



# Full wwPDB X-ray Structure Validation Report ⓘ

Apr 25, 2022 – 07:07 pm BST

PDB ID : 2V3C  
Title : Crystal structure of the SRP54-SRP19-7S.S SRP RNA complex of *M. janaschii*  
Authors : Hainzl, T.; Huang, S.; Sauer-Eriksson, A.E.  
Deposited on : 2007-06-15  
Resolution : 2.50 Å (reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

---

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Xtriage (Phenix) : 1.13  
EDS : 2.28  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0267  
CCP4 : 7.1.010 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.28

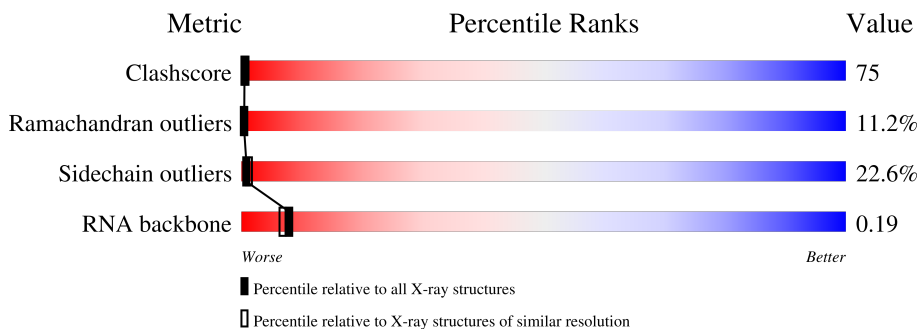
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RNA backbone	3102	1008 (2.84-2.16)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	87	34% 51% 14% .
1	B	87	30% 45% 25%
2	C	432	20% 50% 19% 5% 6%
2	D	432	13% 53% 23% . 7%
3	M	96	17% 40% 44%
3	N	96	23% 45% 32%

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 12336 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called SIGNAL RECOGNITION PARTICLE 19 KDA PROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	87	Total 727	C 468	N 130	O 125	S 4	0	0	0
1	B	87	Total 727	C 468	N 130	O 125	S 4	0	0	0

- Molecule 2 is a protein called SIGNAL RECOGNITION 54 KDA PROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	C	404	Total 3149	C 1998	N 541	O 600	S 10	0	0	1
2	D	402	Total 3133	C 1989	N 538	O 597	S 9	0	0	1

- Molecule 3 is a RNA chain called 7S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
3	M	96	Total 2063	C 919	N 385	O 664	P 95	0	0	0
3	N	96	Total 2063	C 919	N 385	O 664	P 95	0	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	23	Total 23	O 23	0	0
4	B	26	Total 26	O 26	0	0
4	C	107	Total 107	O 107	0	0
4	D	107	Total 107	O 107	0	0

*Continued on next page...*

*Continued from previous page...*

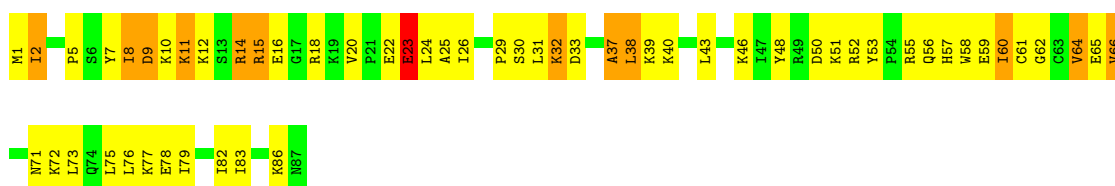
<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
4	M	92	Total 92	O 92	0	0
4	N	119	Total 119	O 119	0	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

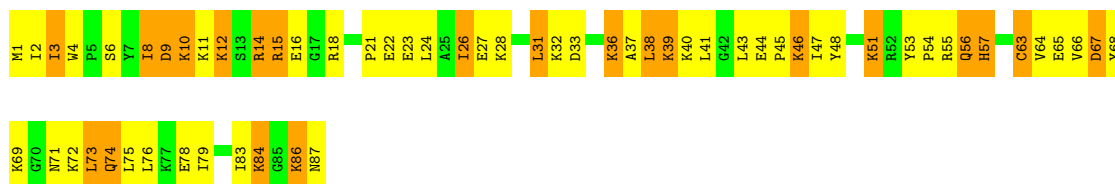
- Molecule 1: SIGNAL RECOGNITION PARTICLE 19 KDA PROTEIN

Chain A: 

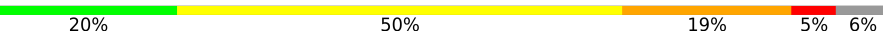


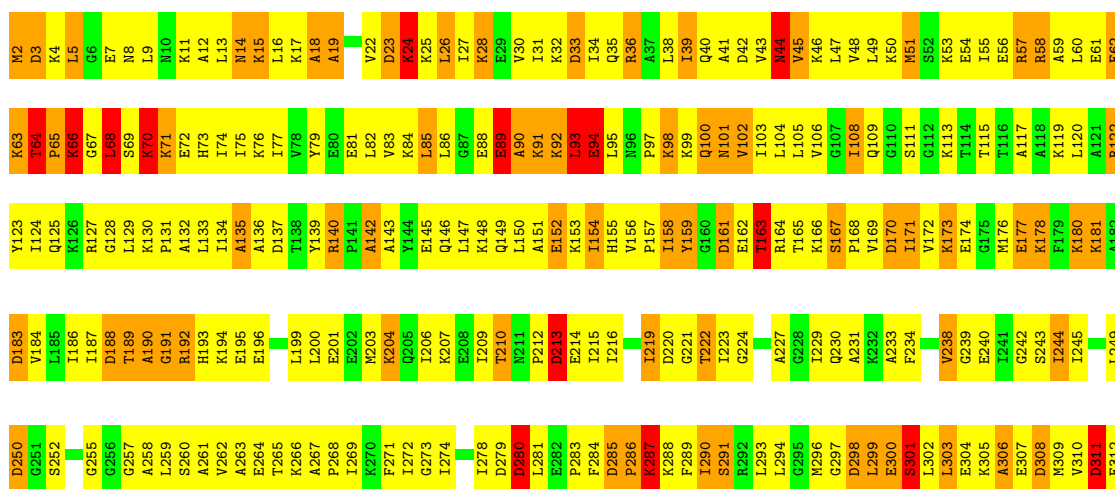
- Molecule 1: SIGNAL RECOGNITION PARTICLE 19 KDA PROTEIN

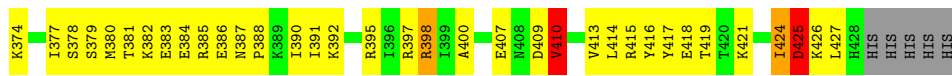
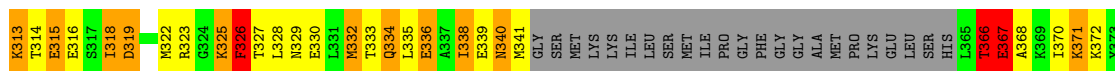
Chain B: 



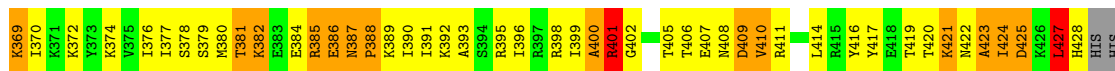
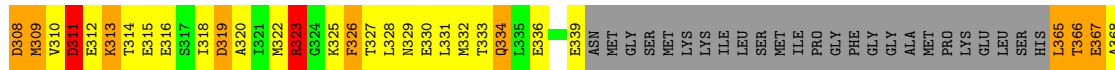
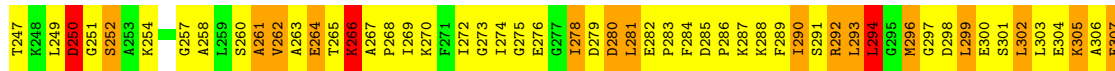
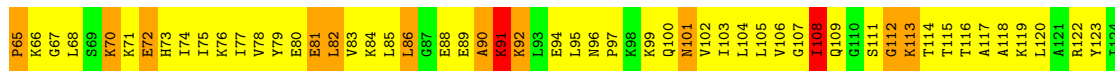
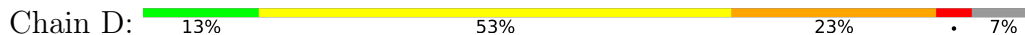
- Molecule 2: SIGNAL RECOGNITION 54 KDA PROTEIN

Chain C: 



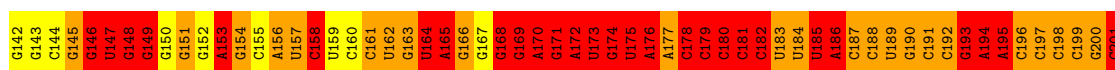


• Molecule 2: SIGNAL RECOGNITION 54 KDA PROTEIN

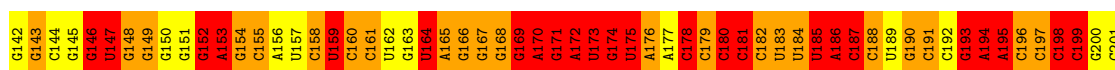


HIS HIS HIS

• Molecule 3: 7S RNA



• Molecule 3: 7S RNA



C202	A203	G204	G205	C206	C207	C208	G209	G210	A211	A212	G213	G214	G215	A216	G217	C218	A219	A220	C221	G222	G223	U224	A225	G226	G227	C228	A229	G230	G231	A232	C233	G234	U235	C236	G237
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	70.29Å 129.40Å 163.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 2.50 32.35 – 2.40	Depositor EDS
% Data completeness (in resolution range)	99.6 (20.00-2.50) 93.6 (32.35-2.40)	Depositor EDS
$R_{merge}$	0.13	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.40 (at 2.39Å)	Xtriage
Refinement program	REFMAC 5.0	Depositor
R, $R_{free}$	0.244 , 0.294 0.263 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	57.8	Xtriage
Anisotropy	0.510	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	(Not available) , (Not available)	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.45$ , $\langle L^2 \rangle = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.89	EDS
Total number of atoms	12336	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 13.55% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



## 5 Model quality i

### 5.1 Standard geometry i

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	1.19	1/740 (0.1%)	1.26	4/984 (0.4%)
1	B	1.15	1/740 (0.1%)	1.17	6/984 (0.6%)
2	C	0.83	1/3176 (0.0%)	1.05	16/4248 (0.4%)
2	D	0.63	0/3160	0.99	16/4227 (0.4%)
3	M	2.58	140/2309 (6.1%)	3.88	600/3603 (16.7%)
3	N	2.26	91/2309 (3.9%)	3.38	476/3603 (13.2%)
All	All	1.62	234/12434 (1.9%)	2.46	1118/17649 (6.3%)

All (234) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	218	C	N1-C6	-14.80	1.28	1.37
3	M	217	G	C8-N7	12.07	1.38	1.30
3	M	217	G	N7-C5	11.67	1.46	1.39
3	M	168	G	N3-C4	-11.48	1.27	1.35
3	N	172	A	N9-C4	11.11	1.44	1.37
3	M	216	A	N9-C4	11.06	1.44	1.37
3	M	216	A	C8-N7	11.03	1.39	1.31
3	M	223	G	C5-C4	-10.82	1.30	1.38
3	N	219	A	C5-C4	-10.77	1.31	1.38
3	M	207	C	N1-C6	-10.62	1.30	1.37
3	N	219	A	C6-N1	-10.28	1.28	1.35
3	M	219	A	C8-N7	10.27	1.38	1.31
3	M	204	G	C5-C4	-10.24	1.31	1.38
3	N	166	G	C5-C4	-9.95	1.31	1.38
3	M	217	G	C5-C4	-9.63	1.31	1.38
3	M	192	C	C4-C5	-9.34	1.35	1.43
3	M	167	G	C8-N7	9.32	1.36	1.30
3	N	204	G	C8-N7	9.16	1.36	1.30
3	N	146	G	C3'-O3'	9.01	1.54	1.42
3	M	146	G	C3'-O3'	8.85	1.54	1.42
3	M	205	G	N9-C4	8.76	1.45	1.38
3	M	209	G	C6-N1	8.68	1.45	1.39

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	156	A	C5-C6	-8.64	1.33	1.41
3	M	201	C	C4-N4	8.50	1.41	1.33
3	M	216	A	C5-C6	-8.49	1.33	1.41
3	M	215	G	P-O5'	8.47	1.68	1.59
3	N	198	C	N1-C6	-8.43	1.32	1.37
3	N	205	G	C3'-O3'	-8.38	1.30	1.42
3	M	202	C	C2-N3	-8.36	1.29	1.35
3	N	217	G	C5-C4	-8.34	1.32	1.38
3	M	220	A	C8-N7	8.32	1.37	1.31
3	N	220	A	C8-N7	8.29	1.37	1.31
3	M	162	U	N1-C2	-8.17	1.31	1.38
3	M	209	G	C5-C4	-8.16	1.32	1.38
3	M	168	G	C8-N7	8.13	1.35	1.30
3	N	220	A	N9-C4	8.11	1.42	1.37
3	N	211	A	C5-C6	-8.10	1.33	1.41
3	M	203	A	N7-C5	8.05	1.44	1.39
3	N	166	G	C6-N1	-8.04	1.33	1.39
3	M	218	C	N3-C4	-8.03	1.28	1.33
3	M	199	C	C4-C5	-7.68	1.36	1.43
3	M	209	G	C2'-O2'	-7.65	1.31	1.41
3	N	171	G	N1-C2	-7.65	1.31	1.37
3	M	171	G	C6-N1	-7.57	1.34	1.39
3	M	168	G	C6-N1	-7.56	1.34	1.39
3	M	204	G	N9-C8	-7.56	1.32	1.37
3	M	179	C	C2'-O2'	7.51	1.51	1.41
3	M	163	G	C8-N7	7.50	1.35	1.30
3	N	197	C	N1-C6	-7.49	1.32	1.37
3	M	221	C	N1-C2	-7.48	1.32	1.40
3	M	215	G	C8-N7	7.47	1.35	1.30
3	M	205	G	C8-N7	7.38	1.35	1.30
3	M	160	C	N1-C6	-7.37	1.32	1.37
3	N	168	G	C5-C6	-7.25	1.35	1.42
3	N	142	G	C5-C6	-7.24	1.35	1.42
3	N	205	G	N9-C4	7.21	1.43	1.38
3	M	209	G	N9-C4	7.18	1.43	1.38
3	M	168	G	C5-C4	-7.17	1.33	1.38
3	M	209	G	C3'-O3'	7.17	1.52	1.42
3	M	181	C	C1'-N1	7.16	1.59	1.48
3	M	168	G	C2-N3	-7.12	1.27	1.32
3	M	219	A	C6-N1	-7.12	1.30	1.35
3	M	168	G	N7-C5	7.08	1.43	1.39
3	M	214	G	C5-C4	-7.06	1.33	1.38

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	201	C	C2-O2	7.04	1.30	1.24
3	N	166	G	C5-C6	-6.99	1.35	1.42
3	N	154	G	C8-N7	6.98	1.35	1.30
3	N	164	U	C3'-O3'	6.97	1.51	1.42
3	M	161	C	C2-N3	-6.93	1.30	1.35
3	M	170	A	C5-C4	-6.92	1.33	1.38
3	M	220	A	C6-N6	6.86	1.39	1.33
3	M	227	G	C6-N1	-6.86	1.34	1.39
3	N	209	G	C8-N7	6.84	1.35	1.30
3	N	215	G	C5-C6	-6.82	1.35	1.42
3	N	211	A	N7-C5	-6.81	1.35	1.39
3	N	198	C	C4-C5	-6.81	1.37	1.43
3	M	158	C	N1-C6	-6.79	1.33	1.37
3	M	171	G	C8-N7	6.79	1.35	1.30
3	M	217	G	C5-C6	-6.79	1.35	1.42
3	M	219	A	C3'-O3'	-6.78	1.32	1.42
3	M	199	C	N1-C6	-6.75	1.33	1.37
3	M	163	G	C4'-C3'	-6.73	1.45	1.53
3	M	204	G	C5-C6	-6.73	1.35	1.42
3	N	225	A	C5-C6	-6.70	1.35	1.41
3	N	163	G	C5-C4	-6.66	1.33	1.38
3	M	223	G	C2'-O2'	-6.65	1.32	1.41
3	N	162	U	N1-C2	-6.65	1.32	1.38
3	N	147	U	C4'-C3'	-6.62	1.45	1.53
3	M	215	G	N9-C4	6.60	1.43	1.38
3	N	170	A	C8-N7	6.55	1.36	1.31
3	M	205	G	C5-C6	-6.55	1.35	1.42
3	N	208	C	N3-C4	6.53	1.38	1.33
3	M	209	G	C5-C6	-6.51	1.35	1.42
3	M	229	A	C5-C4	-6.49	1.34	1.38
3	N	179	C	N3-C4	-6.47	1.29	1.33
3	N	155	C	N3-C4	-6.41	1.29	1.33
3	N	218	C	P-O5'	-6.40	1.53	1.59
3	M	203	A	C5-C4	-6.38	1.34	1.38
3	M	194	A	N9-C8	-6.38	1.32	1.37
3	N	157	U	N1-C2	-6.37	1.32	1.38
3	M	152	G	N3-C4	-6.35	1.31	1.35
3	M	172	A	C5-C4	-6.34	1.34	1.38
3	M	223	G	C5-C6	-6.34	1.36	1.42
3	N	169	G	C2-N3	6.34	1.37	1.32
3	N	170	A	C6-N6	-6.33	1.28	1.33
3	M	186	A	N3-C4	-6.33	1.31	1.34

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	N	217	G	C5-C6	-6.32	1.36	1.42
3	N	208	C	N1-C6	6.30	1.41	1.37
3	M	215	G	C5-C6	-6.28	1.36	1.42
3	M	219	A	C5-C4	-6.26	1.34	1.38
3	M	200	G	N3-C4	-6.25	1.31	1.35
3	N	215	G	N3-C4	-6.23	1.31	1.35
3	M	220	A	N9-C4	6.22	1.41	1.37
3	M	207	C	C1'-N1	6.22	1.58	1.48
3	N	205	G	C5-C6	-6.20	1.36	1.42
3	M	212	A	C6-N6	-6.19	1.28	1.33
3	M	235	U	C3'-O3'	-6.18	1.33	1.42
3	N	220	A	N7-C5	-6.17	1.35	1.39
3	N	207	C	C1'-N1	6.16	1.57	1.48
3	N	208	C	O3'-P	-6.15	1.53	1.61
3	M	197	C	C1'-N1	6.14	1.57	1.48
3	M	215	G	C5-C4	-6.11	1.34	1.38
3	N	171	G	P-O5'	6.11	1.65	1.59
3	M	162	U	O5'-C5'	6.10	1.54	1.44
3	N	163	G	N3-C4	-6.09	1.31	1.35
3	M	158	C	O3'-P	-6.04	1.53	1.61
3	N	194	A	N3-C4	-6.02	1.31	1.34
3	N	169	G	C2-N2	6.02	1.40	1.34
3	N	168	G	C8-N7	5.99	1.34	1.30
3	N	176	A	C6-N1	-5.94	1.31	1.35
3	N	217	G	C2-N2	5.93	1.40	1.34
3	M	146	G	C2'-O2'	-5.91	1.33	1.41
3	M	155	C	P-O5'	5.90	1.65	1.59
3	N	155	C	C4-C5	-5.88	1.38	1.43
3	M	210	G	C8-N7	5.87	1.34	1.30
3	N	218	C	C1'-N1	5.86	1.57	1.48
3	M	203	A	N9-C4	5.83	1.41	1.37
3	M	154	G	N1-C2	5.82	1.42	1.37
3	M	204	G	N1-C2	-5.82	1.33	1.37
3	M	211	A	N3-C4	-5.80	1.31	1.34
3	M	202	C	C2'-C1'	-5.75	1.47	1.53
1	A	53	TYR	CG-CD1	-5.73	1.31	1.39
3	M	211	A	C8-N7	5.73	1.35	1.31
3	M	209	G	C2-N3	-5.69	1.28	1.32
3	M	205	G	N1-C2	-5.69	1.33	1.37
3	N	153	A	C4'-C3'	-5.69	1.46	1.52
3	M	215	G	N3-C4	-5.69	1.31	1.35
3	N	165	A	C2'-C1'	-5.66	1.47	1.53

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	213	G	C5-C4	-5.66	1.34	1.38
3	N	220	A	N3-C4	5.64	1.38	1.34
3	M	229	A	C3'-O3'	-5.63	1.34	1.42
3	M	186	A	N9-C4	-5.63	1.34	1.37
3	M	229	A	C6-N1	-5.63	1.31	1.35
3	N	179	C	N1-C2	-5.62	1.34	1.40
3	N	146	G	O3'-P	5.60	1.67	1.61
3	M	166	G	O3'-P	-5.59	1.54	1.61
3	N	164	U	P-O5'	5.59	1.65	1.59
3	M	177	A	N3-C4	-5.59	1.31	1.34
3	N	151	G	C8-N7	5.59	1.34	1.30
3	M	217	G	C2-N3	5.59	1.37	1.32
3	N	148	G	C3'-O3'	-5.58	1.34	1.42
3	N	216	A	N9-C4	5.56	1.41	1.37
3	N	174	G	N1-C2	-5.54	1.33	1.37
3	M	196	C	C2-N3	5.54	1.40	1.35
3	M	204	G	C6-N1	-5.53	1.35	1.39
3	M	193	G	N9-C8	-5.53	1.33	1.37
3	N	227	G	C5-C6	-5.53	1.36	1.42
3	M	201	C	C2-N3	5.52	1.40	1.35
3	M	144	C	C3'-O3'	-5.50	1.34	1.42
3	M	174	G	C5-C6	-5.50	1.36	1.42
3	N	163	G	C8-N7	5.50	1.34	1.30
3	N	207	C	N3-C4	-5.49	1.30	1.33
3	N	215	G	N9-C4	5.49	1.42	1.38
3	N	174	G	C6-N1	-5.47	1.35	1.39
3	N	156	A	N9-C4	5.46	1.41	1.37
3	M	212	A	C6-N1	-5.45	1.31	1.35
3	N	215	G	C2-N3	-5.44	1.28	1.32
3	M	152	G	N1-C2	5.43	1.42	1.37
3	M	217	G	C2'-C1'	-5.41	1.47	1.53
2	C	410	VAL	CB-CG1	-5.41	1.41	1.52
3	M	198	C	O5'-C5'	-5.41	1.34	1.42
3	M	165	A	C4'-C3'	-5.41	1.47	1.52
3	N	176	A	N7-C5	5.40	1.42	1.39
3	M	145	G	C6-O6	5.38	1.28	1.24
3	M	155	C	C3'-O3'	-5.37	1.34	1.42
3	M	220	A	C5-C4	-5.37	1.34	1.38
1	B	4	TRP	CE3-CZ3	-5.36	1.29	1.38
3	N	161	C	C1'-N1	5.36	1.56	1.48
3	M	217	G	C4'-C3'	-5.36	1.47	1.52
3	M	218	C	C2'-C1'	-5.35	1.47	1.53

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	N	186	A	C6-N6	5.35	1.38	1.33
3	N	204	G	N1-C2	-5.30	1.33	1.37
3	M	154	G	C6-O6	5.30	1.28	1.24
3	N	218	C	N1-C2	-5.30	1.34	1.40
3	M	180	C	N1-C6	-5.27	1.33	1.37
3	N	217	G	N1-C2	5.27	1.42	1.37
3	N	213	G	C6-N1	-5.26	1.35	1.39
3	N	211	A	C5-C4	-5.25	1.35	1.38
3	M	167	G	P-OP2	-5.23	1.40	1.49
3	M	199	C	N3-C4	-5.23	1.30	1.33
3	M	187	C	N3-C4	-5.22	1.30	1.33
3	M	210	G	C6-O6	5.22	1.28	1.24
3	N	169	G	N1-C2	5.20	1.42	1.37
3	M	200	G	C2-N3	-5.19	1.28	1.32
3	M	207	C	C4-C5	-5.19	1.38	1.43
3	M	233	C	N1-C6	-5.19	1.34	1.37
3	M	149	G	C2'-C1'	-5.18	1.47	1.53
3	N	171	G	N3-C4	-5.18	1.31	1.35
3	N	206	C	C3'-O3'	5.17	1.49	1.42
3	M	149	G	C8-N7	5.16	1.34	1.30
3	M	206	C	C4-C5	-5.16	1.38	1.43
3	N	142	G	C3'-O3'	-5.15	1.34	1.42
3	N	170	A	N1-C2	-5.15	1.29	1.34
3	N	166	G	O3'-P	-5.13	1.54	1.61
3	N	194	A	N9-C4	-5.13	1.34	1.37
3	N	172	A	N3-C4	5.12	1.38	1.34
3	M	149	G	C6-N1	-5.11	1.35	1.39
3	N	232	A	C3'-O3'	-5.11	1.34	1.42
3	M	213	G	C8-N7	5.09	1.34	1.30
3	M	205	G	N7-C5	5.08	1.42	1.39
3	N	168	G	C5-C4	-5.08	1.34	1.38
3	M	193	G	C6-N1	-5.08	1.35	1.39
3	M	219	A	C2'-O2'	5.07	1.48	1.41
3	M	166	G	C5-C4	-5.04	1.34	1.38
3	M	174	G	C5-C4	-5.04	1.34	1.38
3	M	165	A	C2'-C1'	-5.03	1.47	1.53
3	N	145	G	C6-N1	-5.02	1.36	1.39
3	M	159	U	N3-C4	-5.01	1.33	1.38
3	M	160	C	O3'-P	-5.01	1.55	1.61
3	M	216	A	C1'-N9	-5.01	1.39	1.46
3	M	219	A	N9-C4	-5.01	1.34	1.37
3	N	145	G	N1-C2	-5.00	1.33	1.37

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	235	U	P-O5'	5.00	1.64	1.59
3	N	218	C	C4'-C3'	-5.00	1.47	1.52

All (1118) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	209	G	C5-C6-O6	-24.70	113.78	128.60
3	M	194	A	O4'-C1'-N9	-20.43	91.86	108.20
3	M	217	G	C5-C6-O6	-20.20	116.48	128.60
3	N	217	G	C5-C6-O6	-19.78	116.73	128.60
3	M	142	G	O4'-C1'-N9	-18.30	93.56	108.20
3	M	209	G	C6-N1-C2	-17.66	114.51	125.10
3	M	209	G	N1-C6-O6	17.05	130.13	119.90
3	M	181	C	O4'-C1'-N1	16.12	121.10	108.20
3	M	216	A	C8-N9-C4	-15.42	99.63	105.80
3	M	208	C	N3-C4-C5	15.18	127.97	121.90
3	M	216	A	C5-C6-N6	-15.16	111.57	123.70
3	N	168	G	C5-C6-O6	-15.16	119.50	128.60
3	M	208	C	N3-C2-O2	-14.99	111.41	121.90
3	N	208	C	N3-C4-C5	14.93	127.87	121.90
3	N	168	G	O4'-C1'-N9	14.73	119.99	108.20
3	N	217	G	N1-C6-O6	14.62	128.67	119.90
3	M	218	C	C3'-C2'-C1'	-14.59	89.83	101.50
3	N	155	C	C6-N1-C2	-14.18	114.63	120.30
3	M	221	C	C4-C5-C6	-14.15	110.33	117.40
3	M	203	A	O4'-C1'-N9	-14.02	96.99	108.20
3	M	217	G	C4-C5-N7	13.99	116.40	110.80
3	N	216	A	O4'-C4'-C3'	-13.90	90.10	104.00
3	N	163	G	N3-C2-N2	-13.87	110.19	119.90
3	N	202	C	C6-N1-C2	13.83	125.83	120.30
3	N	170	A	C2-N3-C4	13.80	117.50	110.60
3	M	209	G	N3-C2-N2	-13.57	110.40	119.90
3	M	163	G	N9-C4-C5	13.50	110.80	105.40
3	N	165	A	P-O3'-C3'	-13.41	103.61	119.70
3	N	237	G	O4'-C1'-N9	-13.41	97.47	108.20
3	M	217	G	C5-N7-C8	-13.29	97.66	104.30
3	M	237	G	O4'-C1'-N9	-13.27	97.58	108.20
3	M	152	G	N3-C2-N2	-13.15	110.70	119.90
3	M	163	G	N3-C2-N2	-13.15	110.70	119.90
3	N	170	A	C5-C6-N1	13.13	124.27	117.70
3	M	163	G	C4-C5-N7	-13.08	105.57	110.80
3	M	169	G	C5-C6-N1	13.05	118.03	111.50

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	218	C	C6-N1-C2	13.05	125.52	120.30
3	M	216	A	C2-N3-C4	12.99	117.09	110.60
3	M	146	G	C5-C6-O6	12.96	136.38	128.60
3	M	164	U	C1'-O4'-C4'	-12.91	99.58	109.90
3	M	170	A	O4'-C1'-N9	12.85	118.48	108.20
3	N	194	A	N9-C1'-C2'	12.83	130.68	114.00
3	N	223	G	O4'-C1'-N9	-12.72	98.02	108.20
3	M	221	C	C5-C6-N1	12.68	127.34	121.00
3	M	194	A	P-O3'-C3'	-12.67	104.50	119.70
3	M	171	G	C8-N9-C4	-12.59	101.36	106.40
3	M	216	A	N1-C6-N6	12.55	126.13	118.60
3	N	199	C	C5-C4-N4	12.50	128.95	120.20
3	M	146	G	N9-C4-C5	12.49	110.39	105.40
3	M	215	G	O4'-C1'-N9	-12.39	98.29	108.20
3	M	163	G	C6-N1-C2	-12.38	117.67	125.10
3	M	162	U	C4'-C3'-C2'	-12.36	90.24	102.60
3	N	199	C	N3-C4-N4	-12.25	109.42	118.00
3	M	171	G	N9-C4-C5	12.20	110.28	105.40
3	M	164	U	O4'-C1'-N1	12.14	117.92	108.20
3	M	204	G	C5-N7-C8	-12.04	98.28	104.30
3	M	204	G	C4-C5-N7	12.03	115.61	110.80
3	M	208	C	N3-C4-N4	-12.02	109.59	118.00
3	N	163	G	N9-C4-C5	12.01	110.20	105.40
3	M	174	G	N9-C1'-C2'	-11.99	98.41	114.00
3	M	211	A	N9-C1'-C2'	11.89	129.46	114.00
3	M	165	A	P-O3'-C3'	-11.80	105.53	119.70
3	M	218	C	C5-C6-N1	-11.71	115.15	121.00
3	M	161	C	O4'-C1'-N1	-11.68	98.86	108.20
3	M	201	C	O4'-C1'-N1	11.58	117.47	108.20
3	M	168	G	N3-C2-N2	-11.57	111.80	119.90
3	N	151	G	N3-C2-N2	-11.54	111.82	119.90
3	M	159	U	O4'-C1'-N1	-11.51	98.99	108.20
3	M	210	G	N3-C4-N9	-11.49	119.10	126.00
3	N	217	G	O4'-C4'-C3'	-11.49	92.51	104.00
3	M	168	G	N9-C4-C5	11.48	109.99	105.40
3	M	205	G	O4'-C4'-C3'	-11.44	92.56	104.00
3	M	175	U	O4'-C1'-N1	11.39	117.31	108.20
3	M	222	G	O4'-C1'-N9	11.33	117.26	108.20
3	N	160	C	C6-N1-C2	-11.27	115.79	120.30
3	M	161	C	C4'-C3'-C2'	-11.26	91.34	102.60
3	M	217	G	N1-C6-O6	11.23	126.64	119.90
3	N	204	G	C4'-C3'-C2'	-11.21	91.39	102.60

