



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 04:20 PM UTC

PDB ID : 4JI6 / pdb_00004ji6
Title : Crystal Structure of 30S ribosomal subunit from *Thermus thermophilus*
Authors : Demirci, H.; Wang, L.; Murphy IV, F.; Murphy, E.; Carr, J.; Blanchard, S.;
Jogl, G.; Dahlberg, A.E.; Gregory, S.T.
Deposited on : 2013-03-05
Resolution : 3.55 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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

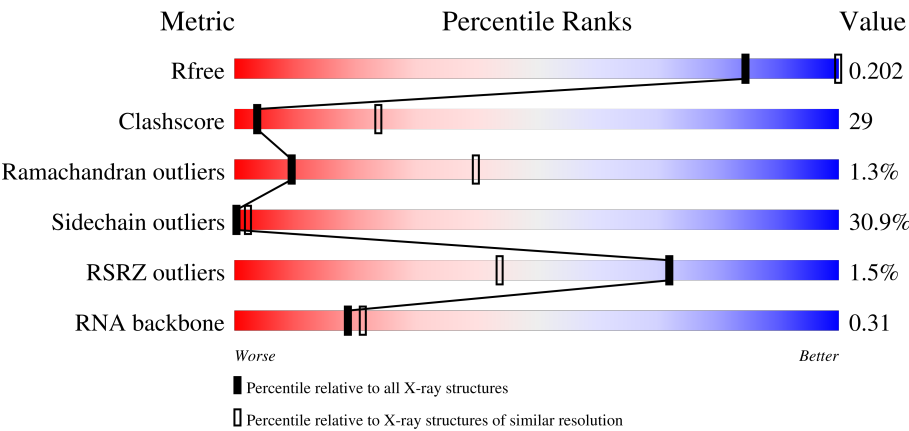
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.55 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))
R _{free}	180053	1410 (3.62-3.50)
Clashscore	190562	1480 (3.62-3.50)
Ramachandran outliers	187476	1440 (3.62-3.50)
Sidechain outliers	187428	1441 (3.62-3.50)
RSRZ outliers	180081	1409 (3.62-3.50)
RNA backbone	3983	1006 (4.02-3.06)

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 ≥ 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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1522	<div><div>30%47%20%..</div></div>
2	B	256	<div><div>24%39%23%6%9%</div></div>
3	C	239	<div><div>26%36%21%.14%</div></div>
4	D	209	<div><div>6%29%44%21%6%</div></div>

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
5	E	162	
6	F	101	
7	G	156	
8	H	138	
9	I	128	
10	J	105	
11	K	129	
12	L	135	
13	M	126	
14	N	61	
15	O	89	
16	P	88	
17	Q	105	
18	R	88	
19	S	93	
20	T	106	
21	U	27	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
1	MA6	A	1518[B]	-	-	X	-
22	MG	A	1651	-	-	-	X
22	MG	A	1683	-	-	-	X
22	MG	A	1722	-	-	-	X
22	MG	A	1943	-	-	-	X
22	MG	A	1956	-	-	-	X
22	MG	A	1967	-	-	-	X

2 Entry composition

There are 24 unique types of molecules in this entry. The entry contains 53444 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 RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1514	Total	C	N	O	P	0	6	0
			32687	14559	6046	10562	1520			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1534	C	A	conflict	GB M26923.1
A	1535	A	C	conflict	GB M26923.1

- Molecule 2 is a protein called RIBOSOMAL PROTEIN S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	234	Total	C	N	O	S	0	0	0
			1900	1213	341	341	5			

- Molecule 3 is a protein called RIBOSOMAL PROTEIN S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			

- Molecule 4 is a protein called RIBOSOMAL PROTEIN S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 5 is a protein called RIBOSOMAL PROTEIN S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	150	Total	C	N	O	S	0	0	0
			1146	724	217	201	4			

- Molecule 6 is a protein called RIBOSOMAL PROTEIN S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called RIBOSOMAL PROTEIN S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called RIBOSOMAL PROTEIN S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 9 is a protein called RIBOSOMAL PROTEIN S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
9	I	127	Total	C	N	O	0	0	0
			1010	639	197	174			

- Molecule 10 is a protein called RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	98	Total	C	N	O	S	0	0	0
			792	498	156	137	1			

- Molecule 11 is a protein called RIBOSOMAL PROTEIN S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	116	Total	C	N	O	S	0	0	0
			864	537	164	160	3			

- Molecule 12 is a protein called RIBOSOMAL PROTEIN S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	124	Total	C	N	O	S	0	0	0
			973	613	195	163	2			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	94	LEU	PRO	conflict	UNP F6DEQ7

- Molecule 13 is a protein called RIBOSOMAL PROTEIN S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	118	Total	C	N	O	S	0	0	0
			937	579	193	163	2			

- Molecule 14 is a protein called RIBOSOMAL PROTEIN S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called RIBOSOMAL PROTEIN S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	87	Total	C	N	O	S	0	0	0
			729	457	146	124	2			

- Molecule 16 is a protein called RIBOSOMAL PROTEIN S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 17 is a protein called RIBOSOMAL PROTEIN S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			

- Molecule 18 is a protein called RIBOSOMAL PROTEIN S18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	70	Total	C	N	O		0	0	0
			574	367	112	95				

- Molecule 19 is a protein called RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	80	Total	C	N	O	S	0	0	0
			647	414	119	112	2			

- Molecule 20 is a protein called RIBOSOMAL PROTEIN S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called RIBOSOMAL PROTEIN THX.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	24	Total	C	N	O	0	0	0
			208	128	50	30			

- Molecule 22 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
22	A	377	Total	Mg	0	0
			377	377		
22	B	2	Total	Mg	0	0
			2	2		
22	C	3	Total	Mg	0	0
			3	3		
22	D	4	Total	Mg	0	0
			4	4		
22	E	1	Total	Mg	0	0
			1	1		
22	F	1	Total	Mg	0	0
			1	1		
22	G	1	Total	Mg	0	0
			1	1		
22	H	1	Total	Mg	0	0
			1	1		
22	I	2	Total	Mg	0	0
			2	2		
22	K	1	Total	Mg	0	0
			1	1		
22	L	1	Total	Mg	0	0
			1	1		
22	N	2	Total	Mg	0	0
			2	2		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
22	O	1	Total 1	Mg 1	0	0
22	P	1	Total 1	Mg 1	0	0
22	Q	2	Total 2	Mg 2	0	0
22	S	1	Total 1	Mg 1	0	0

- Molecule 23 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
23	D	1	Total 1	Zn 1	0	0
23	N	1	Total 1	Zn 1	0	0

- Molecule 24 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
24	A	1199	Total 1199	O 1199	0	0
24	C	6	Total 6	O 6	0	0
24	D	11	Total 11	O 11	0	0
24	E	7	Total 7	O 7	0	0
24	F	6	Total 6	O 6	0	0
24	G	6	Total 6	O 6	0	0
24	H	7	Total 7	O 7	0	0
24	I	1	Total 1	O 1	0	0
24	L	9	Total 9	O 9	0	0
24	M	2	Total 2	O 2	0	0
24	N	1	Total 1	O 1	0	0

Continued on next page...

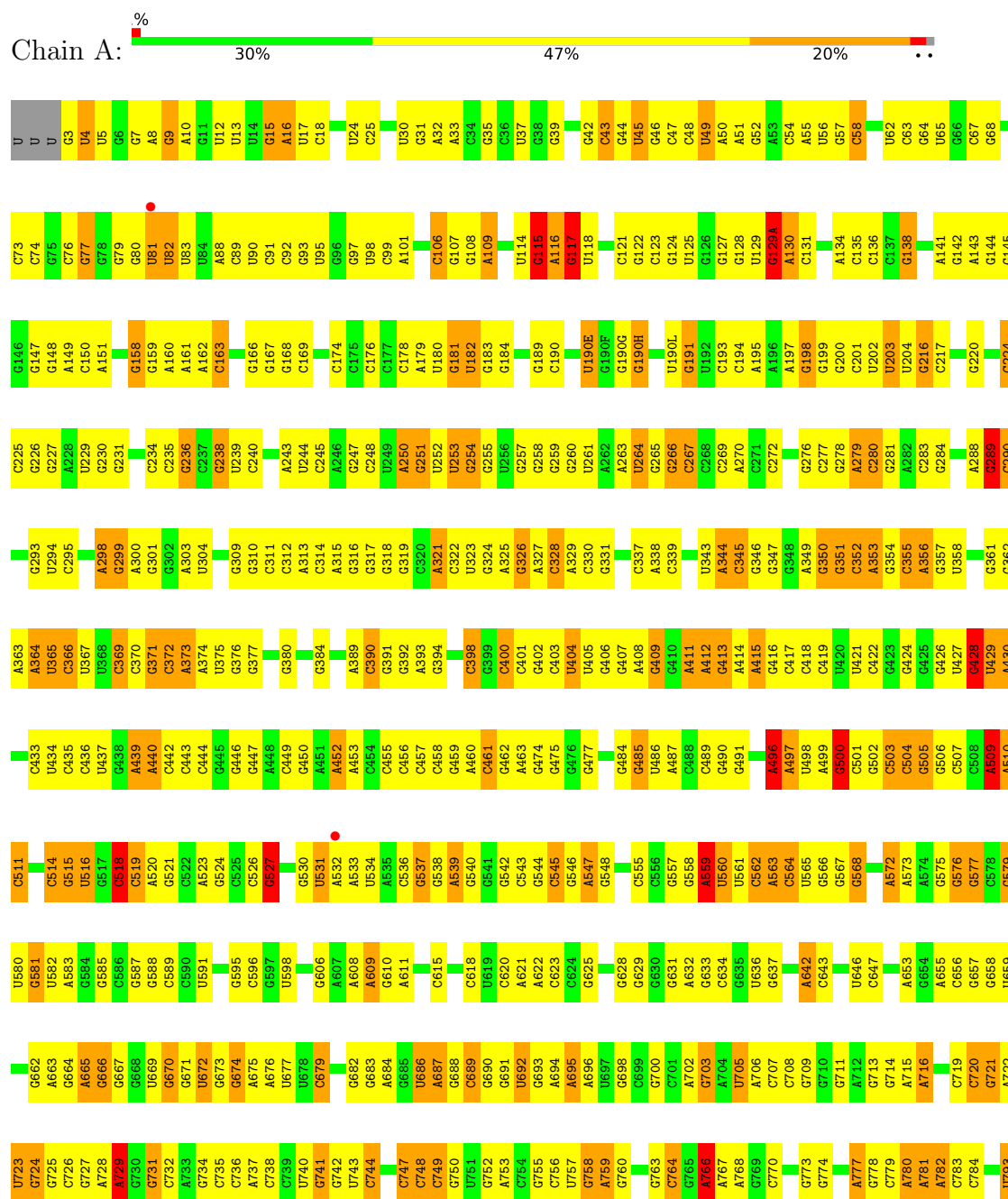
Continued from previous page...

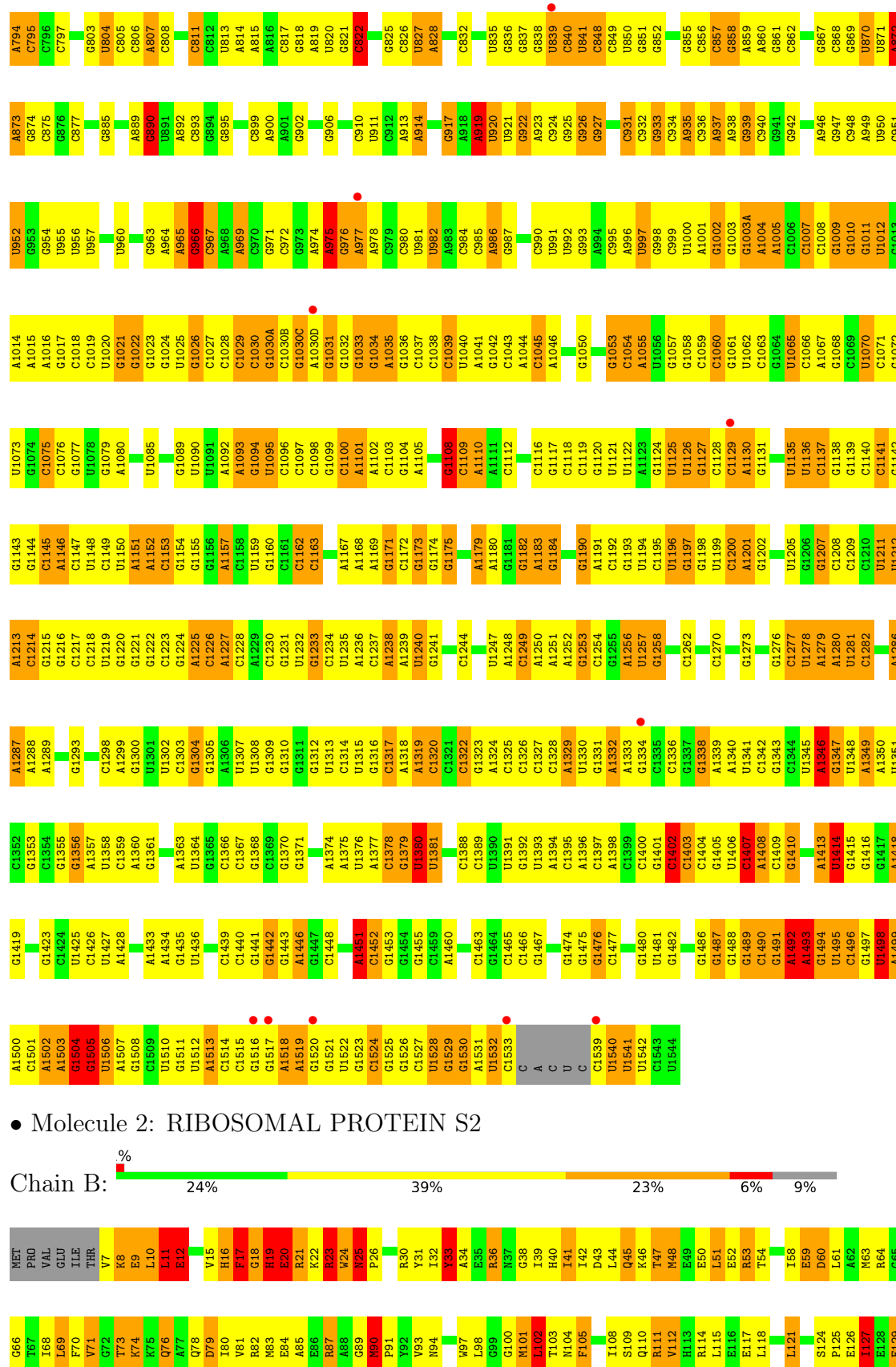
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
24	O	1	Total	O	0	0
			1	1		
24	P	3	Total	O	0	0
			3	3		
24	Q	6	Total	O	0	0
			6	6		

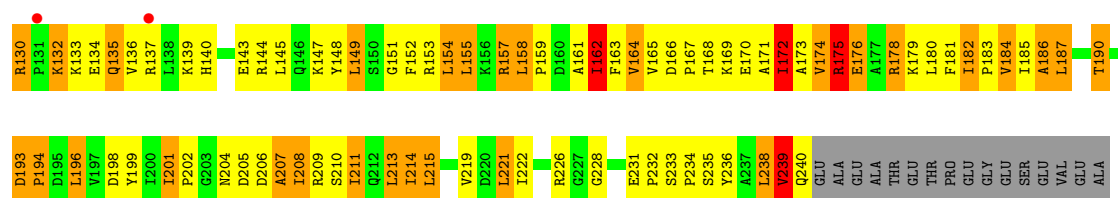
3 Residue-property plots

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 and electron density. 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. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

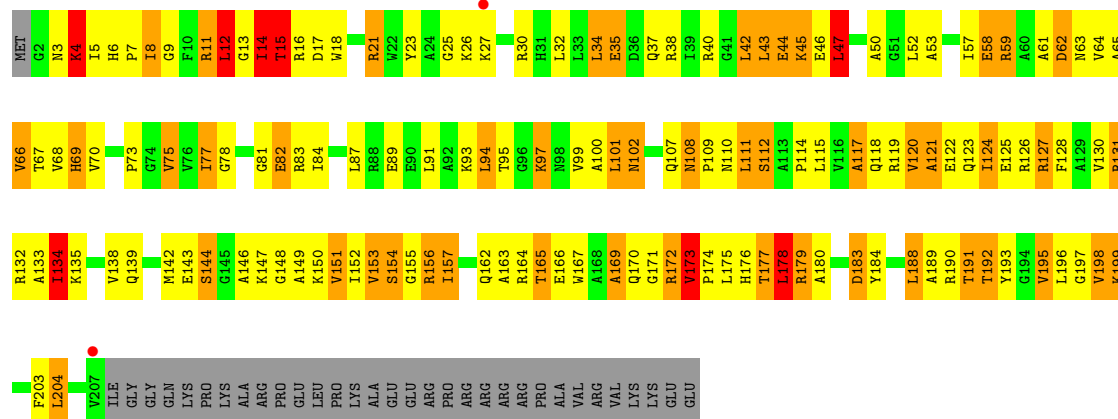
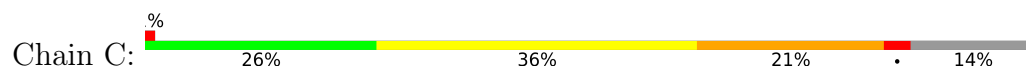
• Molecule 1: 16S rRNA



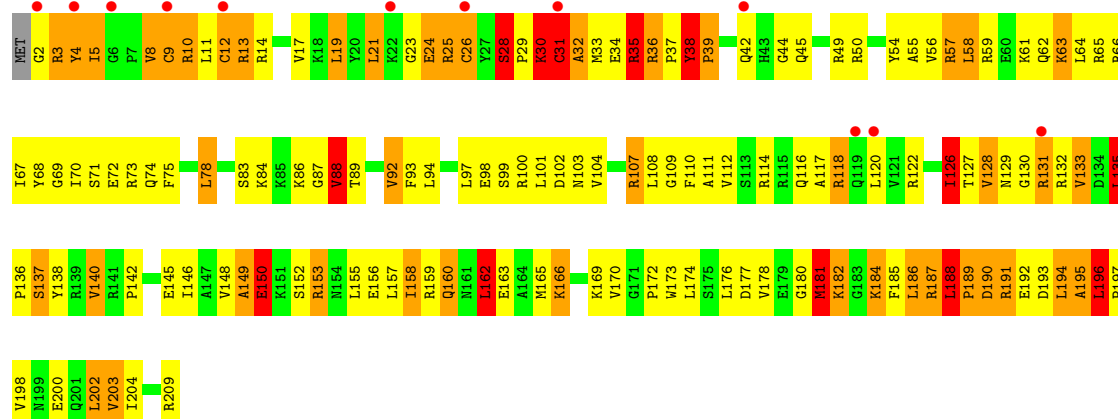




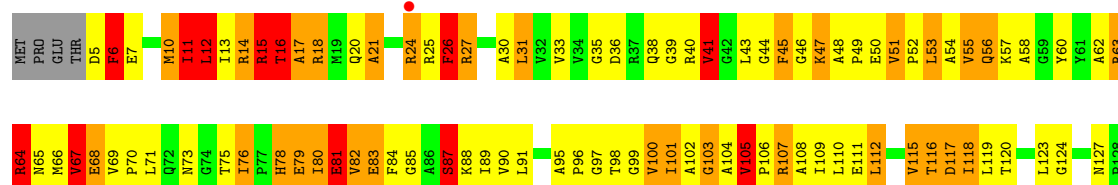
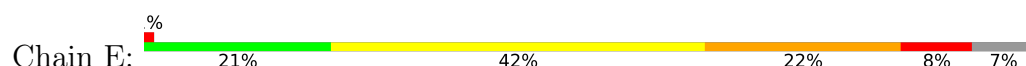
• Molecule 3: RIBOSOMAL PROTEIN S3



• Molecule 4: RIBOSOMAL PROTEIN S4

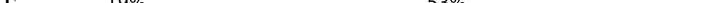


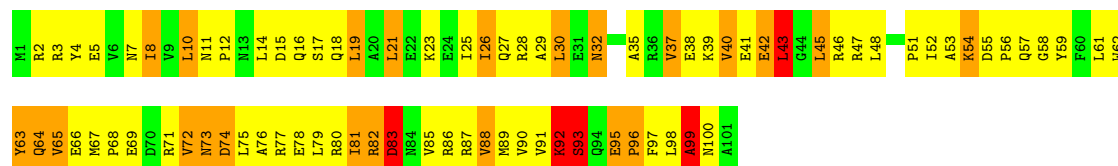
• Molecule 5: RIBOSOMAL PROTEIN S5





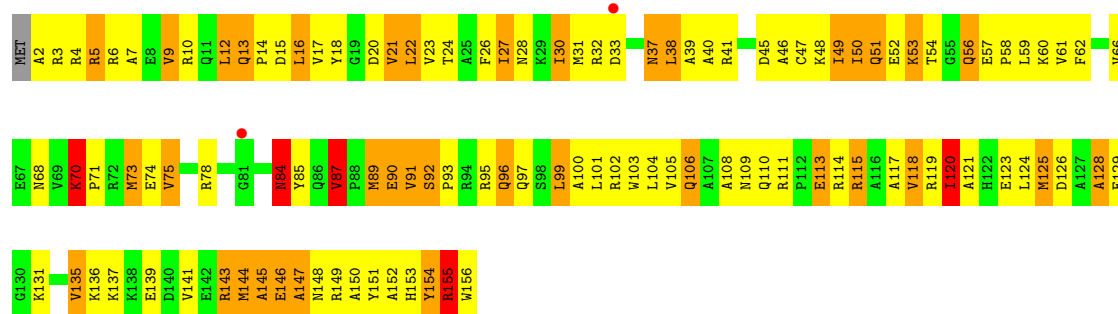
- Molecule 6: RIBOSOMAL PROTEIN S6

Chain F:  19% 53% 23% 5%



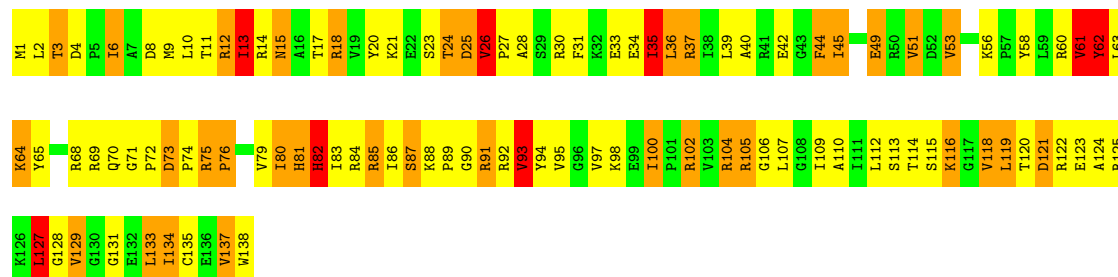
- Molecule 7: RIBOSOMAL PROTEIN S7

Chain G:  %



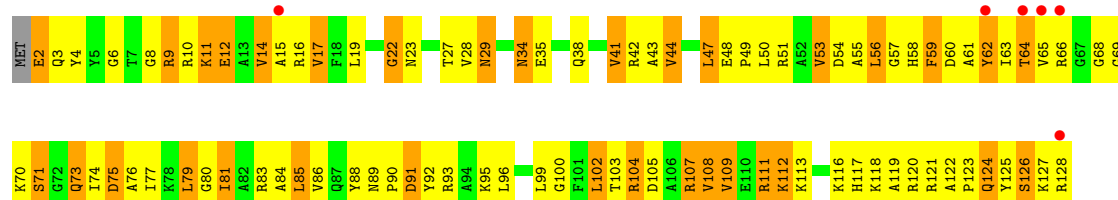
- Molecule 8: RIBOSOMAL PROTEIN S8

Chain H: 25% 44% 25% 6%




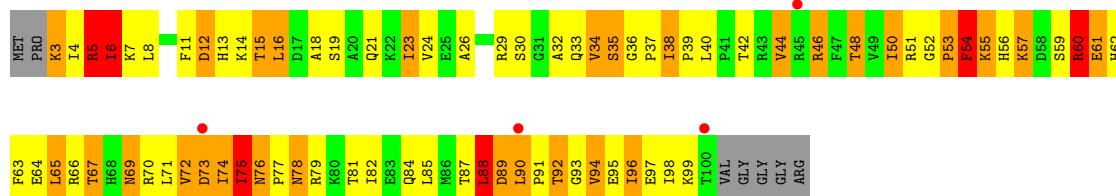
- Molecule 9: RIBOSOMAL PROTEIN S9

Chain I: 

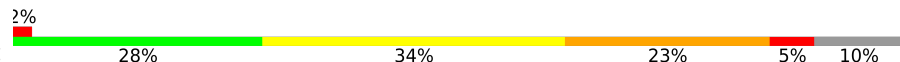


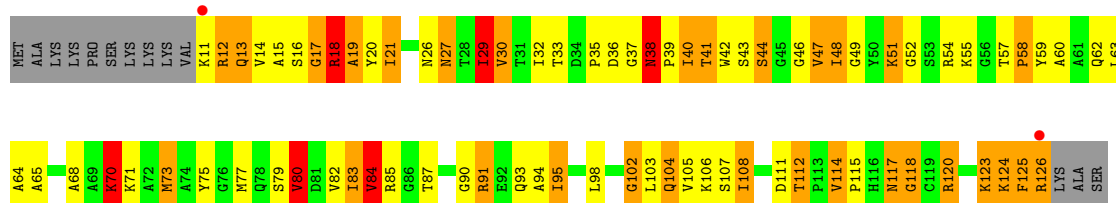
- Molecule 10: RIBOSOMAL PROTEIN S10

Chain J: 




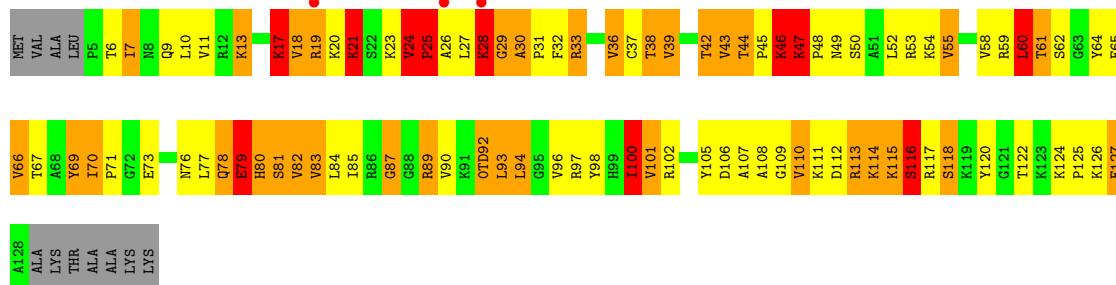
- Molecule 11: RIBOSOMAL PROTEIN S11

Chain K: 

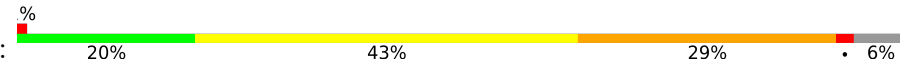


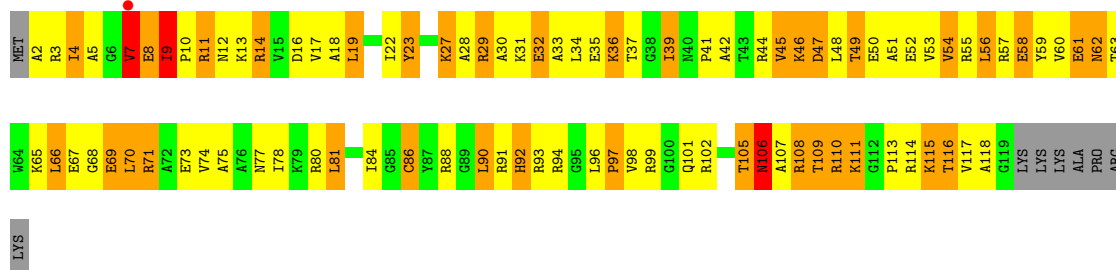
- Molecule 12: RIBOSOMAL PROTEIN S12

Chain L: 

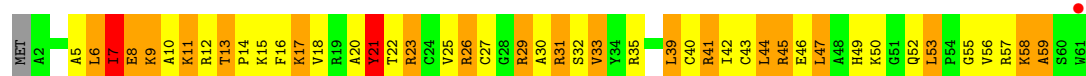
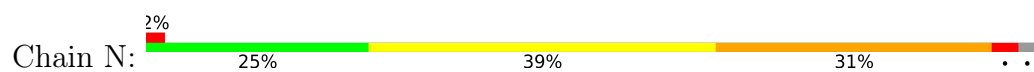


- Molecule 13: RIBOSOMAL PROTEIN S13

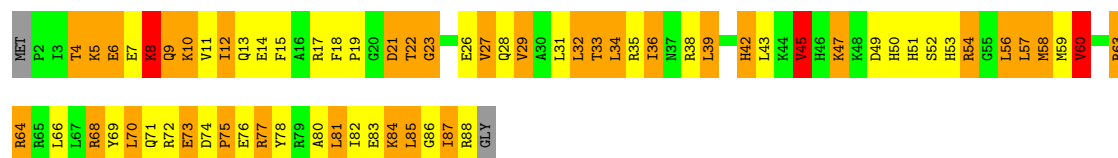
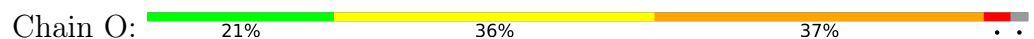
Chain M: 



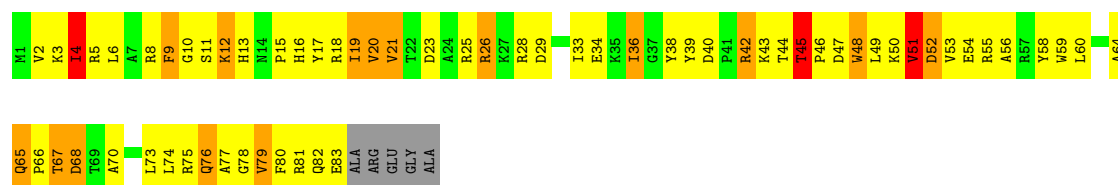
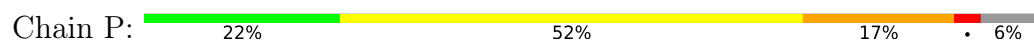
- Molecule 14: RIBOSOMAL PROTEIN S14



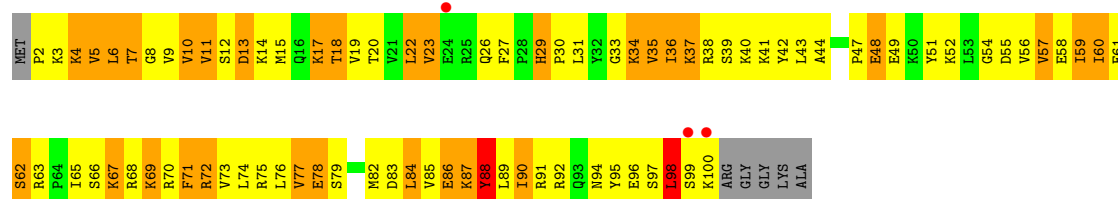
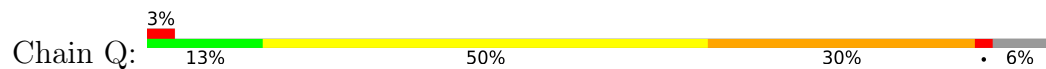
• Molecule 15: RIBOSOMAL PROTEIN S15



