92	C
ATOM	15170	N6	A S 103	43.041	35.414	85.963	1.00	60.31	N
ATOM	15171	N1	A S 103	45.317	35.325	85.690	1.00	60.34	N
ATOM	15172	C2	A S 103	46.550	35.499	86.183	1.00	60.51	C
ATOM	15173	N3	A S 103	46.912	35.914	87.397	1.00	60.21	N
ATOM	15174	C4	A S 103	45.834	36.169	88.153	1.00	60.25	C
ATOM	15175	P	U S 104	47.938	41.446	89.628	1.00	62.96	P
ATOM	15176	O1P	U S 104	48.922	42.519	89.926	1.00	61.63	O
ATOM	15177	O2P	U S 104	46.529	41.773	89.282	1.00	60.63	O
ATOM	15178	O5*	U S 104	48.568	40.575	88.462	1.00	62.01	O
ATOM	15179	C5*	U S 104	49.259	41.193	87.412	1.00	63.05	C
ATOM	15180	C4*	U S 104	48.977	40.421	86.149	1.00	63.12	C
ATOM	15181	O4*	U S 104	48.168	39.260	86.450	1.00	63.58	O
ATOM	15182	C3*	U S 104	48.152	41.171	85.130	1.00	63.36	C
ATOM	15183	O3*	U S 104	48.990	42.067	84.439	1.00	63.17	O
ATOM	15184	C2*	U S 104	47.660	40.015	84.274	1.00	63.46	C
ATOM	15185	O2*	U S 104	48.649	39.505	83.403	1.00	62.60	O
ATOM	15186	C1*	U S 104	47.313	38.990	85.353	1.00	63.72	C
ATOM	15187	N1	U S 104	45.862	39.030	85.758	1.00	63.57	N
ATOM	15188	C2	U S 104	44.949	38.514	84.865	1.00	63.74	C
ATOM	15189	O2	U S 104	45.286	38.042	83.798	1.00	63.54	O
ATOM	15190	N3	U S 104	43.634	38.564	85.264	1.00	63.74	N
ATOM	15191	C4	U S 104	43.142	39.074	86.454	1.00	64.11	C
ATOM	15192	O4	U S 104	41.925	39.052	86.671	1.00	64.29	O
ATOM	15193	C5	U S 104	44.156	39.598	87.346	1.00	63.73	C
ATOM	15194	C6	U S 104	45.445	39.556	86.971	1.00	63.81	C
ATOM	15195	P	U S 105	48.542	43.566	84.124	1.00	62.97	P
ATOM	15196	O1P	U S 105	49.395	44.433	84.962	1.00	63.55	O
ATOM	15197	O2P	U S 105	47.076	43.710	84.214	1.00	62.25	O
ATOM	15198	O5*	U S 105	48.976	43.703	82.586	1.00	62.90	O
ATOM	15199	C5*	U S 105	49.369	42.579	81.758	1.00	61.57	C
ATOM	15200	C4*	U S 105	48.407	42.383	80.592	1.00	61.09	C
ATOM	15201	O4*	U S 105	47.294	41.507	80.958	1.00	60.30	O
ATOM	15202	C3*	U S 105	47.765	43.679	80.103	1.00	60.67	C
ATOM	15203	O3*	U S 105	47.751	43.752	78.679	1.00	61.14	O
ATOM	15204	C2*	U S 105	46.373	43.585	80.719	1.00	60.32	C
ATOM	15205	O2*	U S 105	45.419	44.447	80.130	1.00	60.05	O
ATOM	15206	C1*	U S 105	46.096	42.098	80.488	1.00	59.66	C
ATOM	15207	N1	U S 105	44.861	41.539	81.190	1.00	59.11	N
ATOM	15208	C2	U S 105	43.896	40.837	80.478	1.00	58.73	C
ATOM	15209	O2	U S 105	43.946	40.600	79.283	1.00	58.46	O
ATOM	15210	N3	U S 105	42.828	40.400	81.222	1.00	58.56	N
ATOM	15211	C4	U S 105	42.606	40.582	82.569	1.00	58.53	C
ATOM	15212	O4	U S 105	41.594	40.123	83.076	1.00	58.85	O
ATOM	15213	C5	U S 105	43.635	41.318	83.254	1.00	58.73	C
ATOM	15214	C6	U S 105	44.692	41.756	82.552	1.00	59.11	C
ATOM	15215	P	A S 106	47.527	45.162	77.935	1.00	61.84	P
ATOM	15216	O1P	A S 106	47.847	44.958	76.501	1.00	60.34	O
ATOM	15217	O2P	A S 106	48.211	46.232	78.712	1.00	60.91	O
ATOM	15218	O5*	A S 106	45.944	45.372	78.109	1.00	59.47	O
ATOM	15219	C5*	A S 106	45.182	45.991	77.089	1.00	57.80	C
ATOM	15220	C4*	A S 106	44.691	45.023	76.013	1.00	56.39	C
ATOM	15221	O4*	A S 106	44.574	43.646	76.461	1.00	55.59	O
ATOM	15222	C3*	A S 106	43.302	45.385	75.510	1.00	55.50	C
ATOM	15223	O3*	A S 106	43.446	46.281	74.439	1.00	53.93	O
ATOM	15224	C2*	A S 106	42.685	44.055	75.102	1.00	55.44	C
ATOM	15225	O2*	A S 106	43.049	43.627	73.810	1.00	55.31	O
ATOM	15226	C1*	A S 106	43.273	43.150	76.171	1.00	55.55	C
ATOM	15227	N9	A S 106	42.496	43.108	77.412	1.00	55.52	N

ATOM	15228	C8	A S 106	42.891	43.584	78.633	1.00	55.70	C
ATOM	15229	N7	A S 106	42.024	43.422	79.596	1.00	55.25	N
ATOM	15230	C5	A S 106	40.972	42.794	78.967	1.00	55.59	C
ATOM	15231	C6	A S 106	39.731	42.349	79.460	1.00	55.33	C
ATOM	15232	N6	A S 106	39.373	42.481	80.744	1.00	55.38	N
ATOM	15233	N1	A S 106	38.895	41.759	78.573	1.00	55.57	N
ATOM	15234	C2	A S 106	39.276	41.628	77.287	1.00	55.42	C
ATOM	15235	N3	A S 106	40.425	42.008	76.713	1.00	55.68	N
ATOM	15236	C4	A S 106	41.240	42.589	77.617	1.00	55.54	C
ATOM	15237	P	A S 107	42.628	47.640	74.443	1.00	52.66	P
ATOM	15238	O1P	A S 107	43.081	48.401	73.258	1.00	50.78	O
ATOM	15239	O2P	A S 107	42.653	48.218	75.809	1.00	51.69	O
ATOM	15240	O5*	A S 107	41.157	47.082	74.163	1.00	52.72	O
ATOM	15241	C5*	A S 107	40.956	46.400	72.925	1.00	52.94	C
ATOM	15242	C4*	A S 107	39.537	45.909	72.755	1.00	52.68	C
ATOM	15243	O4*	A S 107	39.350	44.712	73.540	1.00	52.90	O
ATOM	15244	C3*	A S 107	38.444	46.849	73.233	1.00	52.88	C
ATOM	15245	O3*	A S 107	38.167	47.842	72.254	1.00	52.75	O
ATOM	15246	C2*	A S 107	37.309	45.859	73.445	1.00	52.65	C
ATOM	15247	O2*	A S 107	36.702	45.400	72.255	1.00	52.81	O
ATOM	15248	C1*	A S 107	38.074	44.745	74.137	1.00	52.90	C
ATOM	15249	N9	A S 107	38.187	45.002	75.567	1.00	53.14	N
ATOM	15250	C8	A S 107	39.161	45.673	76.260	1.00	53.14	C
ATOM	15251	N7	A S 107	38.946	45.733	77.557	1.00	53.20	N
ATOM	15252	C5	A S 107	37.751	45.062	77.716	1.00	52.87	C
ATOM	15253	C6	A S 107	36.969	44.768	78.848	1.00	53.57	C
ATOM	15254	N6	A S 107	37.299	45.143	80.091	1.00	53.26	N
ATOM	15255	N1	A S 107	35.823	44.073	78.644	1.00	53.52	N
ATOM	15256	C2	A S 107	35.481	43.697	77.401	1.00	53.15	C
ATOM	15257	N3	A S 107	36.141	43.913	76.266	1.00	52.84	N
ATOM	15258	C4	A S 107	37.268	44.608	76.500	1.00	52.90	C
ATOM	15259	P	G S 108	37.618	49.278	72.683	1.00	51.95	P
ATOM	15260	O1P	G S 108	37.452	50.039	71.425	1.00	52.35	O
ATOM	15261	O2P	G S 108	38.444	49.819	73.794	1.00	52.35	O
ATOM	15262	O5*	G S 108	36.179	48.923	73.278	1.00	52.67	O
ATOM	15263	C5*	G S 108	35.165	48.439	72.398	1.00	52.94	C
ATOM	15264	C4*	G S 108	33.936	47.933	73.137	1.00	52.76	C
ATOM	15265	O4*	G S 108	34.281	46.870	74.063	1.00	51.90	O
ATOM	15266	C3*	G S 108	33.222	48.951	74.010	1.00	52.47	C
ATOM	15267	O3*	G S 108	32.440	49.817	73.215	1.00	53.89	O
ATOM	15268	C2*	G S 108	32.377	48.034	74.881	1.00	52.05	C
ATOM	15269	O2*	G S 108	31.215	47.545	74.231	1.00	50.85	O
ATOM	15270	C1*	G S 108	33.393	46.924	75.170	1.00	51.44	C
ATOM	15271	N9	G S 108	34.123	47.172	76.416	1.00	51.05	N
ATOM	15272	C8	G S 108	35.415	47.609	76.584	1.00	50.87	C
ATOM	15273	N7	G S 108	35.770	47.736	77.830	1.00	50.58	N
ATOM	15274	C5	G S 108	34.639	47.362	78.524	1.00	49.92	C
ATOM	15275	C6	G S 108	34.418	47.307	79.907	1.00	50.59	C
ATOM	15276	O6	G S 108	35.222	47.592	80.798	1.00	50.72	O
ATOM	15277	N1	G S 108	33.122	46.874	80.213	1.00	50.85	N
ATOM	15278	C2	G S 108	32.159	46.538	79.290	1.00	50.50	C
ATOM	15279	N2	G S 108	30.970	46.146	79.769	1.00	50.31	N
ATOM	15280	N3	G S 108	32.365	46.593	77.981	1.00	50.43	N
ATOM	15281	C4	G S 108	33.619	47.009	77.679	1.00	50.22	C
ATOM	15282	P	G S 109	32.391	51.379	73.539	1.00	54.68	P
ATOM	15283	O1P	G S 109	31.497	52.005	72.540	1.00	55.65	O
ATOM	15284	O2P	G S 109	33.765	51.911	73.713	1.00	54.85	O
ATOM	15285	O5*	G S 109	31.657	51.351	74.950	1.00	56.13	O
ATOM	15286	C5*	G S 109	30.238	51.325	74.977	1.00	56.97	C

ATOM	15287	C4*	G S 109	29.743	51.179	76.395	1.00	57.63	C
ATOM	15288	O4*	G S 109	30.442	50.090	77.051	1.00	58.08	O
ATOM	15289	C3*	G S 109	29.997	52.348	77.334	1.00	58.34	C
ATOM	15290	O3*	G S 109	29.132	53.459	77.065	1.00	59.12	O
ATOM	15291	C2*	G S 109	29.703	51.656	78.664	1.00	58.77	C
ATOM	15292	O2*	G S 109	28.318	51.447	78.915	1.00	59.14	O
ATOM	15293	C1*	G S 109	30.449	50.328	78.452	1.00	58.66	C
ATOM	15294	N9	G S 109	31.821	50.400	78.965	1.00	58.71	N
ATOM	15295	C8	G S 109	32.992	50.571	78.262	1.00	58.40	C
ATOM	15296	N7	G S 109	34.053	50.614	79.019	1.00	58.37	N
ATOM	15297	C5	G S 109	33.559	50.481	80.310	1.00	58.29	C
ATOM	15298	C6	G S 109	34.229	50.463	81.562	1.00	58.27	C
ATOM	15299	O6	G S 109	35.437	50.560	81.798	1.00	58.28	O
ATOM	15300	N1	G S 109	33.350	50.300	82.630	1.00	58.61	N
ATOM	15301	C2	G S 109	31.982	50.175	82.508	1.00	58.25	C
ATOM	15302	N2	G S 109	31.296	50.028	83.647	1.00	58.21	N
ATOM	15303	N3	G S 109	31.340	50.195	81.343	1.00	57.95	N
ATOM	15304	C4	G S 109	32.186	50.348	80.292	1.00	58.35	C
ATOM	15305	P	U S 110	29.726	54.913	76.720	1.00	60.12	P
ATOM	15306	O1P	U S 110	28.566	55.831	76.540	1.00	59.70	O
ATOM	15307	O2P	U S 110	30.751	54.766	75.658	1.00	58.97	O
ATOM	15308	O5*	U S 110	30.499	55.302	78.066	1.00	59.75	O
ATOM	15309	C5*	U S 110	31.211	56.530	78.187	1.00	59.92	C
ATOM	15310	C4*	U S 110	31.062	57.105	79.590	1.00	59.69	C
ATOM	15311	O4*	U S 110	29.772	57.750	79.714	1.00	59.72	O
ATOM	15312	C3*	U S 110	31.120	56.110	80.745	1.00	58.98	C
ATOM	15313	O3*	U S 110	32.469	55.893	81.131	1.00	58.22	O
ATOM	15314	C2*	U S 110	30.335	56.839	81.827	1.00	59.20	C
ATOM	15315	O2*	U S 110	31.096	57.791	82.540	1.00	59.50	O
ATOM	15316	C1*	U S 110	29.268	57.564	81.023	1.00	59.39	C
ATOM	15317	N1	U S 110	27.963	56.842	80.979	1.00	59.51	N
ATOM	15318	C2	U S 110	27.196	56.825	82.123	1.00	59.27	C
ATOM	15319	O2	U S 110	27.542	57.354	83.162	1.00	59.59	O
ATOM	15320	N3	U S 110	26.003	56.157	82.009	1.00	59.31	N
ATOM	15321	C4	U S 110	25.508	55.517	80.889	1.00	59.32	C
ATOM	15322	O4	U S 110	24.418	54.959	80.939	1.00	59.67	O
ATOM	15323	C5	U S 110	26.361	55.571	79.731	1.00	59.63	C
ATOM	15324	C6	U S 110	27.530	56.220	79.819	1.00	59.69	C
ATOM	15325	P	G S 111	33.072	54.470	81.546	1.00	57.51	P
ATOM	15326	O1P	G S 111	34.510	54.703	81.833	1.00	57.86	O
ATOM	15327	O2P	G S 111	32.678	53.464	80.532	1.00	56.81	O
ATOM	15328	O5*	G S 111	32.313	54.147	82.922	1.00	57.40	O
ATOM	15329	C5*	G S 111	32.532	54.949	84.084	1.00	56.49	C
ATOM	15330	C4*	G S 111	31.494	54.675	85.163	1.00	55.70	C
ATOM	15331	O4*	G S 111	30.175	55.056	84.689	1.00	55.28	O
ATOM	15332	C3*	G S 111	31.333	53.229	85.590	1.00	55.07	C
ATOM	15333	O3*	G S 111	32.294	52.890	86.577	1.00	54.71	O
ATOM	15334	C2*	G S 111	29.917	53.263	86.151	1.00	54.95	C
ATOM	15335	O2*	G S 111	29.894	53.846	87.440	1.00	55.37	O
ATOM	15336	C1*	G S 111	29.187	54.160	85.157	1.00	53.62	C
ATOM	15337	N9	G S 111	28.583	53.546	83.964	1.00	53.16	N
ATOM	15338	C8	G S 111	29.255	53.166	82.831	1.00	52.27	C
ATOM	15339	N7	G S 111	28.488	52.670	81.906	1.00	52.38	N
ATOM	15340	C5	G S 111	27.211	52.735	82.429	1.00	52.17	C
ATOM	15341	C6	G S 111	25.975	52.337	81.854	1.00	52.28	C
ATOM	15342	O6	G S 111	25.761	51.840	80.735	1.00	51.85	O
ATOM	15343	N1	G S 111	24.910	52.570	82.724	1.00	52.54	N
ATOM	15344	C2	G S 111	25.027	53.119	83.981	1.00	52.35	C
ATOM	15345	N2	G S 111	23.885	53.261	84.666	1.00	52.42	N