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	225	A	N1-C6-N6	11.11	125.27	118.60
3	M	223	G	O4'-C1'-N9	-11.07	99.34	108.20
3	N	211	A	C5-C6-N6	-11.02	114.89	123.70
3	N	147	U	O4'-C4'-C3'	-10.96	93.04	104.00
3	M	183	U	O4'-C1'-N1	-10.92	99.46	108.20
3	M	205	G	C4'-C3'-C2'	-10.91	91.69	102.60
3	N	159	U	N3-C2-O2	-10.87	114.59	122.20
3	M	216	A	O4'-C4'-C3'	-10.80	93.20	104.00
3	M	208	C	N1-C2-O2	10.78	125.37	118.90
3	N	193	G	O4'-C1'-N9	-10.76	99.59	108.20
3	N	176	A	O4'-C1'-N9	-10.73	99.61	108.20
3	M	213	G	C6-N1-C2	-10.71	118.67	125.10
3	M	197	C	P-O5'-C5'	-10.70	103.79	120.90
3	M	227	G	C4'-C3'-C2'	-10.68	91.92	102.60
3	N	217	G	C6-C5-N7	-10.65	124.01	130.40
3	M	186	A	C2-N3-C4	-10.64	105.28	110.60
3	M	216	A	C6-N1-C2	-10.63	112.22	118.60
3	M	174	G	O4'-C1'-N9	10.61	116.69	108.20
3	M	171	G	N1-C6-O6	-10.52	113.59	119.90
3	M	165	A	P-O5'-C5'	-10.50	104.10	120.90
3	M	214	G	C5-C6-O6	-10.49	122.30	128.60
3	M	202	C	O4'-C1'-N1	10.48	116.58	108.20
3	M	216	A	N3-C4-C5	-10.41	119.51	126.80
3	N	161	C	N1-C2-O2	-10.38	112.67	118.90
3	M	158	C	C2-N3-C4	-10.27	114.77	119.90
3	N	217	G	C4-C5-N7	10.26	114.90	110.80
3	M	210	G	N9-C4-C5	10.25	109.50	105.40
3	M	208	C	C2-N3-C4	-10.25	114.78	119.90
3	M	202	C	C6-N1-C2	10.21	124.38	120.30
3	M	217	G	C5-C6-N1	10.20	116.60	111.50
3	M	219	A	C5-N7-C8	-10.18	98.81	103.90
3	M	217	G	C6-C5-N7	-10.17	124.30	130.40
3	N	151	G	C8-N9-C4	-10.12	102.35	106.40
3	N	202	C	C5-C6-N1	-10.12	115.94	121.00
3	M	158	C	N1-C2-O2	-10.09	112.85	118.90
3	N	218	C	N1-C2-O2	-10.08	112.85	118.90
3	M	237	G	C1'-O4'-C4'	-10.07	101.84	109.90
3	M	162	U	P-O5'-C5'	-10.05	104.81	120.90
3	M	204	G	C6-C5-N7	-10.03	124.38	130.40
3	N	208	C	C4-C5-C6	-9.99	112.40	117.40
3	N	213	G	C4'-C3'-C2'	-9.99	92.61	102.60
3	M	165	A	O4'-C1'-N9	-9.96	100.23	108.20

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	197	C	N1-C2-O2	9.96	124.88	118.90
3	N	206	C	C4'-C3'-C2'	-9.95	92.65	102.60
3	N	151	G	N9-C4-C5	9.93	109.37	105.40
3	M	195	A	P-O3'-C3'	-9.89	107.83	119.70
3	M	218	C	O4'-C4'-C3'	-9.88	94.12	104.00
3	N	163	G	N3-C4-N9	-9.88	120.07	126.00
3	N	227	G	C5-C6-O6	-9.86	122.68	128.60
3	N	149	G	P-O5'-C5'	-9.82	105.18	120.90
3	M	168	G	N3-C4-N9	-9.82	120.11	126.00
3	M	216	A	N7-C8-N9	9.77	118.69	113.80
3	N	214	G	C4'-C3'-C2'	-9.75	92.85	102.60
3	N	163	G	C6-N1-C2	-9.71	119.27	125.10
3	N	219	A	N1-C6-N6	9.68	124.41	118.60
3	M	194	A	C1'-O4'-C4'	-9.67	102.16	109.90
3	M	164	U	C5'-C4'-O4'	-9.65	97.52	109.10
3	M	219	A	O4'-C1'-N9	-9.64	100.49	108.20
3	N	155	C	N1-C2-O2	9.59	124.66	118.90
3	M	215	G	O5'-P-OP2	-9.59	97.07	105.70
3	N	192	C	N3-C4-C5	9.58	125.73	121.90
3	M	207	C	O4'-C1'-N1	9.56	115.85	108.20
3	N	155	C	O4'-C1'-N1	9.55	115.84	108.20
3	M	196	C	N1-C2-O2	-9.55	113.17	118.90
3	M	200	G	P-O5'-C5'	-9.51	105.68	120.90
3	M	215	G	O4'-C1'-C2'	-9.49	96.31	105.80
3	M	203	A	O4'-C1'-C2'	-9.49	96.31	105.80
3	N	185	U	O4'-C4'-C3'	-9.47	94.53	104.00
3	N	170	A	N1-C6-N6	-9.47	112.92	118.60
3	M	203	A	C5-C6-N1	9.46	122.43	117.70
3	M	216	A	C4'-C3'-C2'	-9.46	93.14	102.60
3	M	198	C	O4'-C1'-N1	-9.45	100.64	108.20
3	M	222	G	N1-C6-O6	-9.44	114.23	119.90
3	M	209	G	C4'-C3'-C2'	-9.39	93.21	102.60
3	N	151	G	N1-C2-N2	9.38	124.64	116.20
3	N	168	G	C6-N1-C2	-9.36	119.49	125.10
3	N	192	C	C6-N1-C2	9.36	124.04	120.30
3	M	190	G	P-O3'-C3'	-9.34	108.49	119.70
3	M	146	G	N1-C6-O6	-9.34	114.30	119.90
3	M	198	C	C4'-C3'-C2'	-9.32	93.28	102.60
3	M	168	G	N1-C2-N2	9.32	124.59	116.20
3	M	215	G	C1'-O4'-C4'	9.31	117.35	109.90
3	M	204	G	C4'-C3'-C2'	-9.29	93.31	102.60
3	M	206	C	O4'-C4'-C3'	-9.29	94.71	104.00

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	147	U	P-O3'-C3'	-9.27	108.58	119.70
3	M	170	A	N1-C2-N3	-9.26	124.67	129.30
3	M	152	G	N1-C6-O6	9.25	125.45	119.90
3	M	208	C	C4-C5-C6	-9.24	112.78	117.40
3	N	155	C	C2-N3-C4	9.24	124.52	119.90
3	M	201	C	C4-C5-C6	-9.23	112.78	117.40
3	M	166	G	C5'-C4'-O4'	-9.22	98.04	109.10
3	M	192	C	O4'-C1'-N1	-9.20	100.84	108.20
3	M	183	U	C5-C6-N1	9.20	127.30	122.70
3	M	183	U	P-O3'-C3'	-9.19	108.67	119.70
3	M	228	C	N3-C4-C5	9.18	125.57	121.90
3	M	152	G	C5-C6-O6	-9.18	123.09	128.60
3	N	160	C	N3-C4-C5	-9.18	118.23	121.90
3	M	216	A	C5-C6-N1	9.15	122.28	117.70
3	M	188	C	C6-N1-C2	9.15	123.96	120.30
3	M	189	U	O4'-C1'-N1	9.15	115.52	108.20
3	N	155	C	C5-C6-N1	9.15	125.57	121.00
3	N	226	G	C5-C6-N1	9.14	116.07	111.50
3	N	219	A	C5-N7-C8	-9.12	99.34	103.90
3	N	147	U	O4'-C1'-N1	-9.10	100.92	108.20
3	M	209	G	N1-C2-N3	9.10	129.36	123.90
3	N	198	C	P-O5'-C5'	-9.05	106.42	120.90
3	M	162	U	O5'-P-OP1	-9.04	97.56	105.70
3	N	153	A	C4'-C3'-C2'	-9.04	93.56	102.60
3	M	172	A	O4'-C1'-N9	-9.04	100.97	108.20
3	N	172	A	O4'-C1'-C2'	-9.02	96.78	105.80
3	M	146	G	N3-C4-N9	-9.01	120.60	126.00
3	M	203	A	O4'-C4'-C3'	-9.01	94.99	104.00
3	M	171	G	C5-C6-O6	8.99	133.99	128.60
3	N	171	G	N9-C4-C5	8.98	108.99	105.40
3	M	206	C	C4'-C3'-C2'	-8.95	93.65	102.60
3	M	163	G	C5-N7-C8	8.94	108.77	104.30
3	N	230	G	O4'-C1'-N9	8.92	115.34	108.20
3	M	154	G	N3-C2-N2	-8.91	113.67	119.90
3	M	157	U	P-O3'-C3'	-8.91	109.01	119.70
3	N	208	C	C2-N3-C4	-8.90	115.45	119.90
3	N	209	G	C1'-O4'-C4'	8.89	117.01	109.90
3	M	152	G	N9-C4-C5	8.87	108.95	105.40
3	M	171	G	O4'-C1'-N9	8.87	115.29	108.20
3	N	218	C	C4'-C3'-C2'	-8.87	93.73	102.60
3	M	171	G	O5'-P-OP1	-8.85	97.73	105.70
3	M	194	A	C8-N9-C4	8.85	109.34	105.80

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	183	U	O4'-C1'-N1	8.84	115.27	108.20
3	N	197	C	C2-N3-C4	-8.82	115.49	119.90
3	N	235	U	O4'-C1'-N1	-8.80	101.16	108.20
3	N	148	G	C4'-C3'-C2'	-8.80	93.80	102.60
3	N	168	G	N1-C6-O6	8.78	125.17	119.90
3	M	213	G	C5-C6-O6	-8.77	123.34	128.60
3	M	220	A	N1-C2-N3	-8.76	124.92	129.30
3	N	208	C	O4'-C4'-C3'	-8.76	95.24	104.00
3	M	202	C	C4-C5-C6	-8.76	113.02	117.40
3	M	169	G	C6-N1-C2	-8.76	119.84	125.10
3	N	179	C	O4'-C1'-N1	-8.73	101.21	108.20
3	M	210	G	C8-N9-C4	-8.73	102.91	106.40
3	M	203	A	C4'-C3'-C2'	-8.72	93.88	102.60
3	N	218	C	O4'-C1'-N1	8.72	115.18	108.20
3	M	209	G	C5-C6-N1	8.70	115.85	111.50
3	N	170	A	O4'-C1'-N9	8.70	115.16	108.20
3	M	202	C	N3-C4-N4	-8.68	111.92	118.00
3	N	208	C	C4'-C3'-C2'	-8.68	93.92	102.60
3	M	198	C	N1-C2-O2	-8.68	113.69	118.90
3	M	214	G	C4'-C3'-C2'	-8.68	93.92	102.60
3	M	163	G	C5-C6-N1	8.65	115.83	111.50
3	N	155	C	N3-C2-O2	-8.65	115.85	121.90
3	N	215	G	C5-C6-N1	-8.65	107.18	111.50
3	M	182	C	P-O3'-C3'	-8.65	109.32	119.70
3	M	201	C	C5-C6-N1	8.64	125.32	121.00
3	N	166	G	O4'-C1'-N9	-8.63	101.30	108.20
3	N	157	U	P-O3'-C3'	-8.62	109.35	119.70
3	M	152	G	N1-C2-N2	8.62	123.96	116.20
3	N	163	G	N1-C2-N2	8.61	123.95	116.20
3	N	169	G	C5-C6-O6	-8.60	123.44	128.60
3	M	146	G	C8-N9-C4	-8.60	102.96	106.40
3	N	218	C	N3-C4-N4	-8.59	111.99	118.00
3	M	154	G	O4'-C4'-C3'	-8.54	95.46	104.00
3	M	142	G	C4'-C3'-C2'	-8.53	94.07	102.60
3	M	219	A	P-O5'-C5'	-8.50	107.30	120.90
3	M	202	C	C2-N1-C1'	-8.48	109.48	118.80
3	M	216	A	C6-C5-N7	-8.47	126.37	132.30
3	N	215	G	C2-N3-C4	-8.46	107.67	111.90
3	M	171	G	C5'-C4'-C3'	-8.45	102.48	116.00
3	M	162	U	O4'-C1'-N1	-8.44	101.45	108.20
3	M	214	G	C6-N1-C2	-8.40	120.06	125.10
3	N	208	C	C5-C4-N4	-8.40	114.32	120.20

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	203	A	C2-N3-C4	8.39	114.79	110.60
3	M	226	G	N3-C4-C5	-8.38	124.41	128.60
3	M	215	G	C6-N1-C2	-8.37	120.08	125.10
3	N	197	C	O5'-P-OP2	8.35	120.72	110.70
3	M	199	C	O4'-C4'-C3'	-8.34	95.66	104.00
3	M	216	A	C5-N7-C8	-8.33	99.73	103.90
3	M	152	G	C8-N9-C4	-8.32	103.07	106.40
3	M	207	C	O5'-P-OP1	8.32	120.69	110.70
3	M	210	G	C3'-C2'-C1'	-8.31	94.85	101.50
3	N	215	G	C6-C5-N7	-8.30	125.42	130.40
3	M	209	G	C6-C5-N7	-8.28	125.43	130.40
3	M	215	G	N3-C4-C5	-8.26	124.47	128.60
3	M	146	G	C5'-C4'-O4'	-8.26	99.19	109.10
3	N	201	C	C4'-C3'-C2'	-8.25	94.35	102.60
3	N	221	C	C4'-C3'-C2'	-8.24	94.36	102.60
3	N	218	C	C2-N3-C4	-8.23	115.78	119.90
3	M	234	G	P-O5'-C5'	-8.23	107.74	120.90
3	M	205	G	C8-N9-C4	-8.21	103.12	106.40
3	N	204	G	O4'-C1'-C2'	-8.21	97.59	105.80
3	M	220	A	C6-N1-C2	8.19	123.51	118.60
3	N	175	U	C3'-C2'-C1'	8.18	108.04	101.50
3	M	210	G	O4'-C1'-C2'	-8.17	97.63	105.80
3	M	161	C	P-O5'-C5'	-8.12	107.90	120.90
3	M	213	G	N3-C2-N2	-8.12	114.21	119.90
3	N	211	A	C5-C6-N1	8.12	121.76	117.70
3	N	158	C	N1-C2-O2	-8.11	114.03	118.90
3	N	152	G	C4'-C3'-C2'	-8.11	94.49	102.60
3	N	204	G	P-O3'-C3'	8.11	129.43	119.70
3	M	146	G	O3'-P-O5'	-8.09	88.63	104.00
3	N	177	A	O4'-C1'-C2'	-8.09	97.71	105.80
3	M	191	C	P-O3'-C3'	-8.08	110.00	119.70
3	N	153	A	O4'-C1'-N9	-8.07	101.74	108.20
3	M	209	G	O4'-C1'-C2'	-8.07	97.73	105.80
3	M	187	C	O4'-C1'-N1	-8.06	101.75	108.20
3	N	208	C	O4'-C1'-C2'	-8.06	97.74	105.80
3	N	217	G	C6-N1-C2	-8.06	120.27	125.10
3	N	194	A	O4'-C1'-N9	-8.05	101.76	108.20
3	M	146	G	C4-C5-N7	-8.05	107.58	110.80
3	N	198	C	N3-C4-C5	-8.05	118.68	121.90
3	M	194	A	P-O5'-C5'	-8.03	108.06	120.90
3	M	203	A	N1-C2-N3	-8.02	125.29	129.30
3	M	194	A	N7-C8-N9	-7.99	109.81	113.80

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	213	G	C8-N9-C4	-7.97	103.21	106.40
3	M	202	C	P-O3'-C3'	-7.96	110.14	119.70
3	N	154	G	O5'-P-OP2	-7.96	98.53	105.70
3	M	148	G	O4'-C1'-N9	7.96	114.57	108.20
3	N	179	C	P-O3'-C3'	-7.96	110.15	119.70
3	M	172	A	P-O3'-C3'	-7.94	110.17	119.70
3	M	203	A	C3'-C2'-C1'	7.94	107.85	101.50
3	N	160	C	N1-C1'-C2'	-7.94	103.27	112.00
3	N	171	G	O4'-C1'-N9	7.94	114.55	108.20
3	N	211	A	N1-C6-N6	7.93	123.36	118.60
3	M	162	U	O4'-C4'-C3'	-7.92	96.08	104.00
3	M	169	G	C5'-C4'-C3'	-7.90	103.37	116.00
2	C	33	ASP	CB-CG-OD2	7.88	125.39	118.30
3	N	192	C	O4'-C1'-N1	-7.87	101.90	108.20
3	N	208	C	OP1-P-OP2	7.87	131.40	119.60
3	M	206	C	O4'-C1'-N1	-7.86	101.92	108.20
3	M	163	G	N1-C2-N2	7.85	123.26	116.20
3	M	217	G	O3'-P-O5'	-7.85	89.09	104.00
3	N	161	C	C2-N3-C4	-7.84	115.98	119.90
3	M	216	A	O4'-C1'-C2'	-7.84	97.96	105.80
3	M	219	A	C3'-C2'-C1'	-7.84	95.23	101.50
3	N	224	U	P-O3'-C3'	-7.82	110.31	119.70
3	M	179	C	C2-N3-C4	-7.82	115.99	119.90
3	N	220	A	O4'-C1'-N9	7.81	114.45	108.20
3	M	186	A	N1-C2-N3	7.81	133.20	129.30
3	M	235	U	O4'-C1'-N1	-7.81	101.95	108.20
3	M	203	A	C5-C6-N6	-7.80	117.46	123.70
3	M	206	C	O3'-P-O5'	-7.79	89.20	104.00
3	N	208	C	O5'-P-OP1	-7.79	98.69	105.70
3	M	196	C	C2-N3-C4	-7.78	116.01	119.90
3	M	225	A	P-O3'-C3'	-7.78	110.37	119.70
3	N	165	A	C5-C6-N6	-7.77	117.48	123.70
3	N	146	G	P-O3'-C3'	7.74	128.99	119.70
3	M	208	C	OP1-P-OP2	7.72	131.18	119.60
3	M	222	G	N9-C4-C5	7.72	108.49	105.40
3	N	177	A	N1-C6-N6	7.71	123.22	118.60
3	N	145	G	C5'-C4'-O4'	-7.70	99.86	109.10
3	M	206	C	C6-N1-C2	-7.67	117.23	120.30
3	N	168	G	C5-C6-N1	7.66	115.33	111.50
3	N	219	A	C6-C5-N7	-7.66	126.94	132.30
3	M	181	C	P-O3'-C3'	-7.65	110.52	119.70
3	M	217	G	O4'-C4'-C3'	-7.65	96.35	104.00

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	235	U	O4'-C4'-C3'	-7.64	96.36	104.00
3	N	204	G	C8-N9-C4	-7.63	103.35	106.40
3	N	159	U	N1-C2-O2	7.62	128.14	122.80
3	N	166	G	OP2-P-O3'	7.62	121.97	105.20
3	N	234	G	C4'-C3'-C2'	-7.61	94.99	102.60
3	N	227	G	C4-C5-N7	7.60	113.84	110.80
3	M	220	A	N9-C4-C5	7.59	108.84	105.80
3	M	158	C	C5-C4-N4	-7.59	114.89	120.20
3	M	211	A	O4'-C1'-N9	-7.58	102.13	108.20
3	M	167	G	P-O3'-C3'	7.58	128.79	119.70
3	N	174	G	N3-C2-N2	7.57	125.20	119.90
3	N	170	A	N9-C4-C5	7.57	108.83	105.80
3	M	217	G	C6-N1-C2	-7.56	120.56	125.10
3	N	165	A	C6-N1-C2	-7.55	114.07	118.60
3	N	173	U	O5'-P-OP2	7.54	119.75	110.70
3	N	209	G	C5-C6-O6	-7.54	124.07	128.60
3	M	157	U	C4'-C3'-C2'	-7.54	95.06	102.60
3	N	215	G	N1-C6-O6	7.53	124.42	119.90
3	M	174	G	N1-C2-N3	-7.53	119.38	123.90
3	N	171	G	C8-N9-C4	-7.52	103.39	106.40
3	N	151	G	N3-C4-N9	-7.50	121.50	126.00
3	N	149	G	C4'-C3'-C2'	-7.50	95.10	102.60
3	N	220	A	C4'-C3'-C2'	-7.50	95.10	102.60
3	N	225	A	O4'-C1'-N9	-7.49	102.21	108.20
3	M	213	G	C5-C6-N1	7.48	115.24	111.50
3	N	218	C	O4'-C1'-C2'	-7.47	98.33	105.80
3	M	210	G	P-O3'-C3'	7.47	128.66	119.70
3	M	183	U	N1-C2-O2	7.47	128.03	122.80
3	N	165	A	C5-C6-N1	7.46	121.43	117.70
3	N	143	G	C4'-C3'-C2'	-7.46	95.14	102.60
3	M	150	G	C5-C6-O6	-7.45	124.13	128.60
3	M	214	G	C5-C6-N1	7.43	115.22	111.50
3	N	209	G	O4'-C1'-C2'	-7.43	98.37	105.80
3	M	162	U	N1-C1'-C2'	7.42	123.65	114.00
3	N	216	A	C5-C6-N6	-7.40	117.78	123.70
3	N	199	C	P-O3'-C3'	-7.38	110.84	119.70
3	N	214	G	N3-C2-N2	7.38	125.07	119.90
3	N	159	U	O4'-C4'-C3'	-7.37	96.63	104.00
3	M	166	G	O4'-C1'-N9	-7.36	102.31	108.20
3	N	157	U	C4'-C3'-C2'	-7.35	95.25	102.60
3	M	199	C	C5-C4-N4	7.34	125.34	120.20
3	N	201	C	O4'-C1'-N1	-7.34	102.33	108.20

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	215	G	C6-C5-N7	-7.33	126.00	130.40
3	N	189	U	C4'-C3'-C2'	-7.33	95.27	102.60
3	M	222	G	C4-C5-N7	-7.33	107.87	110.80
3	N	225	A	C5-C6-N6	-7.32	117.85	123.70
3	M	157	U	OP1-P-O3'	7.30	121.26	105.20
3	M	220	A	N7-C8-N9	-7.30	110.15	113.80
3	N	226	G	N7-C8-N9	-7.29	109.46	113.10
3	M	183	U	O3'-P-O5'	-7.27	90.19	104.00
3	M	205	G	O4'-C1'-C2'	-7.26	98.54	105.80
3	M	167	G	OP2-P-O3'	7.26	121.17	105.20
3	M	179	C	P-O3'-C3'	-7.24	111.02	119.70
3	M	146	G	P-O3'-C3'	7.23	128.38	119.70
3	M	169	G	N1-C6-O6	-7.22	115.56	119.90
3	M	192	C	P-O3'-C3'	-7.22	111.03	119.70
3	M	210	G	C8-N9-C1'	7.22	136.38	127.00
3	M	187	C	P-O3'-C3'	-7.21	111.05	119.70
3	M	153	A	O3'-P-O5'	-7.21	90.31	104.00
3	M	228	C	C5-C4-N4	-7.19	115.17	120.20
3	M	193	G	N1-C6-O6	-7.18	115.59	119.90
3	M	182	C	O4'-C1'-N1	7.18	113.94	108.20
3	N	202	C	N3-C4-C5	7.17	124.77	121.90
3	M	183	U	C2-N1-C1'	7.17	126.30	117.70
3	M	154	G	N1-C2-N3	7.17	128.20	123.90
3	M	209	G	N3-C4-C5	-7.15	125.03	128.60
3	N	146	G	C5'-C4'-O4'	-7.14	100.53	109.10
3	M	210	G	C5-C6-O6	7.14	132.88	128.60
3	M	201	C	C2-N3-C4	7.14	123.47	119.90
3	N	217	G	O4'-C1'-N9	7.13	113.91	108.20
3	N	227	G	N1-C6-O6	7.13	124.17	119.90
3	M	197	C	C2-N1-C1'	7.12	126.63	118.80
3	M	202	C	N3-C4-C5	7.11	124.75	121.90
3	N	202	C	C5-C4-N4	-7.11	115.23	120.20
3	M	179	C	N1-C2-O2	-7.10	114.64	118.90
3	M	206	C	C1'-O4'-C4'	-7.10	104.22	109.90
3	M	220	A	P-O3'-C3'	7.09	128.21	119.70
3	M	166	G	N3-C4-N9	-7.09	121.75	126.00
3	M	196	C	C5-C4-N4	-7.09	115.24	120.20
3	N	169	G	C5-C6-N1	7.09	115.05	111.50
3	M	215	G	C4'-C3'-C2'	-7.09	95.51	102.60
3	N	162	U	N1-C2-O2	-7.08	117.84	122.80
3	M	154	G	C5'-C4'-C3'	-7.07	104.69	116.00
3	M	201	C	N3-C2-O2	7.06	126.84	121.90

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	170	A	C4-C5-C6	-7.06	113.47	117.00
3	N	180	C	N1-C2-O2	-7.05	114.67	118.90
3	N	205	G	C5-N7-C8	7.04	107.82	104.30
3	N	175	U	N1-C2-O2	7.04	127.73	122.80
3	N	180	C	P-O3'-C3'	-7.04	111.25	119.70
3	N	203	A	O4'-C4'-C3'	-7.04	96.96	104.00
3	M	174	G	C5'-C4'-O4'	-7.04	100.66	109.10
3	M	225	A	N1-C2-N3	-7.03	125.78	129.30
3	M	167	G	C1'-O4'-C4'	7.03	115.52	109.90
3	M	184	U	O4'-C1'-N1	7.03	113.82	108.20
3	N	152	G	C5'-C4'-O4'	7.02	117.53	109.10
3	N	226	G	C5-C6-O6	-7.02	124.39	128.60
3	N	156	A	C3'-C2'-C1'	-7.01	95.89	101.50
3	N	219	A	C5-C6-N6	-7.01	118.09	123.70
3	N	149	G	N9-C4-C5	7.00	108.20	105.40
3	N	191	C	P-O5'-C5'	-7.00	109.71	120.90
3	N	216	A	C5'-C4'-O4'	-6.99	100.71	109.10
3	M	228	C	C6-N1-C2	6.98	123.09	120.30
3	N	195	A	C1'-O4'-C4'	6.97	115.48	109.90
3	M	152	G	C6-N1-C2	-6.97	120.92	125.10
3	N	169	G	C1'-O4'-C4'	6.97	115.48	109.90
3	N	149	G	O4'-C4'-C3'	-6.97	97.03	104.00
3	M	228	C	C2-N3-C4	-6.96	116.42	119.90
3	N	192	C	C5-C4-N4	-6.95	115.34	120.20
3	M	150	G	N1-C6-O6	6.95	124.07	119.90
3	N	215	G	C8-N9-C4	-6.95	103.62	106.40
3	N	223	G	N9-C1'-C2'	-6.95	104.36	112.00
3	N	168	G	C6-C5-N7	-6.94	126.24	130.40
3	N	194	A	O5'-P-OP1	6.94	119.03	110.70
3	M	189	U	N3-C2-O2	-6.94	117.34	122.20
2	C	161	ASP	CB-CG-OD2	6.93	124.54	118.30
3	N	218	C	O4'-C4'-C3'	-6.93	97.07	104.00
3	M	173	U	C1'-O4'-C4'	-6.91	104.37	109.90
3	M	185	U	N1-C2-O2	-6.90	117.97	122.80
3	N	166	G	O5'-P-OP1	6.90	118.98	110.70
3	M	184	U	C4'-C3'-C2'	-6.90	95.70	102.60
3	N	216	A	C5-C6-N1	6.88	121.14	117.70
3	N	211	A	O4'-C1'-N9	-6.86	102.71	108.20
3	N	216	A	C6-N1-C2	-6.85	114.49	118.60
2	C	188	ASP	CB-CG-OD2	6.84	124.46	118.30
3	N	172	A	C6-N1-C2	-6.84	114.50	118.60
3	N	188	C	N1-C2-O2	-6.83	114.80	118.90

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	160	C	C4'-C3'-C2'	-6.83	95.77	102.60
3	M	163	G	N3-C4-C5	-6.83	125.19	128.60
3	N	182	C	N1-C2-O2	-6.83	114.80	118.90
3	M	168	G	C4-C5-N7	-6.82	108.07	110.80
3	M	222	G	C5-C6-O6	6.82	132.69	128.60
3	N	142	G	C5-C6-O6	-6.82	124.51	128.60
3	M	172	A	C5'-C4'-C3'	-6.82	105.09	116.00
3	M	204	G	N1-C6-O6	6.81	123.99	119.90
3	N	194	A	N9-C4-C5	6.81	108.53	105.80
3	N	142	G	C4'-C3'-C2'	-6.81	95.79	102.60
3	M	197	C	C5-C6-N1	6.80	124.40	121.00
3	N	219	A	C4-C5-N7	6.80	114.10	110.70
3	N	165	A	O3'-P-O5'	-6.80	91.08	104.00
3	N	226	G	C2-N3-C4	6.80	115.30	111.90
3	M	226	G	C2-N3-C4	6.78	115.29	111.90
3	M	185	U	N1-C1'-C2'	6.78	122.81	114.00
3	M	179	C	C1'-O4'-C4'	6.78	115.32	109.90
3	N	151	G	N1-C6-O6	6.77	123.96	119.90
3	N	178	C	OP2-P-O3'	6.77	120.09	105.20
3	N	210	G	O3'-P-O5'	-6.77	91.14	104.00
3	M	208	C	C4'-C3'-C2'	-6.76	95.83	102.60
3	N	204	G	N9-C4-C5	6.76	108.10	105.40
3	M	202	C	N1-C1'-C2'	6.75	122.78	114.00
3	M	147	U	C5'-C4'-O4'	-6.75	101.00	109.10
3	N	167	G	P-O5'-C5'	-6.75	110.10	120.90
3	M	226	G	N9-C1'-C2'	-6.74	104.58	112.00
3	N	200	G	O5'-P-OP1	-6.74	99.63	105.70
3	M	163	G	C5'-C4'-C3'	-6.74	105.22	116.00
3	M	217	G	OP1-P-OP2	6.74	129.71	119.60
3	N	166	G	O4'-C4'-C3'	-6.72	97.28	104.00
3	N	171	G	N1-C6-O6	-6.72	115.87	119.90
3	N	153	A	C5'-C4'-C3'	-6.72	105.25	116.00
3	N	170	A	C8-N9-C4	-6.71	103.11	105.80
3	N	209	G	C6-N1-C2	-6.70	121.08	125.10
3	M	219	A	C4-C5-N7	6.70	114.05	110.70
3	M	157	U	O3'-P-O5'	-6.70	91.28	104.00
3	M	193	G	C3'-C2'-C1'	6.69	106.85	101.50
3	N	198	C	N1-C2-O2	-6.69	114.89	118.90
3	M	214	G	C3'-C2'-C1'	-6.69	96.15	101.50
3	M	194	A	C4-C5-C6	6.68	120.34	117.00
3	M	162	U	O4'-C1'-C2'	-6.68	99.12	105.80
3	M	198	C	P-O3'-C3'	6.67	127.71	119.70