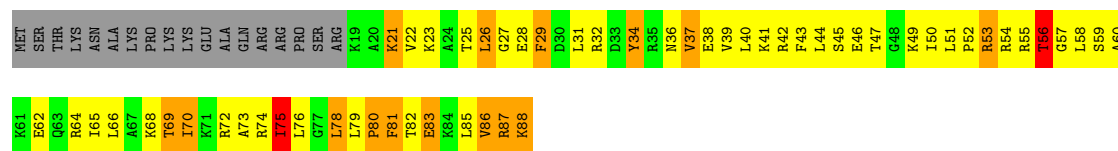
• Molecule 16: RIBOSOMAL PROTEIN S16



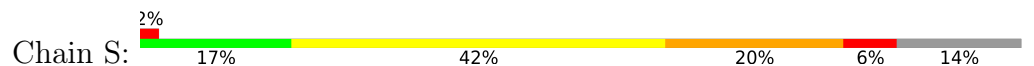
• Molecule 17: RIBOSOMAL PROTEIN S17

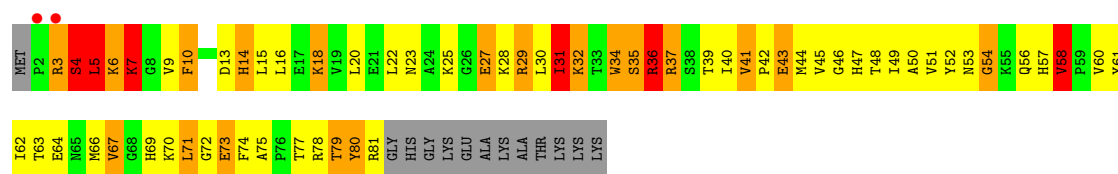


• Molecule 18: RIBOSOMAL PROTEIN S18

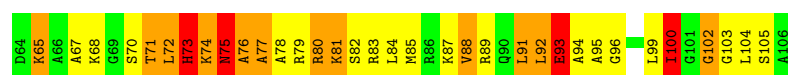
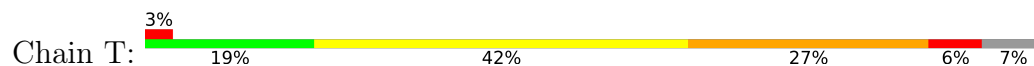


• Molecule 19: RIBOSOMAL PROTEIN S19

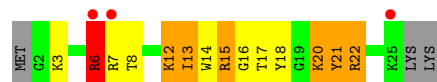




• Molecule 20: RIBOSOMAL PROTEIN S20



• Molecule 21: RIBOSOMAL PROTEIN THX



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	401.94Å 401.94Å 217.35Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.55 50.00 – 3.55	Depositor EDS
% Data completeness (in resolution range)	98.3 (50.00-3.55) 98.5 (50.00-3.55)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.04 (at 3.57Å)	Xtriage
Refinement program	PHENIX dev_1119	Depositor
R, R_{free}	0.151 , 0.201 0.154 , 0.202	Depositor DCC
R_{free} test set	10478 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	127.6	Xtriage
Anisotropy	0.355	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.28 , 148.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	53444	wwPDB-VP
Average B, all atoms (Å ²)	142.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.44% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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 ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: 0TD, PSU, 4OC, 7MG, MG, MA6, UR3, 2MG, ZN, M2G, 5MC

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	0.89	0/36187	1.19	100/56471 (0.2%)
2	B	1.46	16/1935 (0.8%)	1.72	49/2609 (1.9%)
3	C	1.46	9/1636 (0.6%)	1.77	37/2205 (1.7%)
4	D	1.57	16/1733 (0.9%)	1.89	55/2318 (2.4%)
5	E	1.80	19/1162 (1.6%)	2.09	59/1564 (3.8%)
6	F	1.48	8/856 (0.9%)	1.77	16/1154 (1.4%)
7	G	1.18	3/1276 (0.2%)	1.63	24/1709 (1.4%)
8	H	1.55	9/1136 (0.8%)	1.96	37/1527 (2.4%)
9	I	1.11	1/1029 (0.1%)	1.51	17/1379 (1.2%)
10	J	1.41	8/805 (1.0%)	1.89	28/1082 (2.6%)
11	K	1.34	5/879 (0.6%)	1.79	28/1187 (2.4%)
12	L	1.83	15/977 (1.5%)	2.26	48/1305 (3.7%)
13	M	1.14	2/947 (0.2%)	1.50	14/1270 (1.1%)
14	N	1.23	2/501 (0.4%)	1.88	15/664 (2.3%)
15	O	1.36	1/740 (0.1%)	1.67	13/987 (1.3%)
16	P	1.37	3/716 (0.4%)	1.69	15/963 (1.6%)
17	Q	1.61	7/836 (0.8%)	1.88	27/1117 (2.4%)
18	R	1.39	5/579 (0.9%)	1.77	11/768 (1.4%)
19	S	1.17	3/661 (0.5%)	1.81	16/890 (1.8%)
20	T	1.49	4/765 (0.5%)	1.77	26/1007 (2.6%)
21	U	1.10	1/212 (0.5%)	1.41	4/277 (1.4%)
All	All	1.12	137/55568 (0.2%)	1.42	639/82453 (0.8%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	2
3	C	0	5

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
4	D	0	5
6	F	0	1
7	G	0	2
8	H	0	2
9	I	0	1
10	J	0	2
11	K	0	1
12	L	0	5
13	M	0	1
14	N	0	2
16	P	0	1
17	Q	0	1
18	R	0	1
19	S	0	2
20	T	0	2
All	All	0	36

All (137) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	E	16	THR	CA-CB	11.52	1.73	1.53
12	L	7	ILE	CA-CB	-11.11	1.41	1.54
5	E	105	VAL	CA-CB	-10.32	1.48	1.54
12	L	26	ALA	CA-CB	10.19	1.72	1.53
18	R	70	ILE	CA-CB	-9.32	1.44	1.54
8	H	134	ILE	CA-CB	-9.32	1.43	1.54
13	M	7	VAL	CA-CB	9.27	1.67	1.54
10	J	60	ARG	CA-C	8.47	1.64	1.52
12	L	108	ALA	CA-CB	-8.26	1.41	1.53
4	D	203	VAL	CA-CB	-8.10	1.42	1.54
11	K	48	ILE	CA-CB	-8.09	1.46	1.54
10	J	54	PHE	CA-C	8.05	1.63	1.52
6	F	86	ARG	CA-C	7.83	1.63	1.52
4	D	31	CYS	N-CA	7.82	1.56	1.46
12	L	110	VAL	CA-CB	-7.77	1.45	1.54
3	C	178	LEU	CA-C	-7.69	1.43	1.53
4	D	10	ARG	CA-C	7.54	1.62	1.52
13	M	54	VAL	CA-CB	7.48	1.62	1.54
2	B	201	ILE	CA-CB	-7.47	1.47	1.54
4	D	12	CYS	CB-SG	7.46	2.05	1.81
4	D	56	VAL	CA-CB	-7.43	1.45	1.54
12	L	100	ILE	CA-CB	-7.40	1.46	1.54

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	L	110	VAL	CA-C	-7.38	1.43	1.52
18	R	81	PHE	CA-C	-7.22	1.46	1.52
8	H	118	VAL	CA-CB	-7.18	1.45	1.54
17	Q	23	VAL	CA-CB	-7.10	1.45	1.54
5	E	68	GLU	CA-C	-7.10	1.43	1.52
4	D	12	CYS	CA-CB	7.08	1.64	1.53
5	E	104	ALA	CA-C	-7.08	1.44	1.52
17	Q	77	VAL	CA-CB	-7.02	1.44	1.54
10	J	74	ILE	CA-CB	-6.89	1.47	1.54
17	Q	35	VAL	CA-CB	-6.80	1.46	1.54
5	E	69	VAL	CA-CB	-6.74	1.45	1.54
5	E	102	ALA	C-O	-6.72	1.17	1.24
12	L	36	VAL	CA-CB	-6.64	1.46	1.54
5	E	26	PHE	CA-C	-6.63	1.44	1.52
12	L	21	LYS	CA-C	-6.54	1.44	1.52
16	P	19	ILE	CA-CB	-6.53	1.46	1.54
3	C	69	HIS	CA-C	-6.52	1.44	1.52
5	E	45	PHE	CA-C	-6.48	1.45	1.52
6	F	37	VAL	CA-CB	-6.41	1.46	1.54
8	H	137	VAL	CA-CB	-6.40	1.45	1.54
2	B	19	HIS	CA-C	6.39	1.60	1.52
2	B	52	GLU	CA-C	-6.38	1.45	1.52
5	E	81	GLU	CA-C	-6.36	1.45	1.52
5	E	148	VAL	CA-CB	-6.35	1.46	1.54
4	D	149	ALA	CA-C	-6.34	1.45	1.52
2	B	10	LEU	CA-C	6.34	1.61	1.52
10	J	92	THR	CA-CB	-6.32	1.44	1.53
3	C	77	ILE	CA-CB	-6.30	1.47	1.54
4	D	133	VAL	CA-CB	-6.30	1.46	1.54
2	B	176	GLU	CA-C	-6.26	1.46	1.53
12	L	17	LYS	CA-C	-6.26	1.44	1.52
8	H	93	VAL	CA-CB	-6.22	1.46	1.54
4	D	12	CYS	CA-C	6.21	1.61	1.52
14	N	49	HIS	CA-C	-6.21	1.44	1.52
3	C	184	TYR	CA-C	-6.19	1.44	1.52
2	B	8	LYS	CA-C	6.12	1.60	1.52
12	L	67	THR	CA-CB	-6.11	1.45	1.53
7	G	56	GLN	CA-C	6.09	1.60	1.52
5	E	115	VAL	CA-CB	-6.08	1.47	1.54
8	H	100	ILE	CA-C	-6.08	1.46	1.52
4	D	188	LEU	CA-C	-6.07	1.47	1.52
12	L	39	VAL	CA-CB	-6.07	1.44	1.55

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	L	38	THR	CA-C	-6.03	1.46	1.52
5	E	69	VAL	CA-C	-6.01	1.46	1.52
2	B	20	GLU	CA-C	5.97	1.60	1.52
11	K	91	ARG	CA-C	-5.95	1.47	1.52
2	B	105	PHE	CA-C	-5.92	1.46	1.53
8	H	13	ILE	CA-CB	-5.91	1.47	1.54
5	E	89	ILE	C-O	-5.90	1.18	1.24
2	B	12	GLU	CA-C	5.86	1.60	1.52
6	F	65	VAL	CA-C	-5.84	1.45	1.52
12	L	13	LYS	CA-C	-5.82	1.48	1.52
10	J	72	VAL	CA-CB	-5.82	1.46	1.54
8	H	109	ILE	CA-CB	-5.81	1.46	1.54
3	C	68	VAL	CA-CB	5.76	1.61	1.54
17	Q	60	ILE	CA-C	5.76	1.59	1.52
4	D	196	LEU	CA-C	-5.72	1.47	1.53
4	D	128	VAL	CA-CB	-5.72	1.46	1.53
16	P	45	THR	N-CA	5.68	1.50	1.45
15	O	45	VAL	CA-CB	-5.68	1.46	1.54
5	E	104	ALA	CA-CB	-5.66	1.44	1.53
6	F	26	ILE	CA-CB	-5.64	1.48	1.54
20	T	63	ILE	CA-CB	-5.62	1.47	1.54
5	E	55	VAL	CA-CB	-5.58	1.47	1.54
20	T	75	ASN	N-CA	-5.57	1.38	1.46
2	B	239	VAL	CA-C	5.55	1.59	1.52
14	N	53	LEU	CA-C	-5.54	1.46	1.52
8	H	61	VAL	CA-CB	-5.53	1.46	1.53
7	G	92	SER	CA-C	-5.51	1.47	1.53
19	S	5	LEU	CA-C	5.51	1.59	1.52
3	C	75	VAL	CA-CB	-5.50	1.47	1.54
2	B	102	LEU	CA-C	-5.49	1.48	1.52
4	D	204	ILE	CA-CB	-5.49	1.48	1.54
10	J	53	PRO	CA-C	-5.48	1.47	1.53
4	D	9	CYS	CA-C	5.45	1.60	1.52
10	J	54	PHE	C-O	5.45	1.30	1.24
3	C	178	LEU	C-O	-5.44	1.17	1.23
11	K	26	ASN	CA-C	-5.38	1.45	1.52
19	S	3	ARG	N-CA	5.37	1.52	1.45
6	F	72	VAL	CA-CB	-5.37	1.47	1.54
5	E	17	ALA	CA-CB	-5.35	1.45	1.53
7	G	91	VAL	CA-C	5.32	1.59	1.52
16	P	2	VAL	CA-CB	-5.30	1.47	1.54
2	B	207	ALA	CA-C	5.29	1.59	1.52

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	14	ILE	CA-CB	-5.26	1.47	1.54
2	B	94	ASN	CB-CG	-5.25	1.39	1.52
18	R	37	VAL	CA-CB	-5.25	1.47	1.54
20	T	74	LYS	N-CA	-5.23	1.38	1.47
6	F	88	VAL	CA-C	5.22	1.58	1.52
6	F	99	ALA	CA-CB	-5.20	1.47	1.54
5	E	21	ALA	CA-CB	-5.19	1.45	1.53
18	R	50	ILE	CA-CB	-5.19	1.48	1.54
17	Q	84	LEU	CA-C	-5.18	1.46	1.52
5	E	116	THR	CA-CB	-5.18	1.44	1.53
20	T	30	LYS	CA-C	-5.18	1.46	1.52
4	D	19	LEU	C-O	5.17	1.30	1.24
6	F	64	GLN	C-O	-5.16	1.17	1.24
19	S	79	THR	CA-CB	-5.15	1.45	1.53
17	Q	18	THR	CA-CB	5.15	1.62	1.53
2	B	59	GLU	CA-C	-5.13	1.46	1.52
9	I	117	HIS	CA-C	-5.13	1.47	1.53
2	B	17	PHE	CA-C	5.12	1.59	1.52
2	B	157	ARG	CA-C	5.11	1.59	1.53
10	J	90	LEU	CA-C	5.11	1.59	1.52
17	Q	11	VAL	CA-CB	-5.10	1.47	1.54
11	K	105	VAL	CA-CB	5.08	1.60	1.54
5	E	12	LEU	CA-C	-5.07	1.46	1.52
8	H	35	ILE	CA-CB	-5.05	1.47	1.54
12	L	11	VAL	CA-CB	-5.05	1.47	1.54
3	C	169	ALA	CA-CB	-5.04	1.46	1.53
21	U	6	ARG	CB-CG	5.04	1.67	1.52
12	L	43	VAL	CA-CB	-5.04	1.46	1.54
11	K	70	LYS	C-O	5.03	1.29	1.24
18	R	34	TYR	CA-C	-5.03	1.45	1.52
4	D	83	SER	CA-C	-5.02	1.46	1.52

All (639) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	26	CYS	N-CA-C	-13.31	96.38	112.89
12	L	81	SER	N-CA-C	-12.87	91.41	110.46
8	H	26	VAL	CA-C-N	12.54	132.69	119.90
8	H	26	VAL	C-N-CA	12.54	132.69	119.90
19	S	79	THR	N-CA-C	12.53	127.00	112.72
2	B	19	HIS	N-CA-C	11.78	123.30	108.45
19	S	36	ARG	N-CA-C	-11.77	98.93	113.28

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	179	ARG	N-CA-C	-11.59	86.12	110.80
10	J	40	LEU	CA-C-N	-11.56	108.17	119.85
10	J	40	LEU	C-N-CA	-11.56	108.17	119.85
8	H	73	ASP	CA-C-N	11.54	131.13	119.82
8	H	73	ASP	C-N-CA	11.54	131.13	119.82
19	S	73	GLU	N-CA-C	-11.54	99.23	113.20
12	L	30	ALA	CA-C-N	11.52	132.45	119.32
12	L	30	ALA	C-N-CA	11.52	132.45	119.32
11	K	91	ARG	N-CA-C	-11.12	96.90	112.13
11	K	125	PHE	N-CA-C	11.02	127.10	112.88
2	B	52	GLU	N-CA-C	-10.95	99.04	110.97
12	L	26	ALA	N-CA-C	-10.95	99.73	112.87
4	D	30	LYS	N-CA-C	10.89	127.88	113.72
2	B	8	LYS	N-CA-C	10.65	123.88	108.86
12	L	115	LYS	CA-C-N	-10.47	107.65	123.14
12	L	115	LYS	C-N-CA	-10.47	107.65	123.14
5	E	11	ILE	N-CA-C	10.39	122.33	111.00
3	C	4	LYS	N-CA-C	10.34	132.82	110.80
11	K	13	GLN	N-CA-C	10.29	122.95	110.91
1	A	1528	U	O5'-P-OP2	-10.26	77.21	108.00
12	L	24	VAL	N-CA-CB	-10.26	96.85	111.21
14	N	31	ARG	CA-C-N	-10.20	107.42	122.41
14	N	31	ARG	C-N-CA	-10.20	107.42	122.41
8	H	13	ILE	CB-CA-C	-10.09	99.06	111.97
20	T	94	ALA	N-CA-C	-10.06	88.04	107.57
12	L	73	GLU	N-CA-C	9.99	121.93	111.14
17	Q	65	ILE	N-CA-C	9.92	119.46	111.62
8	H	71	GLY	CA-C-N	-9.90	110.61	120.31
8	H	71	GLY	C-N-CA	-9.90	110.61	120.31
12	L	38	THR	N-CA-C	-9.89	99.78	112.93
2	B	16	HIS	N-CA-C	9.89	126.58	113.72
18	R	29	PHE	N-CA-C	9.88	122.37	108.74
11	K	48	ILE	CB-CA-C	-9.82	96.65	111.08
14	N	31	ARG	N-CA-C	9.72	125.44	112.13
4	D	50	ARG	CA-C-N	9.50	130.09	119.83
4	D	50	ARG	C-N-CA	9.50	130.09	119.83
5	E	76	ILE	CA-C-N	-9.44	108.04	119.84
5	E	76	ILE	C-N-CA	-9.44	108.04	119.84
11	K	14	VAL	N-CA-C	9.43	121.16	112.29
4	D	12	CYS	CA-CB-SG	9.35	135.91	114.40
4	D	39	PRO	CA-C-N	9.34	129.28	119.85
4	D	39	PRO	C-N-CA	9.34	129.28	119.85

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	326	G	OP1-P-O3'	-9.16	80.51	108.00
3	C	77	ILE	N-CA-C	9.14	119.01	110.42
4	D	36	ARG	CA-C-N	9.14	128.77	119.82
4	D	36	ARG	C-N-CA	9.14	128.77	119.82
17	Q	90	ILE	CB-CA-C	-9.11	100.03	112.24
2	B	23	ARG	N-CA-C	-8.92	91.81	110.80
7	G	9	VAL	CB-CA-C	-8.82	99.13	111.21
6	F	86	ARG	N-CA-C	8.78	124.17	113.38
8	H	135	CYS	N-CA-C	8.71	123.65	108.75
11	K	102	GLY	N-CA-C	-8.64	103.69	114.92
4	D	12	CYS	N-CA-C	-8.64	97.12	111.37
4	D	38	TYR	CA-C-N	8.61	129.25	120.38
4	D	38	TYR	C-N-CA	8.61	129.25	120.38
2	B	193	ASP	CA-C-N	8.61	128.33	119.64
2	B	193	ASP	C-N-CA	8.61	128.33	119.64
16	P	20	VAL	N-CA-C	8.54	119.62	108.35
4	D	33	MET	N-CA-C	-8.52	102.59	113.16
7	G	87	VAL	N-CA-C	8.51	118.09	108.05
10	J	88	LEU	N-CA-C	8.47	128.85	110.80
19	S	67	VAL	N-CA-C	8.42	118.47	110.30
13	M	8	GLU	N-CA-C	8.39	121.63	108.79
15	O	85	LEU	N-CA-C	8.34	123.51	113.16
3	C	124	ILE	CB-CA-C	-8.33	101.31	111.97
9	I	22	GLY	N-CA-C	8.32	124.37	110.56
5	E	127	ASN	CA-C-N	8.29	127.59	118.97
5	E	127	ASN	C-N-CA	8.29	127.59	118.97
12	L	36	VAL	CB-CA-C	-8.27	98.26	110.33
3	C	134	ILE	CB-CA-C	-8.26	101.20	112.02
7	G	37	ASN	N-CA-C	-8.23	102.25	111.14
17	Q	84	LEU	N-CA-C	-8.21	102.42	111.36
2	B	45	GLN	N-CA-C	-8.20	102.03	110.97
3	C	198	VAL	N-CA-C	8.16	119.67	107.51
4	D	135	LEU	CA-C-N	8.15	127.83	119.19
4	D	135	LEU	C-N-CA	8.15	127.83	119.19
3	C	107	GLN	N-CA-C	-8.15	97.74	109.96
3	C	25	GLY	N-CA-C	-8.11	98.70	111.18
4	D	31	CYS	CA-C-N	8.10	139.58	126.86
4	D	31	CYS	C-N-CA	8.10	139.58	126.86
13	M	11	ARG	N-CA-C	8.10	123.03	108.69
10	J	6	ILE	N-CA-C	8.08	120.82	107.24
12	L	110	VAL	CB-CA-C	-7.97	101.32	110.96
3	C	125	GLU	N-CA-C	-7.95	102.61	111.28

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	100	ILE	CB-CA-C	-7.93	99.20	111.26
1	A	1380	U	C2'-C3'-O3'	7.93	121.39	109.50
6	F	95	GLU	CA-C-N	-7.90	109.96	119.84
6	F	95	GLU	C-N-CA	-7.90	109.96	119.84
12	L	76	ASN	N-CA-C	7.89	123.11	113.17
16	P	65	GLN	CA-C-N	-7.85	111.82	120.14
16	P	65	GLN	C-N-CA	-7.85	111.82	120.14
4	D	13	ARG	N-CA-C	7.82	119.58	111.14
5	E	15	ARG	N-CA-C	7.80	123.12	112.90
19	S	10	PHE	N-CA-C	7.76	121.17	108.52
19	S	54	GLY	N-CA-C	-7.76	105.84	115.08
5	E	24	ARG	N-CA-C	-7.75	97.64	109.95
8	H	12	ARG	N-CA-C	-7.73	102.85	111.28
4	D	193	ASP	N-CA-C	-7.73	101.27	111.24
12	L	18	VAL	N-CA-C	7.73	119.61	108.48
5	E	12	LEU	CA-C-N	-7.67	111.79	122.69
5	E	12	LEU	C-N-CA	-7.67	111.79	122.69
1	A	509	A	C2'-C3'-O3'	7.67	125.20	113.70
9	I	59	PHE	N-CA-C	7.64	121.82	108.75
4	D	92	VAL	CB-CA-C	-7.63	102.05	112.04
7	G	61	VAL	CB-CA-C	-7.58	102.00	111.70
11	K	112	THR	CA-C-N	7.58	127.86	119.90
11	K	112	THR	C-N-CA	7.58	127.86	119.90
1	A	1346	A	P-O3'-C3'	7.57	131.56	120.20
5	E	144	THR	CB-CA-C	-7.55	96.11	109.62
9	I	109	VAL	CB-CA-C	-7.52	101.25	111.33
17	Q	60	ILE	N-CA-C	7.50	121.09	108.86
10	J	54	PHE	N-CA-C	7.48	126.73	110.80
8	H	6	ILE	CB-CA-C	-7.46	102.24	112.02
15	O	60	VAL	CB-CA-C	-7.45	102.08	112.14
1	A	372	C	C2'-C3'-O3'	7.44	120.66	109.50
4	D	88	VAL	CB-CA-C	-7.43	100.10	111.69
12	L	79	GLU	CA-C-N	-7.43	111.15	123.33
12	L	79	GLU	C-N-CA	-7.43	111.15	123.33
5	E	55	VAL	N-CA-C	7.39	119.04	110.62
7	G	70	LYS	CA-C-N	7.37	127.64	119.90
7	G	70	LYS	C-N-CA	7.37	127.64	119.90
7	G	73	MET	N-CA-C	7.37	120.36	109.24
2	B	215	LEU	N-CA-C	7.33	118.91	111.07
15	O	10	LYS	N-CA-C	-7.31	103.39	111.36
12	L	21	LYS	N-CA-C	-7.28	99.44	110.14
1	A	559	A	C2'-C3'-O3'	7.27	120.41	109.50

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	73	ASP	N-CA-C	7.27	119.41	110.91
14	N	7	ILE	CB-CA-C	7.26	123.20	111.29
8	H	129	VAL	CB-CA-C	-7.26	100.45	110.90
5	E	51	VAL	N-CA-C	7.21	124.45	108.88
3	C	100	ALA	N-CA-C	-7.19	101.25	110.53
14	N	25	VAL	CB-CA-C	-7.15	102.88	111.81
5	E	97	GLY	N-CA-C	-7.14	105.22	115.64
7	G	147	ALA	N-CA-C	-7.13	103.55	111.82
7	G	91	VAL	N-CA-C	7.13	118.40	107.78
15	O	42	HIS	N-CA-C	-7.12	103.56	111.82
8	H	93	VAL	N-CA-C	7.12	118.38	107.78
10	J	44	VAL	CB-CA-C	-7.11	100.57	111.31
1	A	372	C	P-O5'-C5'	-7.07	110.30	120.90
6	F	93	SER	N-CA-C	-7.06	99.58	110.10
17	Q	29	HIS	CA-C-N	7.05	128.66	119.84
17	Q	29	HIS	C-N-CA	7.05	128.66	119.84
4	D	28	SER	CA-C-N	-7.05	114.53	121.65
4	D	28	SER	C-N-CA	-7.05	114.53	121.65
7	G	61	VAL	N-CA-C	7.04	117.55	110.23
8	H	109	ILE	N-CA-C	7.04	118.85	108.65
18	R	49	LYS	N-CA-C	7.03	119.64	110.43
5	E	102	ALA	CA-C-N	-7.03	116.18	122.43
5	E	102	ALA	C-N-CA	-7.03	116.18	122.43
1	A	914	A	OP1-P-O3'	-7.02	86.95	108.00
12	L	73	GLU	CA-C-N	-6.99	114.31	122.77
12	L	73	GLU	C-N-CA	-6.99	114.31	122.77
19	S	46	GLY	N-CA-C	-6.99	106.38	114.69
1	A	822	C	OP1-P-O3'	-6.99	87.04	108.00
19	S	31	ILE	N-CA-C	-6.97	94.85	109.34
14	N	6	LEU	CA-CB-CG	-6.95	91.96	116.30
11	K	21	ILE	CB-CA-C	-6.94	101.59	111.31
3	C	156	ARG	N-CA-C	-6.93	104.12	112.58
1	A	1346	A	C2'-C3'-O3'	6.92	119.89	109.50
4	D	156	GLU	N-CA-C	-6.91	103.36	111.03
1	A	129(A)	G	C4'-C3'-O3'	6.91	119.76	109.40
3	C	75	VAL	N-CA-C	6.91	117.66	110.62
1	A	115	G	C2'-C3'-O3'	6.90	119.85	109.50
19	S	27	GLU	N-CA-C	6.89	120.36	110.10
19	S	4	SER	N-CA-C	6.88	119.71	107.80
1	A	813	U	OP1-P-O3'	-6.88	87.37	108.00
4	D	160	GLN	N-CA-C	-6.88	102.63	111.02
5	E	6	PHE	N-CA-C	6.87	119.61	108.41

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	71	VAL	CB-CA-C	-6.86	102.08	110.99
5	E	56	GLN	N-CA-C	-6.85	103.27	111.69
3	C	12	LEU	N-CA-C	6.84	120.51	111.75
10	J	60	ARG	N-CA-C	6.82	125.33	110.80
6	F	72	VAL	CB-CA-C	-6.82	100.11	111.29
17	Q	34	LYS	N-CA-C	-6.82	99.58	110.14
2	B	187	LEU	CA-C-N	-6.81	113.39	122.99
2	B	187	LEU	C-N-CA	-6.81	113.39	122.99
4	D	89	THR	CB-CA-C	6.81	121.66	110.90
1	A	1504	G	O5'-P-OP1	-6.79	87.63	108.00
3	C	183	ASP	N-CA-C	-6.79	98.78	109.50
7	G	30	ILE	N-CA-C	6.78	116.93	110.42
1	A	238	G	OP1-P-O3'	-6.77	87.68	108.00
5	E	69	VAL	CA-C-N	-6.77	111.38	119.84
5	E	69	VAL	C-N-CA	-6.77	111.38	119.84
8	H	115	SER	N-CA-C	-6.77	104.89	113.02
14	N	59	ALA	N-CA-C	6.75	120.24	109.24
15	O	9	GLN	N-CA-C	6.74	119.48	111.33
2	B	85	ALA	N-CA-C	-6.73	103.87	111.14
12	L	43	VAL	CB-CA-C	-6.73	100.32	110.55
20	T	62	LEU	CA-CB-CG	-6.72	92.76	116.30
21	U	3	LYS	N-CA-C	-6.72	104.34	112.54
1	A	1498	UR3	P-O3'-C3'	6.71	127.75	119.70
11	K	114	VAL	CA-C-N	-6.71	113.74	120.31
11	K	114	VAL	C-N-CA	-6.71	113.74	120.31
4	D	30	LYS	CA-C-O	-6.70	111.68	119.05
5	E	83	GLU	N-CA-C	-6.70	99.29	109.95
7	G	74	GLU	N-CA-C	6.70	117.43	108.38
1	A	1524	C	P-O5'-C5'	-6.70	110.85	120.90
6	F	83	ASP	N-CA-C	-6.69	105.12	113.28
9	I	41	VAL	N-CA-C	6.69	116.71	110.42
11	K	18	ARG	N-CA-C	6.68	120.51	108.48
11	K	118	GLY	CA-C-N	-6.68	113.37	122.86
11	K	118	GLY	C-N-CA	-6.68	113.37	122.86
2	B	207	ALA	N-CA-C	6.68	125.03	110.80
6	F	65	VAL	CB-CA-C	-6.68	100.34	111.29
9	I	17	VAL	N-CA-C	6.67	117.47	107.80
12	L	17	LYS	CA-C-N	-6.67	113.85	123.06
12	L	17	LYS	C-N-CA	-6.67	113.85	123.06
2	B	127	ILE	N-CA-C	6.66	120.37	111.17
8	H	18	ARG	N-CA-C	-6.66	104.10	111.82
8	H	81	HIS	N-CA-C	-6.66	103.50	111.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	100	ILE	N-CA-C	6.63	118.14	109.58
20	T	74	LYS	CB-CA-C	-6.63	107.05	116.34
4	D	148	VAL	CA-C-N	6.62	130.24	120.90
4	D	148	VAL	C-N-CA	6.62	130.24	120.90
16	P	36	ILE	N-CA-C	6.62	121.36	113.22
1	A	687	A	OP2-P-O3'	-6.61	88.18	108.00
2	B	20	GLU	N-CA-C	6.61	124.87	110.80
5	E	84	PHE	N-CA-C	-6.59	97.88	108.55
1	A	404	U	O5'-P-OP2	-6.58	88.25	108.00
1	A	729	A	OP2-P-O3'	-6.58	88.25	108.00
4	D	188	LEU	CA-C-N	6.58	127.61	119.98
4	D	188	LEU	C-N-CA	6.58	127.61	119.98
16	P	21	VAL	CB-CA-C	-6.55	102.24	111.21
19	S	9	VAL	CB-CA-C	-6.55	101.36	111.71
1	A	364	A	P-O3'-C3'	6.55	130.02	120.20
16	P	11	SER	N-CA-C	6.54	118.30	110.19
1	A	885	G	OP1-P-O3'	-6.52	88.44	108.00
17	Q	67	LYS	N-CA-C	-6.52	101.05	110.24
8	H	91	ARG	N-CA-C	6.52	120.02	107.44
20	T	76	ALA	N-CA-C	-6.51	105.05	112.87
10	J	5	ARG	CA-C-N	-6.50	114.14	123.11
10	J	5	ARG	C-N-CA	-6.50	114.14	123.11
1	A	1108	G	O5'-P-OP1	-6.49	88.52	108.00
14	N	26	ARG	N-CA-C	6.49	118.43	111.36
1	A	1397	C	O5'-P-OP1	-6.48	88.57	108.00
14	N	13	THR	CA-C-N	6.48	126.10	119.56
14	N	13	THR	C-N-CA	6.48	126.10	119.56
1	A	373	A	O5'-C5'-C4'	6.47	121.21	111.50
8	H	70	GLN	N-CA-C	6.47	119.28	110.35
1	A	1530	G	C4-N9-C1'	-6.46	107.12	126.50
18	R	75	ILE	N-CA-C	-6.46	104.03	110.62
18	R	51	LEU	CA-C-N	6.43	126.44	119.89
18	R	51	LEU	C-N-CA	6.43	126.44	119.89
20	T	73	HIS	CB-CA-C	-6.43	108.14	115.79
6	F	45	LEU	CA-CB-CG	-6.42	93.82	116.30
5	E	100	VAL	CA-C-N	-6.42	114.52	122.93
5	E	100	VAL	C-N-CA	-6.42	114.52	122.93
17	Q	37	LYS	N-CA-C	-6.41	98.06	108.52
19	S	34	TRP	CA-C-N	-6.41	112.98	122.41
19	S	34	TRP	C-N-CA	-6.41	112.98	122.41
4	D	130	GLY	CA-C-N	-6.41	111.11	122.07
4	D	130	GLY	C-N-CA	-6.41	111.11	122.07