ATOM	15346	N3	G S 111	26.182	53.494	84.528	1.00	52.29	N
ATOM	15347	C4	G S 111	27.243	53.274	83.703	1.00	52.76	C
ATOM	15348	P	A S 112	32.554	51.355	86.966	1.00	54.85	P
ATOM	15349	O1P	A S 112	33.557	51.344	88.053	1.00	55.26	O
ATOM	15350	O2P	A S 112	32.802	50.572	85.739	1.00	53.88	O
ATOM	15351	O5*	A S 112	31.158	50.870	87.576	1.00	54.73	O
ATOM	15352	C5*	A S 112	30.875	50.946	88.974	1.00	53.76	C
ATOM	15353	C4*	A S 112	29.515	50.338	89.269	1.00	52.82	C
ATOM	15354	O4*	A S 112	28.544	50.812	88.310	1.00	52.42	O
ATOM	15355	C3*	A S 112	29.445	48.836	89.114	1.00	52.37	C
ATOM	15356	O3*	A S 112	29.908	48.207	90.292	1.00	52.56	O
ATOM	15357	C2*	A S 112	27.961	48.608	88.886	1.00	51.78	C
ATOM	15358	O2*	A S 112	27.228	48.594	90.091	1.00	51.30	O
ATOM	15359	C1*	A S 112	27.568	49.821	88.061	1.00	51.53	C
ATOM	15360	N9	A S 112	27.499	49.591	86.621	1.00	51.44	N
ATOM	15361	C8	A S 112	28.527	49.282	85.780	1.00	51.68	C
ATOM	15362	N7	A S 112	28.167	49.141	84.524	1.00	51.69	N
ATOM	15363	C5	A S 112	26.806	49.384	84.541	1.00	51.28	C
ATOM	15364	C6	A S 112	25.827	49.390	83.526	1.00	51.03	C
ATOM	15365	N6	A S 112	26.064	49.135	82.238	1.00	51.08	N
ATOM	15366	N1	A S 112	24.564	49.671	83.885	1.00	51.84	N
ATOM	15367	C2	A S 112	24.297	49.926	85.172	1.00	51.83	C
ATOM	15368	N3	A S 112	25.124	49.948	86.220	1.00	51.52	N
ATOM	15369	C4	A S 112	26.380	49.665	85.828	1.00	51.45	C
ATOM	15370	P	C S 113	30.935	46.993	90.153	1.00	54.16	P
ATOM	15371	O1P	C S 113	31.294	46.532	91.515	1.00	54.15	O
ATOM	15372	O2P	C S 113	32.019	47.432	89.239	1.00	54.14	O
ATOM	15373	O5*	C S 113	29.995	45.884	89.484	1.00	52.18	O
ATOM	15374	C5*	C S 113	30.459	44.957	88.554	1.00	51.91	C
ATOM	15375	C4*	C S 113	29.559	45.020	87.341	1.00	51.93	C
ATOM	15376	O4*	C S 113	29.612	46.345	86.757	1.00	52.02	O
ATOM	15377	C3*	C S 113	29.984	44.082	86.234	1.00	52.18	C
ATOM	15378	O3*	C S 113	29.425	42.786	86.445	1.00	52.41	O
ATOM	15379	C2*	C S 113	29.450	44.812	85.012	1.00	51.89	C
ATOM	15380	O2*	C S 113	28.060	44.674	84.835	1.00	51.86	O
ATOM	15381	C1*	C S 113	29.822	46.251	85.357	1.00	52.10	C
ATOM	15382	N1	C S 113	31.252	46.627	84.972	1.00	52.18	N
ATOM	15383	C2	C S 113	31.608	46.689	83.611	1.00	52.30	C
ATOM	15384	O2	C S 113	30.751	46.451	82.747	1.00	51.80	O
ATOM	15385	N3	C S 113	32.892	47.010	83.268	1.00	52.43	N
ATOM	15386	C4	C S 113	33.806	47.258	84.209	1.00	52.28	C
ATOM	15387	N4	C S 113	35.040	47.568	83.814	1.00	51.24	N
ATOM	15388	C5	C S 113	33.472	47.200	85.597	1.00	52.04	C
ATOM	15389	C6	C S 113	32.208	46.888	85.924	1.00	52.00	C
ATOM	15390	P	U S 114	30.239	41.480	86.012	1.00	53.56	P
ATOM	15391	O1P	U S 114	29.524	40.315	86.584	1.00	51.55	O
ATOM	15392	O2P	U S 114	31.666	41.724	86.351	1.00	53.75	O
ATOM	15393	O5*	U S 114	30.161	41.420	84.411	1.00	52.18	O
ATOM	15394	C5*	U S 114	28.923	41.614	83.758	1.00	53.94	C
ATOM	15395	C4*	U S 114	29.020	41.680	82.242	1.00	54.26	C
ATOM	15396	O4*	U S 114	29.477	42.966	81.756	1.00	55.61	O
ATOM	15397	C3*	U S 114	29.980	40.684	81.646	1.00	55.03	C
ATOM	15398	O3*	U S 114	29.285	39.478	81.530	1.00	55.50	O
ATOM	15399	C2*	U S 114	30.298	41.334	80.312	1.00	55.29	C
ATOM	15400	O2*	U S 114	29.261	41.199	79.363	1.00	55.14	O
ATOM	15401	C1*	U S 114	30.455	42.779	80.755	1.00	55.44	C
ATOM	15402	N1	U S 114	31.824	43.127	81.299	1.00	55.48	N
ATOM	15403	C2	U S 114	32.861	43.343	80.418	1.00	55.08	C
ATOM	15404	O2	U S 114	32.734	43.254	79.210	1.00	55.30	O

ATOM	15405	N3	U S 114	34.060	43.664	81.014	1.00	55.31	N
ATOM	15406	C4	U S 114	34.338	43.785	82.365	1.00	55.96	C
ATOM	15407	O4	U S 114	35.468	44.079	82.752	1.00	56.08	O
ATOM	15408	C5	U S 114	33.212	43.546	83.224	1.00	56.04	C
ATOM	15409	C6	U S 114	32.033	43.237	82.665	1.00	55.94	C
ATOM	15410	P	U S 115	30.073	38.098	81.548	1.00	56.52	P
ATOM	15411	O1P	U S 115	28.992	37.094	81.437	1.00	56.77	O
ATOM	15412	O2P	U S 115	31.055	38.060	82.663	1.00	55.59	O
ATOM	15413	O5*	U S 115	30.882	38.149	80.174	1.00	55.47	O
ATOM	15414	C5*	U S 115	30.202	38.027	78.938	1.00	55.76	C
ATOM	15415	C4*	U S 115	31.159	38.229	77.780	1.00	55.78	C
ATOM	15416	O4*	U S 115	31.738	39.557	77.861	1.00	55.50	O
ATOM	15417	C3*	U S 115	32.371	37.300	77.757	1.00	55.73	C
ATOM	15418	O3*	U S 115	32.084	36.036	77.179	1.00	54.89	O
ATOM	15419	C2*	U S 115	33.339	38.098	76.902	1.00	55.23	C
ATOM	15420	O2*	U S 115	33.034	38.007	75.528	1.00	55.32	O
ATOM	15421	C1*	U S 115	33.084	39.507	77.408	1.00	55.07	C
ATOM	15422	N1	U S 115	34.017	39.960	78.500	1.00	54.86	N
ATOM	15423	C2	U S 115	35.227	40.489	78.126	1.00	54.57	C
ATOM	15424	O2	U S 115	35.573	40.584	76.963	1.00	54.85	O
ATOM	15425	N3	U S 115	36.024	40.909	79.163	1.00	54.43	N
ATOM	15426	C4	U S 115	35.748	40.856	80.513	1.00	54.56	C
ATOM	15427	O4	U S 115	36.570	41.272	81.320	1.00	54.52	O
ATOM	15428	C5	U S 115	34.464	40.290	80.839	1.00	55.24	C
ATOM	15429	C6	U S 115	33.668	39.879	79.840	1.00	55.26	C
ATOM	15430	P	A S 116	32.936	34.778	77.666	1.00	54.95	P
ATOM	15431	O1P	A S 116	32.398	33.595	76.953	1.00	54.61	O
ATOM	15432	O2P	A S 116	32.992	34.800	79.145	1.00	54.33	O
ATOM	15433	O5*	A S 116	34.414	35.094	77.137	1.00	54.39	O
ATOM	15434	C5*	A S 116	34.761	34.845	75.788	1.00	53.74	C
ATOM	15435	C4*	A S 116	36.147	35.375	75.480	1.00	53.84	C
ATOM	15436	O4*	A S 116	36.260	36.759	75.922	1.00	53.44	O
ATOM	15437	C3*	A S 116	37.309	34.661	76.168	1.00	53.61	C
ATOM	15438	O3*	A S 116	37.689	33.453	75.516	1.00	53.19	O
ATOM	15439	C2*	A S 116	38.400	35.710	76.033	1.00	53.46	C
ATOM	15440	O2*	A S 116	39.023	35.633	74.768	1.00	53.07	O
ATOM	15441	C1*	A S 116	37.620	37.018	76.236	1.00	53.06	C
ATOM	15442	N9	A S 116	37.744	37.457	77.619	1.00	52.66	N
ATOM	15443	C8	A S 116	36.868	37.279	78.655	1.00	52.63	C
ATOM	15444	N7	A S 116	37.296	37.775	79.793	1.00	52.62	N
ATOM	15445	C5	A S 116	38.535	38.303	79.482	1.00	51.74	C
ATOM	15446	C6	A S 116	39.510	38.975	80.245	1.00	52.28	C
ATOM	15447	N6	A S 116	39.395	39.250	81.548	1.00	52.27	N
ATOM	15448	N1	A S 116	40.634	39.361	79.609	1.00	52.14	N
ATOM	15449	C2	A S 116	40.773	39.094	78.305	1.00	52.40	C
ATOM	15450	N3	A S 116	39.926	38.476	77.481	1.00	52.22	N
ATOM	15451	C4	A S 116	38.823	38.106	78.146	1.00	52.26	C
ATOM	15452	P	G S 117	38.559	32.369	76.317	1.00	55.29	P
ATOM	15453	O1P	G S 117	38.773	31.221	75.408	1.00	54.92	O
ATOM	15454	O2P	G S 117	37.940	32.112	77.633	1.00	54.35	O
ATOM	15455	O5*	G S 117	39.961	33.094	76.568	1.00	55.14	O
ATOM	15456	C5*	G S 117	40.940	32.952	75.569	1.00	56.13	C
ATOM	15457	C4*	G S 117	42.048	33.974	75.691	1.00	56.53	C
ATOM	15458	O4*	G S 117	41.576	35.226	76.249	1.00	56.73	O
ATOM	15459	C3*	G S 117	43.181	33.582	76.627	1.00	56.30	C
ATOM	15460	O3*	G S 117	43.922	32.535	76.051	1.00	55.72	O
ATOM	15461	C2*	G S 117	43.903	34.920	76.725	1.00	56.05	C
ATOM	15462	O2*	G S 117	44.619	35.326	75.581	1.00	56.18	O
ATOM	15463	C1*	G S 117	42.685	35.826	76.899	1.00	56.46	C

ATOM	15464	N9	G S 117	42.340	35.971	78.293	1.00	56.10	N
ATOM	15465	C8	G S 117	41.220	35.508	78.926	1.00	56.04	C
ATOM	15466	N7	G S 117	41.206	35.804	80.194	1.00	56.42	N
ATOM	15467	C5	G S 117	42.390	36.493	80.395	1.00	55.83	C
ATOM	15468	C6	G S 117	42.911	37.057	81.573	1.00	56.35	C
ATOM	15469	O6	G S 117	42.388	37.045	82.702	1.00	56.73	O
ATOM	15470	N1	G S 117	44.143	37.672	81.343	1.00	56.05	N
ATOM	15471	C2	G S 117	44.794	37.730	80.134	1.00	56.15	C
ATOM	15472	N2	G S 117	45.973	38.368	80.131	1.00	55.79	N
ATOM	15473	N3	G S 117	44.309	37.203	79.017	1.00	56.16	N
ATOM	15474	C4	G S 117	43.107	36.605	79.233	1.00	56.06	C
ATOM	15475	P	U S 118	44.295	31.203	76.854	1.00	55.70	P
ATOM	15476	O1P	U S 118	44.620	30.181	75.833	1.00	54.86	O
ATOM	15477	O2P	U S 118	43.292	30.904	77.904	1.00	54.59	O
ATOM	15478	O5*	U S 118	45.623	31.665	77.613	1.00	55.34	O
ATOM	15479	C5*	U S 118	46.605	32.499	77.016	1.00	54.68	C
ATOM	15480	C4*	U S 118	47.442	33.185	78.080	1.00	54.79	C
ATOM	15481	O4*	U S 118	46.704	34.300	78.631	1.00	54.54	O
ATOM	15482	C3*	U S 118	47.795	32.379	79.324	1.00	55.05	C
ATOM	15483	O3*	U S 118	48.807	31.400	79.074	1.00	55.17	O
ATOM	15484	C2*	U S 118	48.233	33.512	80.244	1.00	54.87	C
ATOM	15485	O2*	U S 118	49.495	34.062	79.919	1.00	54.65	O
ATOM	15486	C1*	U S 118	47.103	34.502	79.976	1.00	54.47	C
ATOM	15487	N1	U S 118	45.937	34.291	80.896	1.00	54.64	N
ATOM	15488	C2	U S 118	46.002	34.781	82.186	1.00	54.35	C
ATOM	15489	O2	U S 118	46.960	35.387	82.630	1.00	54.40	O
ATOM	15490	N3	U S 118	44.892	34.538	82.952	1.00	53.46	N
ATOM	15491	C4	U S 118	43.748	33.866	82.592	1.00	53.73	C
ATOM	15492	O4	U S 118	42.839	33.723	83.408	1.00	54.54	O
ATOM	15493	C5	U S 118	43.744	33.385	81.242	1.00	53.82	C
ATOM	15494	C6	U S 118	44.811	33.607	80.466	1.00	54.67	C
ATOM	15495	P	G S 119	48.843	30.009	79.874	1.00	55.70	P
ATOM	15496	O1P	G S 119	49.894	29.184	79.240	1.00	56.50	O
ATOM	15497	O2P	G S 119	47.486	29.445	80.037	1.00	55.66	O
ATOM	15498	O5*	G S 119	49.343	30.457	81.316	1.00	55.53	O
ATOM	15499	C5*	G S 119	50.583	31.114	81.461	1.00	55.70	C
ATOM	15500	C4*	G S 119	50.910	31.240	82.928	1.00	55.72	C
ATOM	15501	O4*	G S 119	50.199	32.374	83.487	1.00	55.76	O
ATOM	15502	C3*	G S 119	50.450	30.073	83.779	1.00	55.97	C
ATOM	15503	O3*	G S 119	51.318	28.954	83.657	1.00	56.42	O
ATOM	15504	C2*	G S 119	50.460	30.731	85.150	1.00	56.31	C
ATOM	15505	O2*	G S 119	51.751	30.930	85.680	1.00	55.50	O
ATOM	15506	C1*	G S 119	49.779	32.053	84.806	1.00	56.46	C
ATOM	15507	N9	G S 119	48.311	31.981	84.876	1.00	56.69	N
ATOM	15508	C8	G S 119	47.429	31.692	83.855	1.00	56.97	C
ATOM	15509	N7	G S 119	46.171	31.703	84.211	1.00	56.38	N
ATOM	15510	C5	G S 119	46.215	32.021	85.560	1.00	56.65	C
ATOM	15511	C6	G S 119	45.152	32.177	86.487	1.00	56.76	C
ATOM	15512	O6	G S 119	43.926	32.065	86.289	1.00	56.59	O
ATOM	15513	N1	G S 119	45.638	32.497	87.756	1.00	56.52	N
ATOM	15514	C2	G S 119	46.963	32.649	88.095	1.00	56.56	C
ATOM	15515	N2	G S 119	47.220	32.967	89.374	1.00	56.61	N
ATOM	15516	N3	G S 119	47.963	32.510	87.231	1.00	56.65	N
ATOM	15517	C4	G S 119	47.520	32.195	85.986	1.00	56.55	C
ATOM	15518	P	G S 120	50.775	27.448	83.833	1.00	57.36	P
ATOM	15519	O1P	G S 120	51.772	26.522	83.253	1.00	57.22	O
ATOM	15520	O2P	G S 120	49.388	27.381	83.327	1.00	58.35	O
ATOM	15521	O5*	G S 120	50.732	27.249	85.422	1.00	56.75	O
ATOM	15522	C5*	G S 120	51.853	27.559	86.245	1.00	57.29	C