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	219	A	N1-C2-N3	-6.67	125.96	129.30
3	N	228	C	N3-C4-C5	6.67	124.57	121.90
3	M	172	A	C5-N7-C8	-6.66	100.57	103.90
3	N	211	A	N9-C1'-C2'	6.66	122.66	114.00
3	N	211	A	C4-C5-N7	6.66	114.03	110.70
3	M	203	A	C4-C5-N7	6.66	114.03	110.70
3	N	169	G	N9-C1'-C2'	-6.65	104.68	112.00
3	M	163	G	C6-C5-N7	6.65	134.39	130.40
3	M	179	C	C5-C6-N1	-6.65	117.67	121.00
3	N	181	C	O4'-C1'-N1	6.65	113.52	108.20
3	M	154	G	C3'-C2'-C1'	-6.64	96.19	101.50
3	M	218	C	C2-N3-C4	-6.64	116.58	119.90
3	N	160	C	C5'-C4'-O4'	-6.64	101.14	109.10
3	M	171	G	O5'-C5'-C4'	6.63	124.30	111.70
3	M	231	G	P-O3'-C3'	6.63	127.66	119.70
3	N	160	C	O4'-C4'-C3'	-6.62	97.38	104.00
3	M	160	C	O4'-C1'-C2'	-6.62	99.19	105.80
3	M	163	G	C2-N3-C4	6.62	115.21	111.90
3	N	170	A	C5'-C4'-C3'	-6.62	105.41	116.00
3	N	209	G	OP2-P-O3'	6.61	119.73	105.20
3	N	165	A	N9-C1'-C2'	-6.60	104.74	112.00
3	M	156	A	C4-C5-N7	6.60	114.00	110.70
3	N	176	A	C8-N9-C4	6.60	108.44	105.80
3	M	199	C	P-O3'-C3'	-6.59	111.79	119.70
3	N	209	G	P-O5'-C5'	-6.59	110.35	120.90
3	N	194	A	N3-C4-N9	-6.59	122.13	127.40
3	M	209	G	N3-C4-N9	6.59	129.95	126.00
3	N	226	G	C6-N1-C2	-6.59	121.15	125.10
3	M	197	C	C4'-C3'-C2'	-6.59	96.01	102.60
3	M	219	A	C5'-C4'-O4'	-6.59	101.20	109.10
3	M	196	C	N3-C4-N4	6.58	122.61	118.00
3	M	210	G	O4'-C4'-C3'	-6.58	97.42	104.00
3	M	175	U	P-O5'-C5'	-6.58	110.38	120.90
3	M	142	G	N3-C4-C5	-6.57	125.31	128.60
3	N	176	A	C4-C5-C6	-6.57	113.71	117.00
3	N	201	C	C5'-C4'-O4'	-6.57	101.22	109.10
3	M	231	G	C4'-C3'-C2'	-6.57	96.03	102.60
2	C	250	ASP	CB-CG-OD2	6.57	124.21	118.30
3	M	143	G	N9-C4-C5	6.57	108.03	105.40
3	M	191	C	O4'-C1'-N1	-6.57	102.95	108.20
3	N	186	A	N1-C2-N3	6.56	132.58	129.30
3	M	195	A	N9-C1'-C2'	6.55	122.52	114.00

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	193	G	C5-C6-O6	6.53	132.52	128.60
3	M	211	A	N9-C4-C5	6.53	108.41	105.80
3	M	215	G	OP1-P-OP2	6.53	129.39	119.60
3	M	216	A	N9-C4-C5	6.53	108.41	105.80
3	M	167	G	O4'-C1'-C2'	-6.52	99.28	105.80
3	M	215	G	C4-N9-C1'	6.52	134.98	126.50
3	N	221	C	N1-C2-O2	-6.52	114.99	118.90
2	C	398	ARG	NE-CZ-NH1	-6.50	117.05	120.30
3	M	222	G	C6-C5-N7	6.50	134.30	130.40
3	M	170	A	C3'-C2'-C1'	6.50	106.70	101.50
3	N	205	G	C4-C5-N7	-6.48	108.21	110.80
3	M	215	G	C8-N9-C4	-6.48	103.81	106.40
3	M	143	G	C4'-C3'-C2'	-6.48	96.12	102.60
3	M	162	U	N1-C2-O2	-6.47	118.27	122.80
3	N	207	C	O4'-C1'-N1	6.47	113.38	108.20
3	N	220	A	O4'-C1'-C2'	-6.47	99.33	105.80
3	M	209	G	C3'-C2'-C1'	6.45	106.66	101.50
3	N	148	G	O4'-C4'-C3'	-6.45	97.55	104.00
3	M	220	A	C5-C6-N6	6.45	128.86	123.70
3	M	206	C	C2-N1-C1'	6.44	125.89	118.80
3	N	207	C	N1-C2-O2	6.44	122.76	118.90
3	M	210	G	N9-C1'-C2'	6.44	122.37	114.00
3	M	168	G	O3'-P-O5'	-6.43	91.77	104.00
3	N	171	G	C2-N3-C4	6.43	115.12	111.90
3	N	194	A	P-O3'-C3'	-6.43	111.98	119.70
3	N	171	G	N3-C4-C5	-6.43	125.38	128.60
3	N	166	G	C5'-C4'-O4'	-6.43	101.39	109.10
3	M	216	A	O4'-C1'-N9	-6.42	103.06	108.20
3	M	220	A	O4'-C1'-N9	6.41	113.33	108.20
3	M	158	C	N3-C4-C5	6.41	124.47	121.90
3	N	156	A	OP1-P-OP2	6.41	129.22	119.60
3	N	200	G	C4'-C3'-C2'	-6.40	96.20	102.60
3	M	218	C	C2-N1-C1'	-6.40	111.76	118.80
3	M	172	A	C4-C5-N7	6.39	113.89	110.70
3	M	159	U	O4'-C4'-C3'	-6.38	97.62	104.00
3	M	232	A	C2-N3-C4	6.38	113.79	110.60
3	N	206	C	O4'-C4'-C3'	-6.38	97.62	104.00
3	M	219	A	C5-C6-N1	6.38	120.89	117.70
3	N	149	G	C5'-C4'-C3'	-6.37	105.81	116.00
3	N	207	C	C2-N3-C4	6.37	123.08	119.90
3	M	160	C	O4'-C4'-C3'	-6.36	97.64	104.00
3	N	214	G	C4-C5-N7	6.35	113.34	110.80

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	164	U	OP1-P-O3'	6.35	119.17	105.20
3	M	194	A	C5-N7-C8	6.35	107.07	103.90
3	N	193	G	O3'-P-O5'	-6.34	91.96	104.00
3	M	156	A	C4'-C3'-C2'	-6.33	96.27	102.60
3	M	164	U	C5'-C4'-C3'	6.33	126.13	116.00
3	M	208	C	O4'-C1'-C2'	-6.33	99.47	105.80
3	M	171	G	C1'-O4'-C4'	6.33	114.96	109.90
3	M	180	C	N3-C4-N4	6.32	122.42	118.00
1	A	8	ILE	CG1-CB-CG2	-6.32	97.50	111.40
3	N	159	U	P-O3'-C3'	-6.32	112.12	119.70
3	M	164	U	OP1-P-O3'	6.32	119.09	105.20
3	N	172	A	P-O5'-C5'	-6.31	110.80	120.90
3	N	177	A	O4'-C1'-N9	-6.31	103.15	108.20
3	M	163	G	N1-C6-O6	-6.31	116.12	119.90
3	N	228	C	N1-C2-O2	6.30	122.68	118.90
3	M	208	C	O3'-P-O5'	-6.29	92.04	104.00
3	N	142	G	C4-C5-N7	6.29	113.32	110.80
3	M	150	G	P-O5'-C5'	-6.29	110.84	120.90
3	M	210	G	N3-C2-N2	-6.28	115.50	119.90
3	M	229	A	N9-C4-C5	6.27	108.31	105.80
3	M	216	A	N9-C1'-C2'	6.27	122.15	114.00
3	N	204	G	C6-N1-C2	6.27	128.86	125.10
3	N	178	C	C5'-C4'-O4'	-6.27	101.58	109.10
3	N	178	C	N1-C2-O2	-6.27	115.14	118.90
3	N	222	G	N1-C2-N3	-6.26	120.14	123.90
3	M	198	C	N3-C2-O2	6.26	126.28	121.90
3	M	216	A	C4-C5-C6	6.26	120.13	117.00
3	M	200	G	OP1-P-OP2	6.25	128.98	119.60
3	N	215	G	N3-C2-N2	-6.25	115.52	119.90
3	M	174	G	C4-C5-N7	6.25	113.30	110.80
3	M	176	A	O4'-C1'-N9	6.25	113.20	108.20
3	M	220	A	C5-N7-C8	6.24	107.02	103.90
2	D	280	ASP	CB-CG-OD2	6.24	123.92	118.30
3	M	148	G	O4'-C1'-C2'	-6.24	99.56	105.80
3	N	215	G	C4-C5-C6	6.24	122.54	118.80
3	M	170	A	N1-C6-N6	-6.23	114.86	118.60
3	M	210	G	C2-N3-C4	-6.23	108.78	111.90
3	N	155	C	C4'-C3'-C2'	-6.23	96.37	102.60
3	N	163	G	C8-N9-C4	-6.23	103.91	106.40
1	B	33	ASP	CB-CG-OD2	6.23	123.91	118.30
3	N	165	A	C3'-C2'-C1'	6.22	106.47	101.50
3	M	149	G	O4'-C1'-N9	6.21	113.17	108.20

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	166	G	C5-C6-N1	6.21	114.60	111.50
3	M	156	A	C5-N7-C8	-6.19	100.80	103.90
3	M	227	G	N9-C1'-C2'	6.19	122.05	114.00
2	D	41	ALA	N-CA-C	-6.19	94.28	111.00
3	N	148	G	O4'-C1'-N9	-6.19	103.25	108.20
3	N	176	A	N1-C6-N6	-6.18	114.89	118.60
3	M	149	G	C4'-C3'-C2'	-6.17	96.43	102.60
3	M	154	G	O3'-P-O5'	-6.17	92.28	104.00
3	N	177	A	C5'-C4'-O4'	-6.17	101.70	109.10
3	N	214	G	C6-C5-N7	-6.17	126.70	130.40
3	M	233	C	O4'-C1'-N1	-6.17	103.27	108.20
3	M	211	A	C5'-C4'-O4'	-6.16	101.70	109.10
3	N	192	C	O4'-C4'-C3'	-6.16	97.84	104.00
3	M	209	G	N9-C1'-C2'	-6.16	105.22	112.00
3	N	209	G	C4'-C3'-C2'	-6.16	96.44	102.60
3	N	219	A	C8-N9-C4	-6.16	103.34	105.80
3	M	164	U	C5-C6-N1	-6.14	119.63	122.70
3	N	228	C	O5'-P-OP2	-6.14	100.17	105.70
3	N	218	C	P-O3'-C3'	6.13	127.06	119.70
3	M	169	G	P-O5'-C5'	-6.13	111.09	120.90
3	N	184	U	P-O5'-C5'	-6.13	111.09	120.90
3	M	154	G	C2-N3-C4	-6.13	108.83	111.90
3	M	156	A	C5-C6-N6	-6.13	118.80	123.70
3	M	218	C	O4'-C1'-N1	6.13	113.10	108.20
3	N	155	C	C2-N1-C1'	6.13	125.54	118.80
1	B	67	ASP	CB-CG-OD2	6.12	123.81	118.30
3	N	191	C	C4'-C3'-C2'	-6.12	96.48	102.60
3	M	183	U	C5'-C4'-C3'	-6.12	106.22	116.00
3	N	186	A	C5-C6-N1	-6.11	114.64	117.70
2	D	409	ASP	CB-CG-OD2	6.11	123.80	118.30
2	D	42	ASP	CB-CG-OD2	6.11	123.80	118.30
3	M	201	C	C1'-O4'-C4'	6.10	114.78	109.90
3	N	208	C	C5'-C4'-C3'	-6.10	106.23	116.00
3	M	232	A	C5-C6-N1	6.10	120.75	117.70
3	M	204	G	C5-C6-O6	-6.09	124.94	128.60
3	N	173	U	O4'-C4'-C3'	-6.09	97.91	104.00
2	C	170	ASP	CB-CG-OD2	6.09	123.78	118.30
3	M	171	G	C4'-C3'-C2'	6.08	108.68	102.60
3	N	172	A	C5-C6-N1	6.08	120.74	117.70
3	N	198	C	N3-C2-O2	6.07	126.15	121.90
3	M	205	G	P-O3'-C3'	6.07	126.98	119.70
3	M	160	C	C6-N1-C2	-6.07	117.87	120.30

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	182	C	C5'-C4'-C3'	-6.07	106.29	116.00
3	N	217	G	C5-N7-C8	-6.07	101.27	104.30
3	N	159	U	O3'-P-O5'	-6.07	92.47	104.00
3	M	155	C	N1-C2-O2	6.06	122.54	118.90
3	M	190	G	O4'-C4'-C3'	-6.06	97.94	104.00
3	M	235	U	P-O3'-C3'	6.05	126.97	119.70
3	M	204	G	O4'-C1'-N9	-6.05	103.36	108.20
3	N	149	G	C3'-C2'-C1'	-6.04	96.66	101.50
3	M	145	G	C5-C6-O6	6.04	132.23	128.60
3	M	218	C	N3-C4-N4	-6.04	113.77	118.00
3	M	192	C	C4'-C3'-C2'	-6.04	96.56	102.60
3	M	211	A	C2-N3-C4	6.04	113.62	110.60
3	N	196	C	N3-C4-C5	-6.04	119.48	121.90
3	N	236	C	P-O5'-C5'	-6.03	111.25	120.90
3	M	156	A	N1-C2-N3	-6.03	126.29	129.30
3	N	196	C	O3'-P-O5'	-6.02	92.57	104.00
3	N	203	A	C5-N7-C8	-6.02	100.89	103.90
3	N	182	C	C6-N1-C1'	6.01	128.02	120.80
3	N	223	G	C6-C5-N7	-6.01	126.79	130.40
3	M	142	G	C5-C6-O6	-6.01	124.99	128.60
3	M	155	C	N3-C2-O2	-6.01	117.69	121.90
3	M	157	U	O4'-C1'-C2'	-6.01	99.79	105.80
3	M	213	G	N9-C4-C5	6.01	107.80	105.40
3	M	154	G	C6-N1-C2	-6.01	121.50	125.10
3	N	153	A	O4'-C1'-C2'	-6.01	99.79	105.80
3	N	223	G	C4-C5-N7	6.01	113.20	110.80
3	M	178	C	P-O5'-C5'	-6.01	111.29	120.90
3	N	179	C	C4-C5-C6	-6.00	114.40	117.40
3	M	172	A	C2-N3-C4	5.99	113.59	110.60
3	N	222	G	O4'-C1'-N9	5.98	112.98	108.20
3	N	163	G	C4-C5-N7	-5.98	108.41	110.80
3	N	203	A	C5-C6-N6	-5.97	118.92	123.70
3	N	218	C	N1-C2-N3	5.97	123.38	119.20
3	M	200	G	N3-C4-N9	-5.97	122.42	126.00
3	N	164	U	O4'-C1'-N1	5.97	112.98	108.20
3	M	200	G	O5'-P-OP2	-5.97	100.33	105.70
3	N	149	G	C8-N9-C4	-5.97	104.01	106.40
3	N	219	A	OP2-P-O3'	5.96	118.32	105.20
3	N	200	G	C6-N1-C2	-5.96	121.52	125.10
3	M	185	U	N3-C4-O4	5.96	123.57	119.40
3	M	165	A	C2'-C3'-O3'	-5.96	96.39	109.50
3	M	162	U	C3'-C2'-C1'	-5.95	96.74	101.50

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	235	U	OP2-P-O3'	5.95	118.30	105.20
3	N	209	G	N9-C1'-C2'	-5.95	105.46	112.00
3	M	215	G	C4-C5-C6	5.95	122.37	118.80
3	M	221	C	O4'-C4'-C3'	-5.95	98.05	104.00
3	N	170	A	N1-C2-N3	-5.95	126.33	129.30
3	N	194	A	N1-C6-N6	-5.95	115.03	118.60
3	N	176	A	C5-C6-N1	5.94	120.67	117.70
3	N	217	G	C5-C6-N1	5.94	114.47	111.50
3	M	223	G	C3'-C2'-C1'	5.94	106.25	101.50
3	N	174	G	P-O3'-C3'	-5.94	112.58	119.70
3	M	233	C	C4'-C3'-C2'	-5.93	96.67	102.60
3	N	146	G	C3'-C2'-C1'	5.93	106.25	101.50
3	M	198	C	C5-C4-N4	5.93	124.35	120.20
3	M	172	A	N1-C2-N3	-5.92	126.34	129.30
3	M	151	G	C1'-O4'-C4'	5.92	114.63	109.90
3	N	194	A	C4-C5-C6	-5.92	114.04	117.00
3	N	198	C	N3-C4-N4	5.92	122.14	118.00
3	N	198	C	C4'-C3'-C2'	-5.91	96.69	102.60
2	D	250	ASP	CB-CG-OD2	5.91	123.62	118.30
3	N	222	G	C5-C6-N1	5.91	114.45	111.50
3	M	185	U	N1-C2-N3	5.90	118.44	114.90
3	M	215	G	C5-C6-O6	-5.90	125.06	128.60
2	D	33	ASP	CB-CG-OD2	5.90	123.61	118.30
3	M	194	A	O4'-C1'-C2'	5.90	112.91	107.60
3	N	219	A	O3'-P-O5'	-5.90	92.80	104.00
3	N	155	C	C5-C4-N4	5.89	124.33	120.20
3	N	216	A	C3'-C2'-C1'	-5.89	96.78	101.50
1	A	9	ASP	CB-CG-OD2	5.89	123.60	118.30
3	M	165	A	C5-C6-N1	5.89	120.65	117.70
3	M	155	C	C3'-C2'-C1'	-5.89	96.79	101.50
3	M	226	G	O4'-C4'-C3'	-5.88	98.12	104.00
3	N	200	G	C5-C6-N1	5.88	114.44	111.50
3	M	217	G	C8-N9-C4	5.88	108.75	106.40
3	M	213	G	O4'-C4'-C3'	-5.88	98.12	104.00
3	M	181	C	C6-N1-C1'	5.88	127.85	120.80
3	M	162	U	C5-C6-N1	5.87	125.64	122.70
1	A	2	ILE	CG1-CB-CG2	-5.87	98.48	111.40
3	M	216	A	C4-N9-C1'	5.87	136.86	126.30
3	N	147	U	O4'-C1'-C2'	-5.87	99.93	105.80
3	M	176	A	P-O5'-C5'	-5.87	111.51	120.90
3	N	224	U	C3'-C2'-C1'	-5.86	96.81	101.50
3	M	219	A	O3'-P-O5'	-5.86	92.87	104.00

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	171	G	C4'-C3'-C2'	5.85	108.45	102.60
3	M	210	G	C5-C6-N1	-5.85	108.58	111.50
3	N	222	G	C5'-C4'-O4'	5.85	116.12	109.10
3	M	223	G	C5-C6-O6	-5.85	125.09	128.60
3	M	174	G	C5-C6-O6	-5.84	125.10	128.60
3	M	216	A	N3-C4-N9	5.84	132.07	127.40
3	M	148	G	C5-C6-O6	-5.84	125.10	128.60
3	N	151	G	P-O3'-C3'	-5.84	112.69	119.70
3	N	181	C	C4-C5-C6	5.84	120.32	117.40
3	M	156	A	O4'-C4'-C3'	-5.84	98.16	104.00
3	N	170	A	C6-N1-C2	-5.84	115.10	118.60
3	N	206	C	C5-C6-N1	5.84	123.92	121.00
3	M	221	C	C6-N1-C2	-5.83	117.97	120.30
3	N	176	A	P-O3'-C3'	5.83	126.69	119.70
3	M	203	A	N9-C1'-C2'	5.82	121.57	114.00
3	M	199	C	N3-C4-N4	-5.81	113.93	118.00
3	M	165	A	OP1-P-OP2	-5.81	110.89	119.60
3	M	220	A	C4-C5-N7	-5.80	107.80	110.70
3	N	157	U	N1-C2-N3	5.80	118.38	114.90
3	M	208	C	O4'-C4'-C3'	-5.80	98.20	104.00
3	N	221	C	P-O5'-C5'	5.80	130.17	120.90
3	M	168	G	C1'-O4'-C4'	5.79	114.54	109.90
3	N	207	C	C5'-C4'-C3'	-5.79	106.73	116.00
3	N	216	A	C2-N3-C4	5.79	113.50	110.60
3	N	219	A	O5'-P-OP2	5.79	117.64	110.70
3	M	164	U	C2-N1-C1'	-5.78	110.76	117.70
3	M	198	C	OP2-P-O3'	5.78	117.92	105.20
3	M	237	G	P-O5'-C5'	-5.78	111.65	120.90
3	M	212	A	O4'-C1'-N9	-5.78	103.58	108.20
3	M	218	C	C1'-O4'-C4'	-5.78	105.28	109.90
3	N	214	G	C3'-C2'-C1'	-5.77	96.88	101.50
3	M	211	A	O5'-C5'-C4'	-5.77	100.74	111.70
3	N	175	U	C6-N1-C1'	-5.77	113.13	121.20
3	M	230	G	C5-N7-C8	-5.76	101.42	104.30
3	N	210	G	C5-C6-O6	5.76	132.06	128.60
3	M	154	G	C6-C5-N7	-5.76	126.94	130.40
3	M	204	G	N7-C8-N9	5.75	115.97	113.10
3	M	208	C	N1-C2-N3	5.74	123.22	119.20
3	N	208	C	C5-C6-N1	5.74	123.87	121.00
3	N	162	U	C3'-C2'-C1'	-5.74	96.91	101.50
3	N	152	G	C4-C5-N7	-5.74	108.50	110.80
3	M	151	G	O4'-C1'-C2'	-5.72	100.08	105.80

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	175	U	N1-C1'-C2'	-5.72	105.70	112.00
3	N	158	C	C1'-O4'-C4'	5.72	114.48	109.90
3	M	210	G	C4'-C3'-C2'	-5.72	96.88	102.60
2	D	401	ARG	NE-CZ-NH1	-5.72	117.44	120.30
3	N	152	G	O4'-C1'-C2'	-5.72	100.08	105.80
3	M	167	G	N1-C6-O6	-5.71	116.47	119.90
3	N	218	C	C2-N1-C1'	-5.71	112.52	118.80
3	M	187	C	O5'-P-OP1	-5.71	100.56	105.70
3	M	207	C	C2-N1-C1'	5.71	125.08	118.80
3	M	201	C	O4'-C1'-C2'	-5.71	100.09	105.80
3	N	207	C	C4'-C3'-C2'	-5.71	96.89	102.60
3	N	189	U	C5-C4-O4	-5.70	122.48	125.90
3	M	181	C	C5-C6-N1	5.70	123.85	121.00
3	N	222	G	C2-N3-C4	5.70	114.75	111.90
3	M	212	A	P-O5'-C5'	-5.70	111.78	120.90
3	M	214	G	C4-C5-N7	5.69	113.08	110.80
3	M	226	G	N3-C4-N9	5.69	129.41	126.00
3	N	166	G	C1'-O4'-C4'	5.69	114.45	109.90
3	M	174	G	N1-C6-O6	5.69	123.31	119.90
3	M	166	G	N3-C4-C5	5.67	131.44	128.60
3	N	189	U	C2-N3-C4	-5.67	123.60	127.00
3	N	218	C	C3'-C2'-C1'	-5.67	96.97	101.50
3	M	173	U	N3-C2-O2	5.66	126.16	122.20
3	N	214	G	O4'-C1'-C2'	-5.66	100.14	105.80
3	M	226	G	O4'-C1'-C2'	-5.66	100.14	105.80
3	N	201	C	N1-C1'-C2'	5.66	121.36	114.00
3	M	219	A	N9-C1'-C2'	5.66	121.35	114.00
3	M	211	A	P-O3'-C3'	-5.65	112.92	119.70
3	N	230	G	C3'-C2'-C1'	-5.65	96.98	101.50
2	D	3	ASP	CB-CG-OD2	5.65	123.38	118.30
3	M	142	G	C5-C6-N1	5.65	114.32	111.50
3	M	163	G	C8-N9-C4	-5.64	104.14	106.40
3	M	229	A	N1-C6-N6	-5.63	115.22	118.60
3	N	194	A	N1-C2-N3	-5.63	126.49	129.30
1	A	14	ARG	NE-CZ-NH2	-5.62	117.49	120.30
2	C	425	ASP	N-CA-C	5.62	126.19	111.00
3	N	223	G	N1-C6-O6	5.62	123.28	119.90
3	M	234	G	C5'-C4'-C3'	-5.62	107.00	116.00
2	C	280	ASP	CB-CG-OD2	5.62	123.36	118.30
3	M	179	C	C3'-C2'-C1'	5.62	106.00	101.50
3	M	198	C	C2-N1-C1'	-5.62	112.62	118.80
3	N	194	A	O5'-C5'-C4'	5.62	122.37	111.70

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	221	C	O4'-C1'-C2'	-5.61	100.19	105.80
3	N	175	U	C2-N1-C1'	5.61	124.43	117.70
3	M	211	A	N1-C6-N6	-5.60	115.24	118.60
3	N	223	G	C3'-C2'-C1'	5.60	105.98	101.50
3	M	177	A	OP1-P-O3'	5.60	117.52	105.20
3	M	186	A	C1'-O4'-C4'	-5.60	105.42	109.90
3	N	182	C	N3-C2-O2	5.60	125.82	121.90
3	N	218	C	C5-C4-N4	5.60	124.12	120.20
3	M	171	G	N7-C8-N9	5.59	115.90	113.10
3	N	208	C	P-O5'-C5'	-5.59	111.95	120.90
3	N	234	G	C4-C5-N7	5.59	113.04	110.80
3	M	183	U	C4-C5-C6	-5.59	116.35	119.70
3	N	212	A	C5'-C4'-O4'	-5.59	102.39	109.10
3	M	221	C	C2'-C3'-O3'	-5.59	97.21	109.50
3	N	224	U	N1-C2-O2	-5.59	118.89	122.80
3	M	179	C	N1-C2-N3	5.58	123.11	119.20
3	M	229	A	O3'-P-O5'	-5.58	93.40	104.00
3	M	235	U	O4'-C4'-C3'	-5.58	98.42	104.00
3	M	209	G	C3'-C2'-O2'	-5.57	97.14	113.30
3	N	146	G	N9-C4-C5	5.57	107.63	105.40
3	N	206	C	C4-C5-C6	-5.57	114.62	117.40
3	M	153	A	O4'-C1'-N9	-5.57	103.75	108.20
3	N	154	G	N9-C4-C5	5.57	107.63	105.40
3	M	208	C	C1'-O4'-C4'	5.56	114.35	109.90
3	N	203	A	N9-C1'-C2'	5.56	121.23	114.00
3	N	157	U	N1-C2-O2	-5.56	118.91	122.80
3	M	209	G	C4-C5-C6	5.56	122.13	118.80
3	M	185	U	O3'-P-O5'	-5.55	93.44	104.00
3	M	184	U	O4'-C1'-C2'	-5.55	100.25	105.80
3	M	210	G	N3-C4-C5	5.55	131.38	128.60
3	M	223	G	N1-C2-N3	-5.55	120.57	123.90
3	M	156	A	O5'-P-OP1	-5.55	100.70	105.70
3	N	155	C	O4'-C1'-C2'	-5.55	100.25	105.80
3	M	159	U	O5'-C5'-C4'	-5.55	101.16	111.70
3	M	222	G	C4'-C3'-C2'	-5.55	97.05	102.60
3	N	171	G	C5-C6-O6	5.55	131.93	128.60
3	N	232	A	C5'-C4'-O4'	5.54	115.75	109.10
3	M	143	G	C8-N9-C4	-5.54	104.18	106.40
3	M	148	G	C5'-C4'-O4'	-5.54	102.45	109.10
3	M	182	C	N3-C4-C5	-5.54	119.68	121.90
3	M	196	C	P-O5'-C5'	-5.54	112.04	120.90
3	N	172	A	C2-N3-C4	5.54	113.37	110.60

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	182	C	O4'-C1'-N1	5.53	112.62	108.20
3	M	189	U	O4'-C1'-C2'	-5.53	100.27	105.80
3	M	221	C	C2-N3-C4	5.52	122.66	119.90
3	M	196	C	C4'-C3'-O3'	-5.52	97.80	109.40
2	D	385	ARG	NE-CZ-NH1	-5.52	117.54	120.30
3	M	214	G	C5'-C4'-C3'	-5.52	107.17	116.00
3	M	167	G	N9-C4-C5	5.52	107.61	105.40
3	M	200	G	O3'-P-O5'	-5.52	93.52	104.00
3	M	158	C	N1-C2-N3	5.51	123.06	119.20
3	N	221	C	O5'-P-OP2	-5.51	100.74	105.70
3	N	195	A	C5'-C4'-C3'	-5.51	107.19	116.00
3	M	230	G	C8-N9-C4	-5.50	104.20	106.40
2	D	23	ASP	CB-CG-OD2	5.50	123.25	118.30
3	N	213	G	N3-C4-C5	-5.50	125.85	128.60
3	M	200	G	P-O3'-C3'	5.49	126.29	119.70
3	N	199	C	C4'-C3'-C2'	-5.49	97.11	102.60
3	M	223	G	P-O5'-C5'	-5.48	112.13	120.90
3	N	150	G	C4'-C3'-C2'	-5.48	97.12	102.60
3	N	183	U	C5'-C4'-C3'	-5.48	107.24	116.00
3	M	214	G	P-O5'-C5'	-5.47	112.14	120.90
3	N	201	C	P-O3'-C3'	5.47	126.27	119.70
3	N	175	U	C5-C4-O4	-5.47	122.62	125.90
3	N	166	G	N7-C8-N9	-5.47	110.36	113.10
3	N	228	C	O4'-C1'-N1	5.47	112.58	108.20
3	M	153	A	N9-C1'-C2'	5.47	121.11	114.00
3	M	226	G	C5-N7-C8	5.46	107.03	104.30
3	M	142	G	C3'-C2'-C1'	5.46	105.87	101.50
3	M	214	G	O4'-C4'-C3'	-5.46	98.54	104.00
3	N	172	A	N3-C4-C5	-5.46	122.98	126.80
3	M	196	C	O4'-C4'-C3'	-5.46	98.54	104.00
2	D	294	LEU	N-CA-C	5.45	125.72	111.00
3	N	227	G	C5-N7-C8	-5.45	101.58	104.30
3	N	192	C	N3-C2-O2	5.43	125.70	121.90
3	M	209	G	OP1-P-OP2	5.43	127.74	119.60
3	N	179	C	N1-C1'-C2'	-5.43	106.03	112.00
3	N	163	G	C4'-C3'-C2'	-5.42	97.18	102.60
3	N	220	A	P-O5'-C5'	-5.41	112.24	120.90
3	N	154	G	N3-C2-N2	-5.41	116.11	119.90
3	N	215	G	N3-C4-N9	-5.41	122.75	126.00
3	M	236	C	N3-C2-O2	-5.40	118.12	121.90
3	M	182	C	P-O5'-C5'	-5.40	112.27	120.90
3	M	226	G	N7-C8-N9	-5.39	110.40	113.10