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	371	G	O5'-P-OP1	-6.41	88.78	108.00
11	K	80	VAL	N-CA-C	6.40	117.99	108.46
1	A	1528	U	O5'-P-OP1	6.39	127.18	108.00
8	H	24	THR	N-CA-C	6.39	119.99	108.48
7	G	120	ILE	CB-CA-C	-6.38	103.53	111.70
12	L	70	ILE	CA-C-N	6.38	126.91	120.14
12	L	70	ILE	C-N-CA	6.38	126.91	120.14
3	C	173	VAL	CA-C-N	6.37	127.80	119.84
3	C	173	VAL	C-N-CA	6.37	127.80	119.84
3	C	57	ILE	CB-CA-C	-6.36	102.36	111.19
1	A	1346	A	C4'-C3'-O3'	6.34	118.92	109.40
13	M	97	PRO	CB-CA-C	-6.34	103.58	111.64
17	Q	19	VAL	CA-C-N	-6.34	114.25	123.00
17	Q	19	VAL	C-N-CA	-6.34	114.25	123.00
1	A	555	C	O5'-P-OP2	-6.34	88.99	108.00
10	J	94	VAL	CB-CA-C	-6.33	104.36	111.45
11	K	17	GLY	N-CA-C	6.32	121.32	111.08
2	B	103	THR	CA-C-N	-6.32	113.01	123.37
2	B	103	THR	C-N-CA	-6.32	113.01	123.37
15	O	4	THR	CB-CA-C	-6.32	99.73	112.99
10	J	96	ILE	CB-CA-C	-6.30	101.83	110.90
5	E	144	THR	N-CA-C	6.30	118.91	110.35
5	E	14	ARG	N-CA-C	6.29	118.75	109.24
1	A	284	G	OP1-P-O3'	-6.29	89.14	108.00
1	A	108	G	N9-C1'-C2'	-6.29	102.57	112.00
10	J	89	ASP	N-CA-C	6.28	118.53	108.41
20	T	65	LYS	N-CA-C	-6.26	103.99	111.69
8	H	102	ARG	N-CA-C	-6.25	99.18	108.99
12	L	70	ILE	CA-C-O	6.24	122.62	119.12
11	K	38	ASN	CA-C-N	6.24	126.25	119.89
11	K	38	ASN	C-N-CA	6.24	126.25	119.89
3	C	177	THR	CA-C-N	-6.24	114.18	122.85
3	C	177	THR	C-N-CA	-6.24	114.18	122.85
12	L	116	SER	CA-CB-OG	-6.24	98.62	111.10
2	B	11	LEU	CA-CB-CG	6.23	138.09	116.30
1	A	679	C	OP1-P-O3'	-6.22	89.34	108.00
14	N	23	ARG	N-CA-C	6.22	124.05	110.80
20	T	21	LYS	N-CA-C	-6.21	103.65	111.11
2	B	32	ILE	N-CA-C	6.21	117.42	107.73
12	L	66	VAL	N-CA-C	6.20	118.67	108.99
1	A	1433	A	OP1-P-O3'	-6.20	89.41	108.00
16	P	51	VAL	N-CA-CB	6.20	116.72	111.64

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	172	ILE	CB-CA-C	-6.19	103.89	111.87
5	E	46	GLY	CA-C-N	-6.19	112.18	122.21
5	E	46	GLY	C-N-CA	-6.19	112.18	122.21
20	T	96	GLY	N-CA-C	6.17	127.80	113.18
19	S	58	VAL	CB-CA-C	-6.16	104.10	111.18
18	R	22	VAL	N-CA-C	6.14	118.91	112.83
5	E	51	VAL	CA-C-N	-6.14	112.17	119.84
5	E	51	VAL	C-N-CA	-6.14	112.17	119.84
14	N	21	TYR	CB-CA-C	6.14	123.19	109.56
1	A	117	G	C8-N9-C1'	-6.14	108.59	127.00
6	F	63	TYR	CB-CA-C	-6.13	101.67	110.62
9	I	44	VAL	CB-CA-C	-6.13	101.24	111.29
12	L	47	LYS	CA-C-N	6.12	127.50	119.84
12	L	47	LYS	C-N-CA	6.12	127.50	119.84
17	Q	84	LEU	CA-CB-CG	-6.12	94.87	116.30
4	D	195	ALA	N-CA-C	6.12	120.77	112.88
17	Q	99	SER	N-CA-C	6.12	123.83	110.80
16	P	19	ILE	N-CA-C	6.11	117.58	108.54
1	A	559	A	P-O3'-C3'	6.10	129.35	120.20
12	L	60	LEU	N-CA-C	6.09	119.58	110.14
5	E	87	SER	N-CA-C	6.07	119.46	110.48
19	S	7	LYS	N-CA-C	6.07	118.53	109.25
4	D	181	MET	N-CA-C	-6.06	104.48	112.24
8	H	49	GLU	CA-C-N	-6.06	114.51	123.11
8	H	49	GLU	C-N-CA	-6.06	114.51	123.11
17	Q	33	GLY	N-CA-C	6.05	124.40	115.08
3	C	5	ILE	N-CA-C	6.05	118.16	109.51
1	A	254	G	O5'-P-OP1	-6.04	89.89	108.00
6	F	75	LEU	N-CA-C	-6.04	103.86	111.11
2	B	149	LEU	N-CA-C	6.04	120.78	113.17
8	H	118	VAL	CB-CA-C	-6.04	103.30	111.15
15	O	27	VAL	CB-CA-C	-6.03	103.90	112.22
1	A	518	C	O5'-P-OP1	-6.03	89.92	108.00
12	L	66	VAL	CA-C-N	-6.02	114.62	123.05
12	L	66	VAL	C-N-CA	-6.02	114.62	123.05
6	F	43	LEU	N-CA-C	-6.02	106.10	113.50
20	T	13	LEU	CB-CA-C	-6.00	96.73	110.18
10	J	75	ILE	N-CA-C	6.00	115.85	108.53
8	H	116	LYS	N-CA-C	-6.00	105.61	113.17
19	S	80	TYR	N-CA-C	6.00	119.06	110.24
1	A	1397	C	OP1-P-OP2	6.00	137.59	119.60
17	Q	52	LYS	N-CA-C	-5.98	101.08	109.69

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	29	GLY	N-CA-C	-5.97	106.70	115.30
1	A	914	A	O5'-P-OP1	-5.96	90.12	108.00
8	H	75	ARG	CA-C-N	5.96	126.15	120.31
8	H	75	ARG	C-N-CA	5.96	126.15	120.31
10	J	78	ASN	N-CA-C	5.96	123.49	110.80
4	D	189	PRO	CA-C-O	-5.96	115.01	121.27
2	B	196	LEU	CA-C-N	-5.96	115.81	123.19
2	B	196	LEU	C-N-CA	-5.96	115.81	123.19
4	D	32	ALA	CA-C-O	5.95	124.06	119.18
9	I	104	ARG	N-CA-C	-5.94	101.25	110.10
9	I	123	PRO	CA-C-O	-5.94	114.35	121.48
20	T	29	LYS	N-CA-C	-5.94	102.48	111.56
3	C	178	LEU	N-CA-C	-5.92	96.74	107.75
1	A	919	A	P-O3'-C3'	5.92	129.08	120.20
5	E	81	GLU	CB-CA-C	-5.92	97.67	109.33
15	O	23	GLY	N-CA-C	5.91	127.19	113.18
2	B	41	ILE	CB-CA-C	-5.90	102.03	110.83
2	B	162	ILE	N-CA-C	5.90	116.80	108.36
1	A	106	C	OP1-P-O3'	-5.90	90.30	108.00
20	T	20	LEU	N-CA-C	5.90	118.22	111.02
1	A	299	G	OP2-P-O3'	5.90	125.69	108.00
1	A	1065	U	C2'-C3'-O3'	5.89	118.34	109.50
1	A	518	C	O5'-P-OP2	5.89	125.67	108.00
2	B	66	GLY	N-CA-C	-5.89	104.18	112.60
8	H	3	THR	N-CA-C	5.89	117.78	111.36
10	J	52	GLY	CA-C-N	-5.89	114.49	120.85
10	J	52	GLY	C-N-CA	-5.89	114.49	120.85
1	A	795	C	OP1-P-O3'	-5.89	90.34	108.00
6	F	79	LEU	N-CA-C	-5.88	105.00	111.82
16	P	33	ILE	N-CA-C	5.88	117.41	111.00
1	A	858	G	OP1-P-O3'	-5.88	90.37	108.00
9	I	103	THR	CB-CA-C	-5.87	100.06	109.75
1	A	1349	A	OP2-P-O3'	5.86	125.59	108.00
8	H	3	THR	CA-C-N	-5.86	112.92	122.65
8	H	3	THR	C-N-CA	-5.86	112.92	122.65
7	G	87	VAL	CA-C-O	5.86	123.00	119.19
11	K	27	ASN	N-CA-C	5.85	117.74	108.79
4	D	34	GLU	CA-C-O	5.85	126.84	120.58
8	H	127	LEU	N-CA-C	-5.84	104.51	111.69
7	G	118	VAL	N-CA-C	-5.84	105.16	110.82
1	A	1065	U	P-O3'-C3'	5.84	128.96	120.20
5	E	85	GLY	CA-C-N	-5.84	112.52	122.56

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	85	GLY	C-N-CA	-5.84	112.52	122.56
5	E	10	MET	N-CA-C	5.83	118.70	109.96
10	J	35	SER	N-CA-C	5.82	123.20	110.80
4	D	8	VAL	N-CA-C	5.82	116.03	110.74
21	U	20	LYS	N-CA-C	-5.80	104.96	111.28
1	A	289	G	OP2-P-O3'	5.79	125.38	108.00
3	C	59	ARG	CA-C-N	-5.79	113.97	121.79
3	C	59	ARG	C-N-CA	-5.79	113.97	121.79
13	M	61	GLU	CA-C-N	-5.79	113.87	123.37
13	M	61	GLU	C-N-CA	-5.79	113.87	123.37
7	G	105	VAL	N-CA-C	5.78	116.56	110.72
4	D	128	VAL	CB-CA-C	-5.77	103.49	110.99
1	A	115	G	P-O3'-C3'	5.77	128.85	120.20
2	B	17	PHE	CB-CA-C	5.76	121.88	110.42
5	E	81	GLU	CA-C-N	-5.76	114.06	122.58
5	E	81	GLU	C-N-CA	-5.76	114.06	122.58
7	G	89	MET	N-CA-C	5.74	116.97	107.73
11	K	47	VAL	CA-C-N	5.73	128.31	120.35
11	K	47	VAL	C-N-CA	5.73	128.31	120.35
10	J	59	SER	N-CA-C	5.72	120.38	113.17
13	M	86	CYS	N-CA-C	5.72	118.93	110.46
3	C	117	ALA	N-CA-C	-5.72	104.04	111.02
1	A	811	C	OP1-P-O3'	-5.72	90.85	108.00
2	B	186	ALA	N-CA-C	5.72	118.79	109.24
1	A	190(H)	G	OP2-P-O3'	5.71	117.76	105.20
20	T	9	ASN	CA-C-N	-5.70	113.03	121.24
20	T	9	ASN	C-N-CA	-5.70	113.03	121.24
16	P	15	PRO	CB-CA-C	-5.70	104.57	111.46
17	Q	71	PHE	CA-C-N	-5.70	112.96	122.64
17	Q	71	PHE	C-N-CA	-5.70	112.96	122.64
1	A	1530	G	C8-N9-C1'	5.69	144.08	127.00
3	C	133	ALA	N-CA-C	5.69	119.04	111.75
3	C	204	LEU	N-CA-C	-5.69	100.65	109.24
10	J	50	ILE	N-CA-C	5.69	116.75	109.30
1	A	129(A)	G	P-O3'-C3'	5.69	128.73	120.20
4	D	4	TYR	N-CA-C	5.68	118.83	110.30
4	D	31	CYS	O-C-N	5.68	130.15	122.59
8	H	100	ILE	CB-CA-C	-5.68	101.01	111.36
1	A	1505	G	P-O3'-C3'	5.68	128.72	120.20
2	B	25	ASN	CA-C-N	-5.68	113.77	119.56
2	B	25	ASN	C-N-CA	-5.68	113.77	119.56
20	T	88	VAL	N-CA-C	5.68	115.76	110.42

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	69	TYR	CA-C-N	5.68	126.46	122.60
12	L	69	TYR	C-N-CA	5.68	126.46	122.60
3	C	110	ASN	N-CA-C	-5.67	106.44	113.19
8	H	131	GLY	N-CA-C	5.67	118.80	110.80
1	A	1505	G	C2'-C3'-O3'	5.67	122.20	113.70
2	B	213	LEU	CA-CB-CG	-5.66	96.48	116.30
5	E	103	GLY	N-CA-C	-5.66	104.81	112.57
1	A	980	C	O5'-P-OP1	-5.66	91.03	108.00
2	B	158	LEU	CA-C-N	5.65	125.41	119.76
2	B	158	LEU	C-N-CA	5.65	125.41	119.76
3	C	127	ARG	N-CA-C	5.65	119.47	112.58
11	K	84	VAL	N-CA-C	5.65	117.12	108.71
13	M	106	ASN	N-CA-CB	-5.64	103.90	112.47
5	E	14	ARG	NE-CZ-NH2	-5.64	114.13	119.20
1	A	238	G	OP2-P-O3'	5.63	124.89	108.00
18	R	56	THR	CB-CA-C	-5.63	100.40	110.70
4	D	148	VAL	O-C-N	5.62	129.36	122.72
7	G	50	ILE	CB-CA-C	-5.62	104.77	111.97
7	G	145	ALA	N-CA-C	-5.62	102.70	110.35
12	L	116	SER	N-CA-C	5.62	118.69	107.62
18	R	87	ARG	CB-CA-C	-5.61	108.49	116.34
16	P	4	ILE	CB-CA-C	-5.61	103.30	110.98
4	D	162	LEU	CA-CB-CG	-5.60	96.69	116.30
5	E	82	VAL	N-CA-C	-5.58	99.76	108.81
1	A	814	A	C3'-C2'-O2'	5.58	119.08	110.70
1	A	496	A	O5'-P-OP1	-5.58	91.26	108.00
14	N	22	THR	N-CA-C	5.58	119.83	111.96
15	O	8	LYS	N-CA-C	-5.58	102.22	111.37
7	G	155	ARG	N-CA-C	5.58	120.57	111.37
9	I	12	GLU	N-CA-C	5.57	119.37	112.58
4	D	150	GLU	N-CA-C	-5.57	104.84	111.69
1	A	1532	U	C4'-C3'-O3'	5.56	121.34	113.00
17	Q	98	LEU	CA-CB-CG	5.56	135.76	116.30
14	N	50	LYS	N-CA-C	5.55	118.10	111.71
17	Q	77	VAL	CB-CA-C	-5.55	103.12	112.16
20	T	92	LEU	CA-C-N	-5.55	114.23	123.33
20	T	92	LEU	C-N-CA	-5.55	114.23	123.33
1	A	117	G	O5'-P-OP2	-5.54	91.37	108.00
17	Q	88	TYR	N-CA-C	-5.54	105.16	111.14
20	T	102	GLY	N-CA-C	-5.54	100.05	113.18
14	N	39	LEU	N-CA-C	5.54	117.92	109.95
2	B	190	THR	N-CA-C	5.53	119.64	113.01

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1529	G	O5'-P-OP1	-5.53	91.42	108.00
4	D	10	ARG	N-CA-C	5.53	117.74	111.11
16	P	76	GLN	N-CA-C	-5.51	104.67	111.33
17	Q	82	MET	N-CA-C	-5.51	106.23	113.17
1	A	1329	A	OP1-P-O3'	5.50	124.51	108.00
6	F	81	ILE	CB-CA-C	-5.50	103.64	112.16
5	E	131	ILE	CA-C-N	5.49	127.58	120.44
5	E	131	ILE	C-N-CA	5.49	127.58	120.44
17	Q	12	SER	N-CA-C	5.49	118.36	108.48
17	Q	35	VAL	CB-CA-C	-5.48	102.93	111.26
18	R	86	VAL	N-CA-C	5.48	116.02	110.05
1	A	1414	U	C5'-C4'-C3'	-5.47	107.79	116.00
12	L	125	PRO	CA-C-O	-5.47	115.19	121.86
1	A	1201	A	P-O3'-C3'	5.47	128.40	120.20
13	M	42	ALA	N-CA-C	5.46	117.99	111.71
1	A	1224	G	O5'-P-OP1	5.46	124.39	108.00
16	P	79	VAL	N-CA-C	-5.46	104.39	110.62
18	R	80	PRO	N-CA-C	5.46	119.81	111.34
1	A	872	A	O5'-P-OP1	-5.46	91.61	108.00
1	A	400	C	P-O5'-C5'	-5.46	112.72	120.90
10	J	55	LYS	CB-CA-C	-5.45	108.71	116.34
5	E	105	VAL	O-C-N	5.44	123.90	120.42
8	H	28	ALA	N-CA-C	5.44	118.68	109.76
5	E	80	ILE	N-CA-CB	-5.43	102.26	111.23
20	T	20	LEU	CA-CB-CG	-5.43	97.28	116.30
10	J	53	PRO	CA-C-O	-5.43	115.28	121.96
4	D	5	ILE	CB-CA-C	5.42	117.50	110.12
5	E	64	ARG	N-CA-C	-5.42	102.73	110.59
1	A	658	G	C8-N9-C1'	-5.41	110.78	127.00
4	D	126	ILE	N-CA-C	5.40	117.66	108.86
11	K	29	ILE	N-CA-C	5.40	116.44	108.45
1	A	500	G	OP2-P-O3'	5.40	124.20	108.00
1	A	1492	A	C4'-C3'-O3'	5.40	121.10	113.00
3	C	47	LEU	N-CA-C	5.40	119.50	113.02
1	A	284	G	OP2-P-O3'	5.40	124.19	108.00
2	B	71	VAL	N-CA-C	5.39	115.86	107.28
13	M	19	LEU	N-CA-C	5.39	119.58	112.89
10	J	57	LYS	N-CA-C	-5.39	106.66	113.18
2	B	175	ARG	N-CA-C	-5.39	106.71	113.28
1	A	1493	A	O4'-C1'-N9	5.39	116.28	108.20
1	A	729	A	OP1-P-O3'	5.38	124.15	108.00
2	B	59	GLU	N-CA-C	-5.38	105.10	110.97

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	76	ILE	N-CA-CB	-5.38	103.68	111.21
11	K	70	LYS	N-CA-C	5.38	117.56	111.11
1	A	505	G	C3'-C2'-O2'	-5.37	102.64	110.70
5	E	96	PRO	CB-CA-C	-5.37	104.74	111.56
20	T	11	SER	N-CA-C	5.37	118.05	111.82
21	U	21	TYR	CA-C-N	-5.37	117.05	122.74
21	U	21	TYR	C-N-CA	-5.37	117.05	122.74
12	L	11	VAL	N-CA-C	-5.37	105.15	111.00
1	A	766	A	O5'-P-OP2	-5.36	91.92	108.00
5	E	26	PHE	CB-CA-C	-5.36	100.01	109.70
2	B	76	GLN	N-CA-C	5.35	118.28	111.69
12	L	109	GLY	N-CA-C	-5.35	102.36	112.10
18	R	70	ILE	N-CA-C	5.35	115.98	110.36
11	K	44	SER	CB-CA-C	-5.35	101.19	111.78
4	D	21	LEU	N-CA-C	-5.35	106.92	113.50
9	I	81	ILE	N-CA-C	5.34	116.11	110.72
3	C	108	ASN	CA-C-N	5.33	125.00	119.56
3	C	108	ASN	C-N-CA	5.33	125.00	119.56
1	A	352	C	OP2-P-O3'	5.33	123.98	108.00
1	A	1513	A	C3'-C2'-O2'	5.33	118.69	110.70
11	K	83	ILE	CB-CA-C	-5.32	102.90	110.83
20	T	71	THR	CB-CA-C	-5.32	101.63	110.68
8	H	82	HIS	CB-CA-C	5.32	119.43	109.86
1	A	975	A	N9-C1'-C2'	-5.32	106.02	114.00
1	A	890	G	O4'-C1'-N9	5.32	116.17	108.20
20	T	32	ALA	N-CA-C	-5.31	104.55	111.02
4	D	42	GLN	N-CA-C	-5.30	105.41	111.14
7	G	84	ASN	N-CA-C	5.30	116.76	110.19
1	A	9	G	O5'-P-OP2	-5.27	92.18	108.00
1	A	518	C	C4'-C3'-O3'	5.27	117.31	109.40
2	B	21	ARG	N-CA-C	5.27	122.03	110.80
4	D	83	SER	N-CA-C	-5.26	105.23	110.97
8	H	95	VAL	N-CA-C	5.26	116.05	108.48
12	L	17	LYS	N-CA-C	-5.25	101.41	109.76
3	C	93	LYS	N-CA-C	-5.25	105.61	112.23
12	L	100	ILE	CA-C-N	-5.25	115.81	122.37
12	L	100	ILE	C-N-CA	-5.25	115.81	122.37
5	E	53	LEU	CA-CB-CG	-5.24	97.97	116.30
1	A	1093	A	P-O3'-C3'	5.23	128.04	120.20
6	F	92	LYS	N-CA-C	-5.23	102.11	109.96
20	T	95	ALA	N-CA-C	5.23	121.93	110.80
1	A	871	U	P-O5'-C5'	-5.22	113.06	120.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	58	VAL	CB-CA-C	-5.22	101.67	110.71
2	B	33	TYR	CA-CB-CG	5.22	123.30	113.90
6	F	26	ILE	N-CA-C	-5.22	104.88	110.36
2	B	81	VAL	CA-C-N	-5.21	113.30	120.28
2	B	81	VAL	C-N-CA	-5.21	113.30	120.28
9	I	95	LYS	N-CA-C	-5.21	105.28	111.69
9	I	57	GLY	N-CA-C	-5.21	107.35	114.64
13	M	118	ALA	N-CA-C	5.21	117.57	109.60
11	K	73	MET	N-CA-C	-5.21	105.69	111.36
20	T	100	ILE	N-CA-C	-5.21	105.25	110.30
4	D	148	VAL	CB-CA-C	-5.20	103.95	111.34
8	H	44	PHE	N-CA-C	5.20	118.08	111.69
10	J	42	THR	CB-CA-C	-5.20	100.74	109.53
1	A	1526	G	C3'-C2'-O2'	-5.20	102.90	110.70
2	B	82	ARG	N-CA-CB	5.19	117.75	110.12
8	H	68	ARG	N-CA-C	5.19	117.19	109.25
9	I	62	TYR	CB-CA-C	-5.19	102.47	110.78
3	C	179	ARG	CA-C-N	5.19	128.60	120.82
3	C	179	ARG	C-N-CA	5.19	128.60	120.82
3	C	121	ALA	N-CA-C	-5.18	105.63	111.28
2	B	228	GLY	N-CA-C	5.17	124.79	115.80
1	A	290	C	OP1-P-OP2	-5.17	104.11	119.60
1	A	782	A	O5'-P-OP2	5.16	123.47	108.00
10	J	61	GLU	N-CA-C	5.16	116.82	108.26
5	E	99	GLY	CA-C-N	-5.15	116.18	122.93
5	E	99	GLY	C-N-CA	-5.15	116.18	122.93
1	A	428	G	C4'-C3'-O3'	5.15	117.12	109.40
9	I	73	GLN	N-CA-C	-5.15	105.67	111.28
15	O	32	LEU	N-CA-C	5.15	117.29	111.11
12	L	55	VAL	CB-CA-C	-5.15	104.14	111.40
15	O	28	GLN	N-CA-C	-5.14	105.57	111.07
7	G	128	ALA	N-CA-C	-5.14	105.68	111.28
1	A	531	U	O5'-P-OP1	-5.14	92.59	108.00
20	T	12	ALA	N-CA-C	5.13	119.26	113.15
5	E	21	ALA	N-CA-C	-5.13	102.31	109.96
6	F	90	VAL	CB-CA-C	-5.12	104.76	110.96
12	L	52	LEU	CA-CB-CG	-5.12	98.37	116.30
2	B	10	LEU	N-CA-C	5.12	121.70	110.80
9	I	61	ALA	N-CA-C	5.11	117.23	108.90
1	A	1075	C	O5'-P-OP2	-5.11	92.67	108.00
4	D	130	GLY	N-CA-C	5.11	121.16	115.08
13	M	7	VAL	N-CA-C	5.11	119.97	109.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	T	59	ALA	N-CA-C	5.11	117.24	111.11
17	Q	39	SER	N-CA-C	5.11	116.84	109.07
9	I	14	VAL	CB-CA-C	-5.10	103.53	110.77
15	O	34	LEU	CA-CB-CG	-5.10	98.45	116.30
1	A	1451	A	O4'-C1'-N9	-5.10	100.56	108.20
5	E	141	GLN	CB-CA-C	-5.09	100.84	110.01
10	J	23	ILE	CB-CA-C	-5.09	105.45	111.97
10	J	72	VAL	CB-CA-C	-5.09	102.94	111.29
10	J	74	ILE	N-CA-C	5.09	116.96	109.63
1	A	1349	A	OP1-P-O3'	-5.09	92.73	108.00
5	E	41	VAL	CB-CA-C	-5.09	101.70	110.30
3	C	58	GLU	N-CA-C	-5.08	103.22	110.59
5	E	67	VAL	CB-CA-C	-5.08	101.91	111.30
1	A	190(G)	G	OP2-P-O3'	5.07	116.35	105.20
4	D	158	ILE	N-CA-C	5.06	115.67	110.36
7	G	99	LEU	CB-CA-C	-5.06	102.39	110.79
13	M	9	ILE	CA-C-N	-5.06	114.58	119.90
13	M	9	ILE	C-N-CA	-5.06	114.58	119.90
1	A	1528	U	O3'-P-O5'	-5.06	96.42	104.00
11	K	19	ALA	N-CA-C	5.05	117.64	109.40
2	B	90	MET	N-CA-C	5.05	120.97	109.81
12	L	124	LYS	CA-C-N	5.04	125.48	120.14
12	L	124	LYS	C-N-CA	5.04	125.48	120.14
2	B	181	PHE	CB-CA-C	-5.04	103.14	111.36
1	A	500	G	O5'-P-OP1	-5.04	92.88	108.00
2	B	18	GLY	N-CA-C	5.04	121.41	112.64
16	P	9	PHE	N-CA-C	5.04	121.53	110.80
1	A	914	A	OP2-P-O3'	5.04	123.11	108.00
20	T	49	ALA	N-CA-C	-5.04	107.19	113.38
15	O	12	ILE	CB-CA-C	-5.03	105.44	111.88
16	P	45	THR	CB-CA-C	-5.02	101.59	109.22
3	C	14	ILE	CB-CA-C	-5.02	102.64	110.52
5	E	124	GLY	CA-C-N	-5.02	114.44	121.72
5	E	124	GLY	C-N-CA	-5.02	114.44	121.72
4	D	69	GLY	N-CA-C	5.01	122.80	115.08
5	E	129	ILE	CA-C-N	-5.01	113.07	120.28
5	E	129	ILE	C-N-CA	-5.01	113.07	120.28
13	M	106	ASN	CB-CA-C	-5.01	103.62	111.39
17	Q	35	VAL	CA-C-N	-5.01	115.17	122.68
17	Q	35	VAL	C-N-CA	-5.01	115.17	122.68
7	G	99	LEU	N-CA-C	-5.01	105.82	111.28
17	Q	23	VAL	N-CA-C	5.01	115.06	107.75

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	39	GLY	N-CA-C	5.00	123.29	115.08
1	A	825	G	O5'-P-OP1	-5.00	92.99	108.00

There are no chirality outliers.

All (36) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	8	LYS	Peptide
2	B	89	GLY	Peptide
3	C	154	SER	Peptide
3	C	166	GLU	Peptide
3	C	178	LEU	Mainchain
3	C	179	ARG	Peptide
3	C	3	ASN	Peptide
4	D	195	ALA	Peptide
4	D	29	PRO	Peptide
4	D	3	ARG	Peptide
4	D	30	LYS	Peptide
4	D	35	ARG	Peptide
6	F	99	ALA	Peptide
7	G	13	GLN	Peptide
7	G	154	TYR	Peptide
8	H	62	TYR	Peptide
8	H	90	GLY	Peptide
9	I	126	SER	Peptide
10	J	12	ASP	Peptide
10	J	88	LEU	Peptide
11	K	102	GLY	Peptide
12	L	116	SER	Peptide
12	L	24	VAL	Peptide
12	L	25	PRO	Peptide
12	L	46	LYS	Peptide
12	L	87	GLY	Peptide
13	M	105	THR	Peptide
14	N	30	ALA	Peptide
14	N	7	ILE	Peptide
16	P	81	ARG	Peptide
17	Q	13	ASP	Peptide
18	R	21	LYS	Peptide
19	S	4	SER	Peptide
19	S	7	LYS	Peptide
20	T	12	ALA	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
20	T	93	GLU	Peptide

5.2 Too-close contacts ⓘ

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	32687	0	16508	1077	0
2	B	1900	0	1951	150	0
3	C	1612	0	1677	124	0
4	D	1703	0	1763	131	0
5	E	1146	0	1207	99	0
6	F	843	0	857	79	0
7	G	1257	0	1296	107	0
8	H	1116	0	1177	93	0
9	I	1010	0	1037	86	0
10	J	792	0	835	75	0
11	K	864	0	881	68	0
12	L	973	0	1062	85	0
13	M	937	0	995	92	0
14	N	492	0	529	51	0
15	O	729	0	768	72	0
16	P	700	0	720	59	0
17	Q	823	0	891	71	0
18	R	574	0	644	62	1
19	S	647	0	673	84	0
20	T	763	0	861	58	0
21	U	208	0	221	13	0
22	A	377	0	0	0	0
22	B	2	0	0	0	0
22	C	3	0	0	0	0
22	D	4	0	0	0	0
22	E	1	0	0	0	0
22	F	1	0	0	0	0
22	G	1	0	0	0	0
22	H	1	0	0	0	0
22	I	2	0	0	0	0
22	K	1	0	0	0	0
22	L	1	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	N	2	0	0	0	0
22	O	1	0	0	0	0
22	P	1	0	0	0	0
22	Q	2	0	0	0	0
22	S	1	0	0	0	0
23	D	1	0	0	0	0
23	N	1	0	0	0	0
24	A	1199	0	0	56	0
24	C	6	0	0	0	0
24	D	11	0	0	0	0
24	E	7	0	0	0	0
24	F	6	0	0	1	0
24	G	6	0	0	0	0
24	H	7	0	0	1	0
24	I	1	0	0	0	0
24	L	9	0	0	1	0
24	M	2	0	0	1	0
24	N	1	0	0	0	0
24	O	1	0	0	0	0
24	P	3	0	0	0	0
24	Q	6	0	0	2	0
All	All	53444	0	36553	2530	1

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 29.