ATOM	15523	C4*	G S 120	51.459	27.689	87.704	1.00	57.06	C
ATOM	15524	O4*	G S 120	50.695	28.910	87.891	1.00	57.06	O
ATOM	15525	C3*	G S 120	50.552	26.585	88.229	1.00	57.08	C
ATOM	15526	O3*	G S 120	51.279	25.420	88.595	1.00	57.45	O
ATOM	15527	C2*	G S 120	49.884	27.274	89.412	1.00	57.00	C
ATOM	15528	O2*	G S 120	50.678	27.295	90.585	1.00	56.36	O
ATOM	15529	C1*	G S 120	49.638	28.665	88.807	1.00	56.58	C
ATOM	15530	N9	G S 120	48.337	28.757	88.122	1.00	56.46	N
ATOM	15531	C8	G S 120	48.044	28.614	86.778	1.00	56.20	C
ATOM	15532	N7	G S 120	46.774	28.734	86.488	1.00	55.87	N
ATOM	15533	C5	G S 120	46.181	28.966	87.717	1.00	55.74	C
ATOM	15534	C6	G S 120	44.820	29.183	88.035	1.00	56.11	C
ATOM	15535	O6	G S 120	43.850	29.211	87.254	1.00	55.92	O
ATOM	15536	N1	G S 120	44.648	29.380	89.411	1.00	56.02	N
ATOM	15537	C2	G S 120	45.668	29.363	90.349	1.00	55.90	C
ATOM	15538	N2	G S 120	45.335	29.562	91.629	1.00	56.02	N
ATOM	15539	N3	G S 120	46.942	29.160	90.059	1.00	55.52	N
ATOM	15540	C4	G S 120	47.123	28.975	88.730	1.00	55.84	C
ATOM	15541	P	A S 121	50.599	23.965	88.496	1.00	58.33	P
ATOM	15542	O1P	A S 121	51.590	22.960	88.966	1.00	57.76	O
ATOM	15543	O2P	A S 121	49.989	23.829	87.152	1.00	57.69	O
ATOM	15544	O5*	A S 121	49.447	24.062	89.603	1.00	57.68	O
ATOM	15545	C5*	A S 121	49.803	23.760	90.944	1.00	57.24	C
ATOM	15546	C4*	A S 121	48.933	24.444	91.980	1.00	56.79	C
ATOM	15547	O4*	A S 121	48.265	25.635	91.490	1.00	56.38	O
ATOM	15548	C3*	A S 121	47.780	23.598	92.465	1.00	56.27	C
ATOM	15549	O3*	A S 121	48.294	22.557	93.261	1.00	56.46	O
ATOM	15550	C2*	A S 121	47.009	24.658	93.240	1.00	56.38	C
ATOM	15551	O2*	A S 121	47.587	24.968	94.499	1.00	56.77	O
ATOM	15552	C1*	A S 121	47.092	25.835	92.263	1.00	54.86	C
ATOM	15553	N9	A S 121	45.931	25.945	91.371	1.00	54.74	N
ATOM	15554	C8	A S 121	45.838	25.619	90.039	1.00	54.10	C
ATOM	15555	N7	A S 121	44.653	25.827	89.513	1.00	53.29	N
ATOM	15556	C5	A S 121	43.912	26.328	90.575	1.00	53.95	C
ATOM	15557	C6	A S 121	42.574	26.762	90.693	1.00	53.37	C
ATOM	15558	N6	A S 121	41.696	26.761	89.689	1.00	53.13	N
ATOM	15559	N1	A S 121	42.165	27.195	91.900	1.00	53.82	N
ATOM	15560	C2	A S 121	43.022	27.215	92.922	1.00	53.52	C
ATOM	15561	N3	A S 121	44.294	26.838	92.933	1.00	53.87	N
ATOM	15562	C4	A S 121	44.681	26.402	91.723	1.00	54.05	C
ATOM	15563	P	C S 122	47.848	21.022	93.116	1.00	56.88	P
ATOM	15564	O1P	C S 122	49.021	20.201	93.500	1.00	56.14	O
ATOM	15565	O2P	C S 122	47.188	20.809	91.803	1.00	56.61	O
ATOM	15566	O5*	C S 122	46.740	20.895	94.269	1.00	55.90	O
ATOM	15567	C5*	C S 122	46.839	21.636	95.496	1.00	55.40	C
ATOM	15568	C4*	C S 122	45.463	21.992	96.041	1.00	55.18	C
ATOM	15569	O4*	C S 122	44.934	23.205	95.438	1.00	54.18	O
ATOM	15570	C3*	C S 122	44.393	20.937	95.792	1.00	54.40	C
ATOM	15571	O3*	C S 122	44.529	19.900	96.729	1.00	53.78	O
ATOM	15572	C2*	C S 122	43.141	21.755	96.021	1.00	54.59	C
ATOM	15573	O2*	C S 122	42.849	21.880	97.399	1.00	56.08	O
ATOM	15574	C1*	C S 122	43.526	23.085	95.371	1.00	54.04	C
ATOM	15575	N1	C S 122	43.046	23.140	93.947	1.00	53.96	N
ATOM	15576	C2	C S 122	41.743	23.598	93.688	1.00	54.23	C
ATOM	15577	O2	C S 122	41.023	23.955	94.628	1.00	54.32	O
ATOM	15578	N3	C S 122	41.293	23.649	92.408	1.00	53.63	N
ATOM	15579	C4	C S 122	42.074	23.256	91.407	1.00	53.32	C
ATOM	15580	N4	C S 122	41.566	23.333	90.175	1.00	53.30	N
ATOM	15581	C5	C S 122	43.394	22.774	91.639	1.00	53.18	C

ATOM	15582	C6	C S 122	43.834	22.731	92.906	1.00	53.36	C
ATOM	15583	P	A S 123	43.801	18.497	96.523	1.00	53.75	P
ATOM	15584	O1P	A S 123	44.053	17.675	97.727	1.00	52.56	O
ATOM	15585	O2P	A S 123	44.118	17.973	95.174	1.00	52.84	O
ATOM	15586	O5*	A S 123	42.267	18.931	96.555	1.00	53.30	O
ATOM	15587	C5*	A S 123	41.267	17.929	96.443	1.00	52.02	C
ATOM	15588	C4*	A S 123	39.953	18.467	96.950	1.00	51.07	C
ATOM	15589	O4*	A S 123	39.399	19.355	95.960	1.00	50.78	O
ATOM	15590	C3*	A S 123	38.888	17.415	97.152	1.00	51.03	C
ATOM	15591	O3*	A S 123	39.077	16.796	98.419	1.00	51.20	O
ATOM	15592	C2*	A S 123	37.638	18.270	97.059	1.00	50.08	C
ATOM	15593	O2*	A S 123	37.418	19.011	98.234	1.00	50.21	O
ATOM	15594	C1*	A S 123	37.988	19.224	95.932	1.00	49.91	C
ATOM	15595	N9	A S 123	37.584	18.850	94.571	1.00	49.89	N
ATOM	15596	C8	A S 123	38.387	18.386	93.560	1.00	49.82	C
ATOM	15597	N7	A S 123	37.752	18.161	92.429	1.00	49.79	N
ATOM	15598	C5	A S 123	36.442	18.509	92.707	1.00	49.56	C
ATOM	15599	C6	A S 123	35.269	18.508	91.922	1.00	49.25	C
ATOM	15600	N6	A S 123	35.214	18.126	90.644	1.00	49.24	N
ATOM	15601	N1	A S 123	34.134	18.911	92.507	1.00	49.10	N
ATOM	15602	C2	A S 123	34.171	19.298	93.786	1.00	49.34	C
ATOM	15603	N3	A S 123	35.201	19.352	94.622	1.00	49.19	N
ATOM	15604	C4	A S 123	36.324	18.939	94.018	1.00	49.62	C
ATOM	15605	P	A S 124	39.083	15.206	98.605	1.00	51.47	P
ATOM	15606	O1P	A S 124	39.724	14.954	99.916	1.00	52.41	O
ATOM	15607	O2P	A S 124	39.587	14.542	97.375	1.00	50.64	O
ATOM	15608	O5*	A S 124	37.537	14.840	98.776	1.00	51.55	O
ATOM	15609	C5*	A S 124	36.767	15.337	99.854	1.00	50.63	C
ATOM	15610	C4*	A S 124	35.327	15.545	99.423	1.00	50.58	C
ATOM	15611	O4*	A S 124	35.247	16.529	98.359	1.00	50.40	O
ATOM	15612	C3*	A S 124	34.614	14.341	98.824	1.00	50.83	C
ATOM	15613	O3*	A S 124	34.194	13.412	99.821	1.00	50.61	O
ATOM	15614	C2*	A S 124	33.450	15.054	98.157	1.00	50.63	C
ATOM	15615	O2*	A S 124	32.503	15.553	99.076	1.00	50.74	O
ATOM	15616	C1*	A S 124	34.178	16.209	97.490	1.00	50.50	C
ATOM	15617	N9	A S 124	34.692	15.876	96.171	1.00	50.43	N
ATOM	15618	C8	A S 124	35.941	15.429	95.851	1.00	51.28	C
ATOM	15619	N7	A S 124	36.126	15.210	94.571	1.00	51.73	N
ATOM	15620	C5	A S 124	34.909	15.526	94.003	1.00	50.84	C
ATOM	15621	C6	A S 124	34.445	15.504	92.670	1.00	50.44	C
ATOM	15622	N6	A S 124	35.169	15.133	91.614	1.00	49.31	N
ATOM	15623	N1	A S 124	33.167	15.890	92.459	1.00	51.48	N
ATOM	15624	C2	A S 124	32.420	16.265	93.506	1.00	51.54	C
ATOM	15625	N3	A S 124	32.753	16.323	94.799	1.00	51.21	N
ATOM	15626	C4	A S 124	34.019	15.938	94.982	1.00	50.74	C
ATOM	15627	P	A S 125	34.281	11.836	99.584	1.00	50.69	P
ATOM	15628	O1P	A S 125	34.410	11.208	100.918	1.00	50.41	O
ATOM	15629	O2P	A S 125	35.301	11.543	98.553	1.00	50.23	O
ATOM	15630	O5*	A S 125	32.846	11.495	98.964	1.00	51.04	O
ATOM	15631	C5*	A S 125	31.632	11.723	99.670	1.00	52.65	C
ATOM	15632	C4*	A S 125	30.455	11.933	98.726	1.00	52.87	C
ATOM	15633	O4*	A S 125	30.713	13.053	97.853	1.00	53.55	O
ATOM	15634	C3*	A S 125	30.168	10.807	97.752	1.00	53.81	C
ATOM	15635	O3*	A S 125	29.407	9.796	98.367	1.00	55.18	O
ATOM	15636	C2*	A S 125	29.398	11.520	96.653	1.00	53.50	C
ATOM	15637	O2*	A S 125	28.045	11.778	96.976	1.00	55.26	O
ATOM	15638	C1*	A S 125	30.212	12.794	96.553	1.00	53.23	C
ATOM	15639	N9	A S 125	31.325	12.650	95.620	1.00	53.37	N
ATOM	15640	C8	A S 125	32.603	12.235	95.886	1.00	53.09	C