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	150	G	C3'-C2'-C1'	-5.39	97.19	101.50
3	M	194	A	N1-C6-N6	5.39	121.84	118.60
3	N	168	G	C4-C5-C6	5.39	122.04	118.80
2	C	213	ASP	CB-CG-OD2	5.39	123.15	118.30
3	M	159	U	C5'-C4'-C3'	-5.38	107.39	116.00
3	N	161	C	N1-C2-N3	5.38	122.97	119.20
3	N	199	C	O3'-P-O5'	-5.38	93.78	104.00
3	M	227	G	P-O5'-C5'	-5.38	112.29	120.90
3	N	215	G	O4'-C1'-N9	-5.38	103.90	108.20
3	N	221	C	N3-C4-C5	-5.38	119.75	121.90
1	B	9	ASP	CB-CG-OD2	5.37	123.14	118.30
3	N	200	G	N3-C4-C5	-5.37	125.92	128.60
3	N	179	C	C1'-O4'-C4'	5.37	114.19	109.90
3	M	172	A	C5-C6-N1	5.36	120.38	117.70
2	C	319	ASP	CB-CG-OD2	5.36	123.12	118.30
3	M	174	G	C3'-C2'-C1'	5.35	105.78	101.50
3	N	178	C	N1-C1'-C2'	5.35	120.96	114.00
3	N	224	U	O4'-C4'-C3'	-5.35	98.65	104.00
3	N	225	A	C4-C5-N7	5.34	113.37	110.70
3	N	198	C	O4'-C1'-N1	-5.34	103.93	108.20
3	M	173	U	O5'-C5'-C4'	-5.34	101.56	111.70
3	M	197	C	N3-C2-O2	-5.34	118.17	121.90
3	N	176	A	P-O5'-C5'	-5.34	112.36	120.90
2	D	279	ASP	CB-CG-OD2	5.33	123.10	118.30
3	N	164	U	C5'-C4'-O4'	-5.33	102.70	109.10
3	N	219	A	C4'-C3'-C2'	-5.33	97.27	102.60
3	N	143	G	OP1-P-OP2	5.33	127.60	119.60
3	M	199	C	O4'-C1'-N1	-5.33	103.94	108.20
3	N	172	A	C1'-O4'-C4'	5.33	114.17	109.90
3	N	196	C	N1-C1'-C2'	5.33	120.92	114.00
3	N	207	C	N3-C4-C5	-5.32	119.77	121.90
3	N	225	A	C2-N3-C4	-5.32	107.94	110.60
3	M	216	A	C4-C5-N7	5.32	113.36	110.70
3	M	175	U	OP1-P-OP2	5.32	127.57	119.60
3	M	146	G	O4'-C1'-N9	-5.31	103.95	108.20
2	C	64	THR	N-CA-C	-5.31	96.67	111.00
3	M	147	U	O5'-P-OP2	5.31	117.07	110.70
3	N	181	C	N1-C2-O2	-5.31	115.72	118.90
2	C	23	ASP	CB-CG-OD2	5.30	123.07	118.30
3	M	153	A	C8-N9-C4	-5.30	103.68	105.80
3	M	192	C	N1-C2-N3	-5.30	115.49	119.20
3	M	215	G	C3'-C2'-C1'	5.30	105.74	101.50

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	3	ASP	CB-CG-OD2	5.30	123.07	118.30
3	N	210	G	OP1-P-O3'	5.30	116.86	105.20
3	N	219	A	C3'-C2'-O2'	-5.30	97.92	113.30
3	N	158	C	O4'-C1'-C2'	-5.30	100.50	105.80
3	N	219	A	N7-C8-N9	5.30	116.45	113.80
3	M	202	C	O3'-P-O5'	-5.30	93.93	104.00
3	N	154	G	OP1-P-OP2	5.30	127.54	119.60
3	N	177	A	OP1-P-O3'	5.29	116.85	105.20
3	N	213	G	C6-C5-N7	-5.29	127.22	130.40
3	N	217	G	N1-C2-N2	5.29	120.97	116.20
3	M	229	A	O4'-C1'-N9	-5.29	103.97	108.20
3	M	181	C	C4-C5-C6	-5.29	114.76	117.40
3	N	145	G	O4'-C4'-C3'	-5.29	98.71	104.00
3	M	180	C	N1-C2-O2	-5.28	115.73	118.90
3	N	227	G	C6-C5-N7	-5.28	127.23	130.40
2	D	213	ASP	CB-CG-OD2	5.28	123.05	118.30
3	M	170	A	C2-N3-C4	5.28	113.24	110.60
3	N	200	G	OP1-P-OP2	5.28	127.52	119.60
3	M	152	G	C4'-C3'-C2'	-5.28	97.32	102.60
2	C	409	ASP	CB-CG-OD2	5.27	123.04	118.30
3	N	142	G	C6-C5-N7	-5.26	127.24	130.40
3	N	190	G	C2-N3-C4	-5.26	109.27	111.90
3	M	179	C	O4'-C1'-N1	5.25	112.40	108.20
3	N	235	U	C4'-C3'-C2'	-5.25	97.35	102.60
3	M	208	C	C3'-C2'-C1'	5.24	105.69	101.50
2	D	166	LYS	N-CA-C	-5.24	96.86	111.00
3	N	203	A	N7-C8-N9	5.24	116.42	113.80
3	M	223	G	N7-C8-N9	-5.23	110.49	113.10
3	N	177	A	O5'-P-OP1	-5.23	100.99	105.70
3	M	201	C	N1-C2-N3	-5.22	115.54	119.20
3	N	160	C	P-O5'-C5'	-5.22	112.54	120.90
3	N	217	G	C3'-C2'-C1'	-5.22	97.32	101.50
3	M	161	C	N3-C2-O2	-5.22	118.25	121.90
3	M	167	G	O3'-P-O5'	-5.22	94.08	104.00
3	M	196	C	P-O3'-C3'	-5.22	113.43	119.70
3	N	181	C	C4'-C3'-C2'	5.22	107.82	102.60
3	M	177	A	P-O5'-C5'	-5.22	112.55	120.90
3	N	160	C	N1-C2-N3	5.22	122.85	119.20
3	N	223	G	C5-C6-O6	-5.22	125.47	128.60
3	M	155	C	O4'-C1'-N1	5.22	112.37	108.20
1	B	14	ARG	NE-CZ-NH1	-5.22	117.69	120.30
3	N	213	G	C8-N9-C4	-5.21	104.31	106.40

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	151	G	O4'-C1'-N9	5.21	112.37	108.20
3	N	143	G	OP2-P-O3'	5.21	116.66	105.20
3	N	170	A	N3-C4-C5	-5.21	123.15	126.80
3	N	145	G	N1-C2-N3	5.21	127.03	123.90
3	M	233	C	N3-C2-O2	-5.21	118.25	121.90
3	N	164	U	C3'-C2'-C1'	5.20	105.66	101.50
3	M	180	C	N3-C4-C5	-5.20	119.82	121.90
3	N	209	G	O3'-P-O5'	-5.20	94.12	104.00
3	M	214	G	C3'-C2'-O2'	-5.20	98.23	113.30
3	M	214	G	C4'-C3'-O3'	-5.19	98.50	109.40
3	M	221	C	N1-C1'-C2'	-5.19	106.29	112.00
3	N	150	G	N3-C2-N2	-5.19	116.27	119.90
3	M	177	A	O3'-P-O5'	-5.18	94.15	104.00
3	M	201	C	P-O5'-C5'	5.18	129.19	120.90
3	N	175	U	N3-C4-O4	5.18	123.03	119.40
3	M	193	G	C2'-C3'-O3'	-5.18	98.10	109.50
3	M	223	G	C1'-C2'-O2'	-5.18	95.05	110.60
3	N	217	G	N3-C2-N2	-5.18	116.28	119.90
3	N	155	C	C5'-C4'-O4'	5.17	115.31	109.10
3	M	142	G	N3-C4-N9	5.17	129.10	126.00
3	M	205	G	C3'-C2'-O2'	-5.17	98.30	113.30
3	N	151	G	C5-C6-O6	-5.17	125.50	128.60
1	B	8	ILE	CG1-CB-CG2	-5.17	100.03	111.40
3	N	197	C	N1-C2-O2	-5.17	115.80	118.90
2	D	425	ASP	CB-CG-OD2	5.17	122.95	118.30
3	M	195	A	O4'-C1'-C2'	-5.16	100.64	105.80
3	M	212	A	OP1-P-OP2	5.16	127.34	119.60
3	M	222	G	N3-C4-N9	-5.16	122.90	126.00
3	N	172	A	N3-C4-N9	5.16	131.53	127.40
3	N	154	G	C6-N1-C2	-5.16	122.00	125.10
3	M	227	G	C2-N3-C4	-5.16	109.32	111.90
3	N	209	G	C3'-C2'-C1'	5.16	105.63	101.50
3	M	184	U	C6-N1-C2	-5.16	117.91	121.00
3	M	232	A	C8-N9-C4	-5.16	103.74	105.80
3	N	189	U	C5-C6-N1	-5.15	120.12	122.70
3	N	203	A	O4'-C1'-C2'	-5.15	100.65	105.80
3	N	207	C	C6-N1-C2	-5.15	118.24	120.30
3	M	233	C	C2-N1-C1'	5.15	124.46	118.80
3	N	155	C	O3'-P-O5'	-5.15	94.22	104.00
3	M	160	C	C1'-O4'-C4'	5.14	114.01	109.90
3	M	147	U	C6-N1-C2	5.14	124.08	121.00
3	N	191	C	N1-C1'-C2'	5.14	120.68	114.00

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	192	C	C2-N3-C4	-5.14	117.33	119.90
3	N	234	G	C5-N7-C8	-5.14	101.73	104.30
3	N	219	A	N9-C1'-C2'	5.13	120.68	114.00
3	N	147	U	O5'-P-OP1	-5.13	101.08	105.70
3	N	149	G	O4'-C1'-C2'	-5.13	100.67	105.80
3	N	170	A	O4'-C1'-C2'	-5.13	100.67	105.80
3	M	221	C	N3-C2-O2	5.13	125.49	121.90
3	N	146	G	C8-N9-C4	-5.13	104.35	106.40
3	M	156	A	O3'-P-O5'	-5.13	94.26	104.00
3	M	186	A	C3'-C2'-C1'	5.12	105.60	101.50
3	M	195	A	OP1-P-OP2	-5.12	111.92	119.60
3	N	204	G	C5-C6-O6	5.12	131.67	128.60
3	N	219	A	O4'-C1'-N9	-5.12	104.11	108.20
3	M	184	U	N1-C1'-C2'	5.12	120.65	114.00
3	M	229	A	C6-N1-C2	-5.12	115.53	118.60
3	N	200	G	P-O5'-C5'	-5.12	112.72	120.90
3	N	180	C	C5-C4-N4	-5.11	116.62	120.20
3	M	164	U	C6-N1-C2	5.11	124.07	121.00
3	M	181	C	C6-N1-C2	-5.11	118.25	120.30
3	M	198	C	C3'-C2'-C1'	5.11	105.59	101.50
3	M	154	G	OP2-P-O3'	5.11	116.44	105.20
3	N	203	A	C4-C5-N7	5.11	113.25	110.70
3	N	195	A	N1-C2-N3	-5.11	126.75	129.30
3	N	188	C	N3-C2-O2	5.10	125.47	121.90
2	D	311	ASP	CB-CG-OD2	5.10	122.89	118.30
3	M	196	C	N3-C2-O2	5.10	125.47	121.90
3	N	210	G	C5-C6-N1	-5.10	108.95	111.50
3	M	181	C	P-O5'-C5'	-5.10	112.74	120.90
3	M	213	G	P-O3'-C3'	-5.10	113.58	119.70
3	N	149	G	N1-C6-O6	-5.10	116.84	119.90
3	N	180	C	C4'-C3'-C2'	5.10	107.70	102.60
3	N	215	G	OP1-P-OP2	5.10	127.25	119.60
3	M	215	G	N9-C4-C5	5.09	107.44	105.40
3	M	235	U	C4'-C3'-C2'	-5.09	97.51	102.60
3	N	180	C	C5'-C4'-C3'	-5.09	107.86	116.00
2	C	285	ASP	CB-CG-OD2	5.09	122.88	118.30
3	M	235	U	N3-C4-C5	5.09	117.65	114.60
3	N	159	U	C5-C4-O4	5.08	128.94	125.90
3	N	222	G	O3'-P-O5'	-5.07	94.36	104.00
3	N	194	A	C3'-C2'-C1'	5.07	105.56	101.50
3	N	212	A	P-O5'-C5'	-5.07	112.79	120.90
3	M	157	U	N1-C2-O2	-5.07	119.25	122.80

*Continued on next page...*



Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	197	C	C5-C4-N4	-5.07	116.65	120.20
3	M	187	C	O5'-C5'-C4'	-5.06	102.08	111.70
3	N	198	C	C4-C5-C6	5.06	119.93	117.40
2	C	183	ASP	CB-CG-OD2	5.06	122.86	118.30
3	N	225	A	C6-C5-N7	-5.06	128.76	132.30
3	M	175	U	N3-C2-O2	-5.06	118.66	122.20
3	M	177	A	C1'-O4'-C4'	5.06	113.95	109.90
3	M	218	C	O5'-C5'-C4'	-5.06	102.08	111.70
3	N	187	C	O3'-P-O5'	-5.06	94.39	104.00
1	B	3	ILE	N-CA-C	-5.06	97.35	111.00
3	M	170	A	N9-C4-C5	5.06	107.82	105.80
3	M	143	G	N1-C6-O6	-5.05	116.87	119.90
3	N	214	G	P-O5'-C5'	-5.04	112.83	120.90
3	N	224	U	C4'-C3'-C2'	-5.04	97.56	102.60
3	M	227	G	C6-C5-N7	-5.04	127.38	130.40
3	N	163	G	OP1-P-OP2	5.04	127.16	119.60
3	N	217	G	O5'-P-OP1	5.04	116.74	110.70
3	N	219	A	P-O5'-C5'	-5.04	112.84	120.90
3	M	207	C	N1-C1'-C2'	-5.03	106.47	112.00
3	M	197	C	C6-N1-C1'	-5.03	114.76	120.80
3	N	154	G	N1-C2-N3	5.03	126.92	123.90
3	M	203	A	O3'-P-O5'	-5.03	94.45	104.00
3	M	183	U	N3-C2-O2	-5.02	118.69	122.20
3	M	189	U	N1-C2-N3	5.02	117.91	114.90
3	M	151	G	O3'-P-O5'	-5.02	94.47	104.00
3	M	163	G	N7-C8-N9	-5.01	110.60	113.10
3	N	145	G	C4'-C3'-C2'	-5.01	97.59	102.60
3	M	201	C	O4'-C4'-C3'	-5.01	98.99	104.00
3	M	220	A	C5-C6-N1	-5.01	115.20	117.70
3	N	142	G	O4'-C1'-N9	-5.01	104.20	108.20
3	N	201	C	OP2-P-O3'	5.01	116.21	105.20
3	M	142	G	C4-N9-C1'	5.00	133.00	126.50

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts [\(i\)](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	727	0	786	80	0
1	B	727	0	786	90	0
2	C	3149	0	3364	579	0
2	D	3133	0	3349	620	0
3	M	2063	0	1043	162	0
3	N	2063	0	1041	136	0
4	A	23	0	0	2	0
4	B	26	0	0	2	0
4	C	107	0	0	17	0
4	D	107	0	0	21	0
4	M	92	0	0	11	0
4	N	119	0	0	4	0
All	All	12336	0	10369	1633	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 75.

All (1633) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:18:ALA:CB	2:D:71:LYS:HD2	1.54	1.34
2:C:325:LYS:NZ	2:C:325:LYS:HA	1.51	1.21
2:D:18:ALA:HB1	2:D:71:LYS:CD	1.71	1.19
2:D:290:ILE:HG23	2:D:294:LEU:HD21	1.22	1.18
2:C:64:THR:HG22	2:C:66:LYS:HB2	1.25	1.15
2:D:105:LEU:HD12	2:D:117:ALA:HB2	1.15	1.14
2:C:91:LYS:H	2:C:91:LYS:HD3	1.14	1.13
2:C:278:ILE:HD12	2:C:278:ILE:H	1.03	1.13
2:D:201:GLU:HA	2:D:204:LYS:HB3	1.12	1.11
2:C:105:LEU:HB3	2:C:113:LYS:HE2	1.27	1.11
2:C:219:ILE:HG22	2:C:220:ASP:H	0.96	1.11
2:C:166:LYS:HG2	2:C:167:SER:H	1.00	1.10
2:C:122:ARG:HG3	2:C:278:ILE:HG21	1.34	1.10
2:C:219:ILE:CG2	2:C:220:ASP:H	1.67	1.07
2:C:98:LYS:H	2:C:98:LYS:HD2	1.15	1.07
2:C:219:ILE:HG22	2:C:220:ASP:N	1.65	1.07
2:D:44:ASN:HD21	2:D:46:LYS:HB3	1.18	1.06
3:N:185:U:H5''	3:N:186:A:OP2	1.55	1.06
2:C:148:LYS:O	2:C:152:GLU:HG2	1.55	1.06
3:M:194:A:N6	3:M:224:U:H3	1.53	1.06
2:D:27:ILE:HD11	2:D:63:LYS:HZ1	1.18	1.05
2:C:281:LEU:O	2:C:281:LEU:HG	1.57	1.05

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:36:ARG:HG2	2:C:36:ARG:HH11	1.19	1.04
2:C:98:LYS:HG2	2:C:99:LYS:H	0.90	1.04
2:D:10:ASN:O	2:D:14:ASN:HB2	1.56	1.03
2:C:98:LYS:CG	2:C:99:LYS:H	1.67	1.03
2:C:17:LYS:HG3	2:C:18:ALA:H	1.20	1.02
2:D:14:ASN:HA	2:D:17:LYS:NZ	1.73	1.02
2:C:98:LYS:HG2	2:C:99:LYS:N	1.74	1.02
2:C:59:ALA:HB2	2:C:77:ILE:HD12	1.40	1.01
2:D:10:ASN:HD21	2:D:17:LYS:HE2	1.21	1.01
2:C:24:LYS:HD2	2:C:24:LYS:O	1.62	1.00
2:C:60:LEU:HD12	2:C:60:LEU:O	1.60	1.00
3:M:181:C:H4'	3:M:181:C:OP1	1.62	0.99
1:B:86:LYS:NZ	1:B:86:LYS:HB3	1.77	0.99
3:N:168:G:H2'	3:N:169:G:H5''	1.44	0.99
3:M:236:C:H4'	3:M:237:G:H3'	1.41	0.99
2:C:44:ASN:HD22	2:C:47:LEU:HG	1.28	0.99
2:C:310:VAL:HG12	2:C:311:ASP:H	1.24	0.98
2:C:299:LEU:HD13	2:C:299:LEU:H	1.27	0.98
2:C:424:ILE:HD13	2:C:425:ASP:N	1.78	0.98
2:C:70:LYS:HD3	2:C:70:LYS:C	1.81	0.98
2:D:139:TYR:OH	2:D:188:ASP:HB3	1.62	0.98
2:D:219:ILE:HG22	2:D:220:ASP:H	1.27	0.97
2:C:36:ARG:HA	2:C:39:ILE:HG13	1.45	0.97
2:D:18:ALA:HB1	2:D:71:LYS:HD2	1.00	0.97
2:D:249:LEU:HD13	2:D:272:ILE:HB	1.46	0.97
3:M:181:C:H5'	3:M:181:C:C6	2.01	0.96
2:C:4:LYS:HA	2:C:7:GLU:HB3	1.47	0.95
3:M:194:A:H61	3:M:224:U:H3	1.04	0.95
3:N:146:G:H1'	3:N:186:A:C8	2.01	0.95
2:D:173:LYS:O	2:D:177:GLU:HB2	1.67	0.94
2:C:298:ASP:HB2	2:C:299:LEU:HD13	1.49	0.94
2:C:68:LEU:HD12	2:C:306:ALA:HB2	1.46	0.94
2:D:101:ASN:N	2:D:101:ASN:HD22	1.65	0.94
3:N:226:G:C2'	3:N:227:G:H5'	1.97	0.94
1:B:69:LYS:NZ	3:N:164:U:C4	2.36	0.94
2:C:12:ALA:HB1	2:C:30:VAL:HG13	1.51	0.93
2:D:14:ASN:HA	2:D:17:LYS:HZ2	1.29	0.93
2:C:2:MET:HE3	2:C:2:MET:HA	1.47	0.93
2:C:278:ILE:H	2:C:278:ILE:CD1	1.80	0.93
2:C:64:THR:HG22	2:C:66:LYS:CB	1.99	0.93
1:A:38:LEU:H	1:A:38:LEU:HD22	1.34	0.92

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:166:LYS:HG2	2:C:167:SER:N	1.80	0.92
2:D:105:LEU:CD1	2:D:117:ALA:HB2	1.98	0.92
2:C:98:LYS:HD2	2:C:98:LYS:N	1.84	0.92
2:C:325:LYS:HA	2:C:325:LYS:HZ2	1.19	0.92
2:D:221:GLY:CA	2:D:258:ALA:HB2	2.00	0.91
2:C:326:PHE:CZ	2:C:328:LEU:HD12	2.06	0.91
1:B:46:LYS:HE2	1:B:65:GLU:OE2	1.71	0.91
3:N:143:G:H1	3:N:235:U:H3	0.96	0.90
2:C:278:ILE:HD12	2:C:278:ILE:N	1.87	0.89
2:C:328:LEU:CD2	2:C:385:ARG:HD2	2.02	0.89
2:C:325:LYS:HB3	2:C:421:LYS:HG3	1.52	0.89
2:D:201:GLU:HA	2:D:204:LYS:CB	2.02	0.89
3:M:146:G:H1'	3:M:186:A:H8	1.35	0.89
3:N:236:C:H5''	3:N:237:G:O5'	1.71	0.89
2:D:329:ASN:O	2:D:332:MET:HB3	1.71	0.89
2:D:24:LYS:HG2	2:D:25:LYS:N	1.88	0.89
2:D:104:LEU:HD11	2:D:212:PRO:HG2	1.53	0.89
2:D:125:GLN:HA	2:D:129:LEU:O	1.73	0.88
2:C:124:ILE:HG21	2:C:184:VAL:HG11	1.55	0.88
2:D:14:ASN:OD1	2:D:17:LYS:HD2	1.70	0.88
2:C:64:THR:CG2	2:C:66:LYS:H	1.86	0.88
2:C:122:ARG:CG	2:C:278:ILE:HG21	2.02	0.88
2:C:166:LYS:CG	2:C:167:SER:H	1.86	0.88
2:D:275:GLY:HA3	2:D:280:ASP:HB2	1.54	0.88
3:M:181:C:H5'	3:M:181:C:H6	1.31	0.88
1:B:15:ARG:HH21	1:B:55:ARG:HD3	1.38	0.88
2:C:134:ILE:HG21	2:C:174:GLU:HG3	1.56	0.87
2:C:180:LYS:O	3:N:232:A:H5'	1.74	0.87
2:C:326:PHE:CE1	2:C:328:LEU:HD12	2.09	0.87
3:N:193:G:H4'	3:N:194:A:OP1	1.75	0.87
3:M:194:A:H2'	3:M:195:A:O5'	1.73	0.87
1:B:86:LYS:HB3	1:B:86:LYS:HZ3	1.37	0.87
2:C:90:ALA:H	2:C:91:LYS:HD3	1.40	0.87
2:D:193:HIS:O	2:D:194:LYS:HG2	1.75	0.86
2:D:382:LYS:HG2	3:N:220:A:OP1	1.75	0.86
3:M:194:A:C2'	3:M:195:A:O5'	2.21	0.86
3:N:226:G:H2'	3:N:227:G:H5'	1.54	0.86
1:A:26:ILE:HD11	1:A:29:PRO:HB3	1.56	0.86
2:C:166:LYS:HD2	2:C:169:VAL:HG22	1.56	0.86
2:D:261:ALA:O	2:D:262:VAL:HG23	1.75	0.86
2:D:163:THR:HG23	2:D:164:ARG:H	1.40	0.86

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:108:ILE:HD12	2:D:108:ILE:H	1.40	0.85
3:M:180:C:H2'	3:M:181:C:H5''	1.58	0.85
2:C:89:GLU:HB2	2:C:91:LYS:NZ	1.91	0.85
2:D:219:ILE:HG22	2:D:220:ASP:N	1.91	0.85
3:N:194:A:H5''	3:N:195:A:OP2	1.73	0.85
2:D:15:LYS:N	2:D:15:LYS:HE2	1.90	0.85
3:M:181:C:H6	3:M:181:C:C5'	1.88	0.85
2:C:325:LYS:HA	2:C:325:LYS:HZ1	1.36	0.85
2:D:44:ASN:ND2	2:D:46:LYS:HB3	1.90	0.85
1:B:46:LYS:HG2	1:B:48:TYR:HE1	1.41	0.85
2:C:109:GLN:HE22	2:C:192:ARG:HH12	1.21	0.85
3:N:181:C:H6	3:N:181:C:H5'	1.40	0.85
1:B:71:ASN:CB	1:B:74:GLN:HG3	2.06	0.84
2:C:319:ASP:HA	2:C:322:MET:CB	2.08	0.84
2:C:323:ARG:HB3	2:C:424:ILE:HD11	1.58	0.84
3:M:175:U:H6	3:M:175:U:C5'	1.91	0.84
2:D:41:ALA:O	2:D:257:GLY:HA3	1.78	0.84
2:D:106:VAL:HG11	2:D:203:MET:HG2	1.59	0.84
2:C:106:VAL:HA	2:C:190:ALA:HB2	1.60	0.84
2:D:14:ASN:C	2:D:15:LYS:HE2	1.96	0.84
2:D:221:GLY:HA3	2:D:258:ALA:HB2	1.60	0.84
1:B:36:LYS:NZ	1:B:36:LYS:HB3	1.91	0.84
3:N:208:C:N3	3:N:213:G:N2	2.24	0.83
2:C:105:LEU:HB3	2:C:113:LYS:CE	2.07	0.83
2:C:140:ARG:HH12	2:C:146:GLN:NE2	1.76	0.83
2:C:91:LYS:HD3	2:C:91:LYS:N	1.93	0.83
2:D:18:ALA:HB2	2:D:71:LYS:HD2	1.57	0.83
1:B:43:LEU:O	1:B:45:PRO:HD3	1.79	0.83
2:C:2:MET:SD	2:C:249:LEU:O	2.36	0.83
2:C:166:LYS:HG2	2:C:168:PRO:HD2	1.60	0.83
2:C:178:LYS:NZ	2:C:178:LYS:HB3	1.93	0.83
2:D:10:ASN:ND2	2:D:17:LYS:HE2	1.93	0.83
2:C:27:ILE:HG23	2:C:74:ILE:CD1	2.08	0.82
2:D:59:ALA:O	2:D:63:LYS:HB3	1.78	0.82
2:C:45:VAL:CG2	2:C:49:LEU:HD11	2.07	0.82
2:C:91:LYS:H	2:C:91:LYS:CD	1.83	0.82
2:C:97:PRO:HB2	2:C:98:LYS:NZ	1.95	0.82
2:D:13:LEU:HD21	2:D:75:ILE:HD11	1.60	0.82
2:D:59:ALA:HA	2:D:63:LYS:HB2	1.62	0.82
2:C:162:GLU:O	2:C:163:THR:HG23	1.80	0.81
2:C:335:LEU:O	2:C:336:GLU:HG2	1.78	0.81

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:66:LYS:HG3	2:D:67:GLY:N	1.95	0.81
2:C:319:ASP:HA	2:C:322:MET:HB2	1.62	0.81
2:C:2:MET:HG3	2:C:252:SER:O	1.79	0.81
2:D:322:MET:HB3	4:D:2084:HOH:O	1.79	0.81
2:C:73:HIS:HD2	2:C:76:LYS:HD2	1.43	0.81
2:C:85:LEU:HD21	2:C:260:SER:CB	2.09	0.81
2:D:18:ALA:CB	2:D:71:LYS:CD	2.43	0.81
3:N:185:U:C5'	3:N:186:A:OP2	2.29	0.81
2:C:134:ILE:CD1	2:C:174:GLU:HB2	2.11	0.81
2:C:215:ILE:HG22	2:C:234:PHE:HZ	1.44	0.81
2:D:326:PHE:HA	2:D:417:TYR:OH	1.79	0.81
2:C:30:VAL:HG12	2:C:34:ILE:HG13	1.61	0.80
2:D:232:LYS:O	2:D:236:GLU:HB3	1.82	0.80
2:D:171:ILE:HD12	2:D:175:GLY:HA3	1.62	0.80
2:D:113:LYS:HG2	2:D:188:ASP:OD1	1.81	0.80
2:C:42:ASP:O	2:C:257:GLY:HA3	1.80	0.80
2:C:325:LYS:HZ2	2:C:325:LYS:CA	1.95	0.80
2:D:366:THR:O	2:D:370:ILE:HD12	1.82	0.80
2:C:261:ALA:O	2:C:264:GLU:HG2	1.81	0.80
2:C:310:VAL:HG12	2:C:311:ASP:N	1.96	0.79
2:D:390:ILE:O	2:D:395:ARG:HD2	1.81	0.79
2:D:290:ILE:HG23	2:D:294:LEU:CD2	2.10	0.79
2:C:64:THR:CG2	2:C:66:LYS:HB2	2.08	0.79
2:C:97:PRO:HD2	2:C:101:ASN:HD21	1.48	0.79
2:C:328:LEU:HD21	2:C:385:ARG:HD2	1.63	0.79
2:D:17:LYS:HA	2:D:17:LYS:HZ1	1.48	0.79
2:D:38:LEU:HD12	2:D:48:VAL:HG13	1.64	0.79
2:D:59:ALA:HA	2:D:63:LYS:CB	2.12	0.79
2:D:104:LEU:HD23	2:D:189:THR:HG21	1.65	0.79
2:D:168:PRO:HA	2:D:171:ILE:CG2	2.13	0.79
2:C:85:LEU:HD21	2:C:260:SER:HB2	1.64	0.79
2:D:55:ILE:HD11	2:D:81:GLU:HB3	1.64	0.79
2:D:58:ARG:HA	2:D:62:GLU:HG2	1.65	0.79
2:C:68:LEU:HD12	2:C:306:ALA:CB	2.13	0.78
2:D:66:LYS:HG3	2:D:67:GLY:H	1.48	0.78
2:D:249:LEU:CD1	2:D:272:ILE:HB	2.13	0.78
2:D:307:GLU:HB3	2:D:311:ASP:HB3	1.65	0.78
3:M:173:U:H2'	3:M:174:G:H5'	1.65	0.78
2:C:219:ILE:HG21	2:C:227:ALA:HB1	1.65	0.78
2:C:63:LYS:NZ	2:C:70:LYS:HZ1	1.80	0.78
2:D:203:MET:HA	2:D:206:ILE:HB	1.65	0.78

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:208:C:H42	3:N:213:G:H1	1.29	0.78
2:D:24:LYS:HG2	2:D:25:LYS:H	1.46	0.78
2:D:365:LEU:O	2:D:370:ILE:HD11	1.82	0.78
2:C:108:ILE:HG23	2:C:194:LYS:HA	1.65	0.78
2:D:122:ARG:HH21	2:D:154:ILE:HG23	1.47	0.78
2:C:36:ARG:HG2	2:C:36:ARG:NH1	1.90	0.78
2:D:38:LEU:HD11	2:D:51:MET:SD	2.23	0.78
2:D:88:GLU:HB3	2:D:287:LYS:NZ	1.98	0.78
2:C:64:THR:HG23	2:C:66:LYS:H	1.48	0.78
1:B:71:ASN:HB2	1:B:74:GLN:HG3	1.66	0.77
3:M:194:A:N6	3:M:224:U:N3	2.31	0.77
2:C:44:ASN:ND2	2:C:47:LEU:HG	1.99	0.77
2:D:43:VAL:HG13	2:D:260:SER:HB2	1.65	0.77
2:C:63:LYS:HZ3	2:C:70:LYS:NZ	1.82	0.77
2:C:43:VAL:HG22	2:C:257:GLY:HA2	1.67	0.77
2:D:221:GLY:HA2	2:D:258:ALA:HB2	1.66	0.77
2:C:17:LYS:HG3	2:C:18:ALA:N	1.98	0.77
2:D:244:ILE:CD1	2:D:267:ALA:HB1	2.14	0.77
3:M:194:A:O2'	3:M:195:A:H5'	1.85	0.77
2:C:106:VAL:HB	2:C:199:LEU:HD11	1.64	0.77
2:D:35:GLN:HA	2:D:48:VAL:HG11	1.67	0.77
2:D:88:GLU:HB3	2:D:287:LYS:HZ1	1.50	0.77
2:D:116:THR:O	2:D:120:LEU:HB3	1.84	0.76
2:C:159:TYR:CD2	2:C:174:GLU:OE1	2.38	0.76
2:D:101:ASN:N	2:D:101:ASN:ND2	2.26	0.76
2:D:206:ILE:HD12	2:D:206:ILE:N	2.00	0.76
2:D:216:ILE:HG21	2:D:245:ILE:CD1	2.15	0.76
3:N:168:G:C2'	3:N:169:G:H5''	2.15	0.76
2:D:8:ASN:HA	2:D:11:LYS:CB	2.16	0.76
2:D:328:LEU:HG	2:D:385:ARG:HB3	1.67	0.76
2:C:45:VAL:HG22	2:C:49:LEU:CD1	2.15	0.76
2:C:134:ILE:HD13	2:C:174:GLU:HB2	1.68	0.75
2:C:169:VAL:C	2:C:171:ILE:H	1.86	0.75
2:D:315:GLU:HA	2:D:318:ILE:HG22	1.67	0.75
2:D:4:LYS:H	2:D:4:LYS:HZ2	1.34	0.75
3:N:146:G:H1'	3:N:186:A:H8	1.50	0.75
2:D:326:PHE:HE1	2:D:329:ASN:OD1	1.68	0.75
2:C:63:LYS:NZ	2:C:70:LYS:NZ	2.35	0.75
2:D:139:TYR:O	2:D:140:ARG:HD3	1.86	0.75
2:D:196:GLU:OE2	2:D:230:GLN:HA	1.87	0.75
2:D:210:THR:C	2:D:212:PRO:HD3	2.07	0.75