All (2530) 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)
4:D:12:CYS:SG	4:D:12:CYS:CB	2.05	1.44
11:K:120:ARG:HB3	11:K:120:ARG:HH11	1.22	1.02
1:A:966:M2G:HM13	1:A:967:5MC:H1'	1.37	1.01
15:O:70:LEU:HB3	15:O:78:TYR:HB2	1.44	0.99
4:D:187:ARG:HH22	4:D:188:LEU:HD12	1.31	0.96
8:H:10:LEU:HD22	8:H:83:ILE:HD11	1.48	0.95
1:A:1162:C:N4	1:A:1174:G:O6	1.99	0.94
4:D:188:LEU:HD23	4:D:189:PRO:HD2	1.49	0.94
19:S:7:LYS:H	19:S:7:LYS:HD3	1.31	0.93
1:A:547:A:OP2	4:D:2:GLY:N	2.00	0.93
19:S:80:TYR:HE1	19:S:81:ARG:HD3	1.29	0.93
7:G:117:ALA:HA	7:G:120:ILE:HG12	1.51	0.92

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:74:LEU:HD22	16:P:79:VAL:HG21	1.50	0.91
10:J:4:ILE:HB	10:J:74:ILE:HB	1.50	0.91
19:S:80:TYR:CE1	19:S:81:ARG:HD3	2.05	0.91
1:A:664:G:H22	1:A:741:G:H1	1.09	0.91
20:T:93:GLU:OE1	20:T:93:GLU:N	2.05	0.90
1:A:998:G:N2	1:A:1043:C:O2	2.05	0.90
2:B:204:ASN:HD21	2:B:207:ALA:HB3	1.35	0.89
1:A:1523:G:OP1	11:K:123:LYS:NZ	2.05	0.89
3:C:35:GLU:HG3	3:C:95:THR:HG21	1.53	0.88
1:A:1515[A]:C:N3	1:A:1520[A]:G:N2	2.22	0.88
9:I:55:ALA:HA	9:I:58:HIS:HB2	1.53	0.88
1:A:1005:A:H1'	1:A:1026:G:H1	1.37	0.88
12:L:83:VAL:HG21	12:L:100:ILE:HD13	1.57	0.86
4:D:36:ARG:HB2	4:D:38:TYR:CE2	2.08	0.86
1:A:1007:C:N4	1:A:1023:G:O6	2.08	0.86
1:A:579:G:H5'	1:A:728:A:H1'	1.58	0.86
13:M:12:ASN:H	13:M:45:VAL:HB	1.41	0.86
1:A:1127:G:N2	1:A:1145:C:N3	2.24	0.85
13:M:5:ALA:N	13:M:8:GLU:OE1	2.08	0.85
1:A:1490:C:H2'	1:A:1491:G:H5'	1.59	0.85
21:U:13:ILE:HA	21:U:22:ARG:HH21	1.41	0.85
3:C:21:ARG:HB3	3:C:21:ARG:HH11	1.41	0.84
1:A:1402:4OC:HM43	1:A:1403:C:C4	2.12	0.83
1:A:1425:U:H2'	1:A:1426:C:C6	2.13	0.83
1:A:263:A:OP2	20:T:79:ARG:NH1	2.10	0.83
2:B:9:GLU:OE2	2:B:10:LEU:N	2.11	0.83
14:N:9:LYS:HD2	14:N:23:ARG:HD2	1.60	0.83
1:A:141:A:H1'	1:A:182:U:O2	1.78	0.83
1:A:575:G:H4'	1:A:576:G:H5''	1.60	0.83
1:A:81:U:H2'	1:A:82:U:H5''	1.59	0.83
12:L:27:LEU:O	12:L:29:GLY:N	2.11	0.83
4:D:104:VAL:HG21	4:D:140:VAL:HG21	1.59	0.82
6:F:7:ASN:HD21	18:R:34:TYR:HE1	1.26	0.82
10:J:19:SER:HB3	10:J:91:PRO:HG2	1.61	0.82
5:E:43:LEU:HB2	5:E:136:MET:HE2	1.61	0.82
1:A:895:G:N2	24:A:2471:HOH:O	2.13	0.82
14:N:32:SER:O	14:N:40:CYS:HA	1.81	0.81
1:A:545:C:OP2	4:D:62:GLN:NE2	2.12	0.81
12:L:27:LEU:HG	12:L:28:LYS:H	1.46	0.81
12:L:87:GLY:HA2	12:L:98:TYR:HA	1.59	0.81
5:E:11:ILE:HG22	5:E:31:LEU:HB3	1.63	0.81

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1226:C:H5''	19:S:80:TYR:CD2	2.16	0.80
8:H:11:THR:O	8:H:15:ASN:ND2	2.14	0.80
1:A:1100:C:N4	24:A:2914:HOH:O	2.07	0.80
4:D:197:PRO:HD2	4:D:198:VAL:HG23	1.62	0.80
1:A:279:A:H5'	1:A:279:A:H8	1.47	0.80
1:A:427:U:OP2	4:D:36:ARG:NH2	2.14	0.80
2:B:97:TRP:HH2	2:B:176:GLU:OE1	1.65	0.79
1:A:443:C:H42	1:A:491:G:H1	1.29	0.79
11:K:79:SER:OG	11:K:104:GLN:O	2.00	0.79
18:R:74:ARG:HB3	18:R:81:PHE:CE2	2.17	0.79
10:J:38:ILE:HG13	10:J:71:LEU:HB3	1.64	0.79
20:T:56:MET:HE1	20:T:85:MET:HG2	1.65	0.79
13:M:47:ASP:OD1	13:M:47:ASP:N	2.08	0.79
1:A:1162:C:N3	1:A:1175:G:N2	2.31	0.79
20:T:33:ILE:HD13	20:T:63:ILE:HG12	1.65	0.79
1:A:936:C:O2	1:A:1379:G:N2	2.16	0.78
1:A:677:U:H3	1:A:713:G:H22	1.31	0.78
6:F:5:GLU:HB3	6:F:62:TRP:HE1	1.47	0.78
1:A:444:C:O2	1:A:490:G:N2	2.11	0.78
12:L:25:PRO:C	12:L:27:LEU:H	1.91	0.78
1:A:227:G:O2'	24:A:2623:HOH:O	2.02	0.78
1:A:664:G:OP1	18:R:64:ARG:HD2	1.84	0.78
1:A:1182:G:H4'	1:A:1183:A:H5''	1.64	0.78
6:F:15:ASP:OD2	6:F:17:SER:N	2.16	0.78
10:J:34:VAL:HG13	10:J:74:ILE:HA	1.64	0.78
1:A:664:G:N2	1:A:741:G:H1	1.80	0.78
1:A:1403:C:O2	1:A:1403:C:H2'	1.83	0.78
15:O:4:THR:OG1	15:O:7:GLU:HG3	1.84	0.78
16:P:48:TRP:CD1	16:P:48:TRP:H	1.98	0.78
18:R:38:GLU:O	18:R:42:ARG:NH1	2.17	0.78
1:A:856:C:H2'	1:A:857:C:H5''	1.66	0.77
13:M:5:ALA:HA	13:M:61:GLU:HG3	1.64	0.77
1:A:1002:G:N7	1:A:1003:G:N2	2.33	0.77
3:C:14:ILE:O	3:C:16:ARG:N	2.16	0.77
1:A:434:U:H2'	1:A:435:C:H6	1.48	0.77
1:A:1005:A:H61	1:A:1023:G:H22	1.32	0.77
1:A:1152:A:H5''	10:J:13:HIS:CE1	2.20	0.77
4:D:30:LYS:O	4:D:32:ALA:N	2.18	0.77
1:A:1033:G:H3'	1:A:1034:G:H8	1.49	0.77
9:I:6:GLY:HA3	9:I:83:ARG:HB2	1.66	0.77
19:S:49:ILE:HG21	19:S:71:LEU:HD11	1.67	0.77

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:111:ARG:HH11	2:B:111:ARG:HG3	1.50	0.76
4:D:118:ARG:HG3	4:D:118:ARG:HH21	1.48	0.76
1:A:740:U:O2'	1:A:741:G:H5'	1.85	0.76
11:K:12:ARG:HE	11:K:40:ILE:HD11	1.51	0.76
11:K:40:ILE:HG13	11:K:75:TYR:HD2	1.51	0.76
1:A:869:G:C8	24:A:3090:HOH:O	2.39	0.76
4:D:109:GLY:HA3	4:D:165:MET:HE2	1.66	0.76
10:J:5:ARG:HD2	10:J:99:LYS:HB2	1.64	0.76
13:M:96:LEU:HB3	13:M:97:PRO:HD2	1.66	0.76
1:A:1262:C:H42	1:A:1273:G:H1	1.33	0.75
1:A:1313:U:O4	19:S:4:SER:OG	2.04	0.75
13:M:80:ARG:HH21	13:M:81:LEU:HD23	1.51	0.75
12:L:25:PRO:HB2	12:L:64:TYR:HE2	1.50	0.75
17:Q:61:GLU:HA	17:Q:71:PHE:CE2	2.21	0.75
6:F:30:LEU:HD23	6:F:35:ALA:HB3	1.68	0.75
15:O:77:ARG:HG2	15:O:77:ARG:HH11	1.52	0.75
13:M:11:ARG:HA	13:M:45:VAL:HG21	1.67	0.75
1:A:414:A:H2'	1:A:415:A:C8	2.22	0.75
1:A:1451:A:H5'	1:A:1452:C:H5	1.52	0.75
1:A:1435:G:H2'	1:A:1436:U:C6	2.22	0.75
1:A:673:G:H2'	1:A:674:G:C8	2.21	0.75
8:H:89:PRO:HA	8:H:92:ARG:NH1	2.02	0.75
9:I:89:ASN:HB3	9:I:92:TYR:CD1	2.21	0.74
14:N:27:CYS:SG	14:N:29:ARG:HB2	2.27	0.74
1:A:1103:C:H5''	2:B:98:LEU:HD22	1.68	0.74
5:E:64:ARG:HH21	5:E:65:ASN:HB2	1.52	0.74
12:L:24:VAL:HG22	12:L:98:TYR:CE2	2.22	0.74
3:C:150:LYS:HG3	3:C:169:ALA:HB2	1.69	0.74
13:M:23:TYR:HB3	13:M:67:GLU:H	1.52	0.74
1:A:411:A:OP1	4:D:30:LYS:NZ	2.20	0.74
1:A:1195:C:H5''	1:A:1196:U:OP2	1.87	0.74
4:D:28:SER:OG	4:D:30:LYS:N	2.19	0.74
14:N:35:ARG:HG2	14:N:35:ARG:HH11	1.53	0.74
2:B:47:THR:OG1	2:B:202:PRO:O	2.06	0.74
7:G:111:ARG:HH21	7:G:123:GLU:HA	1.49	0.74
15:O:26:GLU:O	15:O:29:VAL:HG12	1.87	0.74
18:R:88:LYS:OXT	18:R:88:LYS:NZ	2.15	0.74
1:A:720:C:H5''	1:A:721:G:H5''	1.70	0.73
1:A:127:G:H1	1:A:234:C:H42	1.33	0.73
5:E:131:ILE:O	5:E:134:ALA:HB3	1.88	0.73
1:A:403:C:OP1	4:D:137:SER:OG	2.05	0.73