ATOM	15641	N7	A S 125	33.388	12.200	94.839	1.00	53.12	N
ATOM	15642	C5	A S 125	32.572	12.615	93.808	1.00	53.15	C
ATOM	15643	C6	A S 125	32.810	12.784	92.431	1.00	53.36	C
ATOM	15644	N6	A S 125	33.999	12.543	91.871	1.00	53.47	N
ATOM	15645	N1	A S 125	31.781	13.222	91.664	1.00	53.25	N
ATOM	15646	C2	A S 125	30.590	13.454	92.248	1.00	53.28	C
ATOM	15647	N3	A S 125	30.240	13.322	93.533	1.00	53.01	N
ATOM	15648	C4	A S 125	31.291	12.899	94.268	1.00	53.75	C
ATOM	15649	P	G S 126	29.882	8.267	98.283	1.00	56.78	P
ATOM	15650	O1P	G S 126	29.137	7.574	99.358	1.00	56.80	O
ATOM	15651	O2P	G S 126	31.367	8.203	98.268	1.00	55.67	O
ATOM	15652	O5*	G S 126	29.296	7.823	96.854	1.00	57.14	O
ATOM	15653	C5*	G S 126	27.919	8.076	96.535	1.00	59.34	C
ATOM	15654	C4*	G S 126	27.656	8.262	95.047	1.00	59.89	C
ATOM	15655	O4*	G S 126	28.244	9.492	94.534	1.00	60.31	O
ATOM	15656	C3*	G S 126	28.238	7.183	94.154	1.00	60.60	C
ATOM	15657	O3*	G S 126	27.419	6.020	94.180	1.00	61.72	O
ATOM	15658	C2*	G S 126	28.237	7.920	92.819	1.00	60.73	C
ATOM	15659	O2*	G S 126	26.947	8.062	92.259	1.00	61.24	O
ATOM	15660	C1*	G S 126	28.801	9.262	93.249	1.00	59.79	C
ATOM	15661	N9	G S 126	30.263	9.258	93.310	1.00	59.42	N
ATOM	15662	C8	G S 126	31.043	9.147	94.434	1.00	59.39	C
ATOM	15663	N7	G S 126	32.324	9.173	94.196	1.00	59.64	N
ATOM	15664	C5	G S 126	32.408	9.305	92.823	1.00	59.11	C
ATOM	15665	C6	G S 126	33.558	9.389	92.003	1.00	59.08	C
ATOM	15666	O6	G S 126	34.746	9.357	92.357	1.00	58.63	O
ATOM	15667	N1	G S 126	33.210	9.521	90.658	1.00	59.09	N
ATOM	15668	C2	G S 126	31.915	9.563	90.167	1.00	59.38	C
ATOM	15669	N2	G S 126	31.778	9.689	88.835	1.00	58.76	N
ATOM	15670	N3	G S 126	30.827	9.480	90.938	1.00	59.30	N
ATOM	15671	C4	G S 126	31.148	9.355	92.255	1.00	59.40	C
ATOM	15672	P	G S 127	27.865	4.708	93.375	1.00	62.92	P
ATOM	15673	O1P	G S 127	26.728	3.748	93.409	1.00	61.87	O
ATOM	15674	O2P	G S 127	29.227	4.315	93.834	1.00	62.20	O
ATOM	15675	O5*	G S 127	27.996	5.311	91.900	1.00	62.98	O
ATOM	15676	C5*	G S 127	27.570	4.641	90.733	1.00	64.23	C
ATOM	15677	C4*	G S 127	28.475	5.021	89.575	1.00	64.98	C
ATOM	15678	O4*	G S 127	29.301	6.169	89.901	1.00	64.30	O
ATOM	15679	C3*	G S 127	29.498	3.964	89.232	1.00	65.76	C
ATOM	15680	O3*	G S 127	28.870	2.917	88.514	1.00	69.98	O
ATOM	15681	C2*	G S 127	30.527	4.770	88.448	1.00	64.51	C
ATOM	15682	O2*	G S 127	30.137	5.102	87.131	1.00	63.72	O
ATOM	15683	C1*	G S 127	30.585	6.014	89.322	1.00	62.44	C
ATOM	15684	N9	G S 127	31.596	5.979	90.379	1.00	61.54	N
ATOM	15685	C8	G S 127	31.430	5.926	91.745	1.00	61.13	C
ATOM	15686	N7	G S 127	32.555	5.931	92.408	1.00	61.00	N
ATOM	15687	C5	G S 127	33.529	5.996	91.420	1.00	60.73	C
ATOM	15688	C6	G S 127	34.944	6.034	91.518	1.00	60.93	C
ATOM	15689	O6	G S 127	35.659	6.011	92.534	1.00	60.74	O
ATOM	15690	N1	G S 127	35.534	6.098	90.255	1.00	60.76	N
ATOM	15691	C2	G S 127	34.856	6.126	89.055	1.00	60.71	C
ATOM	15692	N2	G S 127	35.596	6.187	87.942	1.00	60.87	N
ATOM	15693	N3	G S 127	33.537	6.094	88.953	1.00	60.16	N
ATOM	15694	C4	G S 127	32.948	6.028	90.169	1.00	60.67	C
ATOM	15695	P	U S 128	29.227	1.404	88.897	1.00	73.75	P
ATOM	15696	O1P	U S 128	28.129	0.530	88.420	1.00	74.09	O
ATOM	15697	O2P	U S 128	29.666	1.344	90.311	1.00	73.61	O
ATOM	15698	O5*	U S 128	30.499	1.131	87.973	1.00	76.58	O
ATOM	15699	C5*	U S 128	30.420	1.321	86.568	1.00	80.25	C

ATOM	15700	C4*	U S 128	31.802	1.513	85.986	1.00	82.33	C
ATOM	15701	O4*	U S 128	32.407	2.708	86.536	1.00	82.75	O
ATOM	15702	C3*	U S 128	32.808	0.422	86.319	1.00	84.37	C
ATOM	15703	O3*	U S 128	32.590	-0.750	85.531	1.00	87.86	O
ATOM	15704	C2*	U S 128	34.100	1.171	86.011	1.00	84.13	C
ATOM	15705	O2*	U S 128	34.344	1.352	84.628	1.00	84.42	O
ATOM	15706	C1*	U S 128	33.797	2.490	86.716	1.00	83.32	C
ATOM	15707	N1	U S 128	34.149	2.478	88.184	1.00	83.04	N
ATOM	15708	C2	U S 128	35.465	2.675	88.553	1.00	82.79	C
ATOM	15709	O2	U S 128	36.367	2.858	87.758	1.00	82.98	O
ATOM	15710	N3	U S 128	35.697	2.649	89.906	1.00	82.80	N
ATOM	15711	C4	U S 128	34.773	2.451	90.914	1.00	83.04	C
ATOM	15712	O4	U S 128	35.137	2.457	92.085	1.00	83.20	O
ATOM	15713	C5	U S 128	33.422	2.251	90.462	1.00	83.12	C
ATOM	15714	C6	U S 128	33.174	2.270	89.147	1.00	83.04	C
ATOM	15715	P	G S 129	32.643	-2.216	86.189	1.00	91.66	P
ATOM	15716	O1P	G S 129	31.760	-3.109	85.405	1.00	91.49	O
ATOM	15717	O2P	G S 129	32.426	-2.090	87.649	1.00	91.40	O
ATOM	15718	O5*	G S 129	34.155	-2.683	85.924	1.00	94.25	O
ATOM	15719	C5*	G S 129	34.858	-2.302	84.732	1.00	97.33	C
ATOM	15720	C4*	G S 129	36.364	-2.458	84.870	1.00	98.82	C
ATOM	15721	O4*	G S 129	36.949	-1.191	85.277	1.00	99.52	O
ATOM	15722	C3*	G S 129	36.856	-3.473	85.899	1.00	100.03	C
ATOM	15723	O3*	G S 129	36.869	-4.792	85.354	1.00	101.84	O
ATOM	15724	C2*	G S 129	38.245	-2.924	86.199	1.00	100.05	C
ATOM	15725	O2*	G S 129	39.199	-3.209	85.198	1.00	100.01	O
ATOM	15726	C1*	G S 129	37.934	-1.436	86.263	1.00	100.26	C
ATOM	15727	N9	G S 129	37.423	-1.045	87.572	1.00	100.42	N
ATOM	15728	C8	G S 129	36.114	-0.896	87.959	1.00	100.54	C
ATOM	15729	N7	G S 129	35.965	-0.540	89.201	1.00	100.55	N
ATOM	15730	C5	G S 129	37.264	-0.456	89.673	1.00	100.60	C
ATOM	15731	C6	G S 129	37.737	-0.114	90.960	1.00	100.58	C
ATOM	15732	O6	G S 129	37.072	0.193	91.964	1.00	100.41	O
ATOM	15733	N1	G S 129	39.134	-0.152	91.015	1.00	100.67	N
ATOM	15734	C2	G S 129	39.973	-0.479	89.967	1.00	100.65	C
ATOM	15735	N2	G S 129	41.294	-0.460	90.214	1.00	100.51	N
ATOM	15736	N3	G S 129	39.533	-0.800	88.754	1.00	100.74	N
ATOM	15737	C4	G S 129	38.176	-0.767	88.684	1.00	100.63	C
ATOM	15738	P	A S 130	36.841	-6.075	86.311	1.00	103.40	P
ATOM	15739	O1P	A S 130	37.292	-7.241	85.519	1.00	103.85	O
ATOM	15740	O2P	A S 130	35.529	-6.122	86.995	1.00	103.39	O
ATOM	15741	O5*	A S 130	37.968	-5.714	87.386	1.00	105.17	O
ATOM	15742	C5*	A S 130	38.740	-6.702	88.063	1.00	107.12	C
ATOM	15743	C4*	A S 130	40.229	-6.412	87.931	1.00	108.21	C
ATOM	15744	O4*	A S 130	40.454	-4.984	87.761	1.00	108.60	O
ATOM	15745	C3*	A S 130	41.070	-6.821	89.139	1.00	109.05	C
ATOM	15746	O3*	A S 130	41.622	-8.128	88.970	1.00	110.10	O
ATOM	15747	C2*	A S 130	42.129	-5.727	89.196	1.00	109.00	C
ATOM	15748	O2*	A S 130	43.200	-5.945	88.297	1.00	108.61	O
ATOM	15749	C1*	A S 130	41.272	-4.517	88.815	1.00	109.27	C
ATOM	15750	N9	A S 130	40.412	-4.020	89.896	1.00	109.53	N
ATOM	15751	C8	A S 130	39.050	-3.844	89.877	1.00	109.62	C
ATOM	15752	N7	A S 130	38.545	-3.390	90.998	1.00	109.54	N
ATOM	15753	C5	A S 130	39.649	-3.258	91.821	1.00	109.74	C
ATOM	15754	C6	A S 130	39.789	-2.816	93.156	1.00	109.72	C
ATOM	15755	N6	A S 130	38.755	-2.418	93.908	1.00	109.46	N
ATOM	15756	N1	A S 130	41.039	-2.803	93.684	1.00	109.82	N
ATOM	15757	C2	A S 130	42.073	-3.205	92.925	1.00	109.69	C
ATOM	15758	N3	A S 130	42.061	-3.636	91.662	1.00	109.73	N

ATOM	15759	C4	A S 130	40.809	-3.640	91.160	1.00109.76	C
ATOM	15760	P	A S 131	41.153	-9.304	89.949	1.00111.50	P
ATOM	15761	O1P	A S 131	41.794	-10.571	89.530	1.00111.51	O
ATOM	15762	O2P	A S 131	39.679	-9.233	90.060	1.00111.20	O
ATOM	15763	O5*	A S 131	41.807	-8.869	91.340	1.00112.87	O
ATOM	15764	C5*	A S 131	43.225	-8.818	91.504	1.00114.52	C
ATOM	15765	C4*	A S 131	43.614	-8.578	92.956	1.00115.39	C
ATOM	15766	O4*	A S 131	43.438	-7.169	93.279	1.00116.04	O
ATOM	15767	C3*	A S 131	42.797	-9.329	94.007	1.00115.99	C
ATOM	15768	O3*	A S 131	43.329	-10.633	94.246	1.00116.71	O
ATOM	15769	C2*	A S 131	42.928	-8.405	95.212	1.00116.13	C
ATOM	15770	O2*	A S 131	44.170	-8.525	95.881	1.00115.94	O
ATOM	15771	C1*	A S 131	42.787	-7.043	94.535	1.00116.43	C
ATOM	15772	N9	A S 131	41.389	-6.624	94.352	1.00116.72	N
ATOM	15773	C8	A S 131	40.693	-6.495	93.175	1.00116.79	C
ATOM	15774	N7	A S 131	39.449	-6.102	93.322	1.00116.71	N
ATOM	15775	C5	A S 131	39.309	-5.960	94.690	1.00116.69	C
ATOM	15776	C6	A S 131	38.219	-5.566	95.494	1.00116.55	C
ATOM	15777	N6	A S 131	37.026	-5.234	94.990	1.00116.55	N
ATOM	15778	N1	A S 131	38.405	-5.526	96.834	1.00116.61	N
ATOM	15779	C2	A S 131	39.608	-5.859	97.330	1.00116.63	C
ATOM	15780	N3	A S 131	40.705	-6.247	96.674	1.00116.70	N
ATOM	15781	C4	A S 131	40.491	-6.277	95.343	1.00116.78	C
ATOM	15782	P	A S 132	42.445	-11.837	94.849	1.00117.91	P
ATOM	15783	O1P	A S 132	43.178	-13.097	94.578	1.00117.62	O
ATOM	15784	O2P	A S 132	41.045	-11.717	94.382	1.00117.50	O
ATOM	15785	O5*	A S 132	42.465	-11.565	96.430	1.00117.74	O
ATOM	15786	C5*	A S 132	43.683	-11.683	97.178	1.00117.50	C
ATOM	15787	C4*	A S 132	43.485	-11.416	98.665	1.00117.08	C
ATOM	15788	O4*	A S 132	43.254	-9.999	98.932	1.00117.24	O
ATOM	15789	C3*	A S 132	42.268	-12.059	99.313	1.00116.73	C
ATOM	15790	O3*	A S 132	42.389	-13.466	99.487	1.00115.69	O
ATOM	15791	C2*	A S 132	42.245	-11.262	100.615	1.00116.96	C
ATOM	15792	O2*	A S 132	43.335	-11.521	101.484	1.00117.12	O
ATOM	15793	C1*	A S 132	42.335	-9.865	100.013	1.00117.12	C
ATOM	15794	N9	A S 132	41.024	-9.383	99.556	1.00117.20	N
ATOM	15795	C8	A S 132	40.544	-9.369	98.273	1.00117.14	C
ATOM	15796	N7	A S 132	39.329	-8.893	98.158	1.00117.11	N
ATOM	15797	C5	A S 132	38.977	-8.571	99.456	1.00117.15	C
ATOM	15798	C6	A S 132	37.800	-8.017	100.006	1.00117.11	C
ATOM	15799	N6	A S 132	36.741	-7.689	99.260	1.00116.99	N
ATOM	15800	N1	A S 132	37.758	-7.820	101.344	1.00117.11	N
ATOM	15801	C2	A S 132	38.832	-8.158	102.075	1.00117.08	C
ATOM	15802	N3	A S 132	39.991	-8.684	101.669	1.00117.10	N
ATOM	15803	C4	A S 132	40.004	-8.871	100.334	1.00117.16	C
ATOM	15804	P	G S 133	41.048	-14.348	99.455	1.00114.95	P
ATOM	15805	O1P	G S 133	41.365	-15.693	99.991	1.00114.79	O
ATOM	15806	O2P	G S 133	40.454	-14.214	98.103	1.00114.77	O
ATOM	15807	O5*	G S 133	40.115	-13.579	100.510	1.00113.37	O
ATOM	15808	C5*	G S 133	39.185	-14.266	101.349	1.00111.67	C
ATOM	15809	C4*	G S 133	38.956	-13.520	102.657	1.00110.62	C
ATOM	15810	O4*	G S 133	39.118	-12.085	102.478	1.00110.42	O
ATOM	15811	C3*	G S 133	37.560	-13.689	103.245	1.00109.70	C
ATOM	15812	O3*	G S 133	37.504	-14.813	104.111	1.00108.04	O
ATOM	15813	C2*	G S 133	37.362	-12.373	103.980	1.00109.81	C
ATOM	15814	O2*	G S 133	38.052	-12.312	105.213	1.00110.05	O
ATOM	15815	C1*	G S 133	37.963	-11.414	102.957	1.00110.10	C
ATOM	15816	N9	G S 133	37.075	-11.097	101.833	1.00110.08	N
ATOM	15817	C8	G S 133	37.335	-11.266	100.490	1.00110.06	C