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:64:THR:HG22	2:D:65:PRO:HD2	1.67	0.75
2:D:238:VAL:HG12	2:D:241:ILE:HG23	1.69	0.75
3:N:172:A:H2'	3:N:173:U:O5'	1.86	0.74
2:D:41:ALA:HB3	2:D:43:VAL:HG23	1.68	0.74
2:D:203:MET:O	2:D:207:LYS:HG3	1.87	0.74
2:D:232:LYS:HE3	2:D:265:THR:HA	1.67	0.74
3:M:146:G:HI'	3:M:186:A:C8	2.22	0.74
2:C:397:ARG:HB2	2:C:407:GLU:OE1	1.87	0.74
3:M:221:C:O2'	3:M:222:G:H5'	1.88	0.74
3:N:180:C:C2'	3:N:181:C:H5''	2.17	0.74
2:C:299:LEU:CD2	2:C:300:GLU:H	2.00	0.74
2:D:112:GLY:C	2:D:114:THR:N	2.37	0.74
1:A:11:LYS:HE3	1:A:11:LYS:HA	1.67	0.74
2:D:21:PHE:CZ	2:D:65:PRO:HA	2.22	0.74
2:D:83:VAL:O	2:D:86:LEU:HG	1.87	0.74
2:C:272:ILE:HD13	2:C:284:PHE:HD1	1.53	0.73
3:M:221:C:C2'	3:M:222:G:H5'	2.18	0.73
2:C:314:THR:O	2:C:318:ILE:HB	1.89	0.73
2:C:400:ALA:HB2	2:C:410:VAL:HG11	1.71	0.73
1:B:3:ILE:CD1	1:B:38:LEU:HD11	2.18	0.73
2:C:150:LEU:O	2:C:153:LYS:N	2.21	0.73
2:C:45:VAL:HG13	2:C:46:LYS:N	2.04	0.73
2:C:86:LEU:HD12	2:C:290:ILE:CD1	2.19	0.73
2:D:96:ASN:ND2	4:D:2031:HOH:O	2.21	0.73
2:D:167:SER:O	2:D:171:ILE:HG22	1.88	0.73
2:D:219:ILE:CG2	2:D:220:ASP:H	2.02	0.73
2:C:73:HIS:CD2	2:C:76:LYS:HD2	2.23	0.73
2:D:170:ASP:O	2:D:174:GLU:HB2	1.87	0.73
2:D:210:THR:HG22	4:D:2067:HOH:O	1.87	0.73
1:B:46:LYS:HG2	1:B:48:TYR:CE1	2.22	0.73
2:C:424:ILE:HD13	2:C:424:ILE:C	2.10	0.73
2:D:239:GLY:O	2:D:241:ILE:HG22	1.88	0.73
3:N:169:G:N7	4:N:2036:HOH:O	2.22	0.72
2:C:68:LEU:HD13	2:C:68:LEU:H	1.53	0.72
2:D:57:ARG:HD2	2:D:61:GLU:HG3	1.69	0.72
2:D:201:GLU:CA	2:D:204:LYS:HB3	2.06	0.72
2:D:326:PHE:CE1	2:D:329:ASN:OD1	2.42	0.72
2:C:326:PHE:HD1	2:C:327:THR:N	1.87	0.72
2:D:330:GLU:O	2:D:334:GLN:HG2	1.88	0.72
1:A:1:MET:SD	1:A:72:LYS:HG3	2.29	0.72
3:M:209:G:N7	4:M:2070:HOH:O	2.22	0.72

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:58:ARG:NH2	2:C:77:ILE:HG12	2.03	0.72
2:D:103:ILE:HG21	2:D:216:ILE:HG13	1.71	0.72
2:C:27:ILE:HG23	2:C:74:ILE:HD11	1.71	0.72
2:C:326:PHE:HB3	2:C:329:ASN:HB2	1.70	0.72
1:B:15:ARG:O	1:B:15:ARG:NE	2.23	0.72
2:C:310:VAL:CG1	2:C:311:ASP:H	2.01	0.72
2:C:323:ARG:NH2	2:C:426:LYS:O	2.22	0.72
2:D:14:ASN:HA	2:D:17:LYS:HZ3	1.55	0.72
3:N:160:C:H3'	3:N:160:C:H6	1.54	0.72
3:N:172:A:H5'	3:N:172:A:H8	1.54	0.72
2:C:67:GLY:HA2	2:C:309:MET:SD	2.30	0.72
2:C:290:ILE:HG22	2:C:294:LEU:HG	1.72	0.72
1:A:23:GLU:CA	1:A:23:GLU:OE1	2.37	0.71
2:C:83:VAL:HG22	2:C:290:ILE:HG13	1.71	0.71
3:N:210:G:P	3:N:210:G:H8	2.13	0.71
2:C:244:ILE:N	2:C:244:ILE:HD12	2.05	0.71
2:C:266:LYS:NZ	4:C:2078:HOH:O	2.22	0.71
3:N:208:C:N4	3:N:213:G:H1	1.86	0.71
2:D:64:THR:HG22	2:D:65:PRO:CD	2.19	0.71
1:B:46:LYS:CE	1:B:65:GLU:OE2	2.37	0.71
2:D:104:LEU:HB3	2:D:189:THR:HG21	1.72	0.71
2:D:247:THR:O	2:D:273:GLY:HA3	1.89	0.71
2:D:88:GLU:OE2	2:D:88:GLU:N	2.24	0.71
3:N:190:G:H2'	3:N:191:C:H5'	1.73	0.71
3:M:236:C:C4'	3:M:237:G:H3'	2.19	0.71
2:D:113:LYS:HE3	2:D:191:GLY:HA2	1.73	0.71
2:D:214:GLU:HA	2:D:241:ILE:O	1.90	0.71
2:D:285:ASP:HB2	2:D:288:LYS:HB2	1.72	0.71
2:C:135:ALA:HB1	2:C:139:TYR:CE1	2.26	0.70
3:M:197:C:H3'	3:M:197:C:H6	1.56	0.70
3:M:190:G:H2'	3:M:191:C:H6	1.54	0.70
2:D:5:LEU:HD23	2:D:41:ALA:HB2	1.74	0.70
2:C:64:THR:HG22	2:C:66:LYS:H	1.57	0.70
2:C:123:TYR:HE2	2:C:283:PRO:HG3	1.54	0.70
2:C:133:LEU:CD2	2:C:186:ILE:HB	2.20	0.70
2:D:46:LYS:O	2:D:49:LEU:HB2	1.91	0.70
2:D:428:HIS:N	4:D:2107:HOH:O	2.23	0.70
2:C:57:ARG:O	2:C:57:ARG:NE	2.24	0.70
2:C:134:ILE:CG2	2:C:174:GLU:HG3	2.21	0.70
2:C:94:GLU:CD	2:C:94:GLU:H	1.94	0.70
2:C:187:ILE:HG22	2:C:189:THR:HG22	1.71	0.70

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:244:ILE:N	2:C:244:ILE:CD1	2.54	0.70
1:A:73:LEU:HD22	3:M:162:U:H5	1.55	0.70
2:C:312:GLU:O	2:C:316:GLU:CB	2.40	0.70
2:C:215:ILE:CG2	2:C:234:PHE:HZ	2.05	0.69
2:D:6:GLY:O	2:D:9:LEU:HB3	1.91	0.69
2:C:89:GLU:HB2	2:C:91:LYS:HZ2	1.56	0.69
3:N:210:G:H8	3:N:210:G:O5'	1.75	0.69
2:C:2:MET:HA	2:C:2:MET:CE	2.20	0.69
2:D:9:LEU:HD21	2:D:82:LEU:HD21	1.74	0.69
1:A:10:LYS:HB2	1:A:25:ALA:O	1.91	0.69
2:D:163:THR:HG23	2:D:164:ARG:N	2.06	0.69
2:D:13:LEU:HD11	2:D:75:ILE:HD12	1.73	0.69
3:M:151:G:H1	3:M:179:C:N4	1.90	0.69
3:M:175:U:H6	3:M:175:U:H5''	1.57	0.69
3:N:197:C:H5''	3:N:198:C:H5'	1.73	0.69
2:D:8:ASN:HA	2:D:11:LYS:HB2	1.73	0.69
2:D:64:THR:C	2:D:66:LYS:H	1.94	0.69
2:D:122:ARG:NH2	2:D:154:ILE:HG23	2.07	0.69
2:D:322:MET:HG3	2:D:323:ARG:HH11	1.58	0.69
3:N:168:G:H2'	3:N:169:G:C5'	2.21	0.69
3:N:236:C:H4'	3:N:237:G:O3'	1.93	0.69
2:C:44:ASN:O	2:C:45:VAL:C	2.31	0.69
3:N:190:G:C2'	3:N:191:C:H5'	2.22	0.69
2:C:384:GLU:OE2	2:C:395:ARG:HD3	1.93	0.69
2:D:2:MET:SD	2:D:289:PHE:CE1	2.85	0.69
2:D:216:ILE:HG21	2:D:245:ILE:HD12	1.74	0.69
3:N:172:A:C2'	3:N:173:U:O5'	2.39	0.69
2:D:199:LEU:HD23	2:D:200:LEU:H	1.57	0.68
3:M:179:C:H2'	3:M:180:C:C6	2.27	0.68
2:C:73:HIS:NE2	2:C:76:LYS:NZ	2.41	0.68
3:M:180:C:C2'	3:M:181:C:H5''	2.23	0.68
3:M:197:C:H3'	3:M:197:C:C6	2.27	0.68
2:C:31:ILE:HD11	2:C:55:ILE:HG21	1.74	0.68
2:D:84:LYS:NZ	2:D:84:LYS:HB3	2.08	0.68
3:M:196:C:N3	4:M:2058:HOH:O	2.26	0.68
2:C:27:ILE:HG23	2:C:74:ILE:HD12	1.75	0.68
2:C:123:TYR:CE2	2:C:283:PRO:HG3	2.29	0.68
2:D:421:LYS:O	2:D:423:ALA:N	2.25	0.68
3:M:181:C:C6	3:M:181:C:C5'	2.69	0.68
2:C:122:ARG:CB	2:C:278:ILE:HG21	2.23	0.68
2:D:305:LYS:HZ3	2:D:306:ALA:H	1.40	0.68

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:399:ILE:O	2:D:400:ALA:O	2.10	0.68
1:B:66:VAL:HG22	1:B:67:ASP:H	1.59	0.68
3:M:151:G:H1	3:M:179:C:H42	1.40	0.68
2:C:64:THR:O	2:C:66:LYS:N	2.26	0.68
2:C:68:LEU:O	2:C:72:GLU:HB2	1.94	0.68
2:C:104:LEU:HB2	2:C:215:ILE:HD13	1.75	0.68
2:C:161:ASP:HB3	2:C:170:ASP:OD1	1.94	0.68
2:D:101:ASN:HD22	2:D:101:ASN:H	1.40	0.68
2:D:154:ILE:HD12	2:D:154:ILE:N	2.09	0.68
2:C:147:LEU:HA	2:C:150:LEU:HD12	1.74	0.68
2:C:122:ARG:HB3	2:C:278:ILE:HG21	1.76	0.68
2:D:41:ALA:O	2:D:257:GLY:CA	2.42	0.68
2:D:320:ALA:HB2	2:D:329:ASN:ND2	2.09	0.68
2:D:326:PHE:HD1	2:D:326:PHE:N	1.91	0.68
1:A:23:GLU:OE1	1:A:23:GLU:HA	1.94	0.67
2:C:45:VAL:HG22	2:C:49:LEU:HD11	1.73	0.67
2:D:2:MET:N	2:D:4:LYS:HZ1	1.92	0.67
3:N:174:G:N7	4:N:2049:HOH:O	2.27	0.67
2:C:109:GLN:HE22	2:C:192:ARG:NH1	1.92	0.67
2:D:2:MET:SD	2:D:289:PHE:HE1	2.17	0.67
2:D:313:LYS:HG3	2:D:314:THR:N	2.09	0.67
1:B:31:LEU:HG	1:B:47:ILE:HG23	1.77	0.67
2:C:221:GLY:O	2:C:223:ILE:N	2.28	0.67
1:A:50:ASP:O	1:A:50:ASP:OD2	2.12	0.67
2:D:315:GLU:HA	2:D:318:ILE:CG2	2.25	0.67
3:M:169:G:H2'	3:M:170:A:H5'	1.75	0.67
3:N:210:G:OP1	3:N:210:G:C8	2.48	0.67
2:D:6:GLY:HA2	2:D:9:LEU:HB3	1.76	0.67
2:C:328:LEU:HD23	2:C:385:ARG:HD2	1.75	0.67
2:C:274:ILE:HB	2:C:280:ASP:O	1.95	0.67
2:C:319:ASP:HA	2:C:322:MET:HB3	1.76	0.67
2:D:22:VAL:HG23	2:D:22:VAL:O	1.95	0.66
2:D:134:ILE:HG13	2:D:187:ILE:HG13	1.77	0.66
1:B:8:ILE:HD12	1:B:26:ILE:HD11	1.77	0.66
2:D:239:GLY:O	2:D:241:ILE:N	2.28	0.66
3:N:174:G:C2'	3:N:175:U:H5'	2.24	0.66
2:C:379:SER:OG	2:C:379:SER:O	2.10	0.66
2:D:101:ASN:ND2	2:D:184:VAL:HG22	2.10	0.66
3:N:169:G:H8	3:N:169:G:H5'	1.61	0.66
2:C:4:LYS:CA	2:C:7:GLU:HB3	2.23	0.66
2:C:299:LEU:HD13	2:C:299:LEU:N	2.05	0.66

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:125:GLN:HG2	2:D:126:LYS:N	2.08	0.66
2:C:73:HIS:O	2:C:76:LYS:N	2.25	0.66
2:C:305:LYS:HG3	4:C:2033:HOH:O	1.94	0.66
2:C:63:LYS:HZ3	2:C:70:LYS:HZ1	1.41	0.66
2:D:74:ILE:O	2:D:78:VAL:N	2.29	0.66
2:D:190:ALA:HA	2:D:202:GLU:HG2	1.78	0.66
2:C:323:ARG:HH21	2:C:426:LYS:C	1.98	0.65
2:C:326:PHE:CZ	2:C:386:GLU:HA	2.31	0.65
2:D:43:VAL:HG13	2:D:260:SER:CB	2.25	0.65
2:D:88:GLU:H	2:D:88:GLU:CD	1.97	0.65
2:C:45:VAL:HG23	2:C:49:LEU:HD11	1.79	0.65
2:C:391:ILE:O	2:C:392:LYS:HD3	1.95	0.65
3:M:187:C:O2	3:M:188:C:C6	2.49	0.65
2:C:54:GLU:O	2:C:58:ARG:HD3	1.96	0.65
2:C:109:GLN:NE2	2:C:192:ARG:HH12	1.94	0.65
3:M:173:U:C2'	3:M:174:G:H5'	2.27	0.65
2:C:35:GLN:HB2	2:C:48:VAL:CG1	2.26	0.65
2:D:244:ILE:HD11	2:D:267:ALA:HB1	1.77	0.65
2:C:17:LYS:CG	2:C:18:ALA:H	2.05	0.65
2:C:312:GLU:O	2:C:316:GLU:HB3	1.97	0.65
2:C:332:MET:O	2:C:332:MET:SD	2.53	0.65
2:C:215:ILE:HG22	2:C:234:PHE:CZ	2.28	0.65
2:D:66:LYS:CG	2:D:67:GLY:H	2.09	0.65
2:D:105:LEU:HD12	2:D:117:ALA:CB	2.10	0.65
2:D:201:GLU:C	2:D:203:MET:H	2.00	0.65
1:B:63:CYS:O	1:B:63:CYS:SG	2.54	0.65
2:C:192:ARG:NH1	2:C:192:ARG:HB2	2.11	0.65
2:D:215:ILE:HG12	2:D:242:GLY:HA3	1.78	0.65
3:M:180:C:C3'	3:M:181:C:H5''	2.27	0.65
1:A:18:ARG:NH2	3:M:158:C:OP1	2.30	0.65
2:C:70:LYS:HD3	2:C:71:LYS:N	2.11	0.65
2:D:5:LEU:HD13	2:D:5:LEU:O	1.96	0.65
3:M:186:A:H5'	3:M:187:C:OP1	1.96	0.65
3:N:146:G:O2'	3:N:147:U:P	2.54	0.64
2:C:85:LEU:HD21	2:C:260:SER:HB3	1.78	0.64
3:M:209:G:C2	3:M:211:A:OP2	2.50	0.64
1:A:2:ILE:N	1:A:2:ILE:HD12	2.12	0.64
2:C:99:LYS:NZ	3:N:233:C:OP1	2.21	0.64
2:C:299:LEU:HD22	2:C:300:GLU:H	1.62	0.64
2:C:323:ARG:NH1	2:C:323:ARG:HB2	2.12	0.64
2:D:211:ASN:N	2:D:212:PRO:HD3	2.12	0.64

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:406:THR:HG23	2:D:409:ASP:OD2	1.96	0.64
3:M:194:A:O2'	3:M:195:A:C5'	2.45	0.64
3:N:193:G:C4'	3:N:194:A:OP1	2.43	0.64
1:B:24:LEU:HD12	1:B:24:LEU:O	1.98	0.64
2:C:303:LEU:HD13	2:C:307:GLU:HG3	1.79	0.64
3:N:183:U:H5''	3:N:183:U:C6	2.32	0.64
2:D:24:LYS:CG	2:D:25:LYS:H	2.11	0.64
1:A:38:LEU:HD11	1:A:79:ILE:HD11	1.79	0.64
2:D:316:GLU:HA	2:D:319:ASP:HB3	1.80	0.64
1:B:15:ARG:HH21	1:B:55:ARG:CD	2.09	0.64
2:C:60:LEU:O	2:C:60:LEU:CD1	2.42	0.64
2:D:225:GLN:O	2:D:228:GLY:N	2.31	0.64
2:C:59:ALA:HA	2:C:63:LYS:HB3	1.78	0.64
2:D:24:LYS:O	2:D:27:ILE:HB	1.98	0.64
2:C:221:GLY:O	2:C:224:GLY:N	2.28	0.64
2:D:107:GLY:H	2:D:190:ALA:HB3	1.62	0.64
2:D:224:GLY:HA3	2:D:254:LYS:NZ	2.12	0.64
3:N:231:G:H2'	3:N:232:A:C8	2.33	0.63
3:N:166:G:O5'	3:N:166:G:H8	1.82	0.63
2:D:24:LYS:CG	2:D:25:LYS:N	2.61	0.63
2:C:25:LYS:O	2:C:28:LYS:N	2.32	0.63
2:C:63:LYS:O	2:C:64:THR:HB	1.97	0.63
2:D:35:GLN:NE2	2:D:39:ILE:HD11	2.13	0.63
2:D:104:LEU:HB3	2:D:189:THR:CG2	2.27	0.63
2:D:112:GLY:O	2:D:113:LYS:C	2.36	0.63
2:D:224:GLY:N	2:D:254:LYS:HZ2	1.96	0.63
3:N:226:G:O2'	3:N:227:G:H5'	1.98	0.63
2:C:367:GLU:O	2:C:370:ILE:N	2.29	0.63
2:D:215:ILE:N	2:D:215:ILE:HD13	2.14	0.63
3:N:210:G:H8	3:N:210:G:OP1	1.80	0.63
2:C:98:LYS:HG2	2:C:100:GLN:H	1.63	0.63
2:D:75:ILE:HA	2:D:78:VAL:HB	1.79	0.63
2:D:8:ASN:HA	2:D:11:LYS:HB3	1.79	0.63
2:D:83:VAL:HG11	2:D:287:LYS:NZ	2.13	0.63
1:A:64:VAL:HG12	1:A:64:VAL:O	1.98	0.63
1:B:32:LYS:N	1:B:32:LYS:HD2	2.14	0.63
1:B:86:LYS:HB3	1:B:86:LYS:HZ2	1.64	0.63
2:D:268:PRO:HB2	2:D:270:LYS:CE	2.29	0.63
3:N:180:C:H2'	3:N:181:C:H5''	1.79	0.63
1:B:1:MET:N	3:N:164:U:O2'	2.32	0.62
2:C:64:THR:HG22	2:C:66:LYS:N	2.14	0.62

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:406:THR:O	2:D:410:VAL:HG12	1.98	0.62
2:C:64:THR:C	2:C:66:LYS:N	2.50	0.62
2:C:95:LEU:HD21	2:C:127:ARG:HG2	1.81	0.62
2:C:97:PRO:HB2	2:C:98:LYS:HZ1	1.61	0.62
2:C:424:ILE:C	2:C:424:ILE:CD1	2.67	0.62
2:D:7:GLU:O	2:D:11:LYS:HB2	1.99	0.62
2:D:388:PRO:O	2:D:389:LYS:HB3	1.99	0.62
2:C:216:ILE:CG2	2:C:245:ILE:HG13	2.30	0.62
2:D:18:ALA:HB1	2:D:71:LYS:HD3	1.76	0.62
2:D:35:GLN:HA	2:D:48:VAL:CG1	2.29	0.62
2:D:163:THR:CG2	2:D:164:ARG:H	2.10	0.62
3:M:175:U:C5'	3:M:175:U:C6	2.79	0.62
2:C:88:GLU:O	2:C:89:GLU:HB3	1.98	0.62
2:D:139:TYR:HH	2:D:188:ASP:HB3	1.61	0.62
2:D:326:PHE:HA	2:D:417:TYR:CZ	2.33	0.62
2:D:326:PHE:N	2:D:326:PHE:CD1	2.64	0.62
3:N:181:C:H5'	3:N:181:C:C6	2.30	0.62
1:A:73:LEU:HD22	3:M:162:U:C5	2.35	0.62
1:B:36:LYS:HB3	1:B:36:LYS:HZ2	1.65	0.62
1:B:73:LEU:O	1:B:76:LEU:HB2	1.99	0.62
2:C:119:LYS:HB3	2:C:281:LEU:HD22	1.81	0.62
2:C:140:ARG:HH22	2:C:146:GLN:HE22	1.46	0.62
2:D:140:ARG:C	2:D:142:ALA:H	2.03	0.62
2:C:89:GLU:HB2	2:C:91:LYS:HZ1	1.65	0.62
2:D:118:ALA:HB1	2:D:150:LEU:HD13	1.82	0.62
2:D:136:ALA:HB3	2:D:189:THR:HA	1.81	0.62
1:A:78:GLU:O	1:A:82:ILE:HG13	2.00	0.62
2:C:108:ILE:H	2:C:108:ILE:HD12	1.65	0.62
2:D:18:ALA:HA	2:D:71:LYS:HG3	1.81	0.62
2:D:90:ALA:O	2:D:92:LYS:HG2	2.00	0.62
2:D:398:ARG:NH1	3:N:218:C:O2'	2.33	0.62
3:N:210:G:O5'	3:N:210:G:C8	2.53	0.62
2:C:59:ALA:HB2	2:C:77:ILE:CD1	2.23	0.62
2:C:92:LYS:HG3	2:C:92:LYS:O	1.99	0.62
2:C:169:VAL:C	2:C:171:ILE:N	2.53	0.62
2:D:218:VAL:HG13	2:D:247:THR:CG2	2.29	0.62
1:A:32:LYS:CD	1:A:32:LYS:H	2.12	0.61
2:D:158:ILE:HD12	2:D:158:ILE:H	1.65	0.61
2:C:5:LEU:HG	2:C:41:ALA:CB	2.30	0.61
2:C:174:GLU:O	2:C:178:LYS:HG2	2.00	0.61
2:D:326:PHE:CD2	2:D:328:LEU:HB2	2.36	0.61

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:180:C:C3'	3:N:181:C:H5''	2.30	0.61
1:A:14:ARG:HB3	4:M:2024:HOH:O	1.99	0.61
2:C:177:GLU:OE2	2:C:178:LYS:N	2.32	0.61
2:C:323:ARG:NH2	2:C:426:LYS:C	2.54	0.61
3:M:178:C:H5''	3:M:178:C:C6	2.35	0.61
3:N:191:C:O2	3:N:227:G:N1	2.28	0.61
1:A:46:LYS:HA	4:A:2007:HOH:O	2.00	0.61
1:A:64:VAL:O	1:A:64:VAL:CG1	2.46	0.61
2:D:237:ALA:HB1	4:D:2074:HOH:O	2.00	0.61
2:C:99:LYS:HE2	3:N:233:C:H5'	1.82	0.61
2:C:238:VAL:O	2:C:240:GLU:N	2.30	0.61
2:C:291:SER:HB2	2:C:298:ASP:HB3	1.83	0.61
2:D:322:MET:HG3	2:D:323:ARG:H	1.65	0.61
2:C:17:LYS:O	2:C:18:ALA:HB2	2.00	0.61
2:C:70:LYS:CD	2:C:71:LYS:N	2.64	0.61
2:C:91:LYS:HB3	2:C:284:PHE:O	1.99	0.61
2:D:112:GLY:O	2:D:116:THR:N	2.20	0.61
3:N:235:U:H2'	3:N:236:C:O5'	2.01	0.61
2:C:325:LYS:HG3	2:C:326:PHE:H	1.66	0.61
2:D:223:ILE:HG12	2:D:226:GLN:CB	2.31	0.61
2:D:290:ILE:HA	2:D:293:LEU:HD12	1.83	0.61
2:C:49:LEU:N	2:C:49:LEU:HD12	2.16	0.60
2:C:274:ILE:HD13	2:C:281:LEU:HA	1.82	0.60
2:C:161:ASP:CG	2:C:165:THR:HG23	2.21	0.60
2:D:76:LYS:O	2:D:80:GLU:HB2	2.00	0.60
2:D:129:LEU:HD22	2:D:183:ASP:CG	2.22	0.60
3:N:183:U:H5''	3:N:183:U:H6	1.66	0.60
2:C:104:LEU:CB	2:C:215:ILE:HD13	2.31	0.60
2:C:196:GLU:OE2	2:C:230:GLN:HA	2.00	0.60
2:D:398:ARG:O	2:D:398:ARG:HG2	2.00	0.60
1:B:18:ARG:NH2	3:N:158:C:OP1	2.35	0.60
1:B:31:LEU:HG	1:B:47:ILE:CG2	2.31	0.60
1:B:68:TYR:HE2	1:B:71:ASN:O	1.84	0.60
2:D:104:LEU:CD1	2:D:212:PRO:HG2	2.27	0.60
3:N:159:U:O2'	3:N:160:C:H5'	2.02	0.60
2:D:51:MET:HA	2:D:81:GLU:OE1	2.01	0.60
2:D:247:THR:O	2:D:273:GLY:CA	2.49	0.60
2:D:328:LEU:HD12	2:D:386:GLU:HA	1.82	0.60
1:B:79:ILE:O	1:B:83:ILE:HG13	2.02	0.60
2:C:71:LYS:HE2	2:C:72:GLU:HG3	1.83	0.60
2:C:159:TYR:CG	2:C:174:GLU:OE1	2.55	0.60

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:43:LEU:C	1:B:45:PRO:HD3	2.22	0.60
2:C:397:ARG:HG3	2:C:397:ARG:O	2.01	0.60
2:D:281:LEU:C	2:D:281:LEU:HD12	2.22	0.60
2:D:14:ASN:HD22	2:D:15:LYS:HZ1	1.50	0.60
2:D:17:LYS:NZ	2:D:17:LYS:HA	2.16	0.60
2:D:95:LEU:O	2:D:184:VAL:HG21	2.02	0.60
3:M:187:C:N3	3:M:188:C:C5	2.68	0.60
3:N:236:C:H5'	3:N:237:G:O3'	2.02	0.60
2:C:85:LEU:C	2:C:85:LEU:HD23	2.22	0.60
2:C:108:ILE:HD12	2:C:199:LEU:HD22	1.83	0.60
2:D:101:ASN:HD21	2:D:184:VAL:HG22	1.67	0.60
2:C:27:ILE:HD13	2:C:59:ALA:O	2.02	0.59
2:C:64:THR:CG2	2:C:66:LYS:N	2.64	0.59
2:C:103:ILE:HG21	2:C:216:ILE:CD1	2.31	0.59
2:D:139:TYR:OH	2:D:188:ASP:CB	2.46	0.59
2:C:178:LYS:HB3	2:C:178:LYS:HZ3	1.67	0.59
2:C:335:LEU:O	2:C:336:GLU:CG	2.50	0.59
2:C:66:LYS:HE3	2:C:66:LYS:HA	1.83	0.59
2:C:326:PHE:CD1	2:C:327:THR:N	2.68	0.59
2:D:89:GLU:HB2	2:D:311:ASP:OD1	2.03	0.59
2:D:265:THR:O	2:D:266:LYS:C	2.41	0.59
2:C:45:VAL:HG22	2:C:49:LEU:HD13	1.83	0.59
2:D:88:GLU:CB	2:D:287:LYS:NZ	2.66	0.59
2:D:326:PHE:CE2	2:D:328:LEU:HB2	2.37	0.59
3:N:190:G:H2'	3:N:191:C:C5'	2.32	0.59
2:C:173:LYS:O	2:C:177:GLU:HB2	2.02	0.59
2:D:125:GLN:OE1	2:D:154:ILE:HG21	2.02	0.59
3:N:232:A:C6	3:N:233:C:C4	2.91	0.59
1:A:1:MET:N	1:A:66:VAL:O	2.35	0.59
2:C:76:LYS:HD3	2:C:77:ILE:N	2.18	0.59
2:C:79:TYR:OH	2:C:299:LEU:HD12	2.02	0.59
2:D:244:ILE:HD12	2:D:267:ALA:HB1	1.83	0.59
2:D:369:LYS:O	2:D:370:ILE:C	2.40	0.59
2:C:169:VAL:HA	2:C:172:VAL:HG23	1.83	0.59
2:D:128:GLY:O	2:D:129:LEU:HG	2.02	0.59
2:D:316:GLU:CA	2:D:319:ASP:HB3	2.33	0.59
2:C:54:GLU:HG3	2:C:58:ARG:HD3	1.84	0.59
2:C:303:LEU:HD13	2:C:307:GLU:CG	2.33	0.59
2:D:108:ILE:H	2:D:108:ILE:CD1	2.04	0.59
2:D:117:ALA:O	2:D:133:LEU:HD13	2.03	0.59
2:D:125:GLN:HE22	2:D:154:ILE:HG22	1.67	0.59