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:933:G:OP2	7:G:3:ARG:HB2	1.89	0.73
1:A:1127:G:H1	1:A:1145:C:H42	1.36	0.73
4:D:31:CYS:O	4:D:31:CYS:SG	2.47	0.73
1:A:322:C:H4'	20:T:23:ARG:HD2	1.69	0.73
17:Q:27:PHE:CE1	17:Q:36:ILE:HD11	2.24	0.73
5:E:12:LEU:HD13	5:E:31:LEU:HB2	1.71	0.73
13:M:71:ARG:HB3	13:M:71:ARG:HH11	1.53	0.73
1:A:977:A:H2'	1:A:978:A:H5''	1.71	0.73
4:D:63:LYS:O	4:D:67:ILE:HG13	1.89	0.73
1:A:1441:G:H4'	1:A:1442:G:C5	2.23	0.73
1:A:363:A:OP1	12:L:61:THR:OG1	2.03	0.72
1:A:363:A:O2'	1:A:364:A:H5'	1.89	0.72
9:I:34:ASN:OD1	9:I:34:ASN:N	2.18	0.72
1:A:1505:G:H4'	1:A:1506:U:H5''	1.71	0.72
15:O:36:ILE:HG13	15:O:59:MET:HE3	1.70	0.72
4:D:36:ARG:HB2	4:D:38:TYR:HE2	1.55	0.72
4:D:102:ASP:HB3	4:D:136:PRO:HB3	1.71	0.72
1:A:1489:G:H8	1:A:1489:G:OP2	1.71	0.72
2:B:132:LYS:HA	2:B:135:GLN:HB2	1.72	0.72
1:A:1032:G:H3'	1:A:1033:G:H5''	1.70	0.72
10:J:11:PHE:HE2	10:J:67:THR:HG23	1.54	0.72
1:A:869:G:N7	24:A:3090:HOH:O	2.23	0.72
1:A:981:U:H2'	1:A:982:U:H5	1.55	0.72
19:S:41:VAL:HG12	19:S:42:PRO:HD2	1.72	0.72
1:A:875:C:H1'	8:H:15:ASN:OD1	1.88	0.71
8:H:15:ASN:H	8:H:15:ASN:HD22	1.37	0.71
1:A:1196:U:O2'	24:A:2127:HOH:O	2.07	0.71
1:A:1366:C:O2'	10:J:60:ARG:NH2	2.22	0.71
1:A:1124:G:OP1	10:J:33:GLN:NE2	2.23	0.71
19:S:50:ALA:HB1	19:S:57:HIS:HB3	1.71	0.71
1:A:184:G:H1	1:A:193:C:H42	1.38	0.71
16:P:48:TRP:CD1	16:P:48:TRP:N	2.56	0.71
18:R:42:ARG:HG3	18:R:42:ARG:HH11	1.55	0.71
1:A:235:C:N4	24:A:2070:HOH:O	2.24	0.71
1:A:414:A:H2'	1:A:415:A:H8	1.56	0.71
1:A:1527:C:H2'	1:A:1528:U:C6	2.26	0.71
12:L:55:VAL:HG12	12:L:69:TYR:HA	1.73	0.71
7:G:15:ASP:HB3	7:G:24:THR:HG22	1.72	0.71
7:G:73:MET:HG2	7:G:90:GLU:HA	1.73	0.71
1:A:695:A:H2'	1:A:696:A:C8	2.24	0.70
10:J:34:VAL:HG22	10:J:75:ILE:H	1.53	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:9:ARG:HB2	9:I:14:VAL:HA	1.72	0.70
21:U:13:ILE:HD12	21:U:22:ARG:HE	1.56	0.70
6:F:87:ARG:HH11	6:F:87:ARG:HG3	1.56	0.70
7:G:87:VAL:HG21	7:G:154:TYR:HB2	1.72	0.70
12:L:47:LYS:CG	12:L:48:PRO:HD3	2.21	0.70
1:A:1005:A:N6	1:A:1024:G:O2'	2.25	0.70
1:A:447:G:H2'	1:A:485:G:N2	2.07	0.70
15:O:81:LEU:O	15:O:81:LEU:HD23	1.92	0.70
1:A:662:G:H2'	1:A:663:A:C8	2.25	0.70
1:A:263:A:O2'	1:A:264:U:H5'	1.92	0.70
9:I:48:GLU:OE1	9:I:51:ARG:HD2	1.92	0.70
14:N:14:PRO:O	14:N:15:LYS:HB3	1.92	0.70
1:A:779:C:O2'	1:A:780:A:H5'	1.91	0.69
1:A:1525:G:H5''	1:A:1525:G:H8	1.56	0.69
5:E:73:ASN:O	5:E:73:ASN:ND2	2.25	0.69
9:I:77:ILE:O	9:I:81:ILE:HG12	1.91	0.69
1:A:758:G:N7	24:A:3191:HOH:O	2.25	0.69
1:A:1057:G:H4'	3:C:197:GLY:H	1.58	0.69
20:T:87:LYS:O	20:T:91:LEU:HB2	1.91	0.69
1:A:1126:U:O4	1:A:1127:G:N2	2.25	0.69
1:A:1322:C:H4'	1:A:1323:G:OP1	1.92	0.69
1:A:1413:A:H61	1:A:1487:G:H1	1.40	0.69
3:C:35:GLU:OE2	3:C:97:LYS:NZ	2.25	0.69
1:A:1033:G:H3'	1:A:1034:G:C8	2.27	0.69
1:A:1169:A:N6	1:A:1171:G:N3	2.40	0.69
16:P:47:ASP:OD1	16:P:47:ASP:N	2.17	0.69
18:R:27:GLY:O	18:R:29:PHE:HB3	1.93	0.69
9:I:16:ARG:HB2	9:I:64:THR:HG23	1.75	0.69
1:A:500:G:C5	1:A:546:G:N2	2.60	0.69
1:A:849:C:N4	24:A:2521:HOH:O	2.25	0.69
1:A:1518[B]:MA6:H102	1:A:1519[B]:MA6:H103	1.73	0.69
15:O:50:HIS:O	15:O:53:HIS:N	2.25	0.69
1:A:56:U:H2'	1:A:57:G:C8	2.27	0.69
6:F:12:PRO:HG3	6:F:58:GLY:HA2	1.75	0.69
9:I:50:LEU:HD22	9:I:55:ALA:HB3	1.75	0.69
19:S:43:GLU:H	19:S:43:GLU:CD	2.01	0.69
1:A:344:A:H5''	1:A:345:C:H5	1.57	0.69
1:A:927:G:O2'	1:A:1503:A:N7	2.26	0.69
3:C:58:GLU:H	3:C:65:ALA:HB3	1.58	0.69
11:K:70:LYS:HA	11:K:73:MET:HE2	1.75	0.69
18:R:44:LEU:HD11	18:R:79:LEU:HD22	1.74	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:74:ARG:HB3	18:R:81:PHE:HE2	1.55	0.69
10:J:57:LYS:O	10:J:60:ARG:NH1	2.25	0.69
6:F:3:ARG:NH1	6:F:64:GLN:OE1	2.25	0.69
1:A:1231:G:H2'	1:A:1232:U:H6	1.57	0.68
1:A:1332:A:H2'	1:A:1333:A:H8	1.57	0.68
14:N:9:LYS:HE2	14:N:12:ARG:HH12	1.59	0.68
19:S:18:LYS:HE3	19:S:31:ILE:HG12	1.75	0.68
21:U:13:ILE:HD12	21:U:22:ARG:NE	2.07	0.68
4:D:38:TYR:H	4:D:38:TYR:HD2	1.41	0.68
1:A:690:G:N7	11:K:55:LYS:NZ	2.36	0.68
1:A:1196:U:H1'	24:A:2842:HOH:O	1.94	0.68
15:O:4:THR:HG1	15:O:7:GLU:HG3	1.56	0.68
1:A:435:C:O2'	24:A:2527:HOH:O	2.10	0.68
1:A:669:U:H2'	1:A:670:G:C8	2.28	0.68
19:S:22:LEU:HD11	19:S:27:GLU:HA	1.75	0.68
1:A:1124:G:H1	1:A:1149:C:H42	1.41	0.68
2:B:69:LEU:HB3	2:B:162:ILE:HD11	1.76	0.68
18:R:26:LEU:HD11	18:R:42:ARG:HE	1.58	0.68
8:H:104:ARG:HH11	8:H:104:ARG:HG3	1.59	0.68
21:U:6:ARG:HB3	21:U:15:ARG:HH12	1.59	0.68
8:H:105:ARG:NH2	24:H:304:HOH:O	2.26	0.67
5:E:110:LEU:HD22	5:E:115:VAL:HG21	1.76	0.67
5:E:116:THR:OG1	5:E:117:ASP:N	2.25	0.67
1:A:1371:G:O3'	9:I:69:GLY:HA3	1.94	0.67
3:C:134:ILE:HD11	3:C:153:VAL:HG22	1.76	0.67
19:S:53:ASN:HD22	19:S:56:GLN:HG3	1.58	0.67
1:A:689:C:P	11:K:46:GLY:HA3	2.33	0.67
1:A:1413:A:H3'	1:A:1414:U:H5''	1.77	0.67
3:C:188:LEU:HD22	3:C:189:ALA:N	2.10	0.67
16:P:26:ARG:HG2	16:P:26:ARG:HH11	1.59	0.67
1:A:457:C:H2'	1:A:458:C:H6	1.59	0.67
1:A:1379:G:O2'	1:A:1380:U:H5'	1.95	0.67
4:D:107:ARG:NH1	4:D:114:ARG:HH22	1.92	0.67
1:A:1405:G:O6	1:A:1493:A:N6	2.27	0.67
1:A:1439:C:OP1	20:T:38:LYS:HE2	1.94	0.67
7:G:41:ARG:NH1	7:G:41:ARG:HB2	2.10	0.67
1:A:1030(C):G:N2	1:A:1030(D):A:H61	1.93	0.66
3:C:61:ALA:O	3:C:63:ASN:ND2	2.28	0.66
17:Q:37:LYS:O	17:Q:38:ARG:HD3	1.95	0.66
1:A:1191:A:H5''	3:C:4:LYS:HE3	1.76	0.66
13:M:90:LEU:HA	13:M:93:ARG:HG2	1.76	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:26:PHE:HD1	7:G:101:LEU:HD22	1.60	0.66
17:Q:67:LYS:HA	17:Q:70:ARG:HH12	1.60	0.66
1:A:1519[B]:MA6:H5'	1:A:1520[B]:G:OP2	1.96	0.66
9:I:8:GLY:HA2	9:I:79:LEU:HD13	1.75	0.66
1:A:418:C:H2'	1:A:419:C:H6	1.60	0.66
1:A:518:C:H2'	1:A:530:G:C8	2.31	0.66
1:A:1347:G:H5''	9:I:107:ARG:HG3	1.76	0.66
3:C:6:HIS:CD2	3:C:8:ILE:HB	2.29	0.66
3:C:6:HIS:NE2	3:C:8:ILE:HB	2.11	0.66
6:F:23:LYS:HD2	6:F:42:GLU:OE1	1.96	0.66
8:H:15:ASN:ND2	8:H:15:ASN:H	1.93	0.66
1:A:405:U:O4	4:D:2:GLY:HA3	1.96	0.66
1:A:982:U:OP2	14:N:23:ARG:NH2	2.29	0.66
1:A:1128:C:O2'	1:A:1130:A:OP1	2.13	0.66
1:A:1221:G:H4'	19:S:77:THR:HG21	1.78	0.66
12:L:113:ARG:HH11	12:L:116:SER:H	1.41	0.66
19:S:36:ARG:NH2	19:S:75:ALA:O	2.29	0.66
1:A:127:G:H1	1:A:234:C:N4	1.93	0.66
1:A:365:U:H5''	1:A:366:C:OP1	1.95	0.66
1:A:875:C:O2'	8:H:14:ARG:NH1	2.28	0.66
7:G:26:PHE:CD1	7:G:101:LEU:HD22	2.30	0.66
9:I:118:LYS:O	9:I:120:ARG:N	2.28	0.66
1:A:976:G:H5'	1:A:1358:U:O2'	1.96	0.66
1:A:1423:G:H1	1:A:1477:C:H42	1.44	0.66
8:H:121:ASP:HB2	8:H:125:ARG:NH2	2.11	0.66
1:A:44:G:H1	1:A:398:C:H42	1.44	0.66
1:A:670:G:H1	1:A:736:C:H42	1.44	0.66
1:A:1039:C:H2'	1:A:1040:U:C6	2.31	0.66
1:A:1054:C:H3'	24:A:2923:HOH:O	1.96	0.66
1:A:1309:G:OP2	13:M:99:ARG:NH2	2.29	0.66
1:A:1448:C:H42	1:A:1455:G:H1	1.41	0.66
15:O:26:GLU:N	15:O:26:GLU:OE2	2.29	0.66
11:K:40:ILE:HG13	11:K:75:TYR:CD2	2.30	0.65
16:P:34:GLU:OE1	16:P:55:ARG:NH1	2.30	0.65
17:Q:97:SER:O	17:Q:98:LEU:HD12	1.95	0.65
3:C:6:HIS:HD2	3:C:9:GLY:H	1.44	0.65
21:U:6:ARG:HB3	21:U:15:ARG:NH1	2.11	0.65
13:M:56:LEU:O	13:M:60:VAL:HG23	1.97	0.65
1:A:858:G:H5''	1:A:858:G:H8	1.61	0.65
3:C:155:GLY:HA2	3:C:157:ILE:HG12	1.79	0.65
1:A:1442:G:C5	1:A:1446:A:C6	2.84	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1518[A]:MA6:N6	1:A:1519[A]:MA6:H103	2.12	0.65
12:L:47:LYS:HG3	12:L:48:PRO:HD3	1.79	0.65
2:B:112:VAL:HG23	2:B:149:LEU:HD13	1.79	0.65
9:I:108:VAL:HG12	9:I:109:VAL:H	1.60	0.65
2:B:73:THR:HG22	2:B:169:LYS:HE3	1.78	0.65
6:F:40:VAL:HG22	6:F:63:TYR:CD1	2.31	0.65
15:O:5:LYS:H	15:O:5:LYS:HE2	1.62	0.65
5:E:105:VAL:HG23	5:E:106:PRO:HD3	1.78	0.65
15:O:18:PHE:HB2	15:O:19:PRO:HD2	1.78	0.65
19:S:22:LEU:HD12	19:S:47:HIS:HE1	1.62	0.65
20:T:50:GLU:HB2	20:T:99:LEU:HD13	1.78	0.65
1:A:1148:U:H2'	1:A:1149:C:O4'	1.97	0.65
2:B:58:ILE:HG22	2:B:221:LEU:HD12	1.79	0.65
2:B:147:LYS:HE2	2:B:148:TYR:CZ	2.33	0.64
8:H:120:THR:OG1	8:H:123:GLU:HG3	1.96	0.64
1:A:503:C:OP2	12:L:116:SER:OG	2.09	0.64
1:A:976:G:OP2	1:A:1358:U:O2'	2.15	0.64
1:A:1196:U:O2'	1:A:1197:G:OP1	2.15	0.64
1:A:1425:U:H2'	1:A:1426:C:H6	1.63	0.64
1:A:1476:G:H2'	1:A:1477:C:H6	1.63	0.64
4:D:162:LEU:HD22	4:D:181:MET:HG3	1.80	0.64
7:G:85:TYR:HD1	7:G:154:TYR:CE1	2.16	0.64
1:A:922:G:H2'	1:A:923:A:C8	2.33	0.64
1:A:1415:G:H2'	1:A:1416:G:H8	1.63	0.64
4:D:187:ARG:NH2	4:D:188:LEU:HD12	2.07	0.64
9:I:28:VAL:HG22	9:I:63:ILE:HD11	1.80	0.64
9:I:53:VAL:HG21	9:I:85:LEU:HD21	1.79	0.64
15:O:5:LYS:O	15:O:8:LYS:HB3	1.98	0.64
1:A:337:C:N4	24:A:2569:HOH:O	2.31	0.64
1:A:1277:C:H2'	1:A:1279:A:C8	2.33	0.64
10:J:57:LYS:HG2	10:J:60:ARG:HH12	1.63	0.64
13:M:11:ARG:HH11	13:M:45:VAL:HG12	1.62	0.64
13:M:49:THR:N	13:M:52:GLU:OE1	2.28	0.64
19:S:39:THR:HA	19:S:70:LYS:HA	1.79	0.64
1:A:1425:U:H3	1:A:1475:G:H1	1.45	0.64
17:Q:7:THR:O	17:Q:23:VAL:HG13	1.98	0.64
1:A:779:C:C2'	1:A:780:A:H5'	2.28	0.64
1:A:1408:A:H2'	1:A:1409:C:C2	2.31	0.64
2:B:54:THR:HG21	2:B:201:ILE:HD11	1.78	0.64
5:E:7:GLU:HB3	5:E:112:LEU:HD21	1.80	0.64
13:M:62:ASN:OD1	13:M:62:ASN:N	2.30	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:965:A:C2	1:A:969:A:C2	2.85	0.64
1:A:1413:A:C3'	1:A:1414:U:H5''	2.27	0.64
14:N:23:ARG:HA	14:N:29:ARG:O	1.98	0.64
1:A:98:U:O2'	1:A:99:C:H5'	1.98	0.64
1:A:1244:C:H42	1:A:1293:G:H1	1.46	0.64
2:B:132:LYS:HG2	2:B:135:GLN:OE1	1.98	0.64
1:A:518:C:O2'	12:L:50:SER:HB3	1.98	0.63
1:A:1119:C:H2'	1:A:1120:G:H8	1.64	0.63
1:A:1532:U:H3'	1:A:1532:U:H6	1.63	0.63
1:A:1062:U:H2'	1:A:1063:C:C6	2.32	0.63
1:A:1147:C:O2	9:I:16:ARG:NH1	2.32	0.63
5:E:64:ARG:HE	5:E:65:ASN:HB2	1.64	0.63
10:J:57:LYS:HG2	10:J:60:ARG:NH1	2.13	0.63
1:A:544:G:P	4:D:59:ARG:HH22	2.21	0.63
1:A:1256:A:OP2	3:C:26:LYS:NZ	2.31	0.63
1:A:1316:G:N1	1:A:1319:A:OP2	2.30	0.63
1:A:1375:A:OP1	7:G:28:ASN:ND2	2.29	0.63
1:A:1320:C:N3	19:S:36:ARG:HG3	2.13	0.63
1:A:1097:C:H2'	1:A:1098:C:H6	1.64	0.63
1:A:1318:A:H4'	19:S:10:PHE:CE2	2.33	0.63
1:A:1327:C:OP2	21:U:12:LYS:NZ	2.31	0.63
7:G:78:ARG:HH12	7:G:156:TRP:HB2	1.63	0.63
7:G:114:ARG:HB2	7:G:115:ARG:HD3	1.79	0.63
7:G:121:ALA:O	7:G:125:MET:HB2	1.98	0.63
8:H:40:ALA:HB2	8:H:45:ILE:HD11	1.79	0.63
19:S:53:ASN:HB2	19:S:56:GLN:H	1.62	0.63
1:A:106:C:C2'	1:A:107:G:H5'	2.29	0.63
12:L:6:THR:HG23	12:L:9:GLN:HG3	1.80	0.63
1:A:849:C:H2'	1:A:850:U:H6	1.63	0.63
1:A:1217:C:H2'	1:A:1218:C:H6	1.64	0.63
1:A:4:U:H6	1:A:4:U:H5''	1.62	0.63
16:P:34:GLU:OE2	16:P:55:ARG:HD2	1.99	0.63
1:A:168:G:C2	1:A:169:C:C5	2.86	0.63
7:G:84:ASN:N	7:G:84:ASN:OD1	2.31	0.63
8:H:20:TYR:HD1	8:H:65:TYR:CE1	2.17	0.63
11:K:54:ARG:O	11:K:57:THR:HG22	1.99	0.63
12:L:27:LEU:C	12:L:29:GLY:H	2.04	0.63
1:A:705:U:H5''	1:A:706:A:OP2	1.99	0.62
1:A:773:G:H1	1:A:806:C:H42	1.46	0.62
6:F:15:ASP:N	6:F:18:GLN:OE1	2.22	0.62
20:T:16:HIS:O	20:T:20:LEU:HD12	1.99	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:35:GLU:HA	9:I:38:GLN:HB2	1.81	0.62
1:A:1338:G:H2'	1:A:1339:A:C8	2.34	0.62
5:E:36:ASP:O	5:E:38:GLN:HG2	1.98	0.62
1:A:1279:A:O2'	1:A:1281:U:OP2	2.17	0.62
6:F:41:GLU:HB3	6:F:43:LEU:HD11	1.81	0.62
4:D:196:LEU:N	4:D:196:LEU:HD23	2.15	0.62
11:K:120:ARG:HH11	11:K:120:ARG:CB	2.07	0.62
1:A:631:G:OP1	8:H:98:LYS:NZ	2.33	0.62
3:C:188:LEU:HD21	3:C:195:VAL:HG23	1.82	0.62
10:J:61:GLU:OE2	14:N:45:ARG:HD2	2.00	0.62
1:A:80:G:H2'	1:A:81:U:H5'	1.82	0.62
1:A:322:C:H2'	1:A:323:U:C6	2.34	0.62
1:A:343:U:O2'	1:A:346:G:O6	2.16	0.62
1:A:443:C:N4	1:A:491:G:H1	1.97	0.62
1:A:1023:G:H2'	1:A:1023:G:N3	2.15	0.62
1:A:1392:G:H21	1:A:1502:A:H8	1.47	0.62
4:D:88:VAL:O	4:D:92:VAL:HG23	2.00	0.62
1:A:1080:A:OP2	5:E:47:LYS:NZ	2.28	0.62
15:O:64:ARG:HD2	15:O:88:ARG:HH12	1.65	0.62
1:A:317:G:O2'	1:A:318:G:H5'	2.00	0.62
1:A:7:G:H5''	24:A:2358:HOH:O	1.99	0.61
1:A:669:U:H2'	1:A:670:G:H8	1.65	0.61
1:A:1221:G:H1'	19:S:54:GLY:HA3	1.83	0.61
3:C:59:ARG:HD3	3:C:64:VAL:HG22	1.81	0.61
4:D:61:LYS:NZ	4:D:72:GLU:OE2	2.31	0.61
15:O:4:THR:HA	15:O:5:LYS:HZ1	1.64	0.61
1:A:1249:C:O2'	9:I:73:GLN:NE2	2.32	0.61
1:A:1348:U:H4'	9:I:120:ARG:HG3	1.82	0.61
13:M:105:THR:OG1	13:M:106:ASN:HB2	2.00	0.61
16:P:3:LYS:HD3	16:P:65:GLN:HB3	1.82	0.61
18:R:79:LEU:HD23	18:R:80:PRO:HD2	1.82	0.61
20:T:42:GLN:HG3	20:T:46:GLU:OE1	2.00	0.61
1:A:248:C:H42	1:A:276:G:H1	1.48	0.61
1:A:736:C:H5''	18:R:72:ARG:HH21	1.65	0.61
1:A:1409:C:H6	1:A:1409:C:H3'	1.65	0.61
1:A:1443:G:H5''	1:A:1446:A:H5'	1.81	0.61
7:G:149:ARG:HD3	11:K:59:TYR:CE1	2.36	0.61
1:A:966:M2G:HM13	1:A:967:5MC:C1'	2.22	0.61
4:D:187:ARG:NH2	4:D:188:LEU:HB2	2.15	0.61
1:A:1326:C:OP1	21:U:12:LYS:HE3	2.00	0.61
2:B:214:ILE:HD13	2:B:214:ILE:N	2.15	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:17:ASP:OD1	3:C:18:TRP:N	2.32	0.61
3:C:153:VAL:HG12	3:C:198:VAL:HG22	1.81	0.61
5:E:43:LEU:O	5:E:62:ALA:HA	2.00	0.61
13:M:4:ILE:H	13:M:8:GLU:CD	2.09	0.61
6:F:62:TRP:CH2	6:F:64:GLN:HB2	2.36	0.61
1:A:44:G:H1	1:A:398:C:N4	1.98	0.61
1:A:967:5MC:O2'	9:I:128:ARG:NH1	2.33	0.61
1:A:1126:U:O4	1:A:1127:G:C2	2.53	0.61
1:A:1314:C:OP2	19:S:6:LYS:HD3	2.01	0.61
8:H:53:VAL:HB	8:H:58:TYR:HD1	1.64	0.61
10:J:6:ILE:HG13	10:J:72:VAL:HB	1.82	0.61
1:A:257:G:H1	1:A:269:C:H42	1.47	0.61
5:E:149:GLU:O	5:E:153:LYS:HB3	2.00	0.61
10:J:19:SER:HB2	10:J:89:ASP:OD2	1.99	0.61
3:C:150:LYS:HA	3:C:169:ALA:HB2	1.83	0.61
6:F:25:ILE:HA	6:F:28:ARG:HD2	1.83	0.61
11:K:106:LYS:O	11:K:107:SER:HB3	2.00	0.61
13:M:12:ASN:H	13:M:45:VAL:CB	2.13	0.61
1:A:1410:G:O6	1:A:1490:C:N4	2.30	0.60
10:J:5:ARG:HG3	10:J:99:LYS:H	1.65	0.60
10:J:11:PHE:CE2	10:J:67:THR:HG23	2.37	0.60
10:J:12:ASP:OD2	10:J:15:THR:HG23	2.01	0.60
12:L:25:PRO:C	12:L:27:LEU:N	2.53	0.60
5:E:15:ARG:HH11	5:E:15:ARG:CG	2.13	0.60
6:F:26:ILE:HG21	6:F:63:TYR:HE2	1.66	0.60
8:H:4:ASP:OD2	8:H:85:ARG:NH1	2.34	0.60
10:J:92:THR:OG1	10:J:93:GLY:N	2.26	0.60
19:S:5:LEU:HD13	19:S:10:PHE:HB2	1.83	0.60
20:T:10:LEU:HD23	20:T:12:ALA:N	2.16	0.60
11:K:57:THR:HG23	11:K:60:ALA:H	1.65	0.60
1:A:323:U:O3'	20:T:22:ARG:HD2	2.02	0.60
1:A:1491:G:N7	1:A:1492:A:N6	2.50	0.60
2:B:132:LYS:HE3	2:B:135:GLN:HB3	1.84	0.60
3:C:6:HIS:HE2	3:C:8:ILE:HB	1.66	0.60
3:C:130:VAL:HG11	3:C:153:VAL:HG21	1.83	0.60
7:G:70:LYS:HE2	7:G:96:GLN:HE21	1.66	0.60
8:H:11:THR:CG2	8:H:15:ASN:HD21	2.14	0.60
9:I:4:TYR:CE1	9:I:88:TYR:HD1	2.19	0.60
9:I:27:THR:O	9:I:63:ILE:HG12	2.02	0.60
6:F:14:LEU:HD13	6:F:19:LEU:HA	1.82	0.60
7:G:57:GLU:HB2	7:G:60:LYS:HG3	1.84	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:53:ARG:HH12	18:R:59:SER:HA	1.65	0.60
1:A:363:A:C2'	1:A:364:A:H5'	2.32	0.60
8:H:4:ASP:OD1	8:H:6:ILE:N	2.34	0.60
15:O:54:ARG:NH1	15:O:58:MET:SD	2.75	0.60
1:A:778:G:H8	1:A:778:G:O5'	1.85	0.60
1:A:1378:C:OP2	7:G:7:ALA:HB3	2.02	0.60
4:D:172:PRO:HD2	4:D:173:TRP:CE3	2.37	0.60
8:H:11:THR:HG22	8:H:15:ASN:HD21	1.66	0.60
1:A:3:G:H1	4:D:87:GLY:H	1.49	0.60
1:A:1001:A:H2'	1:A:1002:G:O4'	2.02	0.60
2:B:87:ARG:HD3	2:B:234:PRO:HG2	1.84	0.60
3:C:40:ARG:O	3:C:44:GLU:HB2	2.02	0.60
7:G:95:ARG:NE	7:G:99:LEU:HD21	2.17	0.60
11:K:107:SER:C	11:K:108:ILE:HG12	2.27	0.60
13:M:67:GLU:O	13:M:71:ARG:HG3	2.02	0.60
2:B:100:GLY:O	2:B:102:LEU:N	2.35	0.59
8:H:37:ARG:HB3	8:H:37:ARG:HH11	1.67	0.59
8:H:81:HIS:HB2	8:H:138:TRP:O	2.01	0.59
1:A:725:G:H2'	1:A:726:C:H6	1.66	0.59
1:A:1010:G:N2	1:A:1020:U:H1'	2.17	0.59
1:A:1119:C:H2'	1:A:1120:G:C8	2.37	0.59
1:A:1256:A:N6	1:A:1278:U:OP2	2.35	0.59
13:M:23:TYR:CD2	13:M:70:LEU:HD12	2.37	0.59
16:P:10:GLY:H	16:P:16:HIS:H	1.50	0.59
20:T:43:LEU:HD13	20:T:51:GLU:HB3	1.84	0.59
1:A:1426:C:H2'	1:A:1427:U:C6	2.37	0.59
5:E:101:ILE:O	5:E:120:THR:HB	2.00	0.59
18:R:26:LEU:HD11	18:R:42:ARG:NE	2.16	0.59
1:A:1286:A:H2'	1:A:1287:A:H4'	1.83	0.59
2:B:80:ILE:HG21	2:B:211:ILE:HG22	1.84	0.59
17:Q:29:HIS:O	17:Q:31:LEU:N	2.35	0.59
2:B:180:LEU:HB2	2:B:182:ILE:HG13	1.85	0.59
5:E:75:THR:C	5:E:76:ILE:HD13	2.28	0.59
6:F:74:ASP:HA	6:F:77:ARG:HB3	1.84	0.59
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.84	0.59
1:A:499:A:H4'	1:A:500:G:H5'	1.83	0.59
1:A:937:A:H1'	1:A:1379:G:N2	2.18	0.59
4:D:30:LYS:C	4:D:32:ALA:H	2.03	0.59
6:F:39:LYS:HG2	6:F:40:VAL:H	1.67	0.59
7:G:75:VAL:HA	7:G:87:VAL:O	2.03	0.59
1:A:15:G:H5'	1:A:15:G:H8	1.66	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:362:G:H5''	12:L:61:THR:HG21	1.83	0.59
1:A:376:G:H5''	16:P:5:ARG:HD2	1.84	0.59
1:A:198:G:H5''	1:A:198:G:H8	1.68	0.59
1:A:1191:A:H2'	1:A:1192:C:C6	2.38	0.59
6:F:37:VAL:HG22	6:F:65:VAL:HG12	1.84	0.59
9:I:50:LEU:O	9:I:54:ASP:N	2.29	0.59
12:L:19:ARG:H	12:L:19:ARG:HD2	1.67	0.59
13:M:34:LEU:HD13	13:M:41:PRO:HA	1.85	0.59
18:R:82:THR:OG1	18:R:83:GLU:N	2.33	0.59
1:A:369:C:O2'	1:A:370:C:H5'	2.03	0.59
1:A:737:A:OP1	6:F:92:LYS:HB2	2.02	0.59
7:G:78:ARG:NH1	7:G:154:TYR:O	2.35	0.59
10:J:8:LEU:HD22	10:J:96:ILE:HG22	1.83	0.59
10:J:78:ASN:OD1	10:J:79:ARG:N	2.27	0.59
11:K:95:ILE:O	11:K:98:LEU:N	2.34	0.59
1:A:81:U:C2'	1:A:82:U:H5''	2.33	0.59
1:A:1333:A:H2'	1:A:1334:G:O4'	2.03	0.59
4:D:57:ARG:HB3	4:D:202:LEU:HD12	1.85	0.59
9:I:50:LEU:HD13	9:I:55:ALA:HB3	1.85	0.59
19:S:10:PHE:HE2	19:S:37:ARG:HD3	1.68	0.59
1:A:254:G:OP1	17:Q:67:LYS:O	2.21	0.58
1:A:646:U:H2'	1:A:647:C:C6	2.38	0.58
1:A:1329:A:P	13:M:28:ALA:HB3	2.43	0.58
1:A:1406:U:H2'	1:A:1407:5MC:C6	2.37	0.58
2:B:17:PHE:CE1	2:B:18:GLY:O	2.56	0.58
8:H:73:ASP:N	8:H:74:PRO:HD3	2.17	0.58
8:H:112:LEU:HD12	8:H:112:LEU:N	2.18	0.58
13:M:65:LYS:HD3	13:M:69:GLU:HG2	1.85	0.58
14:N:32:SER:HB2	14:N:41:ARG:HB3	1.84	0.58
15:O:22:THR:OG1	15:O:23:GLY:N	2.34	0.58
15:O:39:LEU:O	15:O:42:HIS:HB3	2.03	0.58
20:T:46:GLU:HB3	20:T:48:LYS:HE3	1.84	0.58
1:A:250:A:C8	1:A:250:A:H5'	2.38	0.58
5:E:15:ARG:HH11	5:E:15:ARG:HG2	1.68	0.58
7:G:41:ARG:HB2	7:G:41:ARG:HH11	1.68	0.58
9:I:91:ASP:N	9:I:91:ASP:OD1	2.36	0.58
9:I:108:VAL:HG12	9:I:109:VAL:HG23	1.86	0.58
10:J:53:PRO:HA	14:N:41:ARG:HH21	1.67	0.58
1:A:514:C:C2'	1:A:515:G:H5'	2.33	0.58
1:A:664:G:N2	1:A:741:G:H22	2.01	0.58
1:A:858:G:H5''	1:A:858:G:C8	2.38	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:946:A:H2'	1:A:947:G:C8	2.37	0.58
12:L:81:SER:HA	24:L:304:HOH:O	2.03	0.58
13:M:50:GLU:OE2	13:M:54:VAL:N	2.36	0.58
1:A:1097:C:H2'	1:A:1098:C:C6	2.38	0.58
10:J:21:GLN:HA	10:J:24:VAL:HG12	1.85	0.58
15:O:39:LEU:O	15:O:42:HIS:N	2.36	0.58
1:A:350:G:O2'	1:A:351:G:H5'	2.04	0.58
1:A:1055:A:H1'	3:C:156:ARG:NH2	2.18	0.58
1:A:1226:C:H4'	19:S:80:TYR:CE2	2.37	0.58
3:C:13:GLY:HA3	14:N:57:ARG:HH21	1.69	0.58
9:I:50:LEU:HA	9:I:53:VAL:HG22	1.85	0.58
9:I:112:LYS:NZ	9:I:113:LYS:O	2.36	0.58
15:O:70:LEU:O	15:O:72:ARG:N	2.37	0.58
17:Q:10:VAL:HG23	17:Q:55:ASP:O	2.03	0.58
1:A:981:U:H2'	1:A:982:U:C5	2.38	0.58
1:A:265:G:C4	1:A:267:C:H5	2.21	0.58
5:E:6:PHE:CE2	5:E:36:ASP:HB3	2.38	0.58
11:K:47:VAL:HG12	11:K:48:ILE:N	2.18	0.58
8:H:89:PRO:HA	8:H:92:ARG:HH11	1.68	0.58
11:K:58:PRO:HB3	11:K:93:GLN:HG3	1.85	0.58
18:R:70:ILE:O	18:R:74:ARG:HG3	2.03	0.58
1:A:1392:G:N2	1:A:1502:A:H8	2.02	0.58
1:A:1499:A:H1'	1:A:1520[A]:G:OP1	2.03	0.58
2:B:98:LEU:H	2:B:101:MET:HE3	1.69	0.58
11:K:21:ILE:HD13	11:K:94:ALA:HB3	1.86	0.58
1:A:409:G:N2	1:A:433:C:O2	2.35	0.58
1:A:858:G:C8	24:A:3092:HOH:O	2.57	0.58
1:A:1427:U:H2'	1:A:1428:A:C8	2.39	0.58
1:A:1504:G:C3'	1:A:1505:G:H5'	2.32	0.58
1:A:1533:C:O2	1:A:1533:C:H2'	2.03	0.58
8:H:20:TYR:HE2	8:H:75:ARG:HD2	1.69	0.58
2:B:111:ARG:HG3	2:B:111:ARG:NH1	2.14	0.57
6:F:5:GLU:HB3	6:F:62:TRP:NE1	2.16	0.57
8:H:27:PRO:HA	8:H:58:TYR:CD2	2.38	0.57
1:A:1143:G:H2'	1:A:1144:G:H8	1.68	0.57
19:S:22:LEU:HD22	19:S:25:LYS:HB2	1.86	0.57
1:A:1375:A:P	7:G:28:ASN:HD22	2.27	0.57
6:F:21:LEU:HG	6:F:21:LEU:O	2.00	0.57
13:M:12:ASN:N	13:M:45:VAL:HB	2.16	0.57
14:N:9:LYS:HG2	14:N:12:ARG:HH12	1.68	0.57
1:A:682:G:H1	1:A:708:C:H42	1.51	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:737:A:H2'	1:A:738:C:C6	2.38	0.57
1:A:949:A:C2	1:A:1233:G:N3	2.73	0.57
1:A:1319:A:OP1	19:S:5:LEU:HD12	2.04	0.57
2:B:178:ARG:HA	2:B:178:ARG:HH11	1.69	0.57
5:E:26:PHE:CD1	5:E:26:PHE:N	2.72	0.57
8:H:106:GLY:HA2	8:H:122:ARG:NH2	2.18	0.57