ATOM	15818	N7	G S 133	36.354	-10.898	99.713	1.00110.07	N
ATOM	15819	C5	G S 133	35.375	-10.455	100.591	1.00110.05	C
ATOM	15820	C6	G S 133	34.082	-9.939	100.329	1.00109.85	C
ATOM	15821	O6	G S 133	33.536	-9.768	99.233	1.00109.87	O
ATOM	15822	N1	G S 133	33.405	-9.611	101.501	1.00109.92	N
ATOM	15823	C2	G S 133	33.910	-9.764	102.772	1.00110.06	C
ATOM	15824	N2	G S 133	33.111	-9.392	103.784	1.00110.05	N
ATOM	15825	N3	G S 133	35.124	-10.243	103.031	1.00110.05	N
ATOM	15826	C4	G S 133	35.801	-10.569	101.899	1.00110.08	C
ATOM	15827	P	U S 134	36.548	-16.044	103.757	1.00106.53	P
ATOM	15828	O1P	U S 134	36.824	-17.119	104.733	1.00106.77	O
ATOM	15829	O2P	U S 134	36.679	-16.335	102.312	1.00106.60	O
ATOM	15830	O5*	U S 134	35.090	-15.449	104.052	1.00105.01	O
ATOM	15831	C5*	U S 134	34.459	-15.678	105.309	1.00103.06	C
ATOM	15832	C4*	U S 134	33.335	-14.695	105.573	1.00101.90	C
ATOM	15833	O4*	U S 134	33.653	-13.350	105.100	1.00101.47	O
ATOM	15834	C3*	U S 134	32.036	-14.974	104.840	1.00101.00	C
ATOM	15835	O3*	U S 134	31.275	-16.066	105.329	1.00 99.68	O
ATOM	15836	C2*	U S 134	31.375	-13.627	105.078	1.00101.06	C
ATOM	15837	O2*	U S 134	31.131	-13.317	106.435	1.00101.15	O
ATOM	15838	C1*	U S 134	32.497	-12.776	104.499	1.00101.28	C
ATOM	15839	N1	U S 134	32.563	-12.849	102.982	1.00101.38	N
ATOM	15840	C2	U S 134	31.404	-12.709	102.225	1.00101.55	C
ATOM	15841	O2	U S 134	30.297	-12.508	102.698	1.00101.39	O
ATOM	15842	N3	U S 134	31.570	-12.804	100.861	1.00101.41	N
ATOM	15843	C4	U S 134	32.748	-13.027	100.175	1.00101.42	C
ATOM	15844	O4	U S 134	32.740	-13.085	98.949	1.00101.41	O
ATOM	15845	C5	U S 134	33.910	-13.175	101.014	1.00101.32	C
ATOM	15846	C6	U S 134	33.774	-13.084	102.348	1.00101.38	C
ATOM	15847	P	G S 135	30.247	-16.754	104.309	1.00 98.51	P
ATOM	15848	O1P	G S 135	29.558	-17.868	104.999	1.00 98.69	O
ATOM	15849	O2P	G S 135	30.984	-17.013	103.051	1.00 98.35	O
ATOM	15850	O5*	G S 135	29.178	-15.598	104.018	1.00 96.96	O
ATOM	15851	C5*	G S 135	28.219	-15.212	104.998	1.00 95.00	C
ATOM	15852	C4*	G S 135	26.914	-14.800	104.342	1.00 93.97	C
ATOM	15853	O4*	G S 135	27.118	-13.660	103.468	1.00 93.27	O
ATOM	15854	C3*	G S 135	26.288	-15.827	103.418	1.00 93.15	C
ATOM	15855	O3*	G S 135	25.656	-16.848	104.160	1.00 93.30	O
ATOM	15856	C2*	G S 135	25.307	-14.955	102.640	1.00 92.76	C
ATOM	15857	O2*	G S 135	24.085	-14.739	103.322	1.00 92.41	O
ATOM	15858	C1*	G S 135	26.104	-13.656	102.470	1.00 92.14	C
ATOM	15859	N9	G S 135	26.689	-13.536	101.127	1.00 91.76	N
ATOM	15860	C8	G S 135	27.970	-13.858	100.733	1.00 91.39	C
ATOM	15861	N7	G S 135	28.198	-13.654	99.465	1.00 91.22	N
ATOM	15862	C5	G S 135	26.990	-13.171	98.978	1.00 91.26	C
ATOM	15863	C6	G S 135	26.625	-12.777	97.666	1.00 91.27	C
ATOM	15864	O6	G S 135	27.333	-12.777	96.651	1.00 91.35	O
ATOM	15865	N1	G S 135	25.300	-12.342	97.591	1.00 91.30	N
ATOM	15866	C2	G S 135	24.425	-12.296	98.652	1.00 91.31	C
ATOM	15867	N2	G S 135	23.187	-11.850	98.379	1.00 91.35	N
ATOM	15868	N3	G S 135	24.754	-12.667	99.889	1.00 91.32	N
ATOM	15869	C4	G S 135	26.047	-13.093	99.984	1.00 91.44	C
ATOM	15870	P	U S 136	25.179	-18.183	103.424	1.00 93.64	P
ATOM	15871	O1P	U S 136	24.498	-19.033	104.429	1.00 93.76	O
ATOM	15872	O2P	U S 136	26.336	-18.705	102.658	1.00 93.15	O
ATOM	15873	O5*	U S 136	24.049	-17.665	102.414	1.00 94.01	O
ATOM	15874	C5*	U S 136	23.186	-18.583	101.760	1.00 94.35	C
ATOM	15875	C4*	U S 136	21.864	-18.661	102.488	1.00 94.89	C
ATOM	15876	O4*	U S 136	21.034	-17.503	102.189	1.00 94.88	O

ATOM	15877	C3*	U S 136	20.950	-19.802	102.073	1.00	95.47	C
ATOM	15878	O3*	U S 136	21.466	-21.123	102.360	1.00	96.44	O
ATOM	15879	C2*	U S 136	19.670	-19.325	102.770	1.00	95.23	C
ATOM	15880	O2*	U S 136	19.671	-19.311	104.186	1.00	95.07	O
ATOM	15881	C1*	U S 136	19.666	-17.901	102.215	1.00	95.01	C
ATOM	15882	N1	U S 136	19.017	-17.901	100.853	1.00	95.01	N
ATOM	15883	C2	U S 136	17.635	-17.946	100.784	1.00	95.08	C
ATOM	15884	O2	U S 136	16.911	-17.955	101.764	1.00	95.15	O
ATOM	15885	N3	U S 136	17.111	-17.973	99.513	1.00	94.99	N
ATOM	15886	C4	U S 136	17.803	-17.972	98.315	1.00	94.95	C
ATOM	15887	O4	U S 136	17.187	-17.994	97.251	1.00	94.81	O
ATOM	15888	C5	U S 136	19.239	-17.939	98.456	1.00	95.04	C
ATOM	15889	C6	U S 136	19.774	-17.907	99.688	1.00	95.02	C
ATOM	15890	P	G S 137	21.505	-21.868	103.772	1.00	97.27	P
ATOM	15891	O1P	G S 137	22.239	-21.003	104.730	1.00	97.14	O
ATOM	15892	O2P	G S 137	21.979	-23.249	103.513	1.00	96.97	O
ATOM	15893	O5*	G S 137	19.961	-21.955	104.178	1.00	97.17	O
ATOM	15894	C5*	G S 137	19.089	-22.727	103.377	1.00	97.15	C
ATOM	15895	C4*	G S 137	17.655	-22.516	103.808	1.00	97.45	C
ATOM	15896	O4*	G S 137	17.156	-21.273	103.255	1.00	97.50	O
ATOM	15897	C3*	G S 137	16.699	-23.591	103.316	1.00	97.73	C
ATOM	15898	O3*	G S 137	16.601	-24.634	104.275	1.00	98.35	O
ATOM	15899	C2*	G S 137	15.390	-22.830	103.125	1.00	97.62	C
ATOM	15900	O2*	G S 137	14.635	-22.674	104.311	1.00	97.19	O
ATOM	15901	C1*	G S 137	15.899	-21.481	102.631	1.00	97.62	C
ATOM	15902	N9	G S 137	16.031	-21.394	101.173	1.00	97.66	N
ATOM	15903	C8	G S 137	17.179	-21.238	100.426	1.00	97.67	C
ATOM	15904	N7	G S 137	16.967	-21.191	99.140	1.00	97.66	N
ATOM	15905	C5	G S 137	15.591	-21.324	99.018	1.00	97.66	C
ATOM	15906	C6	G S 137	14.771	-21.341	97.860	1.00	97.60	C
ATOM	15907	O6	G S 137	15.120	-21.243	96.674	1.00	97.47	O
ATOM	15908	N1	G S 137	13.420	-21.496	98.184	1.00	97.65	N
ATOM	15909	C2	G S 137	12.924	-21.617	99.466	1.00	97.67	C
ATOM	15910	N2	G S 137	11.595	-21.757	99.585	1.00	97.52	N
ATOM	15911	N3	G S 137	13.684	-21.599	100.557	1.00	97.65	N
ATOM	15912	C4	G S 137	15.001	-21.449	100.260	1.00	97.72	C
ATOM	15913	P	A S 138	16.332	-26.138	103.803	1.00	98.88	P
ATOM	15914	O1P	A S 138	16.211	-26.972	105.022	1.00	98.84	O
ATOM	15915	O2P	A S 138	17.350	-26.471	102.776	1.00	98.72	O
ATOM	15916	O5*	A S 138	14.895	-26.040	103.094	1.00	99.29	O
ATOM	15917	C5*	A S 138	13.688	-26.412	103.760	1.00	99.57	C
ATOM	15918	C4*	A S 138	12.510	-26.350	102.806	1.00	99.78	C
ATOM	15919	O4*	A S 138	12.555	-25.134	102.014	1.00	99.96	O
ATOM	15920	C3*	A S 138	12.480	-27.447	101.756	1.00	100.13	C
ATOM	15921	O3*	A S 138	12.021	-28.688	102.295	1.00	100.45	O
ATOM	15922	C2*	A S 138	11.516	-26.827	100.753	1.00	100.18	C
ATOM	15923	O2*	A S 138	10.169	-26.876	101.177	1.00	100.45	O
ATOM	15924	C1*	A S 138	12.004	-25.384	100.729	1.00	100.26	C
ATOM	15925	N9	A S 138	12.990	-25.117	99.679	1.00	100.35	N
ATOM	15926	C8	A S 138	14.356	-25.159	99.767	1.00	100.34	C
ATOM	15927	N7	A S 138	14.974	-24.867	98.646	1.00	100.38	N
ATOM	15928	C5	A S 138	13.943	-24.617	97.753	1.00	100.51	C
ATOM	15929	C6	A S 138	13.923	-24.250	96.385	1.00	100.46	C
ATOM	15930	N6	A S 138	15.027	-24.068	95.650	1.00	100.26	N
ATOM	15931	N1	A S 138	12.715	-24.080	95.798	1.00	100.46	N
ATOM	15932	C2	A S 138	11.604	-24.261	96.527	1.00	100.40	C
ATOM	15933	N3	A S 138	11.498	-24.604	97.814	1.00	100.45	N
ATOM	15934	C4	A S 138	12.713	-24.769	98.375	1.00	100.46	C
ATOM	15935	P	U S 139	12.092	-30.039	101.430	1.00	101.10	P

ATOM	15936	O1P	U S 139	11.864	-31.179	102.347	1.00100.70	O
ATOM	15937	O2P	U S 139	13.325	-29.984	100.611	1.00100.82	O
ATOM	15938	O5*	U S 139	10.818	-29.952	100.459	1.00100.95	O
ATOM	15939	C5*	U S 139	10.489	-31.034	99.586	1.00100.84	C
ATOM	15940	C4*	U S 139	10.268	-30.569	98.155	1.00101.00	C
ATOM	15941	O4*	U S 139	10.754	-29.218	97.939	1.00100.91	O
ATOM	15942	C3*	U S 139	11.025	-31.342	97.086	1.00101.14	C
ATOM	15943	O3*	U S 139	10.492	-32.648	96.869	1.00101.51	O
ATOM	15944	C2*	U S 139	10.843	-30.410	95.890	1.00101.02	C
ATOM	15945	O2*	U S 139	9.582	-30.521	95.254	1.00100.87	O
ATOM	15946	C1*	U S 139	11.005	-29.039	96.551	1.00100.83	C
ATOM	15947	N1	U S 139	12.367	-28.448	96.302	1.00100.75	N
ATOM	15948	C2	U S 139	12.681	-28.047	95.013	1.00100.66	C
ATOM	15949	O2	U S 139	11.916	-28.144	94.067	1.00100.48	O
ATOM	15950	N3	U S 139	13.941	-27.521	94.861	1.00100.66	N
ATOM	15951	C4	U S 139	14.908	-27.357	95.840	1.00100.65	C
ATOM	15952	O4	U S 139	15.995	-26.865	95.547	1.00100.63	O
ATOM	15953	C5	U S 139	14.515	-27.795	97.157	1.00100.62	C
ATOM	15954	C6	U S 139	13.288	-28.312	97.332	1.00100.71	C
ATOM	15955	P	G S 140	11.247	-33.669	95.891	1.00101.78	P
ATOM	15956	O1P	G S 140	10.573	-34.980	96.007	1.00101.94	O
ATOM	15957	O2P	G S 140	12.703	-33.574	96.140	1.00101.77	O
ATOM	15958	O5*	G S 140	10.919	-33.084	94.438	1.00101.96	O
ATOM	15959	C5*	G S 140	10.829	-33.940	93.300	1.00102.15	C
ATOM	15960	C4*	G S 140	11.406	-33.275	92.062	1.00102.29	C
ATOM	15961	O4*	G S 140	11.621	-31.857	92.299	1.00102.45	O
ATOM	15962	C3*	G S 140	12.773	-33.790	91.626	1.00102.40	C
ATOM	15963	O3*	G S 140	12.678	-35.036	90.919	1.00102.54	O
ATOM	15964	C2*	G S 140	13.241	-32.622	90.759	1.00102.40	C
ATOM	15965	O2*	G S 140	12.643	-32.584	89.476	1.00102.12	O
ATOM	15966	C1*	G S 140	12.790	-31.440	91.617	1.00102.31	C
ATOM	15967	N9	G S 140	13.813	-31.035	92.578	1.00102.27	N
ATOM	15968	C8	G S 140	13.946	-31.401	93.895	1.00102.27	C
ATOM	15969	N7	G S 140	14.982	-30.871	94.484	1.00102.31	N
ATOM	15970	C5	G S 140	15.582	-30.106	93.492	1.00102.29	C
ATOM	15971	C6	G S 140	16.747	-29.293	93.524	1.00102.33	C
ATOM	15972	O6	G S 140	17.512	-29.082	94.477	1.00102.23	O
ATOM	15973	N1	G S 140	16.994	-28.690	92.286	1.00102.39	N
ATOM	15974	C2	G S 140	16.211	-28.859	91.161	1.00102.37	C
ATOM	15975	N2	G S 140	16.587	-28.214	90.052	1.00102.30	N
ATOM	15976	N3	G S 140	15.122	-29.615	91.120	1.00102.31	N
ATOM	15977	C4	G S 140	14.871	-30.203	92.315	1.00102.30	C
ATOM	15978	P	A S 141	13.930	-36.030	90.749	1.00102.75	P
ATOM	15979	O1P	A S 141	13.439	-37.406	90.993	1.00102.60	O
ATOM	15980	O2P	A S 141	15.067	-35.507	91.543	1.00102.70	O
ATOM	15981	O5*	A S 141	14.270	-35.904	89.186	1.00102.69	O
ATOM	15982	C5*	A S 141	15.454	-36.471	88.612	1.00102.49	C
ATOM	15983	C4*	A S 141	15.948	-35.650	87.426	1.00102.43	C
ATOM	15984	O4*	A S 141	15.771	-34.241	87.713	1.00102.19	O
ATOM	15985	C3*	A S 141	17.422	-35.844	87.069	1.00102.33	C
ATOM	15986	O3*	A S 141	17.546	-36.712	85.938	1.00102.35	O
ATOM	15987	C2*	A S 141	17.967	-34.436	86.794	1.00102.26	C
ATOM	15988	O2*	A S 141	18.063	-34.097	85.422	1.00102.28	O
ATOM	15989	C1*	A S 141	16.965	-33.519	87.490	1.00102.17	C
ATOM	15990	N9	A S 141	17.444	-33.007	88.770	1.00102.20	N
ATOM	15991	C8	A S 141	17.302	-33.568	90.013	1.00102.10	C
ATOM	15992	N7	A S 141	17.844	-32.863	90.980	1.00102.12	N
ATOM	15993	C5	A S 141	18.377	-31.764	90.318	1.00102.10	C
ATOM	15994	C6	A S 141	19.087	-30.629	90.763	1.00102.05	C