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:323:ARG:HD3	2:D:427:LEU:HD21	1.85	0.59
3:M:169:G:C2'	3:M:170:A:H5'	2.32	0.59
2:C:54:GLU:O	2:C:54:GLU:HG3	2.02	0.58
2:D:21:PHE:HZ	2:D:65:PRO:HA	1.66	0.58
2:C:129:LEU:O	2:C:131:PRO:HD3	2.03	0.58
2:C:210:THR:C	2:C:212:PRO:HD3	2.24	0.58
2:C:274:ILE:CG2	2:C:280:ASP:HB3	2.33	0.58
2:D:66:LYS:CG	2:D:67:GLY:N	2.65	0.58
2:D:168:PRO:HA	2:D:171:ILE:HG23	1.85	0.58
2:D:211:ASN:N	4:D:2067:HOH:O	2.36	0.58
2:D:310:VAL:HG12	2:D:310:VAL:O	2.03	0.58
2:C:70:LYS:C	2:C:70:LYS:CD	2.65	0.58
2:D:127:ARG:NH1	4:D:2036:HOH:O	2.34	0.58
2:D:214:GLU:C	2:D:215:ILE:HD13	2.23	0.58
2:D:268:PRO:HB2	2:D:270:LYS:HE3	1.85	0.58
3:M:181:C:C2'	3:M:182:C:O5'	2.52	0.58
2:C:64:THR:C	2:C:66:LYS:H	2.07	0.58
2:C:168:PRO:O	2:C:172:VAL:HG23	2.03	0.58
2:C:174:GLU:CD	2:C:174:GLU:H	2.07	0.58
2:D:221:GLY:HA3	2:D:258:ALA:CB	2.33	0.58
1:B:32:LYS:HD2	1:B:32:LYS:H	1.68	0.58
2:C:98:LYS:CG	2:C:99:LYS:N	2.42	0.58
2:D:102:VAL:HG11	2:D:185:LEU:HB2	1.84	0.58
2:D:376:ILE:O	2:D:377:ILE:C	2.41	0.58
1:A:32:LYS:H	1:A:32:LYS:CE	2.17	0.58
2:C:102:VAL:HG11	2:C:210:THR:HG21	1.86	0.58
2:D:27:ILE:HD11	2:D:63:LYS:NZ	2.04	0.58
2:D:55:ILE:CD1	2:D:81:GLU:HB3	2.33	0.58
2:D:88:GLU:CB	2:D:287:LYS:HZ3	2.17	0.58
2:D:117:ALA:O	2:D:133:LEU:CD1	2.52	0.58
3:M:179:C:H2'	3:M:180:C:H6	1.68	0.58
1:B:39:LYS:C	1:B:41:LEU:H	2.07	0.58
2:D:59:ALA:HA	2:D:63:LYS:HB3	1.85	0.58
2:C:65:PRO:O	2:C:66:LYS:C	2.40	0.58
2:C:398:ARG:NH1	2:C:398:ARG:HG2	2.19	0.58
2:D:58:ARG:HD3	4:D:2014:HOH:O	2.03	0.58
3:N:160:C:H3'	3:N:160:C:C6	2.38	0.58
2:C:2:MET:CE	2:C:2:MET:CA	2.81	0.58
2:D:305:LYS:NZ	2:D:305:LYS:HB3	2.19	0.58
3:M:157:U:O5'	3:M:157:U:H6	1.87	0.58
3:N:210:G:P	3:N:210:G:C8	2.94	0.58

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:32:LYS:HE3	1:A:32:LYS:N	2.19	0.58
2:C:36:ARG:NH1	2:C:40:GLN:OE1	2.36	0.58
2:C:219:ILE:CG2	2:C:220:ASP:N	2.35	0.58
2:C:328:LEU:HG	2:C:385:ARG:HB3	1.86	0.58
2:D:292:ARG:O	2:D:293:LEU:HG	2.03	0.58
1:A:59:GLU:CG	1:A:59:GLU:O	2.52	0.57
2:C:372:LYS:NZ	4:C:2094:HOH:O	2.22	0.57
2:C:424:ILE:HD13	2:C:425:ASP:H	1.64	0.57
2:D:16:LEU:N	2:D:16:LEU:HD23	2.18	0.57
2:D:323:ARG:CD	2:D:427:LEU:HD22	2.34	0.57
1:A:23:GLU:OE1	1:A:23:GLU:N	2.38	0.57
2:C:45:VAL:CG2	2:C:49:LEU:CD1	2.77	0.57
2:C:97:PRO:HB2	2:C:98:LYS:HZ3	1.67	0.57
2:D:172:VAL:O	2:D:176:MET:HB3	2.04	0.57
3:N:160:C:C2'	3:N:161:C:O5'	2.52	0.57
3:N:197:C:H5''	3:N:198:C:C5'	2.33	0.57
2:C:24:LYS:HD2	2:C:24:LYS:C	2.24	0.57
2:C:45:VAL:HG13	2:C:46:LYS:H	1.69	0.57
2:C:158:ILE:HD12	2:C:159:TYR:N	2.18	0.57
2:D:83:VAL:HG11	2:D:287:LYS:HZ1	1.70	0.57
2:D:200:LEU:O	2:D:204:LYS:HB2	2.05	0.57
1:B:9:ASP:O	1:B:11:LYS:N	2.38	0.57
1:B:18:ARG:NH1	1:B:22:GLU:HG2	2.19	0.57
2:C:312:GLU:O	2:C:316:GLU:HB2	2.03	0.57
2:D:374:LYS:O	2:D:378:SER:HB2	2.03	0.57
2:C:140:ARG:NH1	2:C:146:GLN:NE2	2.51	0.57
2:C:340:ASN:N	2:C:340:ASN:ND2	2.50	0.57
3:M:187:C:O2	3:M:187:C:H2'	2.05	0.57
2:C:398:ARG:HG2	2:C:398:ARG:HH11	1.69	0.57
2:D:193:HIS:O	2:D:194:LYS:CG	2.51	0.57
2:D:219:ILE:HD13	2:D:230:GLN:HB3	1.87	0.57
3:M:171:G:H2'	3:M:172:A:C8	2.40	0.57
3:N:152:G:H2'	3:N:153:A:O5'	2.05	0.57
3:N:169:G:H2'	3:N:170:A:O5'	2.05	0.57
2:C:13:LEU:HB3	2:C:75:ILE:HD12	1.85	0.57
2:C:264:GLU:HG3	2:C:265:THR:N	2.20	0.57
2:C:326:PHE:HD1	2:C:328:LEU:H	1.50	0.57
2:C:384:GLU:O	2:C:388:PRO:HB3	2.04	0.57
2:C:128:GLY:O	2:C:129:LEU:HD23	2.05	0.57
2:C:147:LEU:HD23	2:C:147:LEU:C	2.25	0.57
2:D:284:PHE:HE2	4:D:2028:HOH:O	1.87	0.57

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:195:A:N6	4:M:2057:HOH:O	2.38	0.57
1:B:3:ILE:HD12	1:B:38:LEU:HD11	1.86	0.56
2:D:206:ILE:HD12	2:D:206:ILE:H	1.69	0.56
2:D:262:VAL:HG21	2:D:269:ILE:HD11	1.86	0.56
3:M:148:G:C8	3:M:148:G:H5''	2.39	0.56
1:A:32:LYS:H	1:A:32:LYS:HE3	1.70	0.56
2:D:84:LYS:NZ	4:D:2027:HOH:O	2.37	0.56
2:D:322:MET:CG	2:D:427:LEU:HD21	2.36	0.56
3:M:148:G:H5''	3:M:148:G:H8	1.69	0.56
3:M:171:G:H2'	3:M:172:A:H8	1.70	0.56
1:A:72:LYS:O	1:A:76:LEU:HG	2.06	0.56
2:C:22:VAL:CG2	2:C:70:LYS:HE2	2.36	0.56
2:D:132:ALA:HA	2:D:156:VAL:HG13	1.87	0.56
2:D:196:GLU:CG	2:D:230:GLN:HG2	2.35	0.56
3:M:174:G:C2'	3:M:175:U:H5''	2.34	0.56
3:M:194:A:P	4:M:2056:HOH:O	2.62	0.56
3:N:169:G:C2'	3:N:170:A:O5'	2.53	0.56
1:A:75:LEU:O	1:A:79:ILE:HG13	2.06	0.56
2:D:226:GLN:HG3	4:D:2071:HOH:O	2.05	0.56
1:A:50:ASP:OD2	1:A:50:ASP:C	2.44	0.56
2:C:64:THR:O	2:C:65:PRO:C	2.44	0.56
2:C:301:SER:C	2:C:302:LEU:HG	2.25	0.56
2:C:330:GLU:O	2:C:334:GLN:HG2	2.04	0.56
3:M:164:U:H5'	4:M:2029:HOH:O	2.05	0.56
1:A:26:ILE:HD11	1:A:29:PRO:CB	2.34	0.56
2:D:43:VAL:HG22	2:D:257:GLY:HA2	1.86	0.56
2:D:58:ARG:HB3	2:D:77:ILE:HD13	1.88	0.56
3:M:168:G:C2'	3:M:169:G:O5'	2.54	0.56
2:C:36:ARG:HH12	2:C:40:GLN:CD	2.08	0.56
2:C:145:GLU:O	2:C:149:GLN:NE2	2.39	0.56
2:C:147:LEU:O	2:C:150:LEU:N	2.39	0.56
2:C:377:ILE:C	2:C:379:SER:H	2.08	0.56
2:D:13:LEU:HD11	2:D:75:ILE:CD1	2.36	0.56
2:D:112:GLY:C	2:D:114:THR:H	2.08	0.56
2:D:193:HIS:CG	4:D:2060:HOH:O	2.59	0.56
3:M:221:C:H2'	3:M:222:G:H5'	1.87	0.56
2:C:131:PRO:O	2:C:156:VAL:HG13	2.06	0.56
1:A:26:ILE:CD1	1:A:29:PRO:HB3	2.32	0.56
2:D:30:VAL:HG12	2:D:34:ILE:CG1	2.35	0.56
2:D:94:GLU:HB2	2:D:213:ASP:OD2	2.06	0.56
2:D:167:SER:N	2:D:168:PRO:HD2	2.20	0.56

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:221:GLY:CA	2:D:258:ALA:CB	2.80	0.56
2:D:382:LYS:CD	2:D:385:ARG:HH21	2.18	0.56
3:N:174:G:C3'	3:N:175:U:H5'	2.36	0.56
1:A:77:LYS:NZ	4:A:2021:HOH:O	2.39	0.56
1:B:22:GLU:C	1:B:24:LEU:H	2.10	0.56
2:D:30:VAL:HG12	2:D:34:ILE:HG13	1.88	0.56
2:D:44:ASN:N	2:D:225:GLN:OE1	2.39	0.56
3:N:205:G:H22	3:N:216:A:H2	1.54	0.56
2:C:165:THR:HG22	2:C:166:LYS:N	2.22	0.55
2:C:301:SER:O	2:C:302:LEU:HG	2.05	0.55
2:D:8:ASN:C	2:D:11:LYS:H	2.10	0.55
2:D:36:ARG:HD3	2:D:36:ARG:C	2.26	0.55
2:D:95:LEU:C	2:D:97:PRO:HD3	2.26	0.55
2:D:308:ASP:C	2:D:310:VAL:H	2.08	0.55
2:C:103:ILE:HG21	2:C:216:ILE:HD12	1.89	0.55
2:C:294:LEU:O	2:C:296:MET:HG2	2.06	0.55
2:D:387:ASN:O	2:D:387:ASN:ND2	2.39	0.55
1:B:18:ARG:HH22	3:N:158:C:H5''	1.71	0.55
1:B:66:VAL:HG22	1:B:67:ASP:N	2.21	0.55
2:C:131:PRO:HA	2:C:184:VAL:O	2.06	0.55
2:C:137:ASP:O	2:C:139:TYR:CE1	2.59	0.55
2:C:417:TYR:C	2:C:419:THR:H	2.09	0.55
2:D:86:LEU:HD11	2:D:286:PRO:HB3	1.89	0.55
2:D:399:ILE:O	2:D:400:ALA:C	2.44	0.55
2:C:122:ARG:HB3	2:C:278:ILE:CG2	2.36	0.55
2:C:326:PHE:CE1	2:C:328:LEU:CD1	2.86	0.55
2:D:133:LEU:O	2:D:158:ILE:HA	2.04	0.55
2:C:272:ILE:HG23	2:C:284:PHE:HB2	1.88	0.55
2:D:56:GLU:HB2	2:D:60:LEU:HG	1.89	0.55
2:D:132:ALA:HB3	2:D:185:LEU:HG	1.87	0.55
2:D:223:ILE:HG12	2:D:226:GLN:HB3	1.87	0.55
3:M:175:U:H6	3:M:175:U:H5'	1.70	0.55
3:M:178:C:H2'	3:M:178:C:O2	2.06	0.55
3:M:197:C:C6	3:M:197:C:C3'	2.89	0.55
3:N:171:G:H2'	3:N:172:A:H5'	1.88	0.55
2:C:140:ARG:O	2:C:142:ALA:N	2.38	0.55
2:C:210:THR:O	2:C:212:PRO:HD3	2.06	0.55
2:D:173:LYS:NZ	4:D:2048:HOH:O	2.38	0.55
3:M:151:G:N2	3:M:179:C:N3	2.51	0.55
2:C:73:HIS:HD2	2:C:76:LYS:CD	2.15	0.55
2:C:122:ARG:HG3	2:C:278:ILE:CG2	2.24	0.55

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:27:ILE:HD13	2:D:59:ALA:HB1	1.89	0.55
1:A:57:HIS:CD2	1:A:58:TRP:HE3	2.24	0.55
2:C:94:GLU:CD	2:C:94:GLU:N	2.59	0.55
2:C:238:VAL:HG11	2:C:242:GLY:HA3	1.87	0.55
2:D:55:ILE:HG23	2:D:77:ILE:HG22	1.88	0.55
3:M:206:C:N3	3:M:215:G:N2	2.53	0.55
2:C:98:LYS:N	2:C:98:LYS:CD	2.63	0.55
2:D:112:GLY:O	2:D:114:THR:N	2.40	0.55
2:D:203:MET:N	2:D:206:ILE:HD13	2.22	0.55
2:D:232:LYS:O	2:D:236:GLU:CB	2.54	0.55
3:M:196:C:O5'	3:M:196:C:H6	1.90	0.55
2:D:77:ILE:HG22	2:D:77:ILE:O	2.05	0.55
2:D:107:GLY:O	2:D:190:ALA:CB	2.54	0.55
3:N:211:A:H2'	3:N:212:A:O4'	2.06	0.55
2:C:91:LYS:N	2:C:91:LYS:CD	2.57	0.54
2:C:215:ILE:CG2	2:C:234:PHE:CZ	2.87	0.54
2:C:385:ARG:NH2	3:M:219:A:O2'	2.39	0.54
2:D:26:LEU:HD22	2:D:29:GLU:HB2	1.89	0.54
3:M:174:G:O2'	3:M:175:U:H5''	2.08	0.54
3:M:190:G:H2'	3:M:191:C:C6	2.39	0.54
2:C:315:GLU:HA	2:C:318:ILE:HB	1.88	0.54
2:C:380:MET:O	3:M:219:A:O2'	2.25	0.54
1:B:55:ARG:O	1:B:56:GLN:HG3	2.08	0.54
2:D:206:ILE:N	2:D:206:ILE:CD1	2.68	0.54
1:B:36:LYS:HB3	1:B:36:LYS:HZ3	1.70	0.54
2:C:64:THR:HG22	2:C:66:LYS:CA	2.38	0.54
2:D:70:LYS:HA	2:D:73:HIS:HB3	1.89	0.54
1:A:18:ARG:HH22	3:M:158:C:H5''	1.73	0.54
2:C:82:LEU:O	2:C:85:LEU:HB3	2.07	0.54
2:C:196:GLU:O	2:C:199:LEU:HB3	2.07	0.54
2:D:27:ILE:CD1	2:D:59:ALA:HB1	2.37	0.54
2:D:200:LEU:HA	2:D:203:MET:CE	2.37	0.54
1:B:75:LEU:O	1:B:78:GLU:N	2.41	0.54
2:C:213:ASP:O	2:C:214:GLU:HG2	2.07	0.54
2:D:58:ARG:CA	2:D:62:GLU:HG2	2.36	0.54
2:D:199:LEU:HD23	2:D:200:LEU:N	2.21	0.54
1:A:15:ARG:NH2	1:A:55:ARG:CZ	2.70	0.54
2:C:366:THR:HG23	2:C:367:GLU:HG3	1.90	0.54
2:D:326:PHE:HA	2:D:417:TYR:CE2	2.43	0.54
2:C:383:GLU:HG2	2:C:390:ILE:CD1	2.38	0.54
2:D:382:LYS:HD2	2:D:385:ARG:HH21	1.73	0.54

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:178:C:H5''	3:M:178:C:H6	1.72	0.54
3:M:193:G:O2'	3:M:194:A:OP1	2.25	0.54
3:N:197:C:C5'	3:N:198:C:H5'	2.38	0.54
2:C:166:LYS:HD2	2:C:169:VAL:CG2	2.31	0.54
2:D:118:ALA:CB	2:D:150:LEU:HD13	2.38	0.54
2:D:131:PRO:HD2	2:D:156:VAL:HG22	1.89	0.54
2:D:181:LYS:O	2:D:182:ALA:HB2	2.08	0.54
2:D:227:ALA:HA	2:D:230:GLN:HB2	1.90	0.54
2:D:299:LEU:HD12	2:D:300:GLU:O	2.08	0.54
2:D:76:LYS:O	2:D:80:GLU:N	2.32	0.54
2:D:113:LYS:NZ	2:D:188:ASP:OD1	2.34	0.54
2:D:171:ILE:HG23	2:D:172:VAL:H	1.72	0.54
2:C:173:LYS:O	2:C:177:GLU:N	2.42	0.53
2:C:272:ILE:HD13	2:C:284:PHE:CD1	2.38	0.53
2:D:78:VAL:O	2:D:82:LEU:HB2	2.08	0.53
2:C:98:LYS:HG2	2:C:100:GLN:N	2.24	0.53
2:C:281:LEU:O	2:C:281:LEU:CG	2.41	0.53
2:D:336:GLU:O	2:D:336:GLU:HG3	2.08	0.53
2:D:420:THR:O	2:D:423:ALA:HB3	2.09	0.53
3:M:166:G:O5'	3:M:166:G:H8	1.91	0.53
1:B:26:ILE:HG22	1:B:84:LYS:HD3	1.90	0.53
2:D:202:GLU:O	2:D:202:GLU:HG3	2.09	0.53
2:C:109:GLN:N	2:C:193:HIS:O	2.29	0.53
2:D:14:ASN:HD22	2:D:15:LYS:NZ	2.06	0.53
1:B:15:ARG:NH2	1:B:55:ARG:CZ	2.72	0.53
2:C:36:ARG:HA	2:C:39:ILE:CG1	2.29	0.53
2:C:335:LEU:C	2:C:336:GLU:HG2	2.28	0.53
2:C:86:LEU:HD12	2:C:290:ILE:HD11	1.89	0.53
2:D:381:THR:HG22	3:N:220:A:OP1	2.09	0.53
3:M:179:C:O2'	3:M:180:C:O5'	2.27	0.53
3:N:160:C:C6	3:N:160:C:C3'	2.92	0.53
2:C:173:LYS:O	2:C:177:GLU:CB	2.56	0.53
2:C:415:ARG:NH2	4:C:2103:HOH:O	2.42	0.53
2:D:81:GLU:C	2:D:83:VAL:H	2.12	0.53
2:D:323:ARG:HD3	2:D:427:LEU:CD2	2.38	0.53
1:B:1:MET:CA	3:N:164:U:O2'	2.56	0.53
2:D:17:LYS:O	2:D:18:ALA:HB2	2.08	0.53
2:D:34:ILE:O	2:D:37:ALA:HB3	2.08	0.53
3:N:191:C:N3	3:N:227:G:O6	2.42	0.53
2:C:192:ARG:HB2	2:C:192:ARG:HH11	1.73	0.53
2:D:126:LYS:C	2:D:126:LYS:HD3	2.29	0.53

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:46:LYS:NZ	1:B:65:GLU:OE2	2.41	0.53
2:C:62:GLU:CD	2:C:62:GLU:C	2.67	0.53
2:C:2:MET:SD	2:C:249:LEU:C	2.87	0.52
2:C:4:LYS:O	2:C:8:ASN:N	2.28	0.52
2:C:132:ALA:HB1	2:C:178:LYS:HD3	1.91	0.52
2:C:299:LEU:HD23	2:C:300:GLU:H	1.73	0.52
2:D:36:ARG:HD3	2:D:37:ALA:N	2.24	0.52
2:D:102:VAL:CG1	2:D:185:LEU:HB2	2.39	0.52
2:D:206:ILE:H	2:D:206:ILE:CD1	2.22	0.52
1:B:1:MET:HA	3:N:164:U:O2'	2.09	0.52
2:C:308:ASP:OD1	2:C:308:ASP:O	2.27	0.52
2:C:325:LYS:HA	2:C:325:LYS:CE	2.37	0.52
2:C:326:PHE:CD1	2:C:326:PHE:C	2.81	0.52
2:D:16:LEU:HG	2:D:16:LEU:O	2.08	0.52
2:D:56:GLU:CG	2:D:60:LEU:HD11	2.40	0.52
2:D:408:ASN:OD1	2:D:411:ARG:NH1	2.43	0.52
2:C:338:ILE:HG23	2:C:339:GLU:N	2.24	0.52
2:C:397:ARG:O	2:C:397:ARG:CG	2.57	0.52
2:D:221:GLY:HA2	2:D:258:ALA:CB	2.38	0.52
3:M:219:A:H8	3:M:219:A:O5'	1.92	0.52
3:N:210:G:C2'	3:N:211:A:O5'	2.56	0.52
2:C:98:LYS:HD3	2:C:100:GLN:O	2.09	0.52
2:D:56:GLU:HB2	2:D:60:LEU:CG	2.40	0.52
3:N:180:C:C3'	3:N:181:C:C5'	2.88	0.52
3:N:235:U:C2'	3:N:236:C:O5'	2.58	0.52
1:A:73:LEU:O	1:A:76:LEU:HB2	2.09	0.52
1:B:21:PRO:HG3	3:N:160:C:OP2	2.10	0.52
2:C:93:LEU:O	2:C:94:GLU:O	2.27	0.52
2:C:313:LYS:HA	2:C:313:LYS:NZ	2.23	0.52
2:D:39:ILE:HG23	2:D:45:VAL:HG22	1.91	0.52
2:D:268:PRO:HB2	2:D:270:LYS:HE2	1.92	0.52
2:D:302:LEU:HB2	2:D:309:MET:HG3	1.91	0.52
2:D:323:ARG:CD	2:D:427:LEU:CD2	2.87	0.52
3:M:191:C:C2	3:M:192:C:C6	2.98	0.52
2:C:70:LYS:O	2:C:71:LYS:C	2.47	0.52
2:C:221:GLY:O	2:C:222:THR:C	2.47	0.52
1:A:59:GLU:O	1:A:59:GLU:HG3	2.09	0.52
2:C:104:LEU:HD12	2:C:187:ILE:HD12	1.91	0.52
2:D:132:ALA:HA	2:D:156:VAL:CG1	2.39	0.52
3:N:146:G:H4'	3:N:147:U:H5'	1.91	0.52
1:A:30:SER:HB2	1:A:32:LYS:HD2	1.92	0.52

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:15:ARG:NH2	1:B:55:ARG:HD3	2.16	0.52
2:D:260:SER:OG	2:D:261:ALA:N	2.42	0.52
3:M:188:C:O2	3:M:188:C:H2'	2.10	0.52
2:C:13:LEU:HB3	2:C:75:ILE:CD1	2.39	0.51
2:C:93:LEU:C	2:C:94:GLU:O	2.48	0.51
2:C:113:LYS:HD3	2:C:113:LYS:C	2.29	0.51
2:C:280:ASP:HB2	4:C:2080:HOH:O	2.10	0.51
3:N:178:C:H6	3:N:178:C:H5'	1.75	0.51
2:C:45:VAL:O	2:C:48:VAL:N	2.43	0.51
2:C:91:LYS:HE3	2:C:286:PRO:HD2	1.93	0.51
2:C:91:LYS:CE	2:C:286:PRO:HD2	2.40	0.51
3:N:226:G:H2'	3:N:227:G:C5'	2.33	0.51
2:D:58:ARG:CB	2:D:77:ILE:HD13	2.40	0.51
1:A:32:LYS:H	1:A:32:LYS:HD2	1.75	0.51
1:B:37:ALA:C	1:B:39:LYS:H	2.14	0.51
1:B:78:GLU:O	1:B:79:ILE:C	2.48	0.51
2:C:104:LEU:HD22	2:C:215:ILE:CD1	2.41	0.51
2:C:167:SER:HB2	2:C:168:PRO:HD3	1.92	0.51
2:D:165:THR:OG1	2:D:166:LYS:N	2.44	0.51
1:A:31:LEU:HB2	1:A:32:LYS:HE3	1.91	0.51
2:C:195:GLU:HB2	4:C:2065:HOH:O	2.11	0.51
2:C:287:LYS:H	2:C:287:LYS:HD3	1.75	0.51
2:C:377:ILE:O	2:C:379:SER:N	2.44	0.51
2:D:35:GLN:OE1	2:D:36:ARG:N	2.43	0.51
1:A:50:ASP:O	1:A:50:ASP:CG	2.49	0.51
2:C:398:ARG:NH1	3:M:218:C:O2'	2.42	0.51
2:D:115:THR:O	2:D:119:LYS:HG2	2.10	0.51
2:D:221:GLY:O	2:D:222:THR:C	2.48	0.51
2:D:224:GLY:CA	2:D:254:LYS:NZ	2.73	0.51
3:M:232:A:H2'	3:M:233:C:C6	2.45	0.51
1:B:64:VAL:HG13	1:B:64:VAL:O	2.10	0.51
2:C:13:LEU:HA	2:C:75:ILE:HD11	1.92	0.51
2:C:45:VAL:O	2:C:49:LEU:HD13	2.11	0.51
2:C:113:LYS:HD3	2:C:113:LYS:O	2.11	0.51
3:M:191:C:H2'	3:M:191:C:O2	2.10	0.51
3:N:188:C:H1'	3:N:231:G:N2	2.25	0.51
2:D:31:ILE:HG22	2:D:31:ILE:O	2.09	0.51
2:D:89:GLU:O	2:D:90:ALA:HB2	2.11	0.51
2:D:107:GLY:O	2:D:190:ALA:HB1	2.11	0.51
2:D:215:ILE:H	2:D:242:GLY:HA2	1.75	0.51
2:D:216:ILE:CG2	2:D:245:ILE:HG13	2.40	0.51

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:382:LYS:HE3	3:N:220:A:H5''	1.92	0.51
3:N:232:A:C6	3:N:233:C:N3	2.79	0.51
2:C:44:ASN:O	2:C:44:ASN:CG	2.48	0.51
2:C:58:ARG:HH21	2:C:77:ILE:HG12	1.75	0.51
2:D:64:THR:C	2:D:66:LYS:N	2.64	0.51
2:D:388:PRO:O	2:D:389:LYS:CB	2.58	0.51
3:N:233:C:O5'	3:N:233:C:H6	1.94	0.51
2:C:50:LYS:O	2:C:53:LYS:N	2.36	0.51
2:C:54:GLU:HG2	2:C:81:GLU:OE2	2.10	0.51
2:C:57:ARG:NH2	4:C:2028:HOH:O	2.43	0.51
2:C:147:LEU:O	2:C:148:LYS:C	2.48	0.51
2:C:381:THR:O	2:C:382:LYS:C	2.48	0.51
2:D:381:THR:N	2:D:384:GLU:OE1	2.33	0.51
1:A:38:LEU:HD22	1:A:38:LEU:N	2.14	0.50
2:C:31:ILE:CD1	2:C:55:ILE:HG21	2.40	0.50
2:C:311:ASP:OD1	2:C:311:ASP:O	2.29	0.50
2:D:218:VAL:HG13	2:D:247:THR:HG21	1.93	0.50
2:D:2:MET:SD	2:D:289:PHE:CZ	3.04	0.50
2:D:38:LEU:CD1	2:D:51:MET:SD	2.97	0.50
2:D:102:VAL:O	2:D:212:PRO:HB3	2.11	0.50
2:D:126:LYS:HB2	2:D:126:LYS:NZ	2.27	0.50
1:A:50:ASP:O	1:A:52:ARG:NH1	2.45	0.50
2:C:32:LYS:HE3	4:C:2017:HOH:O	2.11	0.50
2:C:323:ARG:HB2	2:C:323:ARG:CZ	2.42	0.50
2:C:417:TYR:O	2:C:419:THR:N	2.44	0.50
2:D:106:VAL:HG23	2:D:106:VAL:O	2.11	0.50
3:M:179:C:O2'	3:M:180:C:O4'	2.24	0.50
3:M:180:C:H4'	4:M:2044:HOH:O	2.11	0.50
3:M:191:C:N3	3:M:192:C:C5	2.79	0.50
1:A:1:MET:HA	3:M:164:U:O2'	2.11	0.50
1:A:30:SER:OG	1:A:33:ASP:HB2	2.12	0.50
2:C:17:LYS:HD2	2:C:19:ALA:HB3	1.94	0.50
2:C:104:LEU:CD1	2:C:187:ILE:HD12	2.41	0.50
2:D:6:GLY:CA	2:D:9:LEU:HB3	2.41	0.50
2:D:27:ILE:CD1	2:D:63:LYS:HZ1	2.06	0.50
2:C:167:SER:H	2:C:168:PRO:HD2	1.77	0.50
2:C:180:LYS:O	3:N:232:A:C5'	2.55	0.50
2:D:154:ILE:HD12	2:D:154:ILE:H	1.76	0.50
2:D:305:LYS:HB3	2:D:305:LYS:HZ2	1.76	0.50
2:D:420:THR:O	2:D:421:LYS:C	2.50	0.50
2:C:5:LEU:HG	2:C:41:ALA:HB2	1.93	0.50

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:272:ILE:HG21	2:C:284:PHE:CD1	2.46	0.50
2:D:219:ILE:C	2:D:220:ASP:OD2	2.50	0.50
2:D:221:GLY:O	2:D:223:ILE:N	2.44	0.50
2:D:234:PHE:CE1	2:D:238:VAL:HB	2.47	0.50
2:C:199:LEU:HD12	4:C:2068:HOH:O	2.11	0.50
2:D:36:ARG:HH12	2:D:40:GLN:HB2	1.77	0.50
2:D:58:ARG:CD	4:D:2014:HOH:O	2.59	0.50
2:D:133:LEU:O	2:D:158:ILE:HG22	2.12	0.50
2:D:135:ALA:O	2:D:136:ALA:HB2	2.11	0.50
2:D:400:ALA:O	2:D:402:GLY:N	2.45	0.50
3:M:210:G:H2'	3:M:211:A:O5'	2.12	0.50
3:N:195:A:H5'	3:N:196:C:OP2	2.12	0.50
1:A:15:ARG:NE	1:A:15:ARG:O	2.44	0.50
1:A:46:LYS:NZ	1:A:48:TYR:CE2	2.80	0.50
2:C:244:ILE:HG22	2:C:245:ILE:N	2.27	0.50
2:D:104:LEU:HB2	2:D:215:ILE:HG22	1.93	0.50
2:D:123:TYR:HB2	2:D:278:ILE:CD1	2.42	0.50
2:D:381:THR:HG22	2:D:382:LYS:H	1.75	0.50
3:M:149:G:H1	3:M:181:C:H42	1.60	0.50
3:M:229:A:C6	3:M:230:G:C6	3.00	0.50
3:N:184:U:O2'	3:N:186:A:H2	1.93	0.50
3:N:185:U:C4'	3:N:186:A:OP2	2.60	0.50
2:C:7:GLU:HG3	2:C:8:ASN:N	2.26	0.50
2:C:61:GLU:CD	2:C:62:GLU:N	2.65	0.50
2:D:144:TYR:O	2:D:145:GLU:HB2	2.11	0.50
2:D:290:ILE:O	2:D:293:LEU:HB2	2.10	0.50
3:M:218:C:H2'	3:M:219:A:O5'	2.11	0.50
3:N:236:C:C5'	3:N:237:G:O3'	2.60	0.50
2:D:78:VAL:O	2:D:82:LEU:CB	2.60	0.49
2:D:86:LEU:O	2:D:263:ALA:HA	2.11	0.49
2:D:245:ILE:O	2:D:245:ILE:HG22	2.12	0.49
2:D:318:ILE:HG23	2:D:319:ASP:N	2.27	0.49
2:D:398:ARG:NH1	2:D:398:ARG:HG2	2.27	0.49
3:M:178:C:OP1	3:M:223:G:O2'	2.28	0.49
3:M:193:G:O2'	3:M:194:A:P	2.70	0.49
1:B:68:TYR:CD2	1:B:75:LEU:HD13	2.47	0.49
1:B:71:ASN:CB	1:B:74:GLN:CG	2.87	0.49
2:C:384:GLU:OE2	2:C:395:ARG:NH1	2.38	0.49
2:C:81:GLU:O	2:C:82:LEU:C	2.50	0.49
2:C:274:ILE:HG21	2:C:280:ASP:OD1	2.12	0.49
2:C:340:ASN:O	2:C:341:MET:C	2.49	0.49