15:O:80:ALA:HA	15:O:83:GLU:HB2	1.87	0.57
1:A:737:A:H1'	6:F:73:ASN:OD1	2.05	0.57
1:A:837:G:H2'	1:A:838:G:H5'	1.86	0.57
2:B:98:LEU:O	2:B:101:MET:HG2	2.04	0.57
8:H:21:LYS:O	8:H:63:LEU:HD23	2.05	0.57
9:I:48:GLU:N	9:I:49:PRO:HD2	2.19	0.57
10:J:61:GLU:OE1	14:N:58:LYS:HE3	2.04	0.57
12:L:111:LYS:O	12:L:112:ASP:HB2	2.05	0.57
17:Q:56:VAL:HB	17:Q:78:GLU:CB	2.35	0.57
19:S:5:LEU:HA	19:S:6:LYS:HE3	1.87	0.57
1:A:1233:G:OP2	9:I:124:GLN:HB3	2.03	0.57
8:H:20:TYR:HA	8:H:65:TYR:CE1	2.40	0.57
9:I:69:GLY:O	9:I:73:GLN:HG3	2.05	0.57
16:P:59:TRP:HB3	16:P:64:ALA:HB2	1.87	0.57
1:A:10:A:H61	1:A:24:U:H3	1.53	0.57
1:A:1070:U:H2'	1:A:1071:C:C6	2.39	0.57
2:B:17:PHE:CD1	2:B:18:GLY:O	2.57	0.57
2:B:124:SER:HB2	2:B:126:GLU:HG2	1.86	0.57
19:S:3:ARG:HG2	19:S:4:SER:N	2.19	0.57
19:S:51:VAL:O	19:S:57:HIS:HA	2.05	0.57
1:A:1314:C:H41	19:S:4:SER:HB2	1.69	0.57
5:E:79:GLU:O	5:E:80:ILE:HB	2.05	0.57
8:H:85:ARG:NE	8:H:87:SER:O	2.38	0.57
1:A:203:U:H6	1:A:203:U:H5'	1.69	0.57
1:A:409:G:OP1	4:D:24:GLU:O	2.23	0.57
1:A:1008:C:H42	1:A:1022:G:N2	2.03	0.57
1:A:1041:A:H2'	1:A:1042:G:C8	2.40	0.57
1:A:1332:A:H2'	1:A:1333:A:C8	2.38	0.57
3:C:155:GLY:O	3:C:156:ARG:HB2	2.04	0.57
15:O:4:THR:HG23	15:O:7:GLU:OE2	2.03	0.57
16:P:4:ILE:HD11	16:P:60:LEU:HD21	1.87	0.57
1:A:413:G:H8	1:A:428:G:H21	1.51	0.56
3:C:14:ILE:HB	3:C:15:THR:HG23	1.85	0.56
8:H:121:ASP:OD2	8:H:121:ASP:N	2.38	0.56
11:K:115:PRO:C	11:K:117:ASN:H	2.12	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:86:GLU:O	17:Q:90:ILE:HG13	2.03	0.56
3:C:191:THR:HG22	3:C:192:THR:HG23	1.87	0.56
5:E:151:LEU:O	5:E:154:GLY:N	2.34	0.56
1:A:260:G:H2'	1:A:261:U:H6	1.70	0.56
1:A:377:G:OP1	16:P:3:LYS:NZ	2.37	0.56
1:A:411:A:O2'	1:A:412:A:H4'	2.06	0.56
1:A:684:A:H1'	11:K:38:ASN:HB3	1.87	0.56
1:A:1125:U:H5''	24:A:2983:HOH:O	2.05	0.56
2:B:69:LEU:HB3	2:B:162:ILE:CD1	2.35	0.56
3:C:8:ILE:HG22	3:C:9:GLY:N	2.20	0.56
4:D:36:ARG:N	4:D:37:PRO:HD3	2.20	0.56
5:E:116:THR:OG1	5:E:117:ASP:OD2	2.19	0.56
7:G:154:TYR:N	7:G:154:TYR:HD2	2.03	0.56
9:I:111:ARG:NH1	9:I:112:LYS:O	2.37	0.56
11:K:12:ARG:NE	11:K:40:ILE:HD11	2.21	0.56
14:N:26:ARG:HD2	14:N:43:CYS:SG	2.44	0.56
14:N:26:ARG:HH12	14:N:47:LEU:HD22	1.70	0.56
19:S:15:LEU:HD23	19:S:15:LEU:H	1.71	0.56
20:T:74:LYS:HB2	20:T:76:ALA:H	1.70	0.56
1:A:130:A:H1'	1:A:263:A:O2'	2.04	0.56
1:A:1015:A:H2'	1:A:1016:A:C8	2.39	0.56
1:A:1489:G:OP2	1:A:1489:G:C8	2.57	0.56
2:B:33:TYR:HE2	2:B:44:LEU:HD12	1.69	0.56
2:B:126:GLU:HB3	2:B:129:GLU:OE1	2.05	0.56
5:E:30:ALA:O	5:E:45:PHE:HA	2.05	0.56
6:F:7:ASN:N	6:F:7:ASN:OD1	2.34	0.56
6:F:100:ASN:HA	18:R:23:LYS:HD2	1.87	0.56
20:T:14:LYS:O	20:T:17:ARG:HB3	2.06	0.56
1:A:527:7MG:H5''	1:A:527:7MG:H81	1.87	0.56
1:A:1089:G:C5	1:A:1090:U:C5	2.94	0.56
1:A:1497:G:C2'	1:A:1498:UR3:H5'	2.36	0.56
4:D:98:GLU:OE1	4:D:107:ARG:NH1	2.36	0.56
6:F:10:LEU:H	6:F:10:LEU:HD12	1.69	0.56
7:G:113:GLU:HG2	7:G:119:ARG:HG2	1.87	0.56
8:H:104:ARG:HG3	8:H:104:ARG:NH1	2.18	0.56
13:M:48:LEU:HD22	13:M:53:VAL:HG22	1.87	0.56
1:A:984:C:H2'	1:A:985:C:H6	1.71	0.56
1:A:986:A:H5''	1:A:987:G:OP2	2.05	0.56
3:C:120:VAL:HG12	3:C:198:VAL:HG11	1.88	0.56
3:C:151:VAL:HG12	3:C:152:ILE:H	1.71	0.56
5:E:52:PRO:HG2	5:E:53:LEU:H	1.70	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:64:ARG:NH2	5:E:65:ASN:HB2	2.20	0.56
15:O:49:ASP:OD1	15:O:52:SER:OG	2.21	0.56
18:R:85:LEU:HD23	18:R:88:LYS:HG2	1.87	0.56
1:A:106:C:H2'	1:A:107:G:H5'	1.87	0.56
1:A:672:U:O2	1:A:672:U:H2'	2.06	0.56
2:B:15:VAL:HG13	2:B:209:ARG:HB3	1.88	0.56
2:B:126:GLU:O	2:B:130:ARG:NH2	2.38	0.56
7:G:16:LEU:HD22	9:I:44:VAL:HB	1.86	0.56
8:H:20:TYR:CZ	8:H:76:PRO:HD2	2.40	0.56
13:M:65:LYS:HG3	13:M:70:LEU:HD23	1.87	0.56
17:Q:90:ILE:HG22	17:Q:94:ASN:HD21	1.70	0.56
3:C:188:LEU:HD22	3:C:188:LEU:C	2.31	0.56
5:E:27:ARG:HB3	5:E:27:ARG:CZ	2.36	0.56
6:F:83:ASP:HA	24:F:302:HOH:O	2.06	0.56
14:N:21:TYR:HE2	14:N:23:ARG:HE	1.52	0.56
1:A:489:C:H2'	1:A:490:G:H8	1.71	0.56
1:A:1075:C:O2'	1:A:1076:C:H5'	2.06	0.56
1:A:1350:A:OP2	9:I:118:LYS:NZ	2.23	0.56
6:F:43:LEU:O	6:F:46:ARG:NH2	2.39	0.56
13:M:53:VAL:O	13:M:57:ARG:HB2	2.06	0.56
17:Q:29:HIS:CD2	17:Q:30:PRO:HD2	2.40	0.56
1:A:17:U:H2'	1:A:18:C:C6	2.41	0.56
1:A:309:G:H1'	1:A:608:A:C2	2.41	0.56
1:A:892:A:H2'	1:A:893:C:O4'	2.06	0.56
1:A:1513:A:H2'	1:A:1514:C:C6	2.41	0.56
21:U:12:LYS:HB3	21:U:22:ARG:HG3	1.88	0.56
1:A:581:G:N2	1:A:760:G:N7	2.54	0.55
1:A:1357:A:H5''	1:A:1358:U:OP2	2.07	0.55
1:A:1443:G:H5''	1:A:1446:A:C5'	2.36	0.55
6:F:89:MET:HE3	18:R:76:LEU:HG	1.88	0.55
6:F:91:VAL:HG12	6:F:92:LYS:O	2.06	0.55
12:L:27:LEU:CG	12:L:28:LYS:H	2.17	0.55
12:L:82:VAL:H	12:L:106:ASP:HB2	1.71	0.55
1:A:57:G:H2'	1:A:58:C:C6	2.41	0.55
1:A:325:A:H2'	1:A:326:G:O4'	2.06	0.55
1:A:414:A:C2	1:A:415:A:C4	2.95	0.55
1:A:415:A:H5''	1:A:416:G:OP2	2.07	0.55
2:B:100:GLY:O	2:B:104:ASN:N	2.37	0.55
4:D:24:GLU:O	4:D:25:ARG:HB3	2.06	0.55
4:D:173:TRP:O	4:D:186:LEU:HG	2.06	0.55
8:H:113:SER:HB2	8:H:134:ILE:HD11	1.89	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:94:LEU:O	12:L:94:LEU:HG	2.03	0.55
1:A:500:G:C6	1:A:546:G:C2	2.94	0.55
1:A:859:A:H2'	1:A:860:A:H5'	1.88	0.55
1:A:867:G:H5''	1:A:867:G:H8	1.71	0.55
1:A:925:G:O2'	1:A:927:G:OP1	2.23	0.55
1:A:1277:C:H2'	1:A:1279:A:H8	1.69	0.55
5:E:65:ASN:ND2	5:E:65:ASN:O	2.39	0.55
20:T:81:LYS:O	20:T:85:MET:HG3	2.07	0.55
1:A:148:G:H2'	1:A:149:A:H8	1.71	0.55
1:A:608:A:H2'	1:A:609:A:O4'	2.07	0.55
1:A:977:A:C2'	1:A:978:A:H5''	2.35	0.55
3:C:155:GLY:HA3	3:C:163:ALA:HB1	1.88	0.55
4:D:118:ARG:HG3	4:D:118:ARG:NH2	2.21	0.55
11:K:43:SER:HA	11:K:47:VAL:HG21	1.88	0.55
18:R:32:ARG:O	18:R:69:THR:HG21	2.06	0.55
19:S:40:ILE:HB	19:S:67:VAL:O	2.07	0.55
1:A:437:U:H5''	4:D:155:LEU:HD11	1.88	0.55
2:B:236:TYR:O	2:B:239:VAL:HG23	2.07	0.55
3:C:119:ARG:HG3	3:C:119:ARG:HH11	1.71	0.55
4:D:24:GLU:HG2	4:D:25:ARG:N	2.21	0.55
12:L:28:LYS:HB3	12:L:30:ALA:HB2	1.88	0.55
16:P:36:ILE:HD12	16:P:56:ALA:HB2	1.87	0.55
18:R:26:LEU:HD21	18:R:42:ARG:HD3	1.88	0.55
1:A:664:G:H22	1:A:741:G:H22	1.55	0.55
1:A:1403:C:O2	1:A:1403:C:C2'	2.53	0.55
2:B:20:GLU:HG3	2:B:23:ARG:HD2	1.88	0.55
2:B:97:TRP:HH2	2:B:176:GLU:CD	2.15	0.55
3:C:195:VAL:C	3:C:196:LEU:HD12	2.32	0.55
6:F:12:PRO:HG2	6:F:57:GLN:HG3	1.88	0.55
6:F:15:ASP:OD2	6:F:16:GLN:N	2.40	0.55
6:F:26:ILE:CG2	6:F:63:TYR:HE2	2.20	0.55
7:G:62:PHE:HD1	7:G:124:LEU:HD22	1.71	0.55
16:P:6:LEU:HD23	16:P:17:TYR:CG	2.41	0.55
18:R:87:ARG:O	18:R:88:LYS:HB2	2.07	0.55
1:A:496:A:H4'	1:A:497:A:H5''	1.88	0.55
1:A:579:G:H2'	1:A:580:U:C6	2.41	0.55
1:A:1423:G:H1	1:A:1477:C:N4	2.03	0.55
5:E:64:ARG:HE	5:E:65:ASN:CB	2.20	0.55
18:R:52:PRO:O	18:R:56:THR:HG23	2.06	0.55
1:A:1448:C:N4	1:A:1455:G:H1	2.05	0.55
12:L:82:VAL:HG22	12:L:105:TYR:HB3	1.88	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:90:ILE:O	17:Q:94:ASN:ND2	2.39	0.55
1:A:8:A:N6	4:D:209:ARG:HB2	2.22	0.55
1:A:312:C:H2'	1:A:313:A:C8	2.41	0.55
4:D:99:SER:O	4:D:140:VAL:HG23	2.06	0.55
11:K:59:TYR:O	11:K:63:LEU:HG	2.06	0.55
1:A:560:U:H4'	1:A:561:U:H5''	1.88	0.55
1:A:1060:C:H5'	14:N:45:ARG:NH2	2.22	0.55
3:C:119:ARG:HG3	3:C:119:ARG:NH1	2.20	0.55
3:C:151:VAL:HG12	3:C:152:ILE:N	2.22	0.55
10:J:38:ILE:HG22	10:J:39:PRO:HD2	1.88	0.55
17:Q:90:ILE:HG22	17:Q:94:ASN:ND2	2.22	0.55
1:A:417:C:H2'	1:A:418:C:C6	2.42	0.54
1:A:1116:C:H42	1:A:1184:G:H1	1.53	0.54
2:B:171:ALA:O	2:B:174:VAL:HG12	2.06	0.54
3:C:121:ALA:HA	3:C:124:ILE:HD12	1.89	0.54
4:D:149:ALA:HB3	4:D:152:SER:HB3	1.89	0.54
1:A:766:A:H5'	1:A:766:A:H8	1.73	0.54
1:A:935:A:N6	7:G:3:ARG:HG2	2.22	0.54
1:A:1003:G:H4'	1:A:1003(A):G:N7	2.23	0.54
1:A:1518[A]:MA6:C6	1:A:1519[A]:MA6:H103	2.38	0.54
2:B:97:TRP:CH2	2:B:176:GLU:OE1	2.54	0.54
4:D:107:ARG:NH1	4:D:114:ARG:NH2	2.55	0.54
4:D:150:GLU:OE1	4:D:150:GLU:N	2.40	0.54
9:I:17:VAL:HG11	9:I:81:ILE:HD13	1.89	0.54
20:T:10:LEU:HD23	20:T:12:ALA:H	1.72	0.54
1:A:350:G:H5''	1:A:350:G:H8	1.72	0.54
1:A:737:A:H2'	1:A:738:C:H6	1.73	0.54
1:A:1316:G:H4'	14:N:18:VAL:HG11	1.89	0.54
1:A:1532:U:H3'	1:A:1532:U:C6	2.41	0.54
2:B:70:PHE:HE2	2:B:163:PHE:CD1	2.25	0.54
2:B:130:ARG:H	2:B:130:ARG:HD2	1.72	0.54
8:H:20:TYR:HD1	8:H:65:TYR:CD1	2.26	0.54
10:J:4:ILE:HD12	10:J:74:ILE:HG21	1.89	0.54
1:A:62:U:H2'	1:A:63:C:C6	2.43	0.54
1:A:364:A:H61	12:L:28:LYS:HE3	1.71	0.54
1:A:542:G:C4	1:A:543:C:C5	2.95	0.54
1:A:609:A:N6	24:A:2173:HOH:O	2.09	0.54
4:D:65:ARG:HG3	4:D:75:PHE:CG	2.43	0.54
13:M:23:TYR:CE2	13:M:70:LEU:HD12	2.42	0.54
1:A:4:U:H4'	1:A:5:U:OP2	2.06	0.54
1:A:116:A:H5''	24:A:2008:HOH:O	2.08	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:375:U:H5	24:A:3172:HOH:O	1.89	0.54
1:A:537:G:OP1	12:L:113:ARG:NH2	2.41	0.54
1:A:1060:C:OP1	14:N:45:ARG:NH2	2.40	0.54
1:A:1118:C:H5''	9:I:104:ARG:HG3	1.89	0.54
7:G:89:MET:HA	7:G:155:ARG:NH2	2.22	0.54
13:M:13:LYS:HD2	13:M:17:VAL:HG11	1.90	0.54
17:Q:56:VAL:HB	17:Q:78:GLU:HB2	1.90	0.54
19:S:64:GLU:O	19:S:67:VAL:HG23	2.07	0.54
20:T:100:ILE:HG22	20:T:102:GLY:N	2.23	0.54
12:L:53:ARG:HH12	12:L:92:OTD:CG	2.20	0.54
1:A:362:G:N7	24:A:2487:HOH:O	2.33	0.54
1:A:560:U:H5'	1:A:566:G:N2	2.22	0.54
1:A:1366:C:H2'	1:A:1367:C:C6	2.43	0.54
3:C:77:ILE:HG22	3:C:78:GLY:O	2.08	0.54
6:F:7:ASN:ND2	18:R:34:TYR:HE1	2.02	0.54
15:O:45:VAL:HA	15:O:47:LYS:NZ	2.22	0.54
2:B:10:LEU:O	2:B:10:LEU:HD22	2.08	0.54
17:Q:57:VAL:HG12	17:Q:75:ARG:O	2.08	0.54
1:A:370:C:C2'	1:A:371:G:H5'	2.38	0.54
1:A:474:G:OP2	16:P:75:ARG:HD3	2.07	0.54
2:B:53:ARG:HG3	2:B:54:THR:N	2.21	0.54
6:F:99:ALA:HB3	18:R:31:LEU:HG	1.90	0.54
7:G:31:MET:HB3	7:G:39:ALA:HB2	1.90	0.54
7:G:45:ASP:HA	7:G:48:LYS:HD3	1.90	0.54
11:K:80:VAL:HG23	11:K:103:LEU:HB3	1.90	0.54
13:M:108:ARG:O	13:M:111:LYS:N	2.41	0.54
1:A:3:G:C8	4:D:86:LYS:HE2	2.43	0.54
1:A:45:U:H2'	1:A:46:G:C8	2.42	0.54
8:H:35:ILE:HG22	8:H:36:LEU:N	2.23	0.54
1:A:752:G:H4'	15:O:69:TYR:OH	2.08	0.53
1:A:950:U:H2'	1:A:951:G:C8	2.43	0.53
15:O:39:LEU:HD13	15:O:56:LEU:HG	1.89	0.53
1:A:1021:G:H2'	1:A:1021:G:N3	2.22	0.53
1:A:1527:C:H2'	1:A:1528:U:H6	1.72	0.53
6:F:26:ILE:HG21	6:F:63:TYR:CE2	2.43	0.53
8:H:25:ASP:OD1	8:H:25:ASP:N	2.41	0.53
8:H:97:VAL:HA	8:H:100:ILE:HD11	1.91	0.53
9:I:80:GLY:HA2	9:I:83:ARG:HG3	1.91	0.53
11:K:124:LYS:HG2	11:K:124:LYS:O	2.06	0.53
16:P:40:ASP:OD1	16:P:44:THR:HG23	2.09	0.53
1:A:142:G:H2'	1:A:143:A:C8	2.43	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:518:C:H2'	1:A:530:G:N7	2.23	0.53
1:A:581:G:O2'	1:A:582:U:H5'	2.07	0.53
3:C:139:GLN:O	3:C:143:GLU:HG3	2.08	0.53
6:F:47:ARG:O	6:F:48:LEU:HD23	2.08	0.53
10:J:79:ARG:O	10:J:82:ILE:N	2.40	0.53
15:O:26:GLU:OE1	15:O:77:ARG:NH1	2.41	0.53
15:O:56:LEU:O	15:O:60:VAL:HG23	2.08	0.53
17:Q:83:ASP:OD2	17:Q:83:ASP:N	2.37	0.53
3:C:14:ILE:C	3:C:16:ARG:H	2.15	0.53
6:F:2:ARG:NH1	6:F:69:GLU:HG2	2.24	0.53
10:J:5:ARG:CG	10:J:99:LYS:H	2.21	0.53
10:J:6:ILE:HG22	10:J:97:GLU:O	2.08	0.53
13:M:2:ALA:O	13:M:10:PRO:HD2	2.09	0.53
1:A:447:G:H2'	1:A:485:G:H22	1.73	0.53
1:A:1127:G:H8	1:A:1127:G:H3'	1.73	0.53
1:A:1167:A:H2'	1:A:1168:A:C8	2.44	0.53
1:A:1226:C:H5''	19:S:80:TYR:CE2	2.42	0.53
1:A:1280:A:OP1	10:J:7:LYS:NZ	2.41	0.53
2:B:31:TYR:CD2	2:B:202:PRO:HG3	2.42	0.53
2:B:98:LEU:HB2	2:B:101:MET:HE3	1.90	0.53
17:Q:22:LEU:HD12	17:Q:23:VAL:N	2.23	0.53
19:S:35:SER:O	19:S:35:SER:OG	2.21	0.53
20:T:14:LYS:HB2	20:T:17:ARG:NH2	2.23	0.53
1:A:166:G:H2'	1:A:167:G:H8	1.74	0.53
1:A:250:A:H4'	1:A:251:G:O5'	2.09	0.53
1:A:363:A:H62	12:L:28:LYS:HD3	1.72	0.53
1:A:620:C:H2'	1:A:621:A:O4'	2.07	0.53
1:A:636:U:H2'	1:A:637:G:C8	2.44	0.53
1:A:748:C:H6	1:A:748:C:O5'	1.92	0.53
1:A:826:C:H2'	1:A:827:U:H6	1.73	0.53
1:A:839:U:O2	1:A:839:U:H3'	2.08	0.53
1:A:1503:A:H4'	1:A:1504:G:OP2	2.09	0.53
5:E:75:THR:O	5:E:76:ILE:HD13	2.09	0.53
7:G:143:ARG:HB2	7:G:143:ARG:NH1	2.24	0.53
12:L:36:VAL:HG12	12:L:37:CYS:O	2.08	0.53
17:Q:13:ASP:H	17:Q:14:LYS:HD2	1.74	0.53
1:A:265:G:N2	1:A:267:C:H5'	2.23	0.53
1:A:500:G:N7	1:A:546:G:N2	2.56	0.53
1:A:1169:A:C6	1:A:1171:G:H1'	2.43	0.53
4:D:150:GLU:N	4:D:150:GLU:CD	2.67	0.53
11:K:20:TYR:CZ	11:K:83:ILE:HD12	2.44	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:39:ILE:O	13:M:41:PRO:HD3	2.09	0.53
18:R:56:THR:OG1	18:R:58:LEU:HD12	2.09	0.53
1:A:728:A:H2'	1:A:729:A:C8	2.44	0.53
1:A:794:A:H2'	1:A:795:C:C6	2.44	0.53
1:A:1020:U:H2'	1:A:1021:G:O4'	2.09	0.53
1:A:1067:A:H3'	1:A:1094:G:OP1	2.08	0.53
1:A:1360:A:H2'	1:A:1361:G:H5'	1.90	0.53
6:F:76:ALA:O	6:F:80:ARG:HG3	2.08	0.53
13:M:19:LEU:HD23	13:M:22:ILE:HD13	1.90	0.53
17:Q:62:SER:HB3	17:Q:72:ARG:HE	1.74	0.53
19:S:28:LYS:HD3	19:S:31:ILE:HG13	1.91	0.53
1:A:114:U:O2'	1:A:115:G:H5'	2.09	0.53
1:A:1011:G:N2	1:A:1019:C:H1'	2.24	0.53
1:A:1099:G:H2'	1:A:1100:C:C6	2.43	0.53
1:A:1125:U:H5''	24:A:2985:HOH:O	2.08	0.53
1:A:1490:C:C2'	1:A:1491:G:H5'	2.36	0.53
2:B:172:ILE:H	2:B:172:ILE:HD12	1.74	0.53
4:D:9:CYS:SG	4:D:31:CYS:O	2.67	0.53
7:G:56:GLN:OE1	7:G:56:GLN:N	2.41	0.53
7:G:95:ARG:O	7:G:99:LEU:HG	2.08	0.53
12:L:44:THR:HG22	12:L:45:PRO:HD2	1.91	0.53
20:T:28:ALA:HA	20:T:31:SER:OG	2.08	0.53
1:A:76:C:C2'	1:A:77:G:H5'	2.38	0.53
1:A:585:G:O5'	1:A:585:G:H8	1.92	0.53
1:A:1004:A:N7	1:A:1037:C:N3	2.57	0.53
1:A:1014:A:H4'	19:S:14:HIS:CE1	2.44	0.53
1:A:1392:G:N2	1:A:1502:A:C8	2.77	0.53
2:B:16:HIS:CB	2:B:210:SER:HB2	2.39	0.53
2:B:108:ILE:O	2:B:111:ARG:HB2	2.09	0.53
5:E:35:GLY:CA	5:E:112:LEU:HD22	2.39	0.53
9:I:118:LYS:C	9:I:120:ARG:H	2.16	0.53
11:K:58:PRO:HG3	11:K:90:GLY:N	2.23	0.53
1:A:1502:A:H3'	1:A:1503:A:H5''	1.89	0.52
7:G:114:ARG:O	7:G:119:ARG:NH1	2.42	0.52
7:G:115:ARG:H	7:G:115:ARG:NE	2.06	0.52
12:L:47:LYS:CB	12:L:48:PRO:HD3	2.38	0.52
12:L:89:ARG:HH21	12:L:97:ARG:HG3	1.74	0.52
1:A:250:A:H5'	1:A:250:A:H8	1.74	0.52
1:A:543:C:O2'	1:A:544:G:H5'	2.08	0.52
1:A:828:A:H4'	1:A:828:A:OP1	2.08	0.52
2:B:147:LYS:HG2	2:B:148:TYR:CD1	2.44	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:155:GLY:HA2	3:C:157:ILE:CG1	2.38	0.52
4:D:145:GLU:OE1	4:D:182:LYS:NZ	2.32	0.52
5:E:64:ARG:O	5:E:65:ASN:HB3	2.10	0.52
11:K:44:SER:HG	11:K:46:GLY:H	1.55	0.52
19:S:18:LYS:HE3	19:S:31:ILE:HG23	1.90	0.52
1:A:276:G:O2'	1:A:277:C:H5'	2.10	0.52
1:A:683:G:H3'	1:A:684:A:H8	1.75	0.52
3:C:50:ALA:HB2	3:C:75:VAL:HB	1.91	0.52
3:C:58:GLU:HB2	3:C:65:ALA:HB2	1.91	0.52
4:D:102:ASP:OD1	4:D:103:ASN:N	2.41	0.52
10:J:5:ARG:O	10:J:98:ILE:HG23	2.08	0.52
16:P:52:ASP:OD2	16:P:55:ARG:HB2	2.09	0.52
19:S:44:MET:O	19:S:47:HIS:HB2	2.08	0.52
19:S:72:GLY:C	19:S:74:PHE:N	2.65	0.52
1:A:226:G:N2	24:A:2625:HOH:O	2.17	0.52
1:A:821:G:C2'	1:A:822:C:H5'	2.39	0.52
1:A:1492:A:C8	1:A:1492:A:H3'	2.44	0.52
9:I:19:LEU:HB3	9:I:59:PHE:CE2	2.45	0.52
9:I:124:GLN:HG3	9:I:125:TYR:N	2.24	0.52
17:Q:13:ASP:HA	24:Q:306:HOH:O	2.08	0.52
17:Q:70:ARG:O	17:Q:71:PHE:HD2	1.91	0.52
1:A:299:G:C6	1:A:300:A:C6	2.98	0.52
1:A:514:C:H2'	1:A:515:G:H5'	1.92	0.52
2:B:125:PRO:O	2:B:127:ILE:HG13	2.09	0.52
2:B:161:ALA:HA	2:B:182:ILE:HG22	1.90	0.52
4:D:146:ILE:H	4:D:146:ILE:HD12	1.73	0.52
11:K:17:GLY:HA2	11:K:35:PRO:HG3	1.91	0.52
11:K:85:ARG:HA	11:K:112:THR:OG1	2.10	0.52
12:L:83:VAL:CG2	12:L:100:ILE:HG23	2.38	0.52
1:A:265:G:C5	1:A:267:C:C5	2.98	0.52
1:A:688:G:C5	1:A:700:G:C2	2.98	0.52
1:A:706:A:O4'	11:K:29:ILE:HD11	2.09	0.52
1:A:1151:A:H1'	1:A:1152:A:C8	2.45	0.52
1:A:1251:A:H2'	1:A:1252:A:O4'	2.10	0.52
1:A:1378:C:C5	1:A:1379:G:C4	2.97	0.52
1:A:1391:U:H2'	1:A:1392:G:C8	2.45	0.52
2:B:136:VAL:HA	2:B:139:LYS:HB3	1.90	0.52
6:F:97:PHE:HB2	18:R:32:ARG:NH1	2.25	0.52
7:G:78:ARG:NH1	7:G:156:TRP:HB2	2.24	0.52
8:H:13:ILE:O	8:H:17:THR:HG23	2.10	0.52
11:K:42:TRP:O	11:K:71:LYS:NZ	2.36	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:75:ASN:C	20:T:77:ALA:N	2.64	0.52
1:A:322:C:H2'	1:A:323:U:H6	1.75	0.52
1:A:510:A:P	24:A:2093:HOH:O	2.67	0.52
1:A:576:G:H3'	1:A:577:G:H5''	1.92	0.52
2:B:16:HIS:ND1	2:B:17:PHE:O	2.42	0.52
3:C:18:TRP:HZ2	14:N:56:VAL:O	1.93	0.52
4:D:191:ARG:HD3	4:D:192:GLU:OE1	2.09	0.52
7:G:13:GLN:HB3	7:G:14:PRO:O	2.10	0.52
18:R:46:GLU:H	18:R:46:GLU:CD	2.16	0.52
1:A:56:U:H2'	1:A:57:G:H8	1.71	0.52
1:A:978:A:H1'	1:A:1322:C:O2	2.10	0.52
1:A:981:U:H5'	14:N:21:TYR:CE1	2.45	0.52
1:A:1502:A:H2	1:A:1505:G:H1	1.57	0.52
4:D:13:ARG:HG2	4:D:38:TYR:O	2.09	0.52
5:E:138:ALA:O	5:E:141:GLN:HB2	2.08	0.52
14:N:41:ARG:HG2	14:N:42:ILE:N	2.24	0.52
19:S:5:LEU:CD1	19:S:10:PHE:HB2	2.40	0.52
20:T:40:ALA:HB2	20:T:55:ILE:HG22	1.90	0.52
1:A:257:G:C2	1:A:270:A:C2	2.98	0.52
1:A:767:A:H2'	1:A:768:A:O4'	2.10	0.52
1:A:1030(C):G:H21	1:A:1030(D):A:H61	1.57	0.52
1:A:1121:U:O2'	1:A:1122:U:H5'	2.09	0.52
1:A:122:G:C2'	1:A:123:C:H5'	2.39	0.52
1:A:939:G:H2'	1:A:940:C:C6	2.44	0.52
7:G:154:TYR:N	7:G:154:TYR:CD2	2.77	0.52
1:A:144:G:H1	1:A:178:C:H42	1.58	0.51
1:A:793:U:O2	1:A:1516[A]:G:H4'	2.10	0.51
1:A:1254:C:O4'	1:A:1356:G:H5''	2.10	0.51
1:A:1330:U:H2'	1:A:1331:G:H5'	1.92	0.51
3:C:102:ASN:OD1	3:C:102:ASN:N	2.42	0.51
4:D:200:GLU:O	4:D:203:VAL:N	2.37	0.51
1:A:564:C:H5''	1:A:565:U:OP2	2.10	0.51
1:A:615:C:H6	1:A:615:C:O5'	1.94	0.51
1:A:706:A:C1'	11:K:29:ILE:HD11	2.39	0.51
1:A:931:C:O2	1:A:931:C:H2'	2.09	0.51
1:A:1191:A:H2'	1:A:1192:C:H6	1.75	0.51
1:A:1278:U:C5'	1:A:1279:A:H5'	2.40	0.51
1:A:1381:U:C6	7:G:156:TRP:HZ2	2.28	0.51
6:F:12:PRO:CG	6:F:57:GLN:HG3	2.40	0.51
7:G:115:ARG:H	7:G:115:ARG:CD	2.23	0.51
10:J:4:ILE:HB	10:J:74:ILE:CB	2.34	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:33:THR:HG21	11:K:37:GLY:HA2	1.91	0.51
11:K:57:THR:O	11:K:60:ALA:HB3	2.09	0.51
15:O:68:ARG:O	15:O:71:GLN:N	2.43	0.51
18:R:45:SER:HB2	18:R:46:GLU:OE2	2.10	0.51
18:R:87:ARG:CG	18:R:88:LYS:H	2.23	0.51
1:A:463:A:H4'	16:P:82:GLN:HB2	1.92	0.51
1:A:1278:U:H5''	1:A:1279:A:H5'	1.91	0.51
1:A:1510:U:H2'	1:A:1511:G:C8	2.45	0.51
2:B:162:ILE:O	2:B:185:ILE:HB	2.10	0.51
5:E:103:GLY:O	5:E:106:PRO:HD2	2.10	0.51
1:A:1071:C:H2'	1:A:1072:G:H8	1.76	0.51
1:A:1340:A:O2'	9:I:127:LYS:NZ	2.43	0.51
1:A:1465:C:H2'	1:A:1466:C:O4'	2.11	0.51
3:C:150:LYS:CG	3:C:169:ALA:HB2	2.40	0.51
6:F:78:GLU:HA	6:F:81:ILE:HG13	1.91	0.51
8:H:122:ARG:NH1	8:H:125:ARG:HH22	2.07	0.51
12:L:84:LEU:HD13	12:L:105:TYR:HE1	1.75	0.51
13:M:74:VAL:O	13:M:77:ASN:HB2	2.10	0.51
15:O:22:THR:O	15:O:27:VAL:HG11	2.09	0.51
1:A:149:A:H2'	1:A:150:C:C6	2.46	0.51
1:A:259:G:H2'	1:A:260:G:O4'	2.10	0.51
1:A:735:C:H2'	1:A:736:C:H6	1.76	0.51
1:A:877:C:H5''	8:H:88:LYS:HD3	1.92	0.51
1:A:1315:U:H2'	1:A:1316:G:O4'	2.11	0.51
1:A:1503:A:H61	1:A:1533:C:N4	2.08	0.51
1:A:1518[B]:MA6:HO2'	1:A:1519[B]:MA6:P	2.33	0.51
2:B:16:HIS:HB3	2:B:210:SER:HB2	1.91	0.51
3:C:4:LYS:HB2	3:C:4:LYS:NZ	2.26	0.51
9:I:126:SER:O	9:I:128:ARG:N	2.43	0.51
11:K:44:SER:OG	11:K:46:GLY:N	2.34	0.51
13:M:51:ALA:O	13:M:55:ARG:HD3	2.10	0.51
19:S:32:LYS:H	19:S:32:LYS:NZ	2.09	0.51
19:S:40:ILE:HD13	19:S:62:ILE:HD11	1.91	0.51
1:A:321:A:O2'	1:A:322:C:H5'	2.10	0.51
1:A:804:U:H5''	1:A:805:C:OP2	2.10	0.51
1:A:1205:U:O2'	3:C:195:VAL:HG12	2.11	0.51
1:A:1226:C:H4'	19:S:80:TYR:CZ	2.46	0.51
1:A:1497:G:O2'	1:A:1498:UR3:H5'	2.10	0.51
12:L:25:PRO:HA	12:L:27:LEU:H	1.76	0.51
17:Q:22:LEU:HD12	17:Q:22:LEU:C	2.35	0.51
1:A:135:C:C5	1:A:136:C:C5	2.98	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:216:G:O2'	1:A:217:C:O4'	2.29	0.51
1:A:963:G:H5'	24:A:2606:HOH:O	2.11	0.51
10:J:65:LEU:HD23	10:J:65:LEU:C	2.35	0.51
11:K:120:ARG:NH2	11:K:126:ARG:NH1	2.59	0.51
13:M:108:ARG:O	13:M:109:THR:C	2.51	0.51
18:R:56:THR:OG1	18:R:57:GLY:N	2.43	0.51
1:A:13:U:O2	1:A:914:A:H3'	2.11	0.51
1:A:189:G:H2'	1:A:190:C:C6	2.46	0.51
1:A:1085:U:N3	24:A:2258:HOH:O	2.34	0.51
1:A:1305:G:N2	1:A:1331:G:H1'	2.26	0.51
1:A:1366:C:O3'	10:J:60:ARG:NH2	2.44	0.51
6:F:45:LEU:HD21	6:F:59:TYR:HD1	1.76	0.51
7:G:47:CYS:HB3	7:G:58:PRO:CB	2.41	0.51
16:P:12:LYS:O	16:P:13:HIS:HB2	2.11	0.51
19:S:72:GLY:C	19:S:74:PHE:H	2.13	0.51
1:A:566:G:N2	24:A:3183:HOH:O	2.40	0.51
1:A:1157:A:C6	1:A:1180:A:C6	2.99	0.51