ATOM	15995	N6	A S	141	19.395	-30.416	92.046	1.00102.10	N
ATOM	15996	N1	A S	141	19.475	-29.720	89.837	1.00102.13	N
ATOM	15997	C2	A S	141	19.171	-29.933	88.549	1.00102.07	C
ATOM	15998	N3	A S	141	18.508	-30.958	88.011	1.00102.07	N
ATOM	15999	C4	A S	141	18.138	-31.840	88.957	1.00102.06	C
TER	16000		A S	141					
HETATM	16001	C1	GLP	5001	20.623	37.880	10.036	1.00 53.09	C
HETATM	16002	C2	GLP	5001	21.514	38.638	9.050	1.00 52.66	C
HETATM	16003	C3	GLP	5001	20.661	39.231	7.941	1.00 52.67	C
HETATM	16004	C4	GLP	5001	19.918	38.092	7.281	1.00 52.60	C
HETATM	16005	C5	GLP	5001	18.978	37.451	8.293	1.00 53.22	C
HETATM	16006	C6	GLP	5001	18.215	36.296	7.656	1.00 53.06	C
HETATM	16007	O1	GLP	5001	19.808	38.795	10.764	1.00 51.97	O
HETATM	16008	N2	GLP	5001	22.252	39.686	9.734	1.00 51.55	N
HETATM	16009	O3	GLP	5001	21.476	39.911	6.976	1.00 54.67	O
HETATM	16010	O4	GLP	5001	19.181	38.541	6.145	1.00 54.56	O
HETATM	16011	O5	GLP	5001	19.745	36.954	9.392	1.00 53.61	O
HETATM	16012	O6	GLP	5001	19.163	35.373	7.125	1.00 52.70	O
HETATM	16013	P	GLP	5001	18.727	34.035	6.361	1.00 55.98	P
HETATM	16014	O1P	GLP	5001	17.696	34.527	5.371	1.00 54.67	O
HETATM	16015	O2P	GLP	5001	20.001	33.556	5.684	1.00 56.01	O
HETATM	16016	O3P	GLP	5001	18.259	33.088	7.439	1.00 53.04	O
HETATM	16017	C1	GLP	5002	21.086	40.123	37.142	1.00 43.99	C
HETATM	16018	C2	GLP	5002	19.993	40.744	37.981	1.00 42.93	C
HETATM	16019	C3	GLP	5002	20.589	41.695	38.997	1.00 42.51	C
HETATM	16020	C4	GLP	5002	21.701	41.059	39.791	1.00 43.21	C
HETATM	16021	C5	GLP	5002	22.756	40.509	38.852	1.00 44.75	C
HETATM	16022	C6	GLP	5002	23.875	39.756	39.580	1.00 45.63	C
HETATM	16023	O1	GLP	5002	21.617	41.079	36.227	1.00 45.63	O
HETATM	16024	N2	GLP	5002	19.042	41.399	37.102	1.00 40.52	N
HETATM	16025	O3	GLP	5002	19.586	42.040	39.953	1.00 45.45	O
HETATM	16026	O4	GLP	5002	22.252	42.036	40.672	1.00 41.94	O
HETATM	16027	O5	GLP	5002	22.125	39.603	37.965	1.00 45.22	O
HETATM	16028	O6	GLP	5002	23.376	38.638	40.312	1.00 47.51	O
HETATM	16029	P	GLP	5002	24.364	37.719	41.179	1.00 50.07	P
HETATM	16030	O1P	GLP	5002	23.531	36.730	41.923	1.00 51.30	O
HETATM	16031	O2P	GLP	5002	25.155	37.054	40.075	1.00 50.99	O
HETATM	16032	O3P	GLP	5002	25.054	38.682	42.114	1.00 48.50	O
HETATM	16033	C1	GLP	5003	20.927	20.765	64.491	1.00 44.42	C
HETATM	16034	C2	GLP	5003	19.856	20.209	63.559	1.00 44.29	C
HETATM	16035	C3	GLP	5003	20.467	19.229	62.593	1.00 44.18	C
HETATM	16036	C4	GLP	5003	21.611	19.884	61.846	1.00 45.12	C
HETATM	16037	C5	GLP	5003	22.664	20.369	62.815	1.00 46.10	C
HETATM	16038	C6	GLP	5003	23.781	21.086	62.055	1.00 47.53	C
HETATM	16039	O1	GLP	5003	21.335	19.767	65.406	1.00 44.97	O
HETATM	16040	N2	GLP	5003	18.776	19.566	64.271	1.00 41.76	N
HETATM	16041	O3	GLP	5003	19.471	18.847	61.646	1.00 44.35	O
HETATM	16042	O4	GLP	5003	22.209	18.947	60.955	1.00 44.85	O
HETATM	16043	O5	GLP	5003	22.085	21.238	63.784	1.00 46.23	O
HETATM	16044	O6	GLP	5003	23.284	22.051	61.125	1.00 48.60	O
HETATM	16045	P	GLP	5003	24.277	23.077	60.357	1.00 48.37	P
HETATM	16046	O1P	GLP	5003	23.342	24.024	59.659	1.00 47.74	O
HETATM	16047	O2P	GLP	5003	25.101	23.746	61.428	1.00 47.91	O
HETATM	16048	O3P	GLP	5003	25.027	22.143	59.427	1.00 48.99	O
HETATM	16049	C1	GLP	5004	20.181	23.230	91.274	1.00 54.79	C
HETATM	16050	C2	GLP	5004	21.085	22.483	92.242	1.00 52.74	C
HETATM	16051	C3	GLP	5004	20.283	21.895	93.382	1.00 53.80	C
HETATM	16052	C4	GLP	5004	19.406	22.952	94.058	1.00 54.96	C
HETATM	16053	C5	GLP	5004	18.543	23.691	93.032	1.00 56.13	C

HETATM16054	C6	GLP	5004	17.780	24.838	93.698	1.00	56.97	C
HETATM16055	O1	GLP	5004	19.396	22.274	90.544	1.00	51.82	O
HETATM16056	N2	GLP	5004	21.737	21.402	91.529	1.00	54.38	N
HETATM16057	O3	GLP	5004	21.198	21.290	94.299	1.00	51.59	O
HETATM16058	O4	GLP	5004	18.541	22.346	95.021	1.00	54.04	O
HETATM16059	O5	GLP	5004	19.337	24.193	91.944	1.00	56.26	O
HETATM16060	O6	GLP	5004	18.667	25.874	94.122	1.00	59.36	O
HETATM16061	P	GLP	5004	18.133	27.159	94.951	1.00	60.75	P
HETATM16062	O1P	GLP	5004	17.399	26.437	96.061	1.00	57.99	O
HETATM16063	O2P	GLP	5004	19.381	27.897	95.366	1.00	59.22	O
HETATM16064	O3P	GLP	5004	17.311	27.973	93.985	1.00	58.59	O
HETATM16065	MG	MG	9001	28.650	21.018	61.909	1.00	51.75	MG
HETATM16066	MG	MG	9002	25.114	27.933	59.737	1.00	47.99	MG
HETATM16067	MG	MG	9003	13.392	25.960	94.142	1.00	79.24	MG
HETATM16068	MG	MG	9004	18.859	31.883	94.645	1.00	54.80	MG
HETATM16069	MG	MG	9005	19.716	29.368	6.327	1.00	50.22	MG
HETATM16070	MG	MG	9006	14.557	33.894	6.186	1.00	59.34	MG
HETATM16071	MG	MG	9007	25.174	33.790	42.023	1.00	42.27	MG
HETATM16072	MG	MG	9008	28.984	40.062	39.982	1.00	46.00	MG
HETATM16073	MG	MG	9009	28.883	40.400	17.281	1.00	70.58	MG
HETATM16074	MG	MG	9010	28.101	33.498	15.155	1.00	49.57	MG
HETATM16075	MG	MG	9011	13.416	36.751	30.705	1.00	73.65	MG
HETATM16076	MG	MG	9012	15.703	32.416	33.637	1.00	56.17	MG
HETATM16077	MG	MG	9013	13.245	23.640	71.253	1.00	68.40	MG
HETATM16078	MG	MG	9014	15.435	28.800	69.123	1.00	51.48	MG
HETATM16079	MG	MG	9015	28.434	21.255	84.620	1.00	76.26	MG
HETATM16080	MG	MG	9016	27.894	27.594	85.957	1.00	57.14	MG
HETATM16081	O	HOH	1	29.491	22.494	60.855	1.00	62.68	O
HETATM16082	O	HOH	2	27.221	19.506	62.503	1.00	54.35	O
HETATM16083	O	HOH	3	26.912	22.316	62.588	1.00	45.51	O
HETATM16084	O	HOH	4	28.902	20.910	63.907	1.00	59.10	O
HETATM16085	O	HOH	5	27.392	21.078	60.300	1.00	50.30	O
HETATM16086	O	HOH	6	29.249	19.463	61.088	1.00	58.68	O
HETATM16087	O	HOH	7	24.666	29.194	58.447	1.00	52.53	O
HETATM16088	O	HOH	8	24.895	26.571	61.255	1.00	49.91	O
HETATM16089	O	HOH	9	23.118	28.468	60.577	1.00	35.15	O
HETATM16090	O	HOH	10	25.781	29.123	61.089	1.00	41.58	O
HETATM16091	O	HOH	11	24.121	26.484	58.951	1.00	46.51	O
HETATM16092	O	HOH	12	26.991	27.010	59.588	1.00	56.73	O
HETATM16093	O	HOH	13	18.282	32.893	93.199	1.00	63.62	O
HETATM16094	O	HOH	14	19.258	30.416	95.663	1.00	39.59	O
HETATM16095	O	HOH	15	16.964	31.771	95.508	1.00	75.68	O
HETATM16096	O	HOH	16	19.668	33.237	95.912	1.00	67.31	O
HETATM16097	O	HOH	17	18.446	30.236	93.454	1.00	53.25	O
HETATM16098	O	HOH	18	20.971	31.637	94.167	1.00	45.88	O
HETATM16099	O	HOH	19	21.614	29.374	7.227	1.00	51.42	O
HETATM16100	O	HOH	20	17.443	29.489	6.316	1.00	55.37	O
HETATM16101	O	HOH	21	18.976	30.583	7.997	1.00	37.00	O
HETATM16102	O	HOH	22	19.096	28.217	7.761	1.00	41.62	O
HETATM16103	O	HOH	23	19.478	31.220	5.717	1.00	39.04	O
HETATM16104	O	HOH	24	20.243	27.631	5.452	1.00	55.63	O
HETATM16105	O	HOH	25	15.675	34.475	7.782	1.00	49.64	O
HETATM16106	O	HOH	26	13.198	35.198	6.967	1.00	38.04	O
HETATM16107	O	HOH	27	14.410	36.627	7.983	1.00	50.22	O
HETATM16108	O	HOH	28	13.619	34.364	8.929	1.00	49.39	O
HETATM16109	O	HOH	29	14.870	35.505	5.128	1.00	62.84	O
HETATM16110	O	HOH	30	14.362	32.720	4.164	1.00	50.44	O
HETATM16111	O	HOH	31	27.302	33.811	42.323	1.00	58.79	O
HETATM16112	O	HOH	32	23.653	32.497	41.175	1.00	38.85	O

HETATM16113	O	HOH	33	23.918	34.708	44.002	1.00	47.18	O
HETATM16114	O	HOH	34	25.094	31.955	43.000	1.00	38.66	O
HETATM16115	O	HOH	35	25.379	34.508	40.023	1.00	50.38	O
HETATM16116	O	HOH	36	26.159	32.258	40.646	1.00	43.49	O
HETATM16117	O	HOH	37	29.446	38.579	40.961	1.00	52.94	O
HETATM16118	O	HOH	38	27.367	41.140	39.079	1.00	42.03	O
HETATM16119	O	HOH	39	29.400	41.925	40.567	1.00	68.01	O
HETATM16120	O	HOH	40	27.427	39.816	41.405	1.00	40.60	O
HETATM16121	O	HOH	41	29.161	39.219	38.370	1.00	56.89	O
HETATM16122	O	HOH	42	26.961	38.714	39.417	1.00	41.56	O
HETATM16123	O	HOH	43	9.532	24.664	54.164	1.00	47.37	O
HETATM16124	O	HOH	44	1.005	22.038	65.569	1.00	38.34	O
HETATM16125	O	HOH	45	1.152	38.924	35.785	1.00	38.67	O
HETATM16126	O	HOH	46	42.094	29.594	17.492	1.00	47.57	O
HETATM16127	O	HOH	47	19.647	14.937	63.819	1.00	46.30	O
HETATM16128	O	HOH	48	24.293	2.171	67.588	1.00	38.09	O
HETATM16129	O	HOH	49	16.655	43.075	42.880	1.00	37.03	O
HETATM16130	O	HOH	50	1.161	47.555	38.761	1.00	44.11	O
HETATM16131	O	HOH	51	24.453	58.535	33.764	1.00	46.36	O
HETATM16132	O	HOH	52	16.413	17.970	58.637	1.00	38.60	O
HETATM16133	O	HOH	53	13.244	11.060	57.692	1.00	52.62	O
HETATM16134	O	HOH	54	33.370	-11.045	43.568	1.00	55.73	O
HETATM16135	O	HOH	55	4.559	29.880	51.195	1.00	57.80	O
HETATM16136	O	HOH	56	29.976	-12.566	45.664	1.00	53.80	O
HETATM16137	O	HOH	57	1.951	13.484	62.207	1.00	60.48	O
HETATM16138	O	HOH	58	1.629	34.741	44.749	1.00	46.06	O
HETATM16139	O	HOH	59	41.413	31.594	83.839	1.00	58.56	O
HETATM16140	O	HOH	60	1.404	26.241	56.651	1.00	49.21	O
HETATM16141	O	HOH	61	27.487	50.779	35.666	1.00	43.97	O
HETATM16142	O	HOH	62	27.989	27.353	87.799	1.00	48.57	O
HETATM16143	O	HOH	63	22.109	-18.452	46.506	1.00	47.26	O
HETATM16144	O	HOH	64	21.602	69.081	57.222	1.00	58.47	O
HETATM16145	O	HOH	65	3.338	36.956	69.441	1.00	58.26	O
HETATM16146	O	HOH	66	-1.470	5.094	64.828	1.00	42.87	O
HETATM16147	O	HOH	67	18.304	-11.774	72.190	1.00	55.04	O
HETATM16148	O	HOH	68	15.753	53.052	32.802	1.00	57.84	O
HETATM16149	O	HOH	69	15.126	31.750	31.654	1.00	33.60	O
HETATM16150	O	HOH	70	46.841	46.571	81.063	1.00	62.27	O
HETATM16151	O	HOH	71	10.810	54.267	9.416	1.00	56.49	O
HETATM16152	O	HOH	72	15.226	49.313	94.092	1.00	50.57	O
HETATM16153	O	HOH	73	15.719	4.793	29.726	1.00	62.90	O
HETATM16154	O	HOH	74	16.034	45.758	87.454	1.00	51.48	O
HETATM16155	O	HOH	75	16.520	15.384	13.599	1.00	51.46	O
HETATM16156	O	HOH	76	44.511	58.562	56.625	1.00	57.04	O
HETATM16157	O	HOH	77	32.708	24.479	101.346	1.00	66.95	O
HETATM16158	O	HOH	78	9.126	36.380	48.420	1.00	34.99	O
HETATM16159	O	HOH	79	23.126	16.219	39.591	1.00	48.94	O
HETATM16160	O	HOH	80	28.495	33.058	17.183	1.00	35.38	O
HETATM16161	O	HOH	81	22.656	23.718	17.959	1.00	67.02	O
HETATM16162	O	HOH	82	28.825	38.454	43.377	1.00	42.71	O
HETATM16163	O	HOH	83	15.784	47.823	35.517	1.00	61.42	O
HETATM16164	O	HOH	84	28.949	22.287	57.994	1.00	40.89	O
HETATM16165	O	HOH	85	35.780	21.930	59.465	1.00	58.82	O
HETATM16166	O	HOH	86	26.034	23.801	97.709	1.00	62.06	O
HETATM16167	O	HOH	87	26.301	88.092	63.892	1.00	61.20	O
HETATM16168	O	HOH	88	22.927	-16.852	21.218	1.00	59.79	O
HETATM16169	O	HOH	89	22.887	36.205	68.495	1.00	61.85	O
HETATM16170	O	HOH	90	15.780	11.807	6.844	1.00	56.30	O
HETATM16171	O	HOH	91	27.885	-8.188	51.840	1.00	58.26	O