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:229:ILE:C	2:D:229:ILE:HD12	2.32	0.49
3:M:174:G:H5'	3:M:174:G:H8	1.76	0.49
2:D:274:ILE:HB	2:D:280:ASP:O	2.12	0.49
2:D:290:ILE:HD13	2:D:293:LEU:HD12	1.94	0.49
3:N:210:G:H2'	3:N:211:A:O5'	2.11	0.49
2:D:217:LEU:HB3	2:D:244:ILE:HG22	1.94	0.49
2:D:232:LYS:HG3	2:D:265:THR:CG2	2.42	0.49
2:D:239:GLY:C	2:D:241:ILE:H	2.15	0.49
3:M:146:G:HO2'	3:M:186:A:HO2'	1.60	0.49
3:M:173:U:C2'	3:M:174:G:C5'	2.90	0.49
1:B:37:ALA:C	1:B:39:LYS:N	2.66	0.49
2:C:124:ILE:O	2:C:125:GLN:C	2.50	0.49
2:C:174:GLU:HA	2:C:177:GLU:HB3	1.94	0.49
2:D:113:LYS:CE	2:D:191:GLY:HA2	2.42	0.49
3:M:181:C:H6	3:M:181:C:H5''	1.76	0.49
3:M:186:A:O4'	3:M:186:A:N3	2.44	0.49
3:N:160:C:O2	3:N:170:A:C2	2.65	0.49
1:A:26:ILE:HD12	1:A:29:PRO:HA	1.94	0.49
2:C:27:ILE:CD1	2:C:59:ALA:O	2.61	0.49
2:C:49:LEU:CD1	2:C:49:LEU:N	2.76	0.49
2:C:151:ALA:HB1	2:C:156:VAL:O	2.13	0.49
2:C:70:LYS:O	2:C:73:HIS:N	2.41	0.49
2:C:79:TYR:O	2:C:83:VAL:HG23	2.13	0.49
2:C:133:LEU:HD23	2:C:186:ILE:HB	1.95	0.49
2:D:125:GLN:HE22	2:D:154:ILE:CG2	2.26	0.49
2:D:136:ALA:HB3	2:D:188:ASP:O	2.12	0.49
2:C:150:LEU:O	2:C:154:ILE:HG12	2.12	0.49
2:C:314:THR:O	2:C:318:ILE:CB	2.59	0.49
2:D:57:ARG:HD2	2:D:61:GLU:CG	2.40	0.49
2:D:275:GLY:CA	2:D:280:ASP:HB2	2.35	0.49
2:D:366:THR:O	2:D:367:GLU:C	2.51	0.49
3:M:200:G:H2'	3:M:201:C:O5'	2.13	0.49
3:N:195:A:H8	3:N:195:A:OP1	1.95	0.49
3:M:175:U:C6	3:M:175:U:H5'	2.47	0.49
2:C:206:ILE:CG1	2:C:206:ILE:O	2.61	0.48
2:C:325:LYS:HB3	2:C:421:LYS:CG	2.36	0.48
3:M:164:U:H5'	3:M:165:A:OP2	2.13	0.48
3:M:184:U:HO2'	3:M:186:A:H2	1.61	0.48
1:B:39:LYS:O	1:B:41:LEU:N	2.45	0.48
2:C:13:LEU:HA	2:C:75:ILE:CD1	2.42	0.48
2:C:139:TYR:OH	2:C:188:ASP:CG	2.51	0.48

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:76:LYS:O	2:D:80:GLU:CB	2.60	0.48
2:D:323:ARG:HD2	2:D:427:LEU:HD22	1.94	0.48
2:C:44:ASN:O	2:C:46:LYS:N	2.46	0.48
2:D:15:LYS:C	2:D:16:LEU:HD23	2.33	0.48
2:D:268:PRO:O	2:D:270:LYS:HG2	2.13	0.48
2:D:325:LYS:HG3	2:D:424:ILE:CD1	2.43	0.48
2:C:79:TYR:HH	2:C:299:LEU:HD12	1.79	0.48
2:C:266:LYS:O	2:C:267:ALA:C	2.51	0.48
2:D:311:ASP:C	2:D:315:GLU:OE2	2.52	0.48
2:D:320:ALA:HB2	2:D:329:ASN:HD21	1.77	0.48
3:M:226:G:C8	3:M:226:G:H3'	2.48	0.48
3:N:234:G:C6	3:N:235:U:C4	3.01	0.48
2:C:12:ALA:HB1	2:C:30:VAL:CG1	2.34	0.48
2:C:83:VAL:O	2:C:85:LEU:N	2.47	0.48
2:C:171:ILE:HD13	2:C:171:ILE:O	2.13	0.48
2:C:311:ASP:O	2:C:311:ASP:CG	2.52	0.48
2:D:55:ILE:C	2:D:57:ARG:N	2.66	0.48
2:D:114:THR:HG22	2:D:147:LEU:HD21	1.95	0.48
1:B:72:LYS:O	1:B:73:LEU:C	2.50	0.48
2:C:13:LEU:HD11	2:C:294:LEU:HD13	1.95	0.48
2:C:89:GLU:HA	2:C:91:LYS:HE3	1.95	0.48
2:D:84:LYS:C	2:D:86:LEU:H	2.16	0.48
2:D:174:GLU:O	2:D:178:LYS:HG2	2.14	0.48
2:D:391:ILE:HG21	2:D:414:LEU:HD11	1.94	0.48
2:C:255:GLY:O	2:C:258:ALA:HB3	2.13	0.48
2:D:150:LEU:HD23	2:D:150:LEU:O	2.14	0.48
2:D:370:ILE:HD12	2:D:370:ILE:H	1.79	0.48
3:N:146:G:HO2'	3:N:147:U:P	2.35	0.48
2:C:46:LYS:O	2:C:50:LYS:HG3	2.13	0.48
2:C:150:LEU:C	2:C:152:GLU:N	2.67	0.48
2:C:188:ASP:OD1	2:C:188:ASP:C	2.51	0.48
2:D:59:ALA:C	2:D:63:LYS:HB3	2.34	0.48
3:M:175:U:O2'	3:M:176:A:H8	1.97	0.48
2:C:104:LEU:HD22	2:C:215:ILE:HD11	1.96	0.48
2:C:326:PHE:HD1	2:C:326:PHE:C	2.15	0.48
2:D:3:ASP:OD1	2:D:3:ASP:N	2.46	0.48
2:D:232:LYS:O	2:D:236:GLU:N	2.43	0.48
2:C:85:LEU:C	2:C:85:LEU:CD2	2.81	0.48
2:C:103:ILE:CG2	2:C:216:ILE:CD1	2.92	0.48
1:A:1:MET:O	1:A:65:GLU:HA	2.14	0.47
1:A:46:LYS:NZ	1:A:48:TYR:OH	2.29	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:2:MET:HE3	2:C:2:MET:CA	2.30	0.47
2:C:148:LYS:C	2:C:152:GLU:HG2	2.32	0.47
2:D:198:GLY:O	2:D:199:LEU:C	2.53	0.47
3:M:190:G:C5	3:M:191:C:C5	3.02	0.47
3:M:210:G:C2'	3:M:211:A:O5'	2.62	0.47
1:A:18:ARG:NH2	3:M:158:C:H5''	2.29	0.47
1:B:37:ALA:O	1:B:39:LYS:N	2.46	0.47
2:C:5:LEU:O	2:C:9:LEU:HB2	2.13	0.47
2:D:56:GLU:OE2	2:D:60:LEU:HD11	2.13	0.47
2:D:372:LYS:HE3	4:D:2089:HOH:O	2.14	0.47
3:M:188:C:O2	3:M:188:C:C2'	2.60	0.47
2:C:302:LEU:O	2:C:306:ALA:HB3	2.13	0.47
2:C:311:ASP:OD2	2:C:313:LYS:HB3	2.14	0.47
2:D:79:TYR:HD2	2:D:294:LEU:HD11	1.79	0.47
2:D:377:ILE:HA	2:D:380:MET:HG3	1.96	0.47
3:M:180:C:H3'	3:M:181:C:H5''	1.95	0.47
3:N:152:G:C2'	3:N:153:A:O5'	2.62	0.47
2:C:36:ARG:NH1	2:C:36:ARG:CG	2.62	0.47
2:C:286:PRO:O	2:C:289:PHE:N	2.48	0.47
2:D:199:LEU:O	2:D:201:GLU:N	2.48	0.47
3:M:164:U:O2'	3:M:164:U:O2	2.24	0.47
3:N:160:C:H2'	3:N:161:C:O5'	2.14	0.47
1:B:12:LYS:HG3	1:B:16:GLU:HB3	1.96	0.47
2:C:387:ASN:HB3	4:C:2096:HOH:O	2.14	0.47
3:M:153:A:C2	3:M:178:C:N3	2.83	0.47
3:N:146:G:O2'	3:N:147:U:OP2	2.29	0.47
1:B:86:LYS:NZ	1:B:86:LYS:CB	2.60	0.47
2:C:142:ALA:O	2:C:146:GLN:HG2	2.15	0.47
2:C:340:ASN:N	2:C:340:ASN:HD22	2.11	0.47
2:D:210:THR:HG22	2:D:212:PRO:HD3	1.97	0.47
3:M:213:G:O2'	3:M:214:G:O5'	2.32	0.47
2:C:73:HIS:O	2:C:76:LYS:HB3	2.15	0.47
2:C:119:LYS:HB3	2:C:281:LEU:CD2	2.44	0.47
2:C:148:LYS:O	2:C:152:GLU:CG	2.45	0.47
2:C:308:ASP:HA	4:C:2086:HOH:O	2.15	0.47
2:D:70:LYS:HG3	2:D:71:LYS:N	2.29	0.47
2:D:101:ASN:O	2:D:213:ASP:HB3	2.14	0.47
2:D:104:LEU:HD12	2:D:104:LEU:N	2.30	0.47
2:D:305:LYS:HZ3	2:D:306:ALA:N	2.11	0.47
3:M:210:G:H2'	3:M:211:A:O4'	2.13	0.47
2:C:32:LYS:O	2:C:35:GLN:HG2	2.14	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:67:GLY:O	2:C:69:SER:N	2.38	0.47
2:C:319:ASP:CG	2:C:319:ASP:O	2.53	0.47
2:D:16:LEU:HD21	2:D:30:VAL:HG22	1.96	0.47
2:D:74:ILE:O	2:D:78:VAL:HG23	2.15	0.47
2:D:91:LYS:N	2:D:91:LYS:HD2	2.30	0.47
3:M:175:U:HO2'	3:M:176:A:H8	1.62	0.47
3:M:185:U:C5'	3:M:185:U:H6	2.27	0.47
3:N:184:U:O2'	3:N:186:A:C2	2.65	0.47
1:A:1:MET:CA	3:M:164:U:O2'	2.63	0.47
1:B:9:ASP:O	1:B:10:LYS:C	2.53	0.47
2:D:44:ASN:HB2	2:D:225:GLN:OE1	2.15	0.47
2:D:254:LYS:NZ	2:D:254:LYS:HB3	2.30	0.47
3:M:185:U:H6	3:M:185:U:O5'	1.98	0.47
1:A:1:MET:C	1:A:2:ILE:HD12	2.35	0.47
2:C:108:ILE:H	2:C:108:ILE:CD1	2.28	0.47
2:C:308:ASP:O	2:C:308:ASP:CG	2.53	0.47
2:D:145:GLU:C	2:D:147:LEU:H	2.17	0.47
2:D:229:ILE:HD12	2:D:230:GLN:N	2.30	0.47
2:C:36:ARG:HG3	2:C:39:ILE:HD12	1.97	0.46
2:C:83:VAL:O	2:C:86:LEU:N	2.48	0.46
2:C:123:TYR:CE2	2:C:271:PHE:HE2	2.32	0.46
2:C:133:LEU:O	2:C:158:ILE:HA	2.15	0.46
2:C:166:LYS:CG	2:C:168:PRO:HD2	2.39	0.46
2:C:395:ARG:HA	3:M:195:A:C2	2.49	0.46
2:D:196:GLU:CD	2:D:230:GLN:HG2	2.36	0.46
2:C:156:VAL:HA	2:C:157:PRO:HD3	1.73	0.46
2:D:201:GLU:C	2:D:203:MET:N	2.67	0.46
1:B:64:VAL:O	1:B:64:VAL:CG1	2.63	0.46
2:C:14:ASN:ND2	2:C:15:LYS:N	2.64	0.46
2:C:73:HIS:CD2	2:C:76:LYS:CD	2.95	0.46
2:C:206:ILE:HA	2:C:209:ILE:HG22	1.98	0.46
2:C:229:ILE:HD12	2:C:229:ILE:O	2.15	0.46
2:D:58:ARG:HH21	2:D:77:ILE:HG12	1.80	0.46
2:D:59:ALA:CA	2:D:63:LYS:HB3	2.46	0.46
2:D:99:LYS:HG3	2:D:100:GLN:N	2.29	0.46
2:D:187:ILE:HD12	2:D:187:ILE:N	2.30	0.46
2:D:249:LEU:O	2:D:251:GLY:N	2.48	0.46
2:D:285:ASP:HB2	2:D:288:LYS:CB	2.43	0.46
3:M:219:A:H2'	3:M:220:A:H5'	1.97	0.46
3:N:160:C:H6	3:N:160:C:C3'	2.25	0.46
3:N:190:G:O2'	3:N:191:C:H5'	2.14	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:39:LYS:O	1:A:40:LYS:C	2.54	0.46
1:B:71:ASN:HB2	1:B:74:GLN:CG	2.42	0.46
1:B:74:GLN:HE21	1:B:74:GLN:HB3	1.35	0.46
2:C:221:GLY:C	2:C:223:ILE:N	2.64	0.46
2:C:338:ILE:HG23	2:C:339:GLU:H	1.80	0.46
2:D:82:LEU:HG	2:D:82:LEU:O	2.15	0.46
2:D:380:MET:HB2	2:D:385:ARG:HG3	1.97	0.46
2:D:393:ALA:O	2:D:396:ILE:N	2.48	0.46
2:D:398:ARG:HG2	2:D:398:ARG:HH11	1.81	0.46
3:M:146:G:O2'	3:M:186:A:O2'	2.31	0.46
2:C:152:GLU:C	2:C:154:ILE:N	2.67	0.46
2:C:262:VAL:O	2:C:262:VAL:HG12	2.15	0.46
2:D:84:LYS:HB3	2:D:84:LYS:HZ3	1.80	0.46
2:D:272:ILE:HG23	2:D:284:PHE:HB2	1.97	0.46
2:D:307:GLU:H	2:D:312:GLU:HG3	1.80	0.46
2:D:322:MET:HG3	2:D:427:LEU:HD21	1.96	0.46
3:M:187:C:O5'	4:M:2048:HOH:O	2.20	0.46
3:M:194:A:C8	3:M:194:A:C3'	2.98	0.46
2:C:115:THR:C	2:C:117:ALA:N	2.69	0.46
2:D:11:LYS:HD2	2:D:14:ASN:HB3	1.97	0.46
2:D:55:ILE:HG12	2:D:81:GLU:CB	2.46	0.46
3:M:187:C:C2	3:M:188:C:C6	3.03	0.46
3:M:224:U:H2'	3:M:224:U:O2	2.16	0.46
1:B:68:TYR:CE2	1:B:75:LEU:HD13	2.50	0.46
2:C:14:ASN:O	2:C:16:LEU:N	2.49	0.46
2:C:124:ILE:HA	2:C:127:ARG:HB2	1.97	0.46
2:D:207:LYS:O	2:D:210:THR:O	2.33	0.46
2:D:325:LYS:HG3	2:D:424:ILE:HD11	1.98	0.46
2:D:331:LEU:HG	2:D:331:LEU:O	2.14	0.46
2:C:16:LEU:HD11	2:C:74:ILE:HD13	1.96	0.46
2:C:23:ASP:O	2:C:24:LYS:HB3	2.16	0.46
2:C:134:ILE:O	2:C:136:ALA:N	2.48	0.46
2:C:162:GLU:O	2:C:163:THR:CG2	2.59	0.46
2:D:58:ARG:O	2:D:63:LYS:N	2.48	0.46
2:D:94:GLU:N	2:D:94:GLU:CD	2.69	0.46
2:D:122:ARG:HH21	2:D:154:ILE:CG2	2.25	0.46
2:D:208:GLU:HA	4:D:2065:HOH:O	2.15	0.46
2:C:203:MET:O	2:C:204:LYS:HB2	2.16	0.46
2:C:417:TYR:C	2:C:419:THR:N	2.69	0.46
2:D:6:GLY:O	2:D:10:ASN:N	2.44	0.46
2:D:56:GLU:C	2:D:58:ARG:H	2.19	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:199:LEU:O	2:D:203:MET:HG3	2.16	0.46
2:D:229:ILE:O	2:D:233:ALA:N	2.41	0.46
1:A:73:LEU:HD12	1:A:73:LEU:HA	1.70	0.46
2:C:39:ILE:O	2:C:42:ASP:N	2.49	0.46
2:C:313:LYS:HA	2:C:313:LYS:HZ2	1.80	0.46
2:D:169:VAL:O	2:D:173:LYS:HB2	2.16	0.46
2:D:316:GLU:HB2	2:D:332:MET:SD	2.56	0.46
3:N:208:C:C2	3:N:213:G:N2	2.67	0.46
1:B:28:LYS:NZ	4:B:2010:HOH:O	2.33	0.45
1:B:71:ASN:ND2	1:B:74:GLN:HG3	2.31	0.45
2:C:274:ILE:HG21	2:C:280:ASP:CG	2.36	0.45
2:D:218:VAL:HG13	2:D:247:THR:HG23	1.99	0.45
2:D:288:LYS:HA	2:D:291:SER:OG	2.15	0.45
2:D:288:LYS:O	2:D:291:SER:N	2.50	0.45
2:D:293:LEU:HB2	2:D:294:LEU:HD23	1.98	0.45
2:C:24:LYS:NZ	2:C:25:LYS:HB2	2.31	0.45
2:C:299:LEU:H	2:C:299:LEU:CD1	2.02	0.45
2:D:24:LYS:HB2	2:D:60:LEU:HB3	1.98	0.45
2:D:104:LEU:HD11	2:D:212:PRO:CG	2.35	0.45
3:M:219:A:C2'	3:M:220:A:H5'	2.46	0.45
3:N:222:G:C6	3:N:223:G:C5	3.04	0.45
1:A:7:TYR:CE2	1:A:72:LYS:NZ	2.83	0.45
2:C:17:LYS:O	2:C:18:ALA:CB	2.64	0.45
2:C:134:ILE:HD11	2:C:174:GLU:HB2	1.95	0.45
2:D:55:ILE:CG1	2:D:81:GLU:HB3	2.47	0.45
2:D:56:GLU:HG3	2:D:60:LEU:HD11	1.97	0.45
2:D:213:ASP:OD1	2:D:214:GLU:N	2.50	0.45
2:C:57:ARG:O	2:C:58:ARG:HG3	2.16	0.45
2:C:61:GLU:OE1	2:C:62:GLU:HB3	2.15	0.45
2:C:122:ARG:O	2:C:122:ARG:CD	2.64	0.45
2:C:134:ILE:HD13	2:C:174:GLU:CB	2.44	0.45
2:D:26:LEU:HD21	2:D:29:GLU:OE1	2.15	0.45
2:D:96:ASN:OD1	2:D:129:LEU:HD11	2.16	0.45
2:D:100:GLN:HB3	2:D:179:PHE:CE2	2.51	0.45
2:D:206:ILE:HA	2:D:209:ILE:HG22	1.98	0.45
1:A:30:SER:O	1:A:33:ASP:HB2	2.16	0.45
1:B:53:TYR:O	1:B:57:HIS:N	2.49	0.45
2:C:35:GLN:CG	2:C:36:ARG:N	2.79	0.45
2:C:45:VAL:CG1	2:C:46:LYS:N	2.73	0.45
2:C:67:GLY:CA	2:C:309:MET:SD	3.03	0.45
2:D:105:LEU:CD1	2:D:117:ALA:CB	2.82	0.45

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:311:ASP:HB3	2:D:312:GLU:H	1.58	0.45
2:D:331:LEU:HD13	2:D:334:GLN:OE1	2.16	0.45
2:D:366:THR:O	2:D:369:LYS:N	2.49	0.45
2:D:398:ARG:O	2:D:398:ARG:CG	2.62	0.45
1:B:39:LYS:C	1:B:41:LEU:N	2.69	0.45
2:C:18:ALA:O	2:C:19:ALA:C	2.54	0.45
2:C:201:GLU:OE2	4:C:2067:HOH:O	2.20	0.45
2:C:381:THR:O	2:C:384:GLU:N	2.47	0.45
2:D:296:MET:SD	2:D:297:GLY:N	2.90	0.45
3:M:232:A:C2'	3:M:233:C:O5'	2.64	0.45
1:B:8:ILE:HG21	1:B:8:ILE:HD13	1.64	0.45
2:C:49:LEU:CD1	2:C:49:LEU:H	2.30	0.45
2:C:326:PHE:CE1	2:C:386:GLU:HA	2.52	0.45
2:D:5:LEU:HD13	2:D:5:LEU:C	2.36	0.45
2:D:83:VAL:HG22	2:D:286:PRO:O	2.17	0.45
2:D:107:GLY:O	2:D:190:ALA:HB3	2.17	0.45
2:D:220:ASP:N	2:D:220:ASP:OD2	2.47	0.45
2:D:265:THR:O	2:D:267:ALA:N	2.50	0.45
1:B:75:LEU:O	1:B:78:GLU:HB2	2.16	0.45
2:C:113:LYS:HZ3	2:C:188:ASP:HA	1.82	0.45
2:C:323:ARG:CZ	2:C:323:ARG:CB	2.95	0.45
2:D:133:LEU:HD23	2:D:186:ILE:O	2.16	0.45
2:D:199:LEU:C	2:D:201:GLU:N	2.70	0.45
2:D:226:GLN:HE21	2:D:226:GLN:HB2	1.49	0.45
2:D:234:PHE:HZ	2:D:242:GLY:HA3	1.82	0.45
2:D:313:LYS:HG3	2:D:314:THR:H	1.79	0.45
3:M:194:A:O2'	3:M:195:A:O5'	2.32	0.45
3:M:232:A:H2'	3:M:233:C:O5'	2.17	0.45
3:N:210:G:H2'	3:N:211:A:O4'	2.17	0.45
2:C:108:ILE:HD12	2:C:108:ILE:N	2.30	0.45
2:C:267:ALA:HA	2:C:268:PRO:HD3	1.79	0.45
2:C:272:ILE:O	2:C:281:LEU:HD12	2.17	0.45
2:C:330:GLU:OE2	2:C:416:TYR:CD1	2.70	0.45
2:C:334:GLN:O	2:C:338:ILE:HG22	2.17	0.45
2:D:37:ALA:O	2:D:38:LEU:C	2.54	0.45
2:D:74:ILE:HG12	2:D:78:VAL:HG23	1.99	0.45
2:D:96:ASN:N	2:D:97:PRO:HD3	2.32	0.45
3:N:184:U:H3'	4:N:2062:HOH:O	2.17	0.45
2:C:173:LYS:HA	2:C:173:LYS:HD3	1.58	0.45
2:C:219:ILE:HD13	2:C:227:ALA:O	2.17	0.45
2:D:234:PHE:O	2:D:237:ALA:HB3	2.17	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:168:PRO:C	2:C:171:ILE:HG22	2.38	0.44
2:D:223:ILE:HG12	2:D:226:GLN:HB2	2.00	0.44
3:M:194:A:H8	3:M:194:A:H3'	1.82	0.44
3:M:205:G:H22	3:M:216:A:H2	1.65	0.44
3:N:144:C:H42	3:N:234:G:H1	1.66	0.44
1:A:8:ILE:HD13	1:A:8:ILE:HG21	1.53	0.44
2:C:36:ARG:NH1	2:C:40:GLN:CD	2.70	0.44
2:C:108:ILE:CG2	2:C:109:GLN:N	2.80	0.44
2:D:115:THR:HG22	2:D:119:LYS:CG	2.47	0.44
2:D:203:MET:O	2:D:207:LYS:N	2.51	0.44
2:D:325:LYS:NZ	2:D:420:THR:HG22	2.32	0.44
3:M:200:G:OP2	4:M:2063:HOH:O	2.20	0.44
1:B:3:ILE:HB	1:B:64:VAL:HG12	1.99	0.44
2:D:326:PHE:O	2:D:328:LEU:N	2.50	0.44
2:D:384:GLU:OE2	2:D:395:ARG:NH1	2.48	0.44
2:C:2:MET:CG	2:C:252:SER:O	2.57	0.44
2:C:40:GLN:C	2:C:42:ASP:H	2.21	0.44
2:C:165:THR:HG22	2:C:166:LYS:H	1.81	0.44
2:C:297:GLY:O	2:C:298:ASP:O	2.35	0.44
2:C:323:ARG:O	2:C:424:ILE:HG13	2.16	0.44
2:C:335:LEU:HD21	2:C:374:LYS:HE2	1.98	0.44
2:D:202:GLU:HA	2:D:202:GLU:OE2	2.17	0.44
2:D:268:PRO:O	2:D:270:LYS:HE3	2.17	0.44
2:D:380:MET:O	3:N:219:A:O2'	2.35	0.44
1:A:15:ARG:HH21	1:A:55:ARG:CZ	2.30	0.44
1:A:37:ALA:O	1:A:39:LYS:N	2.51	0.44
1:B:12:LYS:HZ3	1:B:12:LYS:HG2	1.63	0.44
2:C:58:ARG:HB3	2:C:77:ILE:HD13	1.99	0.44
2:C:58:ARG:HE	2:C:77:ILE:HG23	1.82	0.44
2:D:134:ILE:CD1	2:D:175:GLY:HA2	2.48	0.44
2:D:179:PHE:CG	2:D:179:PHE:O	2.70	0.44
2:D:239:GLY:C	2:D:241:ILE:N	2.70	0.44
3:M:226:G:C8	3:M:226:G:C3'	3.01	0.44
1:B:54:PRO:HG2	3:N:166:G:H4'	1.99	0.44
2:C:22:VAL:HG12	2:C:26:LEU:HD12	2.00	0.44
2:C:273:GLY:C	2:C:274:ILE:HD12	2.38	0.44
2:D:64:THR:HG22	2:D:65:PRO:HD3	1.99	0.44
2:D:166:LYS:HB3	2:D:168:PRO:HD2	1.98	0.44
2:D:199:LEU:HA	2:D:202:GLU:HB3	2.00	0.44
2:D:234:PHE:HA	2:D:237:ALA:HB3	1.99	0.44
2:D:254:LYS:HB3	2:D:254:LYS:HZ3	1.83	0.44

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:386:GLU:HG3	2:D:387:ASN:N	2.32	0.44
1:A:38:LEU:HD11	1:A:79:ILE:CD1	2.46	0.44
2:C:35:GLN:O	2:C:38:LEU:HB2	2.17	0.44
2:C:137:ASP:OD1	2:C:139:TYR:CZ	2.71	0.44
2:C:336:GLU:HA	2:C:339:GLU:CG	2.48	0.44
2:C:386:GLU:O	2:C:387:ASN:C	2.55	0.44
2:D:167:SER:N	2:D:168:PRO:CD	2.81	0.44
2:D:232:LYS:HG3	2:D:265:THR:HG22	1.99	0.44
2:D:326:PHE:C	2:D:328:LEU:N	2.70	0.44
2:D:334:GLN:HE21	2:D:334:GLN:HB2	1.62	0.44
2:D:395:ARG:NH2	3:N:195:A:C8	2.86	0.44
2:C:26:LEU:O	2:C:26:LEU:HD22	2.18	0.44
2:C:92:LYS:O	2:C:94:GLU:N	2.51	0.44
2:C:274:ILE:HG21	2:C:280:ASP:HB3	1.99	0.44
2:C:319:ASP:CA	2:C:322:MET:HB3	2.45	0.44
2:D:58:ARG:HB2	2:D:77:ILE:HG21	1.98	0.44
2:D:130:LYS:HA	2:D:131:PRO:HD3	1.75	0.44
3:M:210:G:O5'	3:M:210:G:H8	2.01	0.44
1:A:61:CYS:SG	1:A:62:GLY:N	2.91	0.44
2:C:22:VAL:HG21	2:C:70:LYS:HE2	2.00	0.44
2:C:109:GLN:NE2	2:C:192:ARG:NH1	2.60	0.44
2:C:122:ARG:O	2:C:122:ARG:HD2	2.17	0.44
2:C:139:TYR:HH	2:C:188:ASP:CG	2.21	0.44
2:C:140:ARG:O	2:C:143:ALA:N	2.49	0.44
2:D:5:LEU:C	2:D:5:LEU:CD1	2.86	0.44
2:D:90:ALA:O	2:D:92:LYS:CG	2.66	0.44
2:D:119:LYS:HE3	2:D:276:GLU:HA	1.99	0.44
3:N:160:C:N3	3:N:170:A:C2	2.86	0.44
3:N:208:C:N3	3:N:213:G:C2	2.86	0.44
2:C:426:LYS:HG2	2:C:427:LEU:HG	2.00	0.43
2:D:244:ILE:O	2:D:245:ILE:HG13	2.19	0.43
3:M:146:G:H21	3:M:186:A:H1'	1.82	0.43
1:B:36:LYS:O	1:B:39:LYS:CB	2.66	0.43
2:D:86:LEU:CD1	2:D:286:PRO:HB3	2.48	0.43
2:D:199:LEU:N	4:D:2060:HOH:O	2.50	0.43
2:D:306:ALA:HB3	2:D:312:GLU:HG3	2.00	0.43
1:B:44:GLU:OE2	1:B:44:GLU:HA	2.17	0.43
1:B:57:HIS:HB2	3:N:207:C:O4'	2.18	0.43
2:C:103:ILE:HG21	2:C:216:ILE:HD11	2.00	0.43
2:C:166:LYS:CG	2:C:167:SER:N	2.55	0.43
2:C:206:ILE:O	2:C:206:ILE:HG12	2.18	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:367:GLU:CD	2:C:368:ALA:H	2.21	0.43
2:D:115:THR:HG22	2:D:119:LYS:HG2	1.99	0.43
2:D:122:ARG:HG3	2:D:125:GLN:OE1	2.18	0.43
1:B:15:ARG:NH2	1:B:55:ARG:NE	2.66	0.43
2:C:50:LYS:O	2:C:51:MET:C	2.57	0.43
2:C:203:MET:O	2:C:204:LYS:CB	2.66	0.43
2:C:207:LYS:O	2:C:207:LYS:HG2	2.18	0.43
2:C:286:PRO:O	2:C:287:LYS:C	2.56	0.43
2:C:311:ASP:O	2:C:312:GLU:HB2	2.17	0.43
2:D:55:ILE:HG13	2:D:81:GLU:HG3	2.01	0.43
2:D:72:GLU:HG3	4:D:2023:HOH:O	2.18	0.43
2:D:123:TYR:HB2	2:D:278:ILE:HD11	1.99	0.43
2:D:139:TYR:HD1	2:D:139:TYR:H	1.65	0.43
3:M:194:A:N6	3:M:224:U:C4	2.87	0.43
1:A:79:ILE:O	1:A:83:ILE:HG13	2.19	0.43
1:B:26:ILE:HG22	1:B:84:LYS:CD	2.48	0.43
2:C:68:LEU:O	2:C:72:GLU:OE1	2.36	0.43
2:C:220:ASP:O	2:C:221:GLY:C	2.57	0.43
2:D:22:VAL:O	2:D:22:VAL:CG2	2.66	0.43
2:D:113:LYS:CG	2:D:188:ASP:OD1	2.59	0.43
3:M:174:G:H2'	3:M:175:U:C6	2.54	0.43
3:M:200:G:C2'	3:M:201:C:O5'	2.67	0.43
3:N:218:C:OP1	4:N:2106:HOH:O	2.21	0.43
3:N:224:U:H2'	3:N:225:A:H5'	2.01	0.43
1:A:12:LYS:HD3	1:A:16:GLU:HB3	2.01	0.43
2:C:9:LEU:C	2:C:11:LYS:H	2.21	0.43
2:C:120:LEU:O	2:C:123:TYR:HB3	2.18	0.43
2:C:400:ALA:HB2	2:C:410:VAL:CG1	2.45	0.43
2:D:84:LYS:C	2:D:86:LEU:N	2.72	0.43
2:D:89:GLU:HG3	2:D:90:ALA:N	2.33	0.43
2:D:122:ARG:NH2	2:D:153:LYS:O	2.51	0.43
2:D:250:ASP:OD1	2:D:274:ILE:HA	2.18	0.43
2:D:420:THR:O	2:D:421:LYS:O	2.37	0.43
3:M:180:C:C3'	3:M:181:C:C5'	2.96	0.43
3:N:172:A:H2'	3:N:173:U:O4'	2.18	0.43
3:N:174:G:H2'	3:N:175:U:H5'	1.98	0.43
3:N:193:G:O2'	3:N:194:A:P	2.76	0.43
2:D:178:LYS:HB3	4:D:2049:HOH:O	2.17	0.43
2:D:204:LYS:O	2:D:207:LYS:HB2	2.18	0.43
2:D:316:GLU:CB	2:D:332:MET:SD	3.07	0.43
3:M:168:G:H5'	3:M:168:G:H8	1.83	0.43