2:B:17:PHE:CD1	2:B:18:GLY:N	2.79	0.51
2:B:71:VAL:HG13	2:B:93:VAL:HB	1.93	0.51
2:B:136:VAL:HG13	2:B:139:LYS:HD3	1.93	0.51
6:F:26:ILE:O	6:F:30:LEU:HB2	2.11	0.51
10:J:75:ILE:HA	10:J:77:PRO:HG3	1.92	0.51
1:A:82:U:O2'	1:A:83:U:H5'	2.10	0.51
1:A:1073:U:OP2	5:E:57:LYS:NZ	2.42	0.51
1:A:1207:2MG:HM23	1:A:1208:C:H1'	1.92	0.51
7:G:70:LYS:HG2	7:G:96:GLN:HG2	1.93	0.51
16:P:28:ARG:HG2	16:P:29:ASP:OD2	2.10	0.51
17:Q:17:LYS:HG2	17:Q:47:PRO:O	2.11	0.51
1:A:253:U:H2'	1:A:254:G:H8	1.76	0.50
1:A:1314:C:H2'	1:A:1315:U:C6	2.47	0.50
3:C:142:MET:SD	3:C:148:GLY:HA2	2.50	0.50
6:F:15:ASP:OD2	6:F:15:ASP:C	2.53	0.50
6:F:16:GLN:OE1	6:F:16:GLN:HA	2.11	0.50
10:J:26:ALA:HA	10:J:29:ARG:HH21	1.76	0.50
13:M:4:ILE:HG22	13:M:57:ARG:HA	1.93	0.50
13:M:80:ARG:NH2	13:M:81:LEU:HD23	2.23	0.50
16:P:53:VAL:HG23	16:P:54:GLU:N	2.25	0.50
17:Q:87:LYS:HE2	17:Q:91:ARG:HG3	1.94	0.50
1:A:147:G:C2	1:A:148:G:C8	2.99	0.50
1:A:434:U:H2'	1:A:435:C:C6	2.38	0.50
1:A:806:C:O2'	1:A:807:A:H5'	2.11	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:79:ASP:OD2	2:B:79:ASP:N	2.21	0.50
4:D:174:LEU:C	4:D:186:LEU:HD21	2.37	0.50
5:E:78:HIS:HE1	5:E:143:ARG:HB2	1.77	0.50
7:G:46:ALA:O	7:G:49:ILE:HG13	2.11	0.50
8:H:61:VAL:O	8:H:61:VAL:HG12	2.09	0.50
10:J:5:ARG:C	10:J:6:ILE:HG12	2.36	0.50
10:J:50:ILE:HD13	10:J:60:ARG:HD3	1.93	0.50
10:J:76:ASN:N	10:J:77:PRO:HD3	2.26	0.50
12:L:33:ARG:HD3	12:L:62:SER:HB3	1.92	0.50
14:N:26:ARG:HH12	14:N:47:LEU:CD2	2.23	0.50
16:P:75:ARG:HG3	16:P:80:PHE:HB2	1.92	0.50
19:S:29:ARG:NH1	19:S:48:THR:OG1	2.42	0.50
20:T:67:ALA:O	20:T:73:HIS:ND1	2.39	0.50
1:A:129:U:O3'	1:A:129(A):G:H3'	2.10	0.50
1:A:390:C:H2'	1:A:391:G:C8	2.46	0.50
1:A:452:A:H1'	1:A:453:A:C8	2.45	0.50
1:A:1162:C:N4	1:A:1174:G:C6	2.77	0.50
2:B:10:LEU:C	2:B:10:LEU:HD13	2.37	0.50
2:B:24:TRP:CG	2:B:25:ASN:H	2.30	0.50
2:B:101:MET:HB2	2:B:152:PHE:CZ	2.45	0.50
12:L:25:PRO:HB2	12:L:64:TYR:CE2	2.39	0.50
13:M:4:ILE:CD1	13:M:22:ILE:HD11	2.42	0.50
15:O:6:GLU:CD	15:O:6:GLU:H	2.17	0.50
1:A:279:A:H5'	1:A:279:A:C8	2.38	0.50
1:A:579:G:H2'	1:A:580:U:H6	1.75	0.50
1:A:1128:C:H4'	9:I:16:ARG:HH22	1.76	0.50
1:A:1521:G:H2'	1:A:1522:U:O4'	2.11	0.50
10:J:26:ALA:HB1	10:J:84:GLN:HB3	1.93	0.50
15:O:4:THR:HG1	15:O:6:GLU:HG2	1.76	0.50
15:O:4:THR:HG1	15:O:7:GLU:H	1.59	0.50
18:R:58:LEU:HD23	18:R:62:GLU:OE1	2.12	0.50
1:A:236:G:OP1	17:Q:40:LYS:NZ	2.44	0.50
1:A:390:C:O3'	16:P:28:ARG:NH2	2.44	0.50
1:A:576:G:H3'	1:A:577:G:C5'	2.42	0.50
1:A:642:A:H2'	1:A:643:C:H6	1.77	0.50
1:A:1144:G:H2'	1:A:1145:C:C5	2.47	0.50
1:A:1150:U:C2'	1:A:1151:A:H5'	2.41	0.50
5:E:51:VAL:O	5:E:54:ALA:HB3	2.12	0.50
7:G:102:ARG:O	7:G:106:GLN:HG2	2.12	0.50
12:L:42:THR:HA	12:L:53:ARG:O	2.10	0.50
15:O:69:TYR:CE2	15:O:73:GLU:HG2	2.46	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:70:LEU:C	15:O:72:ARG:N	2.65	0.50
20:T:56:MET:CE	20:T:85:MET:HG2	2.38	0.50
1:A:321:A:N7	1:A:328:C:O2'	2.42	0.50
1:A:324:G:OP1	20:T:22:ARG:HD3	2.11	0.50
1:A:362:G:N2	1:A:364:A:H3'	2.27	0.50
1:A:663:A:H61	1:A:742:G:H1	1.60	0.50
1:A:692:U:H5''	1:A:797:C:H5'	1.94	0.50
2:B:167:PRO:HG3	2:B:186:ALA:CB	2.42	0.50
7:G:27:ILE:HD13	7:G:40:ALA:HA	1.93	0.50
8:H:82:HIS:C	8:H:82:HIS:ND1	2.70	0.50
9:I:10:ARG:HD3	9:I:75:ASP:HB2	1.94	0.50
1:A:37:U:O2'	1:A:500:G:H4'	2.12	0.50
1:A:691:G:H2'	1:A:692:U:H6	1.77	0.50
1:A:1017:G:H2'	1:A:1018:C:O4'	2.12	0.50
1:A:1171:G:O2'	1:A:1172:C:H5'	2.11	0.50
2:B:17:PHE:HD1	2:B:18:GLY:N	2.10	0.50
2:B:121:LEU:O	2:B:124:SER:OG	2.28	0.50
8:H:86:ILE:HG22	8:H:93:VAL:HG21	1.93	0.50
16:P:26:ARG:HG2	16:P:26:ARG:NH1	2.25	0.50
20:T:93:GLU:N	20:T:93:GLU:CD	2.70	0.50
1:A:499:A:H4'	1:A:500:G:OP1	2.11	0.50
1:A:955:U:H1'	1:A:1227:A:H61	1.77	0.50
1:A:1162:C:N3	1:A:1175:G:C2	2.79	0.50
1:A:1414:U:C4	1:A:1415:G:N7	2.79	0.50
8:H:9:MET:O	8:H:13:ILE:HG12	2.12	0.50
8:H:17:THR:HA	8:H:65:TYR:OH	2.11	0.50
9:I:100:GLY:C	9:I:102:LEU:H	2.18	0.50
14:N:35:ARG:HG2	14:N:35:ARG:NH1	2.20	0.50
17:Q:87:LYS:HZ3	17:Q:88:TYR:HB2	1.77	0.50
1:A:429:U:H4'	1:A:430:A:O5'	2.12	0.50
1:A:505:G:H5'	1:A:534:U:H2'	1.92	0.50
1:A:620:C:C2	4:D:135:LEU:HD22	2.47	0.50
1:A:859:A:C2'	1:A:860:A:H5'	2.42	0.50
1:A:1516[B]:G:C2	1:A:1518[B]:MA6:OP1	2.64	0.50
2:B:105:PHE:O	2:B:108:ILE:N	2.45	0.50
1:A:1059:C:N4	24:A:2658:HOH:O	2.44	0.49
13:M:4:ILE:HD11	13:M:10:PRO:HG3	1.93	0.49
1:A:1031:G:H2'	1:A:1032:G:C5	2.47	0.49
1:A:1190:G:H5'	3:C:176:HIS:CE1	2.47	0.49
3:C:21:ARG:HB3	3:C:21:ARG:NH1	2.19	0.49
6:F:87:ARG:HG3	6:F:87:ARG:NH1	2.25	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1213:A:C4	1:A:1215:G:C8	3.01	0.49
1:A:1287:A:H2'	1:A:1288:A:C8	2.47	0.49
2:B:18:GLY:O	2:B:19:HIS:HB3	2.12	0.49
3:C:94:LEU:HD22	3:C:95:THR:HG23	1.93	0.49
5:E:151:LEU:HB3	8:H:79:VAL:HG22	1.94	0.49
15:O:39:LEU:HD22	15:O:43:LEU:HG	1.94	0.49
17:Q:87:LYS:HA	17:Q:90:ILE:HD12	1.93	0.49
1:A:117:G:P	24:A:2008:HOH:O	2.69	0.49
1:A:148:G:H2'	1:A:149:A:C8	2.48	0.49
1:A:426:G:OP1	4:D:38:TYR:OH	2.19	0.49
1:A:975:A:H4'	1:A:976:G:H5''	1.93	0.49
1:A:991:U:O4	1:A:1212:U:O2'	2.28	0.49
3:C:91:LEU:HG	3:C:99:VAL:HG21	1.95	0.49
7:G:5:ARG:HG3	7:G:7:ALA:N	2.28	0.49
8:H:62:TYR:N	8:H:62:TYR:CD2	2.81	0.49
15:O:21:ASP:OD2	15:O:21:ASP:C	2.55	0.49
1:A:7:G:H5'	1:A:298:A:O4'	2.13	0.49
1:A:90:U:H2'	1:A:91:C:C6	2.47	0.49
1:A:781:A:H2'	1:A:782:A:H5'	1.94	0.49
1:A:807:A:H2'	1:A:808:C:C6	2.48	0.49
1:A:1036:G:N2	1:A:1037:C:C2	2.81	0.49
1:A:1127:G:H22	1:A:1145:C:H42	1.59	0.49
1:A:1129:C:N4	1:A:1135:U:O4	2.44	0.49
1:A:1138:G:H3'	1:A:1138:G:N3	2.28	0.49
1:A:1324:A:H2'	1:A:1325:C:O4'	2.11	0.49
1:A:1435:G:H2'	1:A:1436:U:H6	1.72	0.49
1:A:1491:G:H2'	1:A:1492:A:C8	2.47	0.49
2:B:61:LEU:HD22	2:B:68:ILE:HD11	1.95	0.49
8:H:87:SER:HA	8:H:93:VAL:HG22	1.93	0.49
17:Q:84:LEU:O	17:Q:87:LYS:HB3	2.13	0.49
20:T:56:MET:HE1	20:T:85:MET:CG	2.38	0.49
1:A:64:G:H4'	1:A:65:U:H3'	1.95	0.49
1:A:299:G:C6	1:A:300:A:N1	2.81	0.49
1:A:510:A:H5''	1:A:511:C:OP2	2.13	0.49
1:A:1127:G:H3'	1:A:1127:G:C8	2.47	0.49
1:A:1288:A:H2'	1:A:1289:A:C8	2.47	0.49
1:A:1409:C:H3'	1:A:1409:C:C6	2.47	0.49
1:A:1451:A:H5'	1:A:1452:C:C5	2.40	0.49
6:F:8:ILE:HD13	6:F:88:VAL:HG22	1.94	0.49
15:O:26:GLU:HG3	15:O:81:LEU:HD12	1.94	0.49
16:P:39:TYR:HA	16:P:48:TRP:O	2.13	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:758:G:C6	24:A:3191:HOH:O	2.65	0.49
1:A:1054:C:H4'	1:A:1054:C:OP2	2.11	0.49
1:A:1121:U:H2'	1:A:1122:U:C6	2.48	0.49
3:C:6:HIS:CD2	3:C:9:GLY:H	2.28	0.49
10:J:6:ILE:HG13	10:J:72:VAL:CB	2.43	0.49
11:K:120:ARG:HB3	11:K:120:ARG:NH1	2.07	0.49
12:L:7:ILE:O	12:L:10:LEU:N	2.45	0.49
12:L:59:ARG:HG3	12:L:60:LEU:N	2.28	0.49
13:M:34:LEU:CD1	13:M:41:PRO:HA	2.43	0.49
1:A:254:G:H2'	1:A:255:G:H8	1.76	0.49
1:A:996:A:H2'	1:A:997:U:C6	2.48	0.49
1:A:1118:C:H42	1:A:1155:G:H1	1.61	0.49
1:A:1257:U:O2	1:A:1257:U:H2'	2.13	0.49
3:C:34:LEU:CD2	3:C:38:ARG:HE	2.25	0.49
3:C:40:ARG:HH11	3:C:40:ARG:HG3	1.77	0.49
4:D:25:ARG:HA	4:D:28:SER:HB3	1.94	0.49
6:F:61:LEU:HD22	6:F:63:TYR:CE1	2.48	0.49
7:G:22:LEU:HD12	7:G:22:LEU:O	2.13	0.49
7:G:120:ILE:HD13	7:G:120:ILE:N	2.27	0.49
11:K:65:ALA:HB1	11:K:98:LEU:HD21	1.94	0.49
15:O:38:ARG:O	15:O:39:LEU:C	2.54	0.49
18:R:59:SER:H	18:R:62:GLU:HB2	1.77	0.49
1:A:921:U:H2'	1:A:922:G:O4'	2.11	0.49
7:G:27:ILE:O	7:G:30:ILE:HB	2.13	0.49
7:G:146:GLU:HA	7:G:149:ARG:HB2	1.94	0.49
8:H:124:ALA:O	8:H:128:GLY:N	2.39	0.49
11:K:48:ILE:HG22	11:K:49:GLY:N	2.25	0.49
19:S:39:THR:HG22	19:S:70:LYS:HD3	1.95	0.49
1:A:67:C:H2'	1:A:68:G:C8	2.48	0.49
1:A:715:A:H2'	1:A:716:A:C8	2.48	0.49
1:A:838:G:H1	1:A:848:C:H42	1.59	0.49
1:A:1070:U:H2'	1:A:1071:C:H6	1.78	0.49
1:A:1116:C:O2'	1:A:1117:G:H5'	2.11	0.49
2:B:24:TRP:CG	2:B:25:ASN:N	2.80	0.49
6:F:62:TRP:CZ2	6:F:64:GLN:HB2	2.48	0.49
7:G:91:VAL:HG11	7:G:96:GLN:HG3	1.95	0.49
9:I:55:ALA:O	9:I:56:LEU:HB2	2.11	0.49
11:K:40:ILE:HG23	11:K:41:THR:HG22	1.95	0.49
4:D:98:GLU:CD	4:D:103:ASN:HD21	2.21	0.48
4:D:176:LEU:HD12	4:D:177:ASP:N	2.27	0.48
1:A:264:U:H2'	1:A:265:G:C8	2.48	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:676:A:O2'	11:K:115:PRO:HG3	2.13	0.48
1:A:1517[B]:G:H2'	1:A:1518[B]:MA6:H8	1.94	0.48
2:B:70:PHE:CD2	2:B:163:PHE:HB3	2.48	0.48
5:E:153:LYS:HD3	5:E:154:GLY:O	2.13	0.48
7:G:46:ALA:HB1	7:G:121:ALA:HB2	1.93	0.48
8:H:34:GLU:O	8:H:35:ILE:C	2.56	0.48
13:M:19:LEU:HD23	13:M:22:ILE:CD1	2.43	0.48
1:A:260:G:H2'	1:A:261:U:C6	2.49	0.48
1:A:389:A:H2'	1:A:390:C:H5'	1.94	0.48
1:A:1057:G:H2'	1:A:1058:G:O4'	2.13	0.48
1:A:1171:G:H2'	1:A:1172:C:C6	2.48	0.48
1:A:1350:A:H2'	1:A:1351:U:C6	2.48	0.48
1:A:1367:C:H5'	10:J:60:ARG:HH21	1.78	0.48
2:B:97:TRP:CH2	2:B:176:GLU:CD	2.91	0.48
4:D:13:ARG:HD2	4:D:36:ARG:O	2.12	0.48
6:F:29:ALA:C	6:F:32:ASN:H	2.21	0.48
6:F:51:PRO:HB3	6:F:54:LYS:HA	1.94	0.48
6:F:57:GLN:H	6:F:57:GLN:HG2	1.46	0.48
8:H:86:ILE:HG21	8:H:133:LEU:HD13	1.95	0.48
8:H:138:TRP:O	8:H:138:TRP:CE3	2.66	0.48
11:K:30:VAL:HG21	11:K:65:ALA:HA	1.96	0.48
12:L:80:HIS:N	12:L:80:HIS:ND1	2.61	0.48
17:Q:66:SER:OG	17:Q:69:LYS:HB2	2.13	0.48
17:Q:87:LYS:NZ	17:Q:88:TYR:HB2	2.28	0.48
19:S:20:LEU:HD23	19:S:23:ASN:HD22	1.78	0.48
1:A:109:A:H2'	1:A:326:G:N2	2.28	0.48
1:A:260:G:C5	1:A:261:U:C5	3.01	0.48
1:A:515:G:H2'	1:A:516:PSU:O4'	2.13	0.48
1:A:679:C:H42	1:A:711:G:H1	1.62	0.48
1:A:1135:U:H2'	1:A:1137:C:C4	2.49	0.48
2:B:40:HIS:C	2:B:41:ILE:HD13	2.38	0.48
2:B:149:LEU:HD23	2:B:149:LEU:HA	1.52	0.48
2:B:151:GLY:C	2:B:153:ARG:H	2.21	0.48
3:C:53:ALA:HB2	3:C:115:LEU:HG	1.95	0.48
5:E:79:GLU:CD	5:E:79:GLU:H	2.22	0.48
6:F:52:ILE:O	6:F:55:ASP:HB2	2.13	0.48
13:M:70:LEU:O	13:M:74:VAL:HG23	2.13	0.48
14:N:9:LYS:HD3	14:N:10:ALA:N	2.28	0.48
20:T:92:LEU:HD23	20:T:92:LEU:HA	1.77	0.48
1:A:501:C:H2'	1:A:502:G:H8	1.78	0.48
1:A:756:C:C2	1:A:757:U:C6	3.02	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:920:U:H2'	1:A:921:U:C6	2.48	0.48
1:A:1061:G:C5	1:A:1062:U:C5	3.02	0.48
1:A:1146:A:H2'	1:A:1147:C:O4'	2.14	0.48
1:A:1237:C:H5''	1:A:1238:A:O4'	2.13	0.48
1:A:1516[B]:G:H2'	1:A:1517[B]:G:C5'	2.44	0.48
5:E:51:VAL:N	5:E:52:PRO:HD2	2.28	0.48
5:E:53:LEU:HD23	5:E:53:LEU:HA	1.57	0.48
7:G:85:TYR:HD1	7:G:154:TYR:HE1	1.58	0.48
10:J:32:ALA:HB3	10:J:75:ILE:CD1	2.43	0.48
13:M:33:ALA:O	13:M:37:THR:HG23	2.13	0.48
15:O:8:LYS:HD2	15:O:31:LEU:HD21	1.96	0.48
1:A:74:C:C2	1:A:97:G:N2	2.82	0.48
1:A:180:U:H2'	1:A:181:G:H5'	1.95	0.48
1:A:314:C:C2'	1:A:315:A:H5'	2.43	0.48
1:A:377:G:OP1	16:P:5:ARG:HD3	2.13	0.48
1:A:659:U:OP2	15:O:8:LYS:NZ	2.41	0.48
1:A:1101:A:H62	2:B:175:ARG:NH1	2.11	0.48
1:A:1276:G:H2'	1:A:1277:C:H6	1.78	0.48
1:A:1426:C:H2'	1:A:1427:U:H6	1.79	0.48
1:A:1516[A]:G:H2'	1:A:1518[A]:MA6:OP2	2.14	0.48
3:C:115:LEU:HD23	3:C:118:GLN:OE1	2.14	0.48
3:C:147:LYS:HB3	3:C:203:PHE:CE2	2.49	0.48
3:C:150:LYS:HA	3:C:169:ALA:CB	2.43	0.48
6:F:43:LEU:HD13	6:F:43:LEU:N	2.29	0.48
9:I:41:VAL:O	9:I:43:ALA:N	2.47	0.48
1:A:349:A:H2'	1:A:350:G:H5''	1.95	0.48
1:A:392:G:H2'	1:A:393:A:H8	1.77	0.48
1:A:1211:U:O2'	1:A:1213:A:N3	2.44	0.48
1:A:1218:C:H2'	1:A:1219:U:C6	2.49	0.48
3:C:7:PRO:HD2	3:C:8:ILE:H	1.78	0.48
4:D:98:GLU:HG3	4:D:194:LEU:HD11	1.95	0.48
5:E:98:THR:N	5:E:117:ASP:OD1	2.45	0.48
12:L:85:ILE:HG23	12:L:85:ILE:HD12	1.65	0.48
13:M:29:ARG:O	13:M:32:GLU:HB3	2.14	0.48
1:A:355:C:C4	1:A:356:A:N7	2.81	0.48
1:A:362:G:C8	24:A:2487:HOH:O	2.67	0.48
1:A:674:G:H2'	1:A:675:A:H8	1.78	0.48
1:A:1033:G:H2'	1:A:1033:G:N3	2.27	0.48
7:G:136:LYS:O	7:G:139:GLU:HB2	2.13	0.48
9:I:2:GLU:OE1	9:I:3:GLN:HB2	2.12	0.48
10:J:51:ARG:HG2	14:N:45:ARG:NH2	2.29	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:70:LEU:O	15:O:71:GLN:C	2.57	0.48
18:R:31:LEU:HD22	18:R:66:LEU:HD13	1.96	0.48
1:A:435:C:H1'	24:A:2525:HOH:O	2.13	0.48
1:A:518:C:HO2'	12:L:50:SER:HB3	1.78	0.48
1:A:642:A:C4	8:H:114:THR:O	2.67	0.48
1:A:1423:G:N2	1:A:1477:C:N3	2.56	0.48
4:D:176:LEU:HD12	4:D:177:ASP:H	1.79	0.48
13:M:46:LYS:H	13:M:46:LYS:HG3	1.24	0.48
1:A:344:A:H5''	1:A:345:C:C5	2.42	0.48
1:A:452:A:OP1	16:P:43:LYS:NZ	2.38	0.48
1:A:1005:A:C5	1:A:1025:U:O2'	2.66	0.48
1:A:1102:A:C5	1:A:1103:C:C5	3.02	0.48
3:C:119:ARG:O	3:C:122:GLU:HB3	2.14	0.48
4:D:11:LEU:O	4:D:12:CYS:C	2.56	0.48
4:D:158:ILE:O	4:D:162:LEU:HB2	2.14	0.48
5:E:95:ALA:O	5:E:98:THR:OG1	2.26	0.48
13:M:50:GLU:OE2	13:M:53:VAL:HB	2.14	0.48
14:N:9:LYS:HG2	14:N:12:ARG:NH1	2.28	0.48
16:P:19:ILE:HG22	16:P:36:ILE:HG13	1.96	0.48
1:A:52:G:H3'	24:A:2941:HOH:O	2.13	0.47
1:A:1011:G:H2'	1:A:1012:U:O4'	2.14	0.47
1:A:1095:U:N3	1:A:1096:C:C4	2.82	0.47
1:A:1317:C:N3	19:S:37:ARG:NH2	2.58	0.47
1:A:1518[B]:MA6:H93	1:A:1519[B]:MA6:C2	2.44	0.47
2:B:83:MET:SD	2:B:238:LEU:HD11	2.54	0.47
6:F:29:ALA:HA	6:F:32:ASN:HB2	1.96	0.47
7:G:5:ARG:HG3	7:G:7:ALA:H	1.78	0.47
17:Q:76:LEU:HD23	17:Q:78:GLU:H	1.79	0.47
1:A:1036:G:H21	1:A:1037:C:H1'	1.79	0.47
1:A:1144:G:C2	1:A:1145:C:C4	3.02	0.47
1:A:1172:C:C2'	1:A:1173:G:H5'	2.44	0.47
1:A:1304:G:C6	1:A:1305:G:N1	2.82	0.47
1:A:1378:C:N4	1:A:1379:G:N3	2.62	0.47
13:M:4:ILE:H	13:M:8:GLU:CG	2.27	0.47
20:T:45:GLN:HB2	20:T:91:LEU:HD21	1.95	0.47
1:A:79:G:C2	1:A:80:G:C8	3.02	0.47
1:A:538:G:H5''	12:L:114:LYS:HB2	1.96	0.47
1:A:558:G:OP1	24:A:2123:HOH:O	2.20	0.47
1:A:1110:A:H8	1:A:1110:A:OP2	1.97	0.47
2:B:84:GLU:O	2:B:219:VAL:HG21	2.14	0.47
3:C:43:LEU:CD1	3:C:47:LEU:HD22	2.44	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:48:LEU:HD23	6:F:48:LEU:HA	1.76	0.47
7:G:153:HIS:CE1	7:G:154:TYR:HE2	2.32	0.47
8:H:123:GLU:O	8:H:127:LEU:HB2	2.13	0.47
15:O:33:THR:HG23	15:O:63:ARG:CZ	2.44	0.47
16:P:67:THR:O	16:P:70:ALA:HB3	2.15	0.47
1:A:265:G:C4	1:A:267:C:C5	3.02	0.47
1:A:1388:C:H2'	1:A:1389:C:H6	1.79	0.47
3:C:45:LYS:HA	3:C:45:LYS:CE	2.44	0.47
3:C:45:LYS:HA	3:C:45:LYS:NZ	2.29	0.47
4:D:58:LEU:C	4:D:58:LEU:HD12	2.39	0.47
8:H:51:VAL:HG21	8:H:60:ARG:NH2	2.28	0.47
11:K:17:GLY:O	11:K:80:VAL:HA	2.14	0.47
12:L:84:LEU:HD23	12:L:101:VAL:HG21	1.96	0.47
20:T:10:LEU:O	20:T:13:LEU:HD23	2.15	0.47
21:U:7:ARG:O	21:U:21:TYR:CD2	2.67	0.47
1:A:118:U:H3'	1:A:288:A:H61	1.79	0.47
1:A:289:G:N2	1:A:290:C:C2	2.82	0.47
1:A:312:C:H2'	1:A:313:A:H8	1.79	0.47
1:A:362:G:H5''	12:L:61:THR:CG2	2.44	0.47
1:A:502:G:H2'	1:A:503:C:O4'	2.14	0.47
1:A:562:C:H4'	1:A:563:A:O5'	2.15	0.47
1:A:1277:C:H2'	1:A:1277:C:O2	2.14	0.47
11:K:52:GLY:H	11:K:54:ARG:HH22	1.62	0.47
13:M:32:GLU:O	13:M:36:LYS:HB2	2.14	0.47
18:R:37:VAL:HG21	18:R:78:LEU:HB2	1.97	0.47
18:R:75:ILE:HG22	18:R:76:LEU:N	2.29	0.47
19:S:13:ASP:OD2	19:S:13:ASP:N	2.47	0.47
19:S:18:LYS:CE	19:S:31:ILE:HG12	2.44	0.47
1:A:261:U:H2'	1:A:263:A:OP2	2.14	0.47
1:A:411:A:C1'	1:A:413:G:HO2'	2.28	0.47
1:A:572:A:N3	1:A:917:G:H1'	2.29	0.47
1:A:858:G:O6	1:A:869:G:H3'	2.14	0.47
1:A:1197:G:H5'	1:A:1197:G:H8	1.79	0.47
1:A:1239:A:H62	1:A:1299:A:H62	1.62	0.47
1:A:1539:C:C5	1:A:1540:PSU:C6	3.02	0.47
2:B:162:ILE:O	2:B:185:ILE:N	2.47	0.47
6:F:11:ASN:HB3	6:F:14:LEU:HG	1.95	0.47
7:G:71:PRO:HG3	7:G:99:LEU:HD12	1.96	0.47
9:I:44:VAL:O	9:I:47:LEU:HD12	2.15	0.47
10:J:98:ILE:HG22	10:J:99:LYS:N	2.29	0.47
11:K:94:ALA:O	11:K:98:LEU:HG	2.13	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:8:GLU:N	13:M:8:GLU:OE2	2.47	0.47
1:A:236:G:H1'	17:Q:4:LYS:NZ	2.30	0.47
1:A:260:G:C4	1:A:261:U:C5	3.03	0.47
1:A:628:G:H2'	1:A:629:G:O4'	2.14	0.47
1:A:1220:G:H21	19:S:54:GLY:CA	2.28	0.47
1:A:1223:C:P	19:S:78:ARG:HH21	2.37	0.47
1:A:1332:A:N3	1:A:1333:A:C8	2.82	0.47
1:A:1358:U:H3'	1:A:1359:C:H6	1.80	0.47
2:B:38:GLY:O	2:B:39:ILE:HG13	2.14	0.47
4:D:67:ILE:HG22	4:D:68:TYR:CD1	2.50	0.47
9:I:62:TYR:CD1	9:I:62:TYR:C	2.92	0.47
9:I:96:LEU:O	9:I:102:LEU:HD11	2.15	0.47
12:L:127:GLU:CD	12:L:127:GLU:N	2.73	0.47
14:N:17:LYS:O	14:N:20:ALA:N	2.43	0.47
18:R:25:THR:O	18:R:26:LEU:HD13	2.15	0.47
1:A:42:G:N2	1:A:43:C:O2	2.48	0.47
1:A:42:G:H1	1:A:400:C:H42	1.62	0.47
1:A:91:C:O2'	1:A:92:C:H5'	2.14	0.47
1:A:167:G:C2'	1:A:168:G:H5'	2.45	0.47
1:A:404:U:O2'	1:A:405:U:H5'	2.14	0.47
1:A:538:G:OP1	12:L:113:ARG:HD3	2.14	0.47
1:A:750:G:H1'	15:O:23:GLY:H	1.80	0.47
1:A:890:G:O2'	1:A:906:G:O6	2.19	0.47
1:A:975:A:C8	1:A:975:A:H5'	2.50	0.47
1:A:998:G:C4	1:A:1044:A:C2	3.03	0.47
1:A:1126:U:C4	1:A:1127:G:C2	3.03	0.47
1:A:1262:C:N4	1:A:1273:G:H1	2.09	0.47
3:C:139:GLN:OE1	3:C:139:GLN:HA	2.13	0.47
5:E:43:LEU:HD21	5:E:132:ALA:HB1	1.97	0.47
9:I:86:VAL:HA	9:I:89:ASN:O	2.15	0.47
13:M:22:ILE:HG21	13:M:66:LEU:HD13	1.97	0.47
15:O:15:PHE:CZ	15:O:85:LEU:HD21	2.49	0.47
19:S:62:ILE:HD12	19:S:66:MET:SD	2.55	0.47
21:U:7:ARG:HG2	21:U:21:TYR:CZ	2.50	0.47
1:A:109:A:C4	1:A:327:A:C2	3.03	0.47
1:A:1288:A:H2'	1:A:1289:A:O4'	2.15	0.47
1:A:1303:C:N4	1:A:1304:G:C6	2.83	0.47
4:D:62:GLN:OE1	4:D:62:GLN:HA	2.15	0.47
5:E:60:TYR:CD1	5:E:60:TYR:C	2.91	0.47
7:G:51:GLN:HG2	7:G:58:PRO:HD3	1.96	0.47
8:H:8:ASP:O	8:H:12:ARG:HG3	2.15	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:88:LEU:HD22	10:J:88:LEU:N	2.30	0.47
11:K:32:ILE:HD11	11:K:68:ALA:HB1	1.96	0.47
15:O:51:HIS:O	15:O:54:ARG:HB3	2.14	0.47
19:S:42:PRO:HA	19:S:45:VAL:HG23	1.95	0.47
20:T:33:ILE:O	20:T:34:LYS:C	2.58	0.47
1:A:235:C:C2'	1:A:236:G:H5'	2.45	0.47
1:A:538:G:P	12:L:115:LYS:HB2	2.55	0.47
1:A:665:A:H5'	1:A:666:G:OP2	2.15	0.47
1:A:736:C:O2'	1:A:737:A:H5'	2.14	0.47
1:A:849:C:O2'	1:A:850:U:H5'	2.15	0.47
1:A:995:C:O2'	1:A:996:A:H5'	2.15	0.47
1:A:1118:C:OP1	9:I:104:ARG:NE	2.45	0.47
1:A:1327:C:OP1	21:U:20:LYS:N	2.41	0.47
3:C:108:ASN:HD21	3:C:144:SER:HB3	1.80	0.47
3:C:122:GLU:OE1	3:C:126:ARG:HG3	2.14	0.47
4:D:57:ARG:HG2	4:D:57:ARG:HH11	1.79	0.47
5:E:6:PHE:HE2	5:E:36:ASP:HB3	1.79	0.47
6:F:4:TYR:HB3	6:F:91:VAL:O	2.14	0.47
9:I:41:VAL:C	9:I:43:ALA:H	2.23	0.47
10:J:5:ARG:HG3	10:J:99:LYS:N	2.28	0.47
12:L:53:ARG:HG3	12:L:93:LEU:HD22	1.96	0.47
15:O:5:LYS:H	15:O:5:LYS:CE	2.27	0.47
15:O:31:LEU:O	15:O:35:ARG:HG3	2.14	0.47
15:O:63:ARG:HH12	15:O:87:ILE:HG21	1.79	0.47
18:R:53:ARG:HH12	18:R:59:SER:CA	2.28	0.47
1:A:265:G:C2	1:A:267:C:H6	2.33	0.46
1:A:874:G:O2'	1:A:875:C:H5'	2.15	0.46
2:B:48:MET:HE3	2:B:48:MET:HB2	1.72	0.46
13:M:101:GLN:OE1	13:M:101:GLN:N	2.48	0.46
19:S:47:HIS:HB3	19:S:49:ILE:HD11	1.97	0.46
1:A:49:U:O2	1:A:362:G:H1'	2.15	0.46
1:A:91:C:H2'	1:A:92:C:H6	1.80	0.46
1:A:280:C:H4'	1:A:281:G:OP2	2.16	0.46
1:A:501:C:H2'	1:A:502:G:C8	2.51	0.46
1:A:504:C:H6	1:A:504:C:C5'	2.29	0.46
1:A:667:G:H4'	15:O:51:HIS:CE1	2.50	0.46
1:A:674:G:H2'	1:A:675:A:C8	2.50	0.46
1:A:1057:G:H5''	3:C:154:SER:HB3	1.97	0.46
1:A:1128:C:O2'	1:A:1130:A:C8	2.68	0.46
8:H:137:VAL:HG12	8:H:138:TRP:N	2.28	0.46
15:O:15:PHE:HE2	15:O:84:LYS:HG2	1.80	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:5:LEU:O	19:S:6:LYS:HD2	2.14	0.46
1:A:180:U:C2'	1:A:181:G:H5'	2.46	0.46
1:A:203:U:H5'	1:A:203:U:C6	2.50	0.46
1:A:294:U:O4	1:A:295:C:N4	2.48	0.46
1:A:724:G:C2	1:A:725:G:C8	3.03	0.46
1:A:725:G:C4	1:A:726:C:C5	3.04	0.46
1:A:1003:G:O3'	1:A:1003(A):G:C8	2.68	0.46
1:A:1103:C:H4'	2:B:108:ILE:HD11	1.97	0.46
1:A:1339:A:H2'	1:A:1340:A:O4'	2.16	0.46
1:A:1347:G:C4	9:I:107:ARG:HD2	2.50	0.46
3:C:188:LEU:C	3:C:188:LEU:HD13	2.40	0.46
4:D:38:TYR:CD1	4:D:45:GLN:HG3	2.49	0.46
7:G:151:TYR:O	7:G:153:HIS:N	2.49	0.46
8:H:110:ALA:H	8:H:121:ASP:CG	2.23	0.46
12:L:92:OTD:H4	12:L:92:OTD:H8	1.32	0.46
16:P:26:ARG:HD3	16:P:26:ARG:HA	1.71	0.46
18:R:38:GLU:HA	18:R:41:LYS:HE3	1.96	0.46
20:T:8:ARG:HB3	20:T:9:ASN:H	1.60	0.46
20:T:104:LEU:HA	20:T:104:LEU:HD23	1.57	0.46
1:A:258:G:O2'	1:A:259:G:H5'	2.15	0.46
1:A:299:G:O6	1:A:300:A:N1	2.49	0.46
1:A:1044:A:C5	1:A:1045:C:H1'	2.50	0.46
1:A:1486:G:C6	1:A:1487:G:C5	3.04	0.46
4:D:107:ARG:HH12	4:D:114:ARG:HH22	1.62	0.46
5:E:35:GLY:HA3	5:E:112:LEU:HD22	1.96	0.46
7:G:15:ASP:OD2	7:G:18:TYR:N	2.46	0.46
20:T:60:GLU:HG3	20:T:81:LYS:CD	2.45	0.46
1:A:8:A:H8	5:E:101:ILE:HG22	1.81	0.46
1:A:254:G:C2	1:A:255:G:C8	3.04	0.46
1:A:257:G:H2'	1:A:258:G:O4'	2.16	0.46
1:A:542:G:H2'	1:A:543:C:H6	1.79	0.46