HETATM16172	O	HOH	92	33.160	50.476	15.554	1.00	53.72	O
HETATM16173	O	HOH	93	34.784	69.407	85.098	1.00	65.02	O
HETATM16174	O	HOH	94	15.463	28.202	67.251	1.00	52.33	O
HETATM16175	O	HOH	95	33.465	31.932	34.363	1.00	52.19	O
HETATM16176	O	HOH	96	18.229	62.498	3.542	1.00	65.48	O
HETATM16177	O	HOH	97	4.117	23.645	33.054	1.00	53.84	O
HETATM16178	O	HOH	98	4.304	10.022	71.562	1.00	58.72	O
HETATM16179	O	HOH	99	29.489	42.534	16.429	1.00	52.95	O
HETATM16180	O	HOH	100	36.547	50.749	44.819	1.00	67.81	O
HETATM16181	O	HOH	101	26.291	28.557	86.205	1.00	57.32	O
HETATM16182	O	HOH	102	28.329	28.549	84.253	1.00	64.12	O
HETATM16183	O	HOH	103	28.521	35.430	87.006	1.00	67.04	O
HETATM16184	O	HOH	104	18.252	34.227	66.287	1.00	57.55	O
HETATM16185	O	HOH	105	49.096	44.643	87.765	1.00	78.92	O
HETATM16186	O	HOH	106	31.715	60.117	-3.794	1.00	72.44	O
HETATM16187	O	HOH	107	22.053	-19.918	1.568	1.00	65.38	O
HETATM16188	O	HOH	108	14.042	-13.149	9.544	1.00	72.03	O
HETATM16189	O	HOH	109	4.418	-23.267	36.479	1.00	73.22	O
HETATM16190	O	HOH	110	36.655	10.190	57.270	1.00	61.12	O
HETATM16191	O	HOH	111	15.002	2.293	51.102	1.00	80.11	O
HETATM16192	O	HOH	112	13.863	-8.631	100.623	1.00	98.28	O
HETATM16193	O	HOH	113	5.044	89.361	35.100	1.00	82.10	O
HETATM16194	O	HOH	114	8.449	-27.593	99.724	1.00	82.49	O
HETATM16195	O	HOH	115	33.377	42.850	57.152	1.00	67.64	O
HETATM16196	O	HOH	116	37.116	51.851	7.972	1.00	68.58	O
HETATM16197	O	HOH	117	40.508	68.147	51.733	1.00	78.83	O
HETATM16198	O	HOH	118	13.310	25.937	71.077	1.00	42.85	O
HETATM16199	O	HOH	119	-0.984	55.779	36.872	1.00	49.51	O
HETATM16200	O	HOH	120	8.552	24.580	52.134	1.00	38.87	O
HETATM16201	O	HOH	121	18.520	80.966	74.573	1.00	59.24	O
HETATM16202	O	HOH	122	22.819	77.853	80.301	1.00	79.43	O
HETATM16203	O	HOH	123	11.142	42.185	-4.541	1.00	68.11	O
HETATM16204	O	HOH	124	24.890	51.176	77.765	1.00	80.47	O
HETATM16205	O	HOH	125	35.234	75.008	46.293	1.00	60.78	O
HETATM16206	O	HOH	126	25.754	5.961	67.745	1.00	66.06	O
HETATM16207	O	HOH	127	32.752	18.127	45.022	1.00	63.59	O
HETATM16208	O	HOH	128	36.796	-19.756	37.766	1.00	71.56	O
HETATM16209	O	HOH	129	40.372	37.763	85.003	1.00	74.83	O
HETATM16210	O	HOH	130	18.016	55.571	31.453	1.00	72.85	O
HETATM16211	O	HOH	131	28.616	38.455	17.670	1.00	53.13	O
HETATM16212	O	HOH	132	27.803	22.772	83.822	1.00	58.51	O
HETATM16213	O	HOH	133	12.721	53.742	70.019	1.00	63.51	O
HETATM16214	O	HOH	134	44.420	33.920	17.786	1.00	71.65	O
HETATM16215	O	HOH	135	43.255	28.913	83.590	1.00	64.38	O
HETATM16216	O	HOH	136	36.422	8.271	24.133	1.00	72.00	O
HETATM16217	O	HOH	137	22.763	24.808	32.974	1.00	60.45	O
HETATM16218	O	HOH	138	34.140	27.817	43.315	1.00	70.82	O
HETATM16219	O	HOH	139	1.418	26.551	32.239	1.00	64.34	O
HETATM16220	O	HOH	140	7.174	23.226	33.399	1.00	51.88	O
HETATM16221	O	HOH	141	-5.791	67.834	34.449	1.00	70.17	O
HETATM16222	O	HOH	142	24.257	10.523	23.104	1.00	80.19	O
HETATM16223	O	HOH	143	15.889	12.687	11.643	1.00	66.83	O
HETATM16224	O	HOH	144	26.074	44.524	17.765	1.00	44.85	O
HETATM16225	O	HOH	145	15.301	36.216	-0.981	1.00	66.11	O
HETATM16226	O	HOH	146	33.152	43.848	-1.816	1.00	79.09	O
HETATM16227	O	HOH	147	39.152	44.240	12.669	1.00	60.65	O
HETATM16228	O	HOH	148	19.525	-10.199	69.688	1.00	68.49	O
HETATM16229	O	HOH	149	-5.250	20.928	69.117	1.00	72.26	O
HETATM16230	O	HOH	150	11.484	51.937	71.472	1.00	83.13	O

HETATM16231	O	HOH	151	14.419	56.011	70.328	1.00	56.63	O
HETATM16232	O	HOH	152	38.738	17.005	89.491	1.00	57.78	O
HETATM16233	O	HOH	153	22.936	38.439	84.737	1.00	63.16	O
HETATM16234	O	HOH	154	7.705	44.350	90.094	1.00	81.75	O
HETATM16235	O	HOH	155	33.386	72.629	50.234	1.00	76.00	O
HETATM16236	O	HOH	156	3.802	31.331	49.548	1.00	58.48	O
HETATM16237	O	HOH	157	18.971	22.519	76.864	1.00	62.36	O
HETATM16238	O	HOH	158	35.582	-10.797	42.142	1.00	69.90	O
HETATM16239	O	HOH	159	39.601	77.383	71.007	1.00	76.78	O
HETATM16240	O	HOH	160	23.957	-1.872	52.394	1.00	50.58	O
HETATM16241	O	HOH	161	11.906	54.978	12.010	1.00	61.08	O
HETATM16242	O	HOH	162	8.510	-17.982	33.320	1.00	63.75	O
HETATM16243	O	HOH	164	12.117	38.733	53.777	1.00	62.40	O
HETATM16244	O	HOH	165	33.592	29.080	67.382	1.00	60.31	O
HETATM16245	O	HOH	166	14.805	-4.439	100.440	1.00	77.25	O
HETATM16246	O	HOH	167	32.386	36.888	104.903	1.00	73.55	O
HETATM16247	O	HOH	168	13.523	5.827	74.885	1.00	84.86	O
HETATM16248	O	HOH	169	31.916	42.072	35.371	1.00	48.88	O
HETATM16249	O	HOH	170	9.819	36.981	46.328	1.00	44.00	O
HETATM16250	O	HOH	171	24.318	23.745	16.310	1.00	61.84	O
HETATM16251	O	HOH	172	26.837	19.716	99.567	1.00	59.05	O
HETATM16252	O	HOH	173	7.504	-6.250	89.324	1.00	83.04	O
HETATM16253	O	HOH	174	32.944	40.805	64.503	1.00	68.83	O
HETATM16254	O	HOH	175	39.912	13.691	88.564	1.00	77.52	O
HETATM16255	O	HOH	176	31.875	83.381	94.715	1.00	64.70	O
HETATM16256	O	HOH	177	14.792	71.099	3.267	1.00	61.26	O
HETATM16257	O	HOH	178	23.635	60.105	14.422	1.00	81.67	O
HETATM16258	O	HOH	179	22.593	38.128	59.673	1.00	94.31	O
HETATM16259	O	HOH	180	17.755	12.776	6.154	1.00	68.25	O
HETATM16260	O	HOH	181	-0.834	70.620	35.007	1.00	72.25	O
HETATM16261	O	HOH	182	18.190	-2.108	67.978	1.00	69.10	O
HETATM16262	O	HOH	183	10.277	19.014	73.107	1.00	74.06	O
HETATM16263	O	HOH	184	39.692	47.263	14.480	1.00	82.70	O
HETATM16264	O	HOH	185	27.693	20.999	81.966	1.00	78.08	O
HETATM16265	O	HOH	186	25.924	61.296	11.438	1.00	76.32	O
HETATM16266	O	HOH	187	14.035	10.017	36.111	1.00	60.98	O
HETATM16267	O	HOH	188	10.387	9.654	19.401	1.00	63.35	O
HETATM16268	O	HOH	189	16.101	11.388	39.993	1.00	50.23	O
HETATM16269	O	HOH	190	23.959	24.885	97.495	1.00	59.03	O
HETATM16270	O	HOH	191	41.322	29.930	19.533	1.00	68.54	O
HETATM16271	O	HOH	192	8.741	34.631	47.115	1.00	37.66	O
HETATM16272	O	HOH	193	9.892	22.782	52.826	1.00	52.47	O
HETATM16273	O	HOH	194	16.492	48.215	95.690	1.00	66.77	O
HETATM16274	O	HOH	195	32.403	19.781	37.800	1.00	58.34	O
HETATM16275	O	HOH	196	24.293	-20.779	2.687	1.00	70.70	O
HETATM16276	O	HOH	197	19.171	-8.854	83.380	1.00	83.51	O
HETATM16277	O	HOH	198	40.448	12.235	91.033	1.00	66.05	O
HETATM16278	O	HOH	199	42.018	44.525	81.681	1.00	65.39	O
HETATM16279	O	HOH	200	13.578	55.102	27.404	1.00	76.67	O
HETATM16280	O	HOH	201	5.392	27.319	52.099	1.00	49.84	O
HETATM16281	O	HOH	202	14.866	76.657	90.832	1.00	77.06	O
HETATM16282	O	HOH	203	23.768	36.713	86.179	1.00	72.25	O
HETATM16283	O	HOH	204	43.227	32.580	19.564	1.00	72.29	O
HETATM16284	O	HOH	205	38.750	-28.429	12.232	1.00	65.41	O
HETATM16285	O	HOH	206	-4.977	65.904	35.707	1.00	90.05	O
HETATM16286	O	HOH	207	3.512	24.708	31.134	1.00	61.50	O
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END

It is understood that the disclosed method and compositions are not limited to the particular methodology, protocols, and reagents described as these may vary. It is also to be understood that the terminology used herein is for the purpose of describing particular embodiments only, and is not intended to limit the scope of the present invention which will be limited only by the appended claims.

It must be noted that as used herein and in the appended claims, the singular forms "a", "an", and "the" include plural reference unless the context clearly dictates otherwise. Thus, for example, reference to "a riboswitch" includes a plurality of such riboswitches, reference to "the riboswitch" is a reference to one or more riboswitches and equivalents thereof known to those skilled in the art, and so forth.

"Optional" or "optionally" means that the subsequently described event, circumstance, or material may or may not occur or be present, and that the description includes instances where the event, circumstance, or material occurs or is present and instances where it does not occur or is not present.

Ranges may be expressed herein as from "about" one particular value, and/or to "about" another particular value. When such a range is expressed, also specifically contemplated and considered disclosed is the range from the one particular value and/or to the other particular value unless the context specifically indicates otherwise. Similarly, when values are expressed as approximations, by use of the antecedent "about," it will be understood that the particular value forms another, specifically contemplated embodiment that should be considered disclosed unless the context specifically indicates otherwise. It will be further understood that the endpoints of each of the ranges are significant both in relation to the other endpoint, and independently of the other endpoint unless the context specifically indicates otherwise. Finally, it should be understood that all of the individual values and sub-ranges of values contained within an explicitly disclosed range are also specifically contemplated and should be considered disclosed unless the context specifically indicates otherwise. The foregoing applies regardless of whether in particular cases some or all of these embodiments are explicitly disclosed.

Unless defined otherwise, all technical and scientific terms used herein have the same meanings as commonly understood by one of skill in the art to which the disclosed method and compositions belong. Although any methods and materials similar or equivalent to those described herein can be used in the practice or testing of the present method and compositions, the particularly useful methods, devices, and materials are as described. Publications cited herein and the material for which they are cited are hereby specifically incorporated by

reference. Nothing herein is to be construed as an admission that the present invention is not entitled to antedate such disclosure by virtue of prior invention. No admission is made that any reference constitutes prior art. The discussion of references states what their authors assert, and applicants reserve the right to challenge the accuracy and pertinency of the cited documents. It will be clearly understood that, although a number of publications are referred to herein, such reference does not constitute an admission that any of these documents forms part of the common general knowledge in the art.

Throughout the description and claims of this specification, the word “comprise” and variations of the word, such as “comprising” and “comprises,” means “including but not limited to,” and is not intended to exclude, for example, other additives, components, integers or steps.

Those skilled in the art will recognize, or be able to ascertain using no more than routine experimentation, many equivalents to the specific embodiments of the method and compositions described herein. Such equivalents are intended to be encompassed by the following claims.

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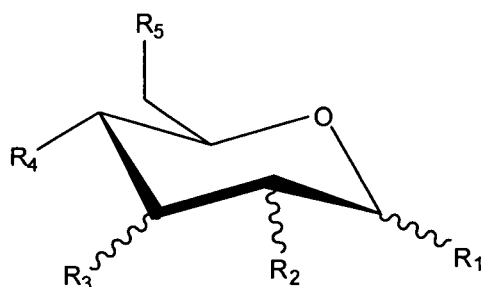
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CLAIMS

We claim:

1. A method of inhibiting gene expression, the method comprising

- (a) bringing into contact a compound and a cell,
- (b) wherein the compound has the structure of Formula I:



or pharmaceutically acceptable salts thereof, physiologically hydrolyzable and acceptable esters thereof, or both,

wherein R_1 is H, OH, SH, NH_2 , or CH_3 ,

wherein R_2 is $NH-R_6$, wherein R_6 is H, CH_3 , C_2H_5 , n-propyl, $C(O)CH_3$, $C(O)C_2H_5$, $C(O)n$ -propyl, $C(O)$ iso-propyl, $C(O)OCH_3$, $C(O)OC_2H_5$, $C(O)NH_2$, or NH_2 ,

wherein R_3 is H, OH, SH, NH_2 , or CH_3 ,

wherein R_4 is a hydrogen bond donor,

wherein R_5 is a hydrogen bond acceptor,

wherein the compound is not glucosamine-6-phosphate,

wherein the cell comprises a gene encoding an RNA comprising a glmS riboswitch, wherein the compound inhibits expression of the gene by binding to the glmS riboswitch.