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:201:C:H2'	3:M:202:C:O4'	2.18	0.43
1:A:7:TYR:O	1:A:18:ARG:HA	2.19	0.43
1:A:31:LEU:HD23	1:A:32:LYS:HZ1	1.84	0.43
1:A:86:LYS:HD3	1:A:86:LYS:HA	1.77	0.43
2:C:113:LYS:NZ	2:C:188:ASP:HA	2.34	0.43
2:C:147:LEU:O	2:C:150:LEU:HB2	2.19	0.43
2:C:150:LEU:C	2:C:152:GLU:H	2.22	0.43
2:C:196:GLU:HG2	2:C:200:LEU:HD13	2.00	0.43
2:C:259:LEU:CD2	2:C:269:ILE:HD13	2.49	0.43
2:D:58:ARG:HG2	2:D:62:GLU:OE2	2.19	0.43
2:D:111:SER:HB2	2:D:112:GLY:H	1.62	0.43
3:M:148:G:H8	3:M:148:G:C5'	2.32	0.43
1:A:20:VAL:HG23	1:A:24:LEU:O	2.19	0.43
1:B:36:LYS:NZ	1:B:36:LYS:CB	2.71	0.43
2:C:71:LYS:HD2	4:C:2031:HOH:O	2.18	0.43
2:C:85:LEU:CD2	2:C:260:SER:CB	2.89	0.43
2:C:124:ILE:HG22	2:C:129:LEU:HB2	2.00	0.43
2:D:100:GLN:O	2:D:100:GLN:HG2	2.19	0.43
2:D:118:ALA:HB1	2:D:150:LEU:HD22	2.01	0.43
3:M:157:U:C3'	3:M:157:U:C6	3.02	0.43
3:N:188:C:O2	3:N:188:C:H2'	2.19	0.43
2:C:263:ALA:HB3	4:C:2076:HOH:O	2.19	0.43
2:C:290:ILE:H	2:C:290:ILE:HG12	1.57	0.43
2:C:377:ILE:C	2:C:379:SER:N	2.72	0.43
2:D:11:LYS:HD2	2:D:11:LYS:HA	1.78	0.43
2:D:42:ASP:OD2	2:D:254:LYS:HE2	2.19	0.43
2:D:123:TYR:C	2:D:123:TYR:CD1	2.92	0.43
2:D:302:LEU:HB2	2:D:309:MET:CG	2.49	0.43
2:D:318:ILE:CG2	2:D:319:ASP:N	2.81	0.43
3:M:158:C:H6	3:M:158:C:O5'	2.02	0.43
3:M:197:C:H6	3:M:197:C:C3'	2.25	0.43
2:C:51:MET:CE	2:C:82:LEU:HA	2.49	0.42
2:C:137:ASP:O	2:C:139:TYR:CD1	2.72	0.42
2:D:108:ILE:HD12	2:D:108:ILE:N	2.20	0.42
2:D:119:LYS:HE3	2:D:276:GLU:CA	2.48	0.42
2:D:174:GLU:O	2:D:175:GLY:C	2.57	0.42
2:D:241:ILE:O	2:D:241:ILE:CG1	2.67	0.42
3:N:160:C:C2	3:N:170:A:C2	3.07	0.42
1:B:3:ILE:HD11	1:B:38:LEU:HD11	1.99	0.42
2:C:189:THR:O	2:C:191:GLY:N	2.53	0.42
2:C:332:MET:SD	2:C:332:MET:C	2.97	0.42

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:424:ILE:CD1	2:C:425:ASP:N	2.66	0.42
2:D:59:ALA:C	2:D:61:GLU:H	2.22	0.42
2:D:88:GLU:HG2	2:D:315:GLU:OE1	2.19	0.42
2:D:400:ALA:O	2:D:401:ARG:C	2.55	0.42
2:C:5:LEU:O	2:C:9:LEU:CB	2.68	0.42
2:D:122:ARG:HE	2:D:154:ILE:CG2	2.32	0.42
3:M:146:G:N7	4:M:2012:HOH:O	2.51	0.42
3:M:187:C:P	4:M:2048:HOH:O	2.76	0.42
1:A:9:ASP:HB3	1:A:12:LYS:HB2	2.01	0.42
1:A:23:GLU:HB2	1:A:24:LEU:HD22	2.02	0.42
1:B:15:ARG:NH2	1:B:55:ARG:CD	2.80	0.42
2:C:189:THR:O	2:C:190:ALA:C	2.57	0.42
2:C:319:ASP:O	2:C:319:ASP:OD1	2.38	0.42
2:C:425:ASP:O	4:C:2105:HOH:O	2.22	0.42
2:D:42:ASP:O	2:D:225:GLN:HB3	2.19	0.42
2:D:108:ILE:HB	2:D:109:GLN:H	1.63	0.42
3:M:195:A:C5'	3:M:195:A:H8	2.32	0.42
2:C:63:LYS:CE	2:C:70:LYS:HZ1	2.31	0.42
2:C:255:GLY:C	2:C:258:ALA:H	2.23	0.42
2:C:304:GLU:OE2	3:M:220:A:H4'	2.19	0.42
3:N:166:G:H2'	3:N:167:G:O5'	2.19	0.42
1:A:52:ARG:HG3	1:A:60:ILE:HA	2.02	0.42
2:C:27:ILE:H	2:C:27:ILE:HG13	1.68	0.42
2:C:35:GLN:HG3	2:C:36:ARG:N	2.34	0.42
2:C:95:LEU:HG	4:C:2044:HOH:O	2.20	0.42
2:C:167:SER:HB2	2:C:168:PRO:CD	2.50	0.42
2:C:290:ILE:O	2:C:293:LEU:N	2.52	0.42
2:D:55:ILE:CG1	2:D:81:GLU:CB	2.98	0.42
2:D:99:LYS:HE2	2:D:99:LYS:HB2	1.65	0.42
2:D:140:ARG:C	2:D:142:ALA:N	2.71	0.42
2:D:213:ASP:O	2:D:214:GLU:HG2	2.19	0.42
3:N:232:A:C5	3:N:233:C:C4	3.08	0.42
2:C:285:ASP:HB2	2:C:288:LYS:HD2	2.02	0.42
2:D:35:GLN:O	2:D:36:ARG:C	2.57	0.42
2:D:111:SER:HA	2:D:220:ASP:OD1	2.19	0.42
2:D:262:VAL:HG13	2:D:267:ALA:HB3	2.02	0.42
2:D:416:TYR:O	2:D:419:THR:HB	2.19	0.42
3:M:181:C:H2'	3:M:182:C:O5'	2.20	0.42
3:M:195:A:C5'	3:M:195:A:C8	3.02	0.42
3:N:195:A:C5'	3:N:196:C:OP2	2.67	0.42
1:B:38:LEU:HD21	1:B:75:LEU:HD21	2.02	0.42

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:231:ALA:HB3	2:C:265:THR:HG21	2.02	0.42
2:D:26:LEU:HD22	2:D:26:LEU:HA	1.79	0.42
2:D:117:ALA:O	2:D:133:LEU:HD11	2.20	0.42
2:D:207:LYS:HB3	2:D:207:LYS:HE2	1.73	0.42
2:D:314:THR:C	2:D:316:GLU:H	2.22	0.42
2:D:322:MET:HG3	2:D:323:ARG:HD3	2.01	0.42
2:D:392:LYS:O	2:D:396:ILE:HG13	2.19	0.42
2:D:405:THR:C	2:D:406:THR:CG2	2.88	0.42
3:N:143:G:N2	3:N:235:U:O2	2.43	0.42
1:A:15:ARG:HH21	1:A:55:ARG:NE	2.18	0.42
2:C:155:HIS:O	2:C:155:HIS:CG	2.72	0.42
2:C:238:VAL:O	2:C:238:VAL:CG1	2.67	0.42
2:C:330:GLU:OE2	2:C:416:TYR:HD1	2.03	0.42
2:D:40:GLN:O	2:D:41:ALA:HB2	2.20	0.42
2:D:180:LYS:O	2:D:181:LYS:HB2	2.20	0.42
1:A:22:GLU:OE2	1:A:22:GLU:HA	2.20	0.42
1:B:87:ASN:HB2	4:B:2026:HOH:O	2.20	0.42
2:C:148:LYS:NZ	4:C:2050:HOH:O	2.52	0.42
2:C:200:LEU:HD21	2:C:233:ALA:O	2.19	0.42
2:C:370:ILE:HD13	2:C:370:ILE:HG21	1.80	0.42
2:D:55:ILE:HG22	2:D:56:GLU:N	2.34	0.42
3:M:228:C:O5'	3:M:228:C:H6	2.02	0.42
2:D:26:LEU:HD13	2:D:26:LEU:O	2.20	0.41
2:D:90:ALA:HB1	2:D:268:PRO:HA	2.02	0.41
2:C:140:ARG:HH12	2:C:146:GLN:CD	2.23	0.41
2:D:89:GLU:OE2	2:D:307:GLU:HB2	2.20	0.41
2:D:140:ARG:O	2:D:142:ALA:N	2.52	0.41
3:M:184:U:C2'	3:M:186:A:H2	2.33	0.41
3:N:198:C:C2'	3:N:199:C:O5'	2.68	0.41
1:A:22:GLU:OE2	1:A:22:GLU:CA	2.68	0.41
2:C:63:LYS:NZ	2:C:70:LYS:HZ3	2.16	0.41
2:C:90:ALA:N	2:C:91:LYS:HD3	2.19	0.41
2:C:243:SER:C	2:C:244:ILE:HD12	2.39	0.41
2:C:286:PRO:O	2:C:288:LYS:N	2.53	0.41
2:D:33:ASP:C	2:D:35:GLN:N	2.71	0.41
3:M:187:C:O2	3:M:187:C:C2'	2.63	0.41
1:B:14:ARG:HD3	1:B:18:ARG:O	2.19	0.41
2:C:13:LEU:CA	2:C:75:ILE:HD11	2.50	0.41
2:C:104:LEU:CD2	2:C:215:ILE:CD1	2.98	0.41
2:D:16:LEU:HD11	2:D:30:VAL:HG21	2.01	0.41
2:D:78:VAL:O	2:D:82:LEU:N	2.46	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:267:ALA:HA	2:D:268:PRO:HD2	1.85	0.41
2:D:311:ASP:O	2:D:315:GLU:CD	2.59	0.41
3:M:191:C:N3	3:M:192:C:C6	2.89	0.41
3:N:159:U:HO2'	3:N:160:C:H5'	1.84	0.41
1:A:1:MET:N	3:M:164:U:O2'	2.53	0.41
1:B:15:ARG:HH22	1:B:55:ARG:CZ	2.34	0.41
2:C:115:THR:C	2:C:117:ALA:H	2.23	0.41
2:C:410:VAL:O	2:C:414:LEU:HG	2.19	0.41
2:D:164:ARG:NH2	4:D:2046:HOH:O	2.41	0.41
2:D:203:MET:CA	2:D:206:ILE:HB	2.40	0.41
2:D:216:ILE:HG13	2:D:216:ILE:H	1.62	0.41
2:D:311:ASP:OD1	2:D:315:GLU:OE1	2.37	0.41
2:D:325:LYS:HB3	2:D:325:LYS:HE2	1.57	0.41
3:M:229:A:N6	3:M:230:G:C6	2.88	0.41
2:D:58:ARG:HE	2:D:77:ILE:HG23	1.86	0.41
2:D:199:LEU:O	2:D:202:GLU:N	2.53	0.41
2:D:307:GLU:N	2:D:312:GLU:HG3	2.34	0.41
3:M:151:G:C2	3:M:179:C:N3	2.89	0.41
3:M:190:G:C4	3:M:191:C:C5	3.08	0.41
1:A:46:LYS:HZ2	1:A:48:TYR:HE2	1.69	0.41
1:B:46:LYS:H	1:B:46:LYS:HD3	1.86	0.41
2:C:71:LYS:HG2	2:C:72:GLU:N	2.35	0.41
2:C:259:LEU:HD22	2:C:269:ILE:HD13	2.03	0.41
2:C:325:LYS:NZ	2:C:325:LYS:CA	2.46	0.41
2:C:386:GLU:O	2:C:387:ASN:O	2.38	0.41
2:D:367:GLU:HG3	2:D:368:ALA:H	1.85	0.41
1:A:46:LYS:NZ	1:A:48:TYR:HE2	2.19	0.41
2:D:326:PHE:CA	2:D:417:TYR:CE2	3.03	0.41
1:B:48:TYR:HB3	1:B:51:LYS:HG3	2.03	0.41
2:C:24:LYS:C	2:C:24:LYS:CD	2.84	0.41
2:C:71:LYS:O	2:C:72:GLU:C	2.60	0.41
2:C:83:VAL:C	2:C:85:LEU:N	2.74	0.41
2:C:371:LYS:HE3	3:M:205:G:H5'	2.01	0.41
2:D:88:GLU:HA	2:D:286:PRO:HG2	2.01	0.41
2:D:107:GLY:N	2:D:190:ALA:HB3	2.33	0.41
2:D:114:THR:HB	2:D:115:THR:H	1.77	0.41
2:D:137:ASP:HB2	2:D:138:THR:H	1.60	0.41
2:D:366:THR:C	2:D:370:ILE:HD12	2.41	0.41
2:D:379:SER:OG	3:N:204:G:N2	2.53	0.41
2:D:406:THR:H	2:D:409:ASP:HB2	1.86	0.41
3:M:190:G:H2'	3:M:191:C:O4'	2.20	0.41

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:154:G:O2'	3:N:155:C:H5'	2.20	0.41
3:N:187:C:N4	3:N:231:G:H1	2.19	0.41
3:N:231:G:H2'	3:N:232:A:H8	1.85	0.41
2:C:244:ILE:CG2	2:C:245:ILE:N	2.84	0.41
2:D:5:LEU:O	2:D:9:LEU:HB2	2.21	0.41
2:D:399:ILE:HD13	2:D:399:ILE:HG21	1.88	0.41
3:N:197:C:C5'	3:N:198:C:C5'	2.99	0.41
3:N:204:G:H3'	3:N:205:G:H8	1.86	0.41
1:A:38:LEU:HB3	1:A:43:LEU:HB2	2.04	0.40
1:A:57:HIS:CG	1:A:58:TRP:N	2.89	0.40
1:B:74:GLN:O	1:B:75:LEU:C	2.59	0.40
2:C:53:LYS:HA	2:C:56:GLU:HG3	2.03	0.40
2:C:111:SER:HB3	2:C:220:ASP:OD2	2.21	0.40
2:C:124:ILE:CG2	2:C:129:LEU:HB2	2.51	0.40
2:C:204:LYS:C	2:C:206:ILE:N	2.71	0.40
2:C:287:LYS:H	2:C:287:LYS:CD	2.33	0.40
2:D:55:ILE:C	2:D:57:ARG:H	2.23	0.40
2:D:91:LYS:HB3	4:D:2077:HOH:O	2.22	0.40
2:D:221:GLY:O	2:D:224:GLY:N	2.54	0.40
2:D:392:LYS:H	2:D:395:ARG:HB2	1.86	0.40
3:M:148:G:C8	3:M:148:G:C5'	3.04	0.40
3:M:206:C:H42	3:M:215:G:H1	1.69	0.40
3:M:210:G:H8	3:M:210:G:P	2.43	0.40
2:D:28:LYS:HG2	2:D:32:LYS:HB2	2.03	0.40
2:D:139:TYR:C	2:D:140:ARG:HD3	2.42	0.40
2:D:382:LYS:HD3	2:D:385:ARG:HH21	1.85	0.40
3:N:231:G:C2'	3:N:232:A:O5'	2.70	0.40
1:A:18:ARG:HH11	1:A:18:ARG:HD3	1.72	0.40
2:C:336:GLU:HA	2:C:339:GLU:HG2	2.03	0.40
2:C:413:VAL:O	2:C:414:LEU:C	2.57	0.40
2:D:113:LYS:HE2	2:D:137:ASP:OD2	2.22	0.40
2:D:139:TYR:CD1	2:D:139:TYR:N	2.89	0.40
2:D:199:LEU:C	2:D:201:GLU:H	2.23	0.40
2:D:322:MET:CG	2:D:323:ARG:H	2.27	0.40
3:M:174:G:H5'	3:M:174:G:C8	2.55	0.40
3:M:207:C:C2	3:M:215:G:C2	3.10	0.40
1:B:15:ARG:O	1:B:15:ARG:CZ	2.69	0.40
2:C:130:LYS:H	2:C:183:ASP:HB2	1.86	0.40
2:D:161:ASP:O	2:D:162:GLU:HG2	2.21	0.40
2:D:216:ILE:CG2	2:D:245:ILE:HD12	2.49	0.40
2:D:264:GLU:H	2:D:264:GLU:HG2	1.48	0.40

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:326:PHE:C	2:D:328:LEU:H	2.24	0.40
1:A:37:ALA:O	1:A:38:LEU:C	2.57	0.40
1:B:22:GLU:C	1:B:24:LEU:N	2.74	0.40
2:C:98:LYS:CG	2:C:100:GLN:H	2.33	0.40
2:D:48:VAL:O	2:D:48:VAL:HG12	2.22	0.40
2:D:83:VAL:HG13	2:D:286:PRO:HB3	2.03	0.40
2:D:85:LEU:C	2:D:263:ALA:HB2	2.41	0.40
2:D:285:ASP:C	2:D:287:LYS:N	2.74	0.40
2:D:305:LYS:NZ	2:D:306:ALA:H	2.15	0.40
2:D:312:GLU:HA	2:D:315:GLU:OE2	2.21	0.40
3:M:146:G:O2'	3:M:147:U:OP2	2.31	0.40
3:N:172:A:H5'	3:N:172:A:C8	2.44	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	85/87 (98%)	70 (82%)	12 (14%)	3 (4%)	3 4
1	B	85/87 (98%)	66 (78%)	14 (16%)	5 (6%)	1 1
2	C	400/432 (93%)	258 (64%)	97 (24%)	45 (11%)	0 0
2	D	398/432 (92%)	227 (57%)	116 (29%)	55 (14%)	0 0
All	All	968/1038 (93%)	621 (64%)	239 (25%)	108 (11%)	0 0

All (108) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	C	18	ALA
2	C	19	ALA
2	C	24	LYS

Continued on next page...

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	C	64	THR
2	C	68	LEU
2	C	70	LYS
2	C	90	ALA
2	C	94	GLU
2	C	204	LYS
2	C	298	ASP
2	C	306	ALA
2	C	378	SER
2	D	18	ALA
2	D	41	ALA
2	D	108	ILE
2	D	145	GLU
2	D	182	ALA
2	D	183	ASP
2	D	190	ALA
2	D	203	MET
2	D	240	GLU
2	D	283	PRO
2	D	305	LYS
2	D	313	LYS
2	D	323	ARG
2	D	386	GLU
2	D	400	ALA
2	D	421	LYS
2	D	423	ALA
2	D	427	LEU
1	B	10	LYS
1	B	40	LYS
1	B	57	HIS
2	C	45	VAL
2	C	58	ARG
2	C	66	LYS
2	C	89	GLU
2	C	93	LEU
2	C	108	ILE
2	C	142	ALA
2	C	163	THR
2	C	181	LYS
2	C	190	ALA
2	C	191	GLY
2	C	222	THR

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	C	239	GLY
2	C	286	PRO
2	C	287	LYS
2	C	311	ASP
2	C	336	GLU
2	C	367	GLU
2	D	90	ALA
2	D	92	LYS
2	D	136	ALA
2	D	198	GLY
2	D	222	THR
2	D	239	GLY
2	D	250	ASP
2	D	262	VAL
2	D	424	ILE
1	B	38	LEU
2	C	15	LYS
2	C	44	ASN
2	C	135	ALA
2	C	167	SER
2	C	280	ASP
2	C	326	PHE
2	C	366	THR
2	D	82	LEU
2	D	91	LYS
2	D	112	GLY
2	D	181	LYS
2	D	185	LEU
2	D	194	LYS
2	D	252	SER
2	D	261	ALA
2	D	266	LYS
2	D	293	LEU
2	D	308	ASP
2	D	388	PRO
2	D	401	ARG
1	A	23	GLU
1	A	38	LEU
2	C	84	LYS
2	C	219	ILE
2	C	301	SER
2	C	418	GLU

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
2	D	139	TYR
2	D	148	LYS
2	D	196	GLU
2	D	301	SER
2	D	309	MET
1	A	37	ALA
1	B	23	GLU
2	C	180	LYS
2	C	279	ASP
2	D	65	PRO
2	D	131	PRO
2	D	302	LEU
2	D	422	ASN
2	D	141	PRO
2	D	200	LEU
2	D	223	ILE
2	C	65	PRO
2	D	278	ILE
2	C	102	VAL
2	D	128	GLY
2	D	245	ILE

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	80/80 (100%)	69 (86%)	11 (14%)	3	6
1	B	80/80 (100%)	63 (79%)	17 (21%)	1	2
2	C	340/364 (93%)	264 (78%)	76 (22%)	1	1
2	D	338/364 (93%)	253 (75%)	85 (25%)	0	1
All	All	838/888 (94%)	649 (77%)	189 (23%)	1	1

All (189) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	5	PRO
1	A	11	LYS
1	A	15	ARG
1	A	23	GLU
1	A	32	LYS
1	A	51	LYS
1	A	56	GLN
1	A	60	ILE
1	A	64	VAL
1	A	66	VAL
1	A	71	ASN
1	B	2	ILE
1	B	6	SER
1	B	12	LYS
1	B	15	ARG
1	B	26	ILE
1	B	27	GLU
1	B	31	LEU
1	B	36	LYS
1	B	39	LYS
1	B	46	LYS
1	B	51	LYS
1	B	56	GLN
1	B	63	CYS
1	B	73	LEU
1	B	74	GLN
1	B	84	LYS
1	B	86	LYS
2	C	2	MET
2	C	3	ASP
2	C	5	LEU
2	C	14	ASN
2	C	24	LYS
2	C	26	LEU
2	C	28	LYS
2	C	33	ASP
2	C	36	ARG
2	C	39	ILE
2	C	44	ASN
2	C	51	MET
2	C	57	ARG
2	C	62	GLU
2	C	63	LYS

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	C	64	THR
2	C	66	LYS
2	C	68	LEU
2	C	70	LYS
2	C	71	LYS
2	C	85	LEU
2	C	89	GLU
2	C	91	LYS
2	C	92	LYS
2	C	93	LEU
2	C	94	GLU
2	C	98	LYS
2	C	100	GLN
2	C	101	ASN
2	C	122	ARG
2	C	140	ARG
2	C	152	GLU
2	C	154	ILE
2	C	158	ILE
2	C	159	TYR
2	C	163	THR
2	C	164	ARG
2	C	171	ILE
2	C	173	LYS
2	C	176	MET
2	C	177	GLU
2	C	178	LYS
2	C	181	LYS
2	C	189	THR
2	C	192	ARG
2	C	210	THR
2	C	213	ASP
2	C	238	VAL
2	C	244	ILE
2	C	250	ASP
2	C	280	ASP
2	C	287	LYS
2	C	290	ILE
2	C	291	SER
2	C	299	LEU
2	C	300	GLU
2	C	301	SER

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	C	303	LEU
2	C	308	ASP
2	C	311	ASP
2	C	313	LYS
2	C	315	GLU
2	C	318	ILE
2	C	325	LYS
2	C	326	PHE
2	C	332	MET
2	C	333	THR
2	C	334	GLN
2	C	338	ILE
2	C	340	ASN
2	C	366	THR
2	C	367	GLU
2	C	371	LYS
2	C	410	VAL
2	C	424	ILE
2	C	425	ASP
2	D	3	ASP
2	D	4	LYS
2	D	5	LEU
2	D	13	LEU
2	D	16	LEU
2	D	17	LYS
2	D	21	PHE
2	D	24	LYS
2	D	26	LEU
2	D	36	ARG
2	D	40	GLN
2	D	47	LEU
2	D	57	ARG
2	D	60	LEU
2	D	63	LYS
2	D	64	THR
2	D	68	LEU
2	D	70	LYS
2	D	72	GLU
2	D	81	GLU
2	D	86	LEU
2	D	91	LYS
2	D	101	ASN

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	D	108	ILE
2	D	113	LYS
2	D	125	GLN
2	D	126	LYS
2	D	137	ASP
2	D	139	TYR
2	D	146	GLN
2	D	150	LEU
2	D	154	ILE
2	D	158	ILE
2	D	161	ASP
2	D	171	ILE
2	D	173	LYS
2	D	177	GLU
2	D	183	ASP
2	D	186	ILE
2	D	188	ASP
2	D	195	GLU
2	D	196	GLU
2	D	199	LEU
2	D	201	GLU
2	D	203	MET
2	D	213	ASP
2	D	215	ILE
2	D	226	GLN
2	D	240	GLU
2	D	241	ILE
2	D	244	ILE
2	D	250	ASP
2	D	252	SER
2	D	264	GLU
2	D	266	LYS
2	D	281	LEU
2	D	282	GLU
2	D	290	ILE
2	D	292	ARG
2	D	294	LEU
2	D	296	MET
2	D	298	ASP
2	D	299	LEU
2	D	303	LEU
2	D	304	GLU

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
2	D	307	GLU
2	D	311	ASP
2	D	319	ASP
2	D	323	ARG
2	D	326	PHE
2	D	327	THR
2	D	333	THR
2	D	334	GLN
2	D	339	GLU
2	D	365	LEU
2	D	366	THR
2	D	367	GLU
2	D	369	LYS
2	D	381	THR
2	D	382	LYS
2	D	387	ASN
2	D	407	GLU
2	D	410	VAL
2	D	425	ASP
2	D	427	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	71	ASN
1	B	56	GLN
1	B	74	GLN
2	C	44	ASN
2	C	101	ASN
2	C	146	GLN
2	C	329	ASN
2	C	334	GLN
2	C	340	ASN
2	D	10	ASN
2	D	14	ASN
2	D	44	ASN
2	D	73	HIS
2	D	101	ASN
2	D	226	GLN
2	D	329	ASN
2	D	387	ASN

5.3.3 RNA 

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	M	95/96 (98%)	52 (54%)	16 (16%)
3	N	95/96 (98%)	41 (43%)	7 (7%)
All	All	190/192 (98%)	93 (48%)	23 (12%)

All (93) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	M	145	G
3	M	146	G
3	M	147	U
3	M	149	G
3	M	153	A
3	M	154	G
3	M	156	A
3	M	158	C
3	M	161	C
3	M	163	G
3	M	164	U
3	M	165	A
3	M	168	G
3	M	169	G
3	M	171	G
3	M	172	A
3	M	173	U
3	M	174	G
3	M	175	U
3	M	176	A
3	M	177	A
3	M	178	C
3	M	179	C
3	M	180	C
3	M	181	C
3	M	182	C
3	M	183	U
3	M	185	U
3	M	186	A
3	M	189	U
3	M	193	G
3	M	194	A
3	M	195	A
3	M	198	C

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	M	199	C
3	M	201	C
3	M	202	C
3	M	203	A
3	M	204	G
3	M	207	C
3	M	208	C
3	M	211	A
3	M	214	G
3	M	216	A
3	M	219	A
3	M	220	A
3	M	221	C
3	M	222	G
3	M	224	U
3	M	230	G
3	M	233	C
3	M	237	G
3	N	146	G
3	N	147	U
3	N	148	G
3	N	149	G
3	N	152	G
3	N	153	A
3	N	159	U
3	N	164	U
3	N	165	A
3	N	169	G
3	N	170	A
3	N	171	G
3	N	172	A
3	N	173	U
3	N	174	G
3	N	175	U
3	N	176	A
3	N	178	C
3	N	179	C
3	N	181	C
3	N	182	C
3	N	186	A
3	N	187	C
3	N	193	G

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	N	194	A
3	N	195	A
3	N	198	C
3	N	199	C
3	N	202	C
3	N	204	G
3	N	209	G
3	N	211	A
3	N	219	A
3	N	227	G
3	N	228	C
3	N	229	A
3	N	230	G
3	N	231	G
3	N	232	A
3	N	236	C
3	N	237	G

All (23) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	M	146	G
3	M	148	G
3	M	164	U
3	M	165	A
3	M	170	A
3	M	174	G
3	M	175	U
3	M	176	A
3	M	178	C
3	M	179	C
3	M	181	C
3	M	185	U
3	M	193	G
3	M	195	A
3	M	209	G
3	M	210	G
3	N	146	G
3	N	164	U
3	N	180	C
3	N	181	C
3	N	185	U

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
3	N	193	G
3	N	209	G

#### 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

#### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

#### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

#### 5.7 Other polymers [i](#)

There are no such residues in this entry.

#### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

### 6.2 Non-standard residues in protein, DNA, RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

### 6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

### 6.4 Ligands

Unable to reproduce the depositors R factor - this section is therefore empty.

### 6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.