2. The method of claim 1, wherein R_4 is OH, SH, NH_2 , NH_3^+ , CH_2OH , $CH(OH)CH_3$, CH_2CH_2OH , CH_2SH , $CH(SH)CH_3$, CH_2CH_2SH , CH_2NH_2 , $CH(NH_2)CH_3$, $CH_2CH_2NH_3$, CO_2H , $CONH_2$, $CONHalkyl$, $=NH$, $=NOH$, $=NSH$, $=NCO_2H$, $=CH_2$, $CH=NH$, $CH=NOH$, $CH=NSH$, $CH=NCO_2H$, OCH_2OH , OCH_2CH_2OH , $PhOH$, $NHalkyl$, $NHNH_2$, $NHNHalkyl$, $NHCOalkyl$, $NHCO_2alkyl$, $NHCONH_2$, $NHSO_2alkyl$, or $NHOalkyl$.

3. The method of any of claims 1 or 2, wherein R_4 is not OH when R_1 is H or OH and R_2 is NH_2 or $NHCH_3$.

4. The method of any of claims 1-3, wherein R_5 is $OP(O)(OH)_2$, $OP(S)(OH)_2$, $OP(O)OHSH$, $OS(O)_2OH$, or $OS(O)_2SH$.

5. The method of any of claims 1-4, wherein R_5 is $OS(O)_2OH$ or $OS(O)_2SH$.

6. The method of any of claims 1-5, wherein R_5 is negatively charged.

7. The method of any of claims 1-6, wherein R_5 is $=O$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$, $CONHSO_2OH$, $CONHSO_2R_9$, SO_2R_9 , SO_3H , SO_2NHR_9 , $SO_2N(R_9)_2$, $PO(R_9)_2$, $PO_2(R_9)_2$, $PO(OR_9)_2$, $PO_2(OH)R_9$, $PO_2R_9N(R_9)_2$, $NHCH(NR_9)_2$, $NHCOR_9$, $NHCO_2R_9$, $NHCONHR_9$, $NHCON(R_9)_2$, $NHCONHR_9$, $N(COR_9)_2$, $N(CO_2R_9)_2$, $NHSO_2R_9$, $NR_9SO_2R_9$, $NHSO_2NHR_9$, $NR_9SO_2NH_2$, $NHPO(R_9)_2$, $NR_9PO(R_9)_2$, $NHPO_2OR_9$, or $B(OH_2)_2$, and

wherein R_9 is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, $-C(CH_3)_3$, or $-CF_3$.

8. The method of any of claims 1-7, wherein R_5 is $=O$, OH , OR_9 , COR_9 , CN , NO_2 , tetrazole, SOR_9 , $N(R_9)_2$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$, $CONHSO_2OH$, $CONHSO_2R_9$, SO_2R_9 , SO_3H , SO_2NHR_9 , $SO_2N(R_9)_2$, $PO(R_9)_2$, $PO_2(R_9)_2$, $PO(OR_9)_2$, $PO_2(OH)R_9$, $PO_2R_9N(R_9)_2$, $NHCH(NR_9)_2$, $NHCOR_9$, $NHCO_2R_9$, $NHCONHR_9$, $NHCON(R_9)_2$, $NHCONHR_9$, $N(COR_9)_2$, $N(CO_2R_9)_2$, $NHSO_2R_9$, $NR_9SO_2R_9$, $NHSO_2NHR_9$, $NR_9SO_2NH_2$, $NHPO(R_9)_2$, $NR_9PO(R_9)_2$, $NHPO_2OR_9$, or $B(OH_2)_2$, and

wherein R_9 is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, $-C(CH_3)_3$, or $-CF_3$.

9. The method of any of claims 1-8, wherein R_4 is NH_2 , NH_3^+ , OH , SH , NOH , $NHNH_2$, $NHNH_3^+$, CO_2H , SO_2OH , $B(OH)_2$, or imidazolium.

10. The method of any of claims 1-9, wherein R_4 is NH_2 , NH_3^+ , SH , NOH , $NHNH_2$, $NHNH_3^+$, CO_2H , SO_2OH , $B(OH)_2$, or imidazolium.

11. The method of any of claims 1-10, wherein the cell has been identified as being in need of inhibited gene expression.

12. The method of any of claims 1-11, wherein the cell is a bacterial cell.

13. The method of any of claims 1-12, wherein the compound kills or inhibits the growth of the bacterial cell.

14. The method of any of claims 1-13, wherein the compound and the cell are brought into contact by administering the compound to a subject.

15. The method of claim 14, wherein the compound is not a substrate for enzymes of the subject that have glucosamine-6-phosphate as a substrate.

16. The method of any of claims 14 or 15, wherein the compound is not a substrate for enzymes of the subject that alter glucosamine-6-phosphate.

17. The method of any of claims 14-16, wherein the compound is not a substrate for enzymes of the subject that metabolize glucosamine-6-phosphate.

18. The method of any of claims 14-17, wherein the compound is not a substrate for enzymes of the subject that catabolize glucosamine-6-phosphate.

19. The method of any of claims 14-18, wherein the cell is a bacterial cell in the subject, wherein the compound kills or inhibits the growth of the bacterial cell.

20. The method of any of claims 14-19, wherein the subject has a bacterial infection.

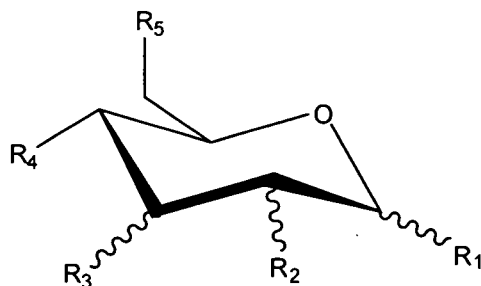
21. The method of any of claims 1-20, wherein the cell contains a glmS riboswitch.

22. The method of any of claims 12, 13, or 19-21, wherein the bacteria is *Bacillus* or *Staphylococcus*.

23. The method of any of claims 14-22, wherein the compound is administered in combination with another antimicrobial compound.

24. The method of any of claims 1-23, wherein the compound inhibits bacterial growth in a biofilm.

25. A compound having the structure of Formula I:



or pharmaceutically acceptable salts thereof, physiologically hydrolyzable and acceptable esters thereof, or both,

wherein R_1 is H, OH, SH, NH_2 , or CH_3 ,

wherein R_2 is $NH-R_6$, wherein R_6 is H, CH_3 , C_2H_5 , n-propyl, $C(O)CH_3$, $C(O)C_2H_5$, $C(O)n$ -propyl, $C(O)$ iso-propyl, $C(O)OCH_3$, $C(O)OC_2H_5$, $C(O)NH_2$, or NH_2 ,

wherein R_3 is H, OH, SH, NH_2 , or CH_3 ,

wherein R_4 is a hydrogen bond donor,

wherein R_5 is a hydrogen bond acceptor,

wherein the compound is not glucosamine-6-phosphate.

26. The compound of claim 25, wherein R_4 is OH, SH, NH_2 , NH_3^+ , CH_2OH , $CH(OH)CH_3$, CH_2CH_2OH , CH_2SH , $CH(SH)CH_3$, CH_2CH_2SH , CH_2NH_2 , $CH(NH_2)CH_3$, $CH_2CH_2NH_3$, CO_2H , $CONH_2$, $CONHalkyl$, $=NH$, $=NOH$, $=NSH$, $=NCO_2H$, $=CH_2$, $CH=NH$, $CH=NOH$, $CH=NSH$, $CH=NCO_2H$, OCH_2OH , OCH_2CH_2OH , $PhOH$, $NHalkyl$, $NHNH_2$, $NHNHalkyl$, $NHCOalkyl$, $NHCO_2alkyl$, $NHCONH_2$, $NHSO_2alkyl$, or $NHOalkyl$.

27. The compound of any of claims 25 or 26, wherein R_4 is not OH when R_1 is H or OH and R_2 is NH_2 or $NHCH_3$.

28. The compound of any of claims 25-27, wherein R_5 is $OP(O)(OH)_2$, $OP(S)(OH)_2$, $OP(O)OHSH$, $OS(O)_2OH$, or $OS(O)_2SH$.

29. The compound of any of claims 25-28, wherein R_5 is $OS(O)_2OH$ or $OS(O)_2SH$.

30. The compound of any of claims 25-29, wherein R_5 is negatively charged.

31. The compound of any of claims 25-30, wherein R_5 is $=O$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$, $CONHSO_2OH$, $CONHSO_2R_9$, SO_2R_9 , SO_3H , SO_2NHR_9 , $SO_2N(R_9)_2$, $PO(R_9)_2$, $PO_2(R_9)_2$, $PO(OR_9)_2$, $PO_2(OH)R_9$, $PO_2R_9N(R_9)_2$, $NHCH(NR_9)_2$, $NHCOR_9$, $NHCO_2R_9$, $NHCONHR_9$, $NHCON(R_9)_2$, $NHCONHR_9$, $N(COR_9)_2$, $N(CO_2R_9)_2$, $NHSO_2R_9$, $NR_9SO_2R_9$, $NHSO_2NHR_9$, $NR_9SO_2NH_2$, $NHPO(R_9)_2$, $NR_9PO(R_9)_2$, $NHPO_2OR_9$, or $B(OH_2)_2$, and

wherein R_9 is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, $-C(CH_3)_3$, or $-CF_3$.

32. The compound of any of claims 25-31, wherein R_5 is $=O$, OH , OR_9 , COR_9 , CN , NO_2 , tetrazole, SOR_9 , $N(R_9)_2$, CO_2R_9 , OCO_2R_9 , OCH_2OR_9 , $OC_2H_5OR_9$, OCH_2CH_2OH , $OCONHR_9$, $OCON(R_9)_2$, $CONHR_9$, $CON(R_9)_2$, $CONHCH_3OCH_3$, $CONHSO_2OH$, $CONHSO_2R_9$, SO_2R_9 , SO_3H , SO_2NHR_9 , $SO_2N(R_9)_2$, $PO(R_9)_2$, $PO_2(R_9)_2$, $PO(OR_9)_2$, $PO_2(OH)R_9$, $PO_2R_9N(R_9)_2$, $NHCH(NR_9)_2$, $NHCOR_9$, $NHCO_2R_9$, $NHCONHR_9$, $NHCON(R_9)_2$, $NHCONHR_9$, $N(COR_9)_2$, $N(CO_2R_9)_2$, $NHSO_2R_9$, $NR_9SO_2R_9$, $NHSO_2NHR_9$, $NR_9SO_2NH_2$, $NHPO(R_9)_2$, $NR_9PO(R_9)_2$, $NHPO_2OR_9$, or $B(OH_2)_2$, and

wherein R_9 is $-H$, $-CH_3$, $-C_2H_5$, $-CH_2CH_2CH_3$, $-CH(CH_3)_2$, $-(CH_2)_3CH_3$, $-CH_2CH(CH_3)_2$, $-CH(CH_3)CH_2(CH_3)$, $-C(CH_3)_3$, or $-CF_3$.

33. The compound of any of claims 25-32, wherein R_4 is NH_2 , NH_3^+ , OH , SH , NOH , $NHNH_2$, $NHNH_3^+$, CO_2H , SO_2OH , $B(OH)_2$, or imidazolium.

34. The compound of any of claims 25-33, wherein R_4 is NH_2 , NH_3^+ , SH , NOH , $NHNH_2$, $NHNH_3^+$, CO_2H , SO_2OH , $B(OH)_2$, or imidazolium.

35. The compound of any of claims 25-34, wherein the compound binds to a glmS riboswitch.

36. The compound of any of claims 25-35, wherein the compound activates a glmS riboswitch.

37. The compound of any of claims 25-36, wherein the compound is bound to a glmS riboswitch.

38. A composition comprising the compound of any of claims 25-37 and a regulatable gene expression construct comprising a nucleic acid molecule encoding an RNA comprising a glmS riboswitch operably linked to a coding region, wherein the glmS riboswitch regulates expression of the RNA, wherein the glmS riboswitch and coding region are heterologous.

39. The composition of claim 38, wherein the glmS riboswitch produces a signal when activated by the compound.

40. The composition of any of claims 38 or 39, wherein the riboswitch changes conformation when activated by the compound, wherein the change in conformation produces a signal via a conformation dependent label.

41. The composition of any of claims 38-40, wherein the riboswitch changes conformation when activated by the compound, wherein the change in conformation causes a change in expression of the coding region linked to the riboswitch, wherein the change in expression produces a signal.

42. The composition of any of claims 38-40, wherein the signal is produced by a reporter protein expressed from the coding region linked to the riboswitch.

43. A method comprising:

(a) testing the compound of any of claims 25-42 for inhibition of gene expression of a gene encoding an RNA comprising a glmS riboswitch, wherein the inhibition is via the glmS riboswitch,

(b) inhibiting gene expression by bringing into contact a cell and a compound that inhibited gene expression in step (a),

wherein the cell comprises a gene encoding an RNA comprising the glmS riboswitch, wherein the compound inhibits expression of the gene by binding to the glmS riboswitch.

44. The atomic structure of a natural glmS-responsive riboswitch comprising an atomic structure comprising the atomic coordinates listed in Table 2.

45. The atomic structure of a natural glmS-responsive riboswitch comprising an atomic structure comprising the binding pocket atomic structure.

46. A method of identifying a compound that interacts with a riboswitch comprising:
(a) modeling the atomic structure of any of claims 44 or 45 with a test compound; and
(b) determining if the test compound interacts with the riboswitch.

47. The method of claim 46, wherein determining if the test compound interacts with the riboswitch comprises determining a predicted minimum interaction energy, a predicted binding constant, a predicted dissociation constant, or a combination, for the test compound in the model of the riboswitch.

48. The method of any of claims 46 or 47, wherein determining if the test compound interacts with the riboswitch comprises determining one or more predicted bonds, one or more predicted interactions, or a combination, of the test compound with the model of the riboswitch.

49. The method of any of claims 46-48, wherein atomic contacts are determined in step (b), thereby determining the interaction of the test compound with the riboswitch.

50. The method of claim 49, further comprising the steps of:
(c) identifying analogs of the test compound;
(d) determining if the analogs of the test compound interact with the riboswitch.

51. A method of killing or inhibiting the growth of bacteria, comprising contacting the bacteria with an analog identified by the method of claim 50.

52. A method of killing or inhibiting the growth of bacteria, comprising contacting the bacteria with a compound identified by the method of any of claims 46-51.

53. The method of any of claims 46-52, wherein a gel-based assay is used to determine if the test compound interacts with the riboswitch.

54. The method of any of claims 46-53, wherein a chip-based assay is used to determine if the test compound interacts with the riboswitch.

55. The method of any of claims 46-54, wherein the test compound interacts via van der Waals interactions, hydrogen bonds, electrostatic interactions, hydrophobic interactions, or a combination.

56. The method of any of claims 46-55, wherein the riboswitch comprises an RNA cleaving ribozyme.

57. The method of any of claims 46-56, wherein a fluorescent signal is generated when a nucleic acid comprising a quenching moiety is cleaved.

58. The method of any of claims 46-57, wherein molecular beacon technology is employed to generate the fluorescent signal.

59. The method of any of claims 46-58, wherein the method is carried out using a high throughput screen.