1:A:803:G:H2'	1:A:804:U:O4'	2.16	0.46
6:F:3:ARG:C	6:F:93:SER:HB2	2.41	0.46
11:K:16:SER:OG	11:K:79:SER:O	2.29	0.46
13:M:2:ALA:O	13:M:9:ILE:HA	2.15	0.46
20:T:20:LEU:HD12	20:T:20:LEU:H	1.81	0.46
1:A:836:G:C6	1:A:851:G:C6	3.03	0.46
1:A:1236:A:H4'	1:A:1304:G:H4'	1.96	0.46
7:G:135:VAL:O	7:G:139:GLU:HG2	2.15	0.46
9:I:9:ARG:HA	9:I:76:ALA:HB1	1.97	0.46
13:M:23:TYR:HB3	13:M:67:GLU:N	2.27	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:31:LEU:O	18:R:69:THR:OG1	2.24	0.46
20:T:78:ALA:O	20:T:79:ARG:C	2.57	0.46
1:A:427:U:P	4:D:36:ARG:HH22	2.38	0.46
1:A:691:G:H2'	1:A:692:U:C6	2.50	0.46
1:A:756:C:H2'	1:A:757:U:O4'	2.16	0.46
1:A:939:G:C6	1:A:940:C:N4	2.83	0.46
1:A:1014:A:C2	19:S:34:TRP:CE2	3.04	0.46
1:A:1035:A:N7	1:A:1037:C:C4	2.84	0.46
1:A:1130:A:OP1	1:A:1130:A:H8	1.98	0.46
2:B:15:VAL:HG22	2:B:209:ARG:HH12	1.81	0.46
2:B:43:ASP:CG	2:B:46:LYS:HG2	2.40	0.46
3:C:120:VAL:HG12	3:C:121:ALA:N	2.30	0.46
3:C:149:ALA:O	3:C:169:ALA:HB1	2.16	0.46
8:H:64:LYS:O	8:H:65:TYR:HD2	1.97	0.46
11:K:21:ILE:HD13	11:K:94:ALA:CB	2.44	0.46
16:P:55:ARG:O	16:P:58:TYR:HB3	2.16	0.46
19:S:74:PHE:N	19:S:74:PHE:CD1	2.83	0.46
20:T:16:HIS:CE1	20:T:20:LEU:HD11	2.51	0.46
20:T:63:ILE:HD13	20:T:80:ARG:HB3	1.97	0.46
1:A:134:A:C6	1:A:135:C:N3	2.83	0.46
1:A:138:G:H1'	24:A:2627:HOH:O	2.14	0.46
1:A:184:G:N2	1:A:193:C:N3	2.52	0.46
1:A:190(E):U:C5	17:Q:72:ARG:NH2	2.83	0.46
1:A:346:G:H2'	1:A:347:G:O4'	2.15	0.46
1:A:922:G:H1	1:A:1395:C:H42	1.64	0.46
1:A:1318:A:H4'	19:S:10:PHE:CD2	2.50	0.46
2:B:9:GLU:OE1	2:B:12:GLU:N	2.42	0.46
3:C:73:PRO:O	3:C:77:ILE:HG12	2.15	0.46
4:D:135:LEU:HA	4:D:136:PRO:HD3	1.64	0.46
4:D:153:ARG:NH1	4:D:180:GLY:O	2.49	0.46
4:D:196:LEU:N	4:D:196:LEU:CD2	2.75	0.46
7:G:20:ASP:OD2	7:G:22:LEU:N	2.47	0.46
9:I:11:LYS:O	9:I:12:GLU:HB2	2.14	0.46
9:I:90:PRO:O	9:I:93:ARG:HG3	2.16	0.46
10:J:6:ILE:HG23	10:J:98:ILE:HG12	1.97	0.46
11:K:15:ALA:O	11:K:77:MET:HA	2.15	0.46
12:L:25:PRO:CA	12:L:27:LEU:H	2.29	0.46
12:L:45:PRO:HG2	12:L:49:ASN:O	2.16	0.46
12:L:83:VAL:CG2	12:L:100:ILE:HD13	2.39	0.46
13:M:7:VAL:HG23	13:M:67:GLU:HG2	1.98	0.46
16:P:73:LEU:HD23	16:P:73:LEU:HA	1.72	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:677:U:H3	1:A:713:G:N2	2.07	0.46
1:A:1053:G:O5'	1:A:1054:C:H5'	2.16	0.46
1:A:1127:G:H1	1:A:1145:C:N4	2.08	0.46
2:B:34:ALA:O	2:B:41:ILE:HG12	2.15	0.46
6:F:67:MET:HB2	6:F:68:PRO:CD	2.45	0.46
8:H:119:LEU:HB2	8:H:123:GLU:HB2	1.97	0.46
10:J:8:LEU:O	10:J:69:ASN:HA	2.16	0.46
11:K:48:ILE:HD11	11:K:64:ALA:HA	1.97	0.46
13:M:96:LEU:HB3	13:M:97:PRO:CD	2.41	0.46
17:Q:20:THR:CG2	17:Q:41:LYS:HG2	2.46	0.46
1:A:24:U:O2'	1:A:25:C:H5'	2.16	0.46
1:A:310:G:H2'	1:A:311:C:H6	1.80	0.46
1:A:316:G:OP2	1:A:351:G:O2'	2.34	0.46
1:A:793:U:O4	1:A:1517[A]:G:H5''	2.16	0.46
1:A:874:G:C2'	1:A:875:C:H5'	2.45	0.46
1:A:910:C:H2'	1:A:911:U:H6	1.81	0.46
1:A:1221:G:C4	1:A:1222:G:C8	3.04	0.46
1:A:1308:U:H3'	13:M:99:ARG:HH21	1.80	0.46
2:B:10:LEU:C	2:B:12:GLU:N	2.73	0.46
2:B:165:VAL:HG13	2:B:166:ASP:N	2.31	0.46
3:C:11:ARG:O	3:C:14:ILE:O	2.33	0.46
3:C:95:THR:O	3:C:97:LYS:N	2.48	0.46
5:E:108:ALA:O	5:E:112:LEU:HB2	2.16	0.46
8:H:53:VAL:HB	8:H:58:TYR:CD1	2.49	0.46
10:J:71:LEU:HD12	10:J:71:LEU:HA	1.64	0.46
12:L:6:THR:OG1	12:L:9:GLN:HG3	2.15	0.46
15:O:4:THR:OG1	15:O:6:GLU:HG2	2.16	0.46
1:A:50:A:O5'	1:A:50:A:H2'	2.15	0.45
1:A:304:U:O4	24:A:3017:HOH:O	2.20	0.45
1:A:758:G:C5	24:A:3191:HOH:O	2.67	0.45
1:A:835:U:H3	1:A:851:G:H1	1.63	0.45
1:A:1162:C:C4	1:A:1175:G:N2	2.84	0.45
1:A:1511:G:H2'	1:A:1512:U:O4'	2.15	0.45
8:H:34:GLU:HG2	8:H:118:VAL:HB	1.98	0.45
8:H:121:ASP:OD2	8:H:122:ARG:HD2	2.16	0.45
9:I:100:GLY:HA2	9:I:102:LEU:HD12	1.97	0.45
11:K:40:ILE:HD12	11:K:40:ILE:HA	1.49	0.45
12:L:32:PHE:CB	12:L:84:LEU:HD21	2.45	0.45
12:L:47:LYS:HE2	12:L:92:OTD:H3	1.97	0.45
13:M:39:ILE:HD12	13:M:55:ARG:HH21	1.80	0.45
13:M:81:LEU:HD13	13:M:86:CYS:SG	2.55	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:114:ARG:NE	24:M:202:HOH:O	2.49	0.45
16:P:4:ILE:HG13	16:P:66:PRO:HA	1.99	0.45
17:Q:40:LYS:HE2	17:Q:42:TYR:CZ	2.51	0.45
1:A:183:G:H5''	1:A:183:G:H8	1.82	0.45
1:A:598:U:H4'	8:H:94:TYR:CD1	2.51	0.45
1:A:622:A:C8	1:A:623:C:C5	3.04	0.45
1:A:932:C:OP1	7:G:4:ARG:HB3	2.16	0.45
1:A:1143:G:H2'	1:A:1144:G:C8	2.49	0.45
1:A:1162:C:H2'	1:A:1163:C:H5'	1.98	0.45
1:A:1360:A:C2'	1:A:1361:G:H5'	2.47	0.45
1:A:1476:G:H2'	1:A:1477:C:C6	2.47	0.45
3:C:173:VAL:N	3:C:174:PRO:HD3	2.30	0.45
3:C:188:LEU:HD21	3:C:195:VAL:CG2	2.44	0.45
5:E:43:LEU:HD12	5:E:43:LEU:HA	1.47	0.45
6:F:97:PHE:HB3	18:R:32:ARG:HG3	1.97	0.45
7:G:97:GLN:O	7:G:100:ALA:HB3	2.16	0.45
9:I:89:ASN:HB3	9:I:92:TYR:HD1	1.75	0.45
13:M:19:LEU:O	13:M:22:ILE:HD13	2.17	0.45
18:R:87:ARG:NH1	18:R:87:ARG:HB2	2.31	0.45
19:S:34:TRP:CD1	19:S:52:TYR:CD2	3.04	0.45
21:U:18:TYR:HA	21:U:22:ARG:HB3	1.99	0.45
1:A:93:G:H2'	1:A:95:U:C6	2.51	0.45
1:A:539:A:N6	1:A:540:G:O6	2.49	0.45
1:A:714:G:O2'	1:A:715:A:O4'	2.29	0.45
1:A:1005:A:C8	1:A:1025:U:O2	2.69	0.45
5:E:76:ILE:HG22	5:E:78:HIS:O	2.16	0.45
7:G:92:SER:HB3	7:G:95:ARG:HB3	1.97	0.45
8:H:11:THR:O	8:H:12:ARG:C	2.57	0.45
8:H:15:ASN:ND2	8:H:15:ASN:N	2.58	0.45
13:M:27:LYS:O	13:M:30:ALA:HB3	2.16	0.45
17:Q:51:TYR:CD1	17:Q:51:TYR:N	2.85	0.45
18:R:41:LYS:HZ2	18:R:42:ARG:HH12	1.63	0.45
18:R:69:THR:O	18:R:72:ARG:N	2.49	0.45
1:A:238:G:C6	1:A:239:U:C4	3.04	0.45
1:A:544:G:OP1	4:D:59:ARG:NH2	2.48	0.45
1:A:827:U:H2'	1:A:870:U:O4	2.16	0.45
1:A:858:G:N7	24:A:3092:HOH:O	2.35	0.45
1:A:936:C:H2'	1:A:937:A:O4'	2.17	0.45
1:A:1092:A:N3	1:A:1183:A:N6	2.64	0.45
1:A:1112:C:C4	3:C:178:LEU:HD12	2.51	0.45
1:A:1216:G:H5''	14:N:5:ALA:CB	2.46	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1409:C:C6	1:A:1409:C:C3'	2.99	0.45
1:A:1525:G:H5''	1:A:1525:G:C8	2.45	0.45
5:E:30:ALA:HB3	5:E:58:ALA:HB2	1.98	0.45
5:E:131:ILE:O	5:E:135:THR:OG1	2.35	0.45
6:F:30:LEU:O	6:F:35:ALA:HB3	2.16	0.45
6:F:82:ARG:HB2	6:F:85:VAL:HG23	1.99	0.45
7:G:148:ASN:C	7:G:150:ALA:N	2.74	0.45
1:A:403:C:OP1	4:D:136:PRO:HD2	2.17	0.45
1:A:657:G:N2	1:A:750:G:C5	2.85	0.45
1:A:837:G:C2'	1:A:838:G:H5'	2.46	0.45
1:A:948:C:O2'	1:A:949:A:H5'	2.17	0.45
1:A:1050:G:H4'	24:A:2313:HOH:O	2.15	0.45
1:A:1105:A:H1'	24:A:2416:HOH:O	2.16	0.45
1:A:1250:A:H4'	9:I:68:GLY:N	2.31	0.45
1:A:1379:G:N7	7:G:2:ALA:HB3	2.30	0.45
1:A:1466:C:H2'	1:A:1467:G:O4'	2.16	0.45
19:S:51:VAL:HG21	19:S:71:LEU:HD22	1.97	0.45
1:A:17:U:C2	1:A:18:C:C5	3.04	0.45
1:A:265:G:O2'	1:A:266:G:H5'	2.17	0.45
1:A:474:G:O2'	1:A:475:G:H5'	2.17	0.45
1:A:489:C:H2'	1:A:490:G:C8	2.50	0.45
1:A:826:C:H5'	8:H:12:ARG:NH2	2.32	0.45
1:A:1127:G:N2	1:A:1145:C:H42	2.15	0.45
1:A:1405:G:O2'	1:A:1406:U:H5'	2.17	0.45
2:B:20:GLU:HA	2:B:23:ARG:NH1	2.31	0.45
2:B:162:ILE:CG2	2:B:184:VAL:HG12	2.47	0.45
4:D:57:ARG:HG2	4:D:57:ARG:NH1	2.31	0.45
7:G:5:ARG:HD3	7:G:7:ALA:HA	1.99	0.45
7:G:32:ARG:HB3	7:G:33:ASP:OD2	2.16	0.45
7:G:45:ASP:O	7:G:48:LYS:HB2	2.16	0.45
7:G:92:SER:HA	7:G:93:PRO:HD2	1.67	0.45
8:H:119:LEU:N	8:H:119:LEU:HD12	2.30	0.45
15:O:15:PHE:HB3	15:O:26:GLU:HB3	1.99	0.45
17:Q:8:GLY:O	17:Q:56:VAL:HA	2.17	0.45
19:S:15:LEU:HG	19:S:16:LEU:N	2.32	0.45
1:A:162:A:H5''	1:A:163:C:OP2	2.16	0.45
1:A:633:G:H2'	1:A:634:C:C6	2.51	0.45
1:A:911:U:O2	1:A:911:U:H2'	2.17	0.45
2:B:179:LYS:HA	8:H:72:PRO:HD3	1.98	0.45
4:D:8:VAL:HG11	4:D:21:LEU:CB	2.46	0.45
5:E:147:ASP:HA	5:E:150:ARG:HG2	1.99	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:46:ARG:HA	6:F:46:ARG:HD3	1.84	0.45
7:G:20:ASP:OD2	7:G:21:VAL:N	2.50	0.45
13:M:90:LEU:HD11	13:M:94:ARG:HE	1.81	0.45
15:O:6:GLU:O	15:O:7:GLU:C	2.58	0.45
16:P:65:GLN:OE1	16:P:65:GLN:HA	2.15	0.45
19:S:30:LEU:HB2	19:S:31:ILE:H	1.53	0.45
1:A:33:A:O2'	1:A:363:A:H1'	2.17	0.45
1:A:194:C:OP1	20:T:61:SER:OG	2.34	0.45
1:A:867:G:H5''	1:A:867:G:C8	2.52	0.45
1:A:1150:U:H2'	1:A:1151:A:H5'	1.99	0.45
1:A:1480:G:C6	1:A:1481:U:C4	3.05	0.45
3:C:9:GLY:HA2	3:C:12:LEU:HD12	1.99	0.45
4:D:36:ARG:CB	4:D:38:TYR:HE2	2.27	0.45
5:E:11:ILE:HA	5:E:11:ILE:HD13	1.38	0.45
7:G:57:GLU:HA	7:G:58:PRO:HD3	1.85	0.45
14:N:39:LEU:HA	14:N:39:LEU:HD23	1.43	0.45
17:Q:38:ARG:HG3	17:Q:38:ARG:NH1	2.31	0.45
1:A:4:U:H5''	1:A:4:U:C6	2.48	0.45
1:A:62:U:H2'	1:A:63:C:H6	1.81	0.45
1:A:179:A:H2'	1:A:180:U:H6	1.81	0.45
1:A:579:G:H5'	1:A:728:A:C1'	2.37	0.45
1:A:657:G:C2	1:A:750:G:C5	3.04	0.45
1:A:673:G:H5''	6:F:87:ARG:NH1	2.32	0.45
2:B:152:PHE:CE1	2:B:155:LEU:HD12	2.52	0.45
3:C:126:ARG:O	3:C:127:ARG:HB2	2.17	0.45
4:D:94:LEU:HD23	4:D:94:LEU:HA	1.70	0.45
5:E:31:LEU:HD23	5:E:31:LEU:HA	1.69	0.45
5:E:64:ARG:NE	5:E:65:ASN:HB2	2.30	0.45
6:F:42:GLU:HG3	6:F:61:LEU:HD23	1.98	0.45
7:G:70:LYS:HE3	7:G:96:GLN:HB3	1.99	0.45
10:J:46:ARG:NH1	10:J:46:ARG:HB2	2.32	0.45
17:Q:84:LEU:H	17:Q:84:LEU:HG	1.44	0.45
1:A:253:U:OP1	17:Q:67:LYS:HE3	2.17	0.45
1:A:447:G:H8	1:A:447:G:O5'	2.00	0.45
1:A:622:A:H3'	1:A:623:C:H6	1.82	0.45
1:A:646:U:H2'	1:A:647:C:H6	1.82	0.45
1:A:868:C:O4'	1:A:873:A:C2	2.69	0.45
1:A:1381:U:C6	7:G:156:TRP:CZ2	3.05	0.45
2:B:24:TRP:HA	2:B:190:THR:O	2.17	0.45
3:C:66:VAL:O	3:C:101:LEU:HD23	2.17	0.45
6:F:78:GLU:O	6:F:81:ILE:HG13	2.16	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:63:LEU:HD12	8:H:63:LEU:HA	1.47	0.45
12:L:78:GLN:O	12:L:79:GLU:C	2.59	0.45
13:M:4:ILE:HD12	13:M:8:GLU:HG3	1.98	0.45
13:M:11:ARG:HD3	13:M:45:VAL:HG11	1.99	0.45
16:P:4:ILE:HG13	16:P:66:PRO:CA	2.47	0.45
16:P:75:ARG:C	16:P:78:GLY:H	2.25	0.45
17:Q:54:GLY:HA2	17:Q:85:VAL:HG21	1.99	0.45
20:T:15:ARG:HA	20:T:18:GLN:HG3	1.99	0.45
1:A:408:A:H2'	1:A:409:G:O5'	2.18	0.44
1:A:435:C:O2	1:A:436:C:C6	2.70	0.44
1:A:665:A:H2'	1:A:732:C:O2	2.17	0.44
1:A:1523:G:H2'	1:A:1524:C:H5'	1.99	0.44
2:B:182:ILE:HA	2:B:183:PRO:HD3	1.79	0.44
5:E:78:HIS:HA	8:H:105:ARG:HB2	1.99	0.44
8:H:26:VAL:HA	8:H:27:PRO:HD2	1.59	0.44
11:K:27:ASN:OD1	11:K:55:LYS:HB3	2.17	0.44
14:N:32:SER:CB	14:N:41:ARG:HB3	2.47	0.44
16:P:36:ILE:HG21	16:P:36:ILE:HD13	1.59	0.44
20:T:30:LYS:HB3	20:T:34:LYS:HE3	1.98	0.44
1:A:370:C:O2'	1:A:371:G:H5'	2.17	0.44
1:A:547:A:H4'	1:A:548:G:O5'	2.16	0.44
1:A:749:C:O2'	1:A:750:G:H5'	2.16	0.44
1:A:956:U:C2	1:A:1225:A:C2	3.05	0.44
1:A:1000:U:H6	1:A:1000:U:H5''	1.82	0.44
1:A:1256:A:H1'	1:A:1258:G:C6	2.52	0.44
1:A:1374:A:C4	1:A:1375:A:C8	3.05	0.44
2:B:213:LEU:HA	2:B:213:LEU:HD12	1.71	0.44
4:D:24:GLU:HG2	4:D:25:ARG:H	1.82	0.44
4:D:111:ALA:HB2	4:D:120:LEU:HD12	1.99	0.44
4:D:187:ARG:HA	4:D:187:ARG:HD2	1.32	0.44
5:E:109:ILE:HG21	5:E:109:ILE:HD13	1.80	0.44
8:H:104:ARG:O	8:H:107:LEU:HB2	2.16	0.44
9:I:71:SER:O	9:I:74:ILE:HB	2.17	0.44
16:P:58:TYR:O	16:P:59:TRP:C	2.56	0.44
20:T:39:LYS:O	20:T:42:GLN:HB3	2.17	0.44
1:A:182:U:OP2	1:A:182:U:H6	2.00	0.44
1:A:429:U:H1'	1:A:430:A:H5''	2.00	0.44
1:A:740:U:C2'	1:A:741:G:H5'	2.47	0.44
1:A:990:C:N3	1:A:991:U:C5	2.86	0.44
1:A:1127:G:C8	1:A:1127:G:C3'	3.01	0.44
1:A:1179:A:H3'	1:A:1180:A:H8	1.82	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1309:G:N2	1:A:1329:A:H1'	2.33	0.44
1:A:1332:A:C2	1:A:1333:A:C5	3.05	0.44
1:A:1487:G:C2	1:A:1488:G:C8	3.05	0.44
2:B:162:ILE:HG21	2:B:184:VAL:HG12	1.99	0.44
2:B:164:VAL:HG13	2:B:186:ALA:HB2	1.99	0.44
2:B:233:SER:HA	2:B:234:PRO:HD3	1.79	0.44
12:L:30:ALA:HA	12:L:31:PRO:HD2	1.38	0.44
17:Q:49:GLU:HG2	24:Q:305:HOH:O	2.17	0.44
17:Q:59:ILE:CD1	17:Q:73:VAL:HA	2.47	0.44
19:S:7:LYS:HD3	19:S:7:LYS:N	2.08	0.44
1:A:90:U:H2'	1:A:91:C:H6	1.82	0.44
1:A:200:G:H2'	1:A:201:C:O4'	2.17	0.44
1:A:254:G:N3	1:A:255:G:C8	2.85	0.44
1:A:840:C:O2'	1:A:841:U:OP2	2.31	0.44
1:A:1124:G:H21	1:A:1126:U:H3	1.66	0.44
1:A:1152:A:H2'	1:A:1153:C:C6	2.53	0.44
1:A:1213:A:H4'	1:A:1214:C:OP1	2.18	0.44
1:A:1367:C:C2	1:A:1368:G:C8	3.05	0.44
2:B:25:ASN:O	2:B:26:PRO:C	2.56	0.44
2:B:193:ASP:OD1	2:B:194:PRO:HD2	2.18	0.44
3:C:69:HIS:ND1	3:C:69:HIS:N	2.66	0.44
3:C:134:ILE:HG23	3:C:151:VAL:HB	1.99	0.44
4:D:145:GLU:OE1	4:D:182:LYS:HB2	2.17	0.44
8:H:49:GLU:HB3	8:H:60:ARG:HB3	1.98	0.44
10:J:3:LYS:NZ	10:J:3:LYS:HB2	2.32	0.44
12:L:102:ARG:HE	12:L:102:ARG:HB3	1.69	0.44
13:M:14:ARG:HA	13:M:44:ARG:HA	1.99	0.44
15:O:70:LEU:C	15:O:72:ARG:H	2.25	0.44
16:P:18:ARG:O	16:P:20:VAL:HG23	2.18	0.44
16:P:23:ASP:OD2	16:P:25:ARG:HG3	2.17	0.44
19:S:18:LYS:HE2	19:S:18:LYS:HB3	1.68	0.44
1:A:7:G:C6	1:A:298:A:C2	3.05	0.44
1:A:42:G:C2	1:A:43:C:C2	3.05	0.44
1:A:763:G:H2'	1:A:764:C:H6	1.82	0.44
1:A:1497:G:H2'	1:A:1498:UR3:H5'	2.00	0.44
1:A:1517[B]:G:H2'	1:A:1518[B]:MA6:C8	2.48	0.44
2:B:158:LEU:HD22	2:B:159:PRO:HD2	1.99	0.44
2:B:187:LEU:HD23	2:B:187:LEU:HA	1.27	0.44
2:B:231:GLU:HG3	2:B:232:PRO:HD2	2.00	0.44
4:D:58:LEU:HD12	4:D:58:LEU:O	2.18	0.44
5:E:81:GLU:HB3	5:E:88:LYS:NZ	2.32	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:110:LEU:HD13	5:E:118:ILE:HD13	1.98	0.44
6:F:95:GLU:OE2	6:F:96:PRO:HD3	2.17	0.44
7:G:125:MET:HE2	7:G:125:MET:HB3	1.54	0.44
14:N:11:LYS:O	14:N:12:ARG:C	2.60	0.44
15:O:71:GLN:O	15:O:75:PRO:HG3	2.17	0.44
18:R:36:ASN:O	18:R:40:LEU:HG	2.17	0.44
18:R:38:GLU:O	18:R:41:LYS:HD2	2.17	0.44
1:A:190(L):U:O2	20:T:105:SER:HB3	2.17	0.44
1:A:260:G:C6	1:A:261:U:O4	2.71	0.44
1:A:362:G:OP1	12:L:61:THR:HG22	2.17	0.44
1:A:747:C:H3'	1:A:748:C:C5	2.53	0.44
1:A:937:A:H5''	1:A:938:A:OP2	2.18	0.44
1:A:951:G:OP2	13:M:102:ARG:NH2	2.51	0.44
1:A:1003:G:H1'	1:A:1004:A:C2	2.53	0.44
1:A:1347:G:N9	9:I:107:ARG:HD2	2.32	0.44
1:A:1434:A:H2'	1:A:1435:G:O4'	2.18	0.44
2:B:74:LYS:HE3	2:B:74:LYS:HB3	1.53	0.44
2:B:154:LEU:H	2:B:154:LEU:HG	1.16	0.44
3:C:156:ARG:H	3:C:163:ALA:HA	1.82	0.44
4:D:54:TYR:O	4:D:55:ALA:C	2.61	0.44
4:D:108:LEU:HA	4:D:108:LEU:HD23	1.46	0.44
5:E:5:ASP:CG	5:E:6:PHE:H	2.26	0.44
5:E:110:LEU:HD23	5:E:110:LEU:HA	1.78	0.44
17:Q:74:LEU:HD12	17:Q:74:LEU:HA	1.70	0.44
17:Q:91:ARG:O	17:Q:94:ASN:HB2	2.18	0.44
18:R:36:ASN:OD1	18:R:36:ASN:C	2.61	0.44
18:R:73:ALA:CB	18:R:79:LEU:HD12	2.48	0.44
19:S:69:HIS:HB3	19:S:73:GLU:OE2	2.17	0.44
20:T:22:ARG:O	20:T:23:ARG:C	2.61	0.44
20:T:72:LEU:O	20:T:74:LYS:HG2	2.18	0.44
1:A:199:G:O2'	1:A:200:G:H5'	2.17	0.44
1:A:455:C:O5'	1:A:455:C:H6	2.00	0.44
1:A:686:U:O4	1:A:703:G:H1'	2.18	0.44
1:A:1502:A:C2	1:A:1504:G:C2	3.06	0.44
2:B:185:ILE:HG12	2:B:199:TYR:HB2	1.99	0.44
5:E:79:GLU:CD	5:E:79:GLU:N	2.76	0.44
10:J:91:PRO:HB3	10:J:94:VAL:HB	2.00	0.44
11:K:13:GLN:OE1	11:K:13:GLN:HA	2.18	0.44
13:M:59:TYR:O	13:M:60:VAL:C	2.60	0.44
13:M:90:LEU:HD11	13:M:94:ARG:NE	2.32	0.44
15:O:15:PHE:CE2	15:O:84:LYS:HG2	2.51	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:29:HIS:CG	17:Q:30:PRO:HD2	2.52	0.44
18:R:29:PHE:HZ	18:R:43:PHE:HE1	1.65	0.44
1:A:401:C:H2'	1:A:402:G:H8	1.83	0.44
1:A:950:U:H2'	1:A:951:G:H8	1.82	0.44
1:A:1053:G:N7	1:A:1200:C:H5'	2.32	0.44
1:A:1136:U:H6	1:A:1136:U:H2'	1.60	0.44
1:A:1193:G:N2	1:A:1194:U:C2	2.86	0.44
2:B:60:ASP:OD2	2:B:64:ARG:NH1	2.50	0.44
4:D:38:TYR:HB2	4:D:44:GLY:O	2.18	0.44
6:F:41:GLU:HB3	6:F:43:LEU:CD1	2.47	0.44
7:G:90:GLU:CD	7:G:91:VAL:H	2.26	0.44
13:M:4:ILE:CD1	13:M:8:GLU:HG3	2.47	0.44
13:M:107:ALA:HB3	13:M:111:LYS:HD3	1.98	0.44
16:P:53:VAL:HG23	16:P:54:GLU:H	1.82	0.44
18:R:37:VAL:O	18:R:38:GLU:C	2.57	0.44
18:R:69:THR:O	18:R:70:ILE:C	2.60	0.44
1:A:160:A:H1'	1:A:344:A:C5	2.53	0.44
1:A:289:G:P	24:A:2005:HOH:O	2.75	0.44
1:A:318:G:N7	24:A:3048:HOH:O	2.50	0.44
1:A:523:A:N1	12:L:92:OTD:H6	2.33	0.44
1:A:783:C:H2'	1:A:784:C:H6	1.83	0.44
1:A:910:C:C4	1:A:911:U:C5	3.06	0.44
1:A:1008:C:H2'	1:A:1009:G:H8	1.82	0.44
1:A:1276:G:H2'	1:A:1277:C:C6	2.53	0.44
1:A:1443:G:H5''	1:A:1446:A:O5'	2.18	0.44
1:A:1494:G:H3'	1:A:1494:G:OP1	2.17	0.44
1:A:1495:U:H2'	1:A:1496:C:C6	2.52	0.44
1:A:1499:A:H2'	1:A:1500:A:H8	1.82	0.44
5:E:20:GLN:HG3	5:E:21:ALA:N	2.31	0.44
12:L:110:VAL:CG2	12:L:120:TYR:HB3	2.47	0.44
18:R:58:LEU:HB3	18:R:62:GLU:HB3	2.00	0.44
1:A:767:A:H8	1:A:767:A:O5'	2.01	0.43
1:A:998:G:C2	1:A:999:C:N3	2.86	0.43
1:A:1141:C:H2'	1:A:1142:G:O4'	2.18	0.43
1:A:1495:U:C4	1:A:1496:C:N4	2.85	0.43
1:A:1504:G:C4'	1:A:1505:G:H5'	2.48	0.43
2:B:196:LEU:N	2:B:196:LEU:HD23	2.33	0.43
4:D:174:LEU:HD23	4:D:185:PHE:HA	2.00	0.43
8:H:23:SER:HB2	8:H:61:VAL:O	2.18	0.43
10:J:50:ILE:HD13	10:J:50:ILE:HA	1.57	0.43
12:L:97:ARG:HB2	12:L:98:TYR:CE1	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:17:ARG:HD3	15:O:77:ARG:NH1	2.33	0.43
18:R:66:LEU:HD12	18:R:66:LEU:HA	1.73	0.43
1:A:767:A:H3'	24:A:2041:HOH:O	2.17	0.43
1:A:1014:A:H3'	1:A:1015:A:C8	2.54	0.43
1:A:1034:G:C4	1:A:1035:A:C2	3.06	0.43
1:A:1130:A:OP1	1:A:1130:A:C8	2.71	0.43
1:A:1231:G:H2'	1:A:1232:U:C6	2.47	0.43
1:A:1252:A:H8	1:A:1252:A:O5'	2.01	0.43
1:A:1451:A:H8	1:A:1451:A:O5'	2.01	0.43
1:A:1481:U:H2'	1:A:1482:G:C8	2.52	0.43
2:B:31:TYR:CE2	2:B:202:PRO:HG3	2.53	0.43
2:B:38:GLY:C	2:B:39:ILE:HG13	2.43	0.43
2:B:134:GLU:O	2:B:137:ARG:N	2.50	0.43
3:C:114:PRO:HD2	3:C:183:ASP:OD1	2.18	0.43
5:E:41:VAL:O	5:E:67:VAL:HG23	2.19	0.43
5:E:44:GLY:HA3	5:E:62:ALA:HB2	2.00	0.43
7:G:101:LEU:HA	7:G:101:LEU:HD23	1.43	0.43
8:H:64:LYS:C	8:H:65:TYR:CD2	2.96	0.43
9:I:19:LEU:HG	9:I:84:ALA:HB1	2.00	0.43
9:I:63:ILE:HD12	9:I:77:ILE:HD13	2.00	0.43
12:L:117:ARG:HB3	12:L:122:THR:OG1	2.17	0.43
13:M:11:ARG:HD2	13:M:12:ASN:N	2.33	0.43
14:N:6:LEU:HD23	14:N:6:LEU:HA	1.46	0.43
14:N:9:LYS:HZ3	14:N:10:ALA:HB2	1.83	0.43
18:R:44:LEU:CD1	18:R:79:LEU:HD22	2.45	0.43
20:T:13:LEU:C	20:T:13:LEU:HD12	2.43	0.43
1:A:403:C:O2'	1:A:404:U:H5'	2.18	0.43
1:A:595:G:H1'	1:A:596:C:H5	1.83	0.43
1:A:622:A:C8	1:A:623:C:C6	3.07	0.43
1:A:856:C:C2'	1:A:857:C:H5''	2.42	0.43
1:A:1057:G:O3'	3:C:197:GLY:HA3	2.18	0.43
1:A:1343:G:H4'	9:I:122:ALA:HB3	2.00	0.43
1:A:1378:C:C5	1:A:1379:G:N9	2.87	0.43
2:B:184:VAL:O	2:B:198:ASP:HB2	2.17	0.43
3:C:11:ARG:HE	3:C:11:ARG:HB2	1.32	0.43
13:M:16:ASP:OD2	13:M:17:VAL:N	2.51	0.43
13:M:31:LYS:HE3	13:M:35:GLU:OE1	2.18	0.43
13:M:57:ARG:HB3	13:M:58:GLU:OE2	2.19	0.43
14:N:15:LYS:HG2	14:N:16:PHE:CD1	2.53	0.43
19:S:6:LYS:HB2	19:S:7:LYS:HD3	2.00	0.43
19:S:41:VAL:CG1	19:S:42:PRO:HD2	2.44	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:439:A:C6	1:A:497:A:H1'	2.53	0.43
1:A:457:C:O2'	1:A:458:C:H5'	2.18	0.43
1:A:716:A:H1'	11:K:118:GLY:HA2	2.01	0.43
1:A:913:A:H4'	1:A:914:A:O5'	2.18	0.43
1:A:1168:A:H2'	1:A:1169:A:O4'	2.19	0.43
1:A:1214:C:H1'	24:A:2314:HOH:O	2.18	0.43
1:A:1541:PSU:H5''	1:A:1542:U:OP1	2.19	0.43
2:B:18:GLY:HA2	2:B:42:ILE:HG12	1.99	0.43
4:D:57:ARG:HA	4:D:202:LEU:HD12	2.00	0.43
5:E:106:PRO:O	5:E:110:LEU:HG	2.19	0.43
7:G:12:LEU:H	7:G:12:LEU:HD12	1.83	0.43
8:H:20:TYR:HA	8:H:65:TYR:CZ	2.53	0.43
10:J:37:PRO:HA	10:J:71:LEU:O	2.18	0.43
10:J:70:ARG:HG3	10:J:70:ARG:NH1	2.33	0.43
13:M:22:ILE:N	13:M:22:ILE:HD12	2.33	0.43
13:M:30:ALA:O	13:M:31:LYS:C	2.62	0.43
15:O:57:LEU:HA	15:O:57:LEU:HD13	1.56	0.43
16:P:51:VAL:O	16:P:52:ASP:HB3	2.18	0.43
1:A:150:C:H5''	24:A:3041:HOH:O	2.18	0.43
1:A:414:A:H3'	24:A:2633:HOH:O	2.18	0.43
1:A:609:A:H5''	1:A:610:G:OP2	2.17	0.43
1:A:1009:G:H1	1:A:1020:U:H3	1.67	0.43
1:A:1146:A:C5	1:A:1147:C:C5	3.05	0.43
1:A:1491:G:C8	1:A:1492:A:N7	2.86	0.43
3:C:112:SER:O	3:C:115:LEU:N	2.51	0.43
4:D:35:ARG:HA	4:D:37:PRO:HD3	2.01	0.43
7:G:47:CYS:HB3	7:G:58:PRO:HB2	2.00	0.43
10:J:34:VAL:O	10:J:36:GLY:N	2.52	0.43
10:J:54:PHE:O	10:J:55:LYS:HG2	2.19	0.43
11:K:19:ALA:O	11:K:82:VAL:HA	2.19	0.43
14:N:12:ARG:O	14:N:13:THR:C	2.61	0.43
16:P:68:ASP:OD1	16:P:68:ASP:N	2.50	0.43
17:Q:62:SER:HB3	17:Q:72:ARG:NE	2.33	0.43
1:A:257:G:H1	1:A:269:C:N4	2.14	0.43
1:A:278:G:C6	17:Q:95:TYR:CD2	3.07	0.43
1:A:325:A:OP2	20:T:70:SER:OG	2.30	0.43
1:A:413:G:H8	1:A:428:G:N2	2.14	0.43
1:A:1198:G:H2'	1:A:1199:U:C6	2.53	0.43
1:A:1211:U:O2'	1:A:1213:A:C4	2.69	0.43
1:A:1230:C:O2'	1:A:1231:G:H5'	2.17	0.43
1:A:1278:U:H5''	1:A:1279:A:O4'	2.18	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1368:G:H5'	9:I:112:LYS:HB3	2.00	0.43
2:B:215:LEU:HD23	2:B:215:LEU:HA	1.82	0.43
3:C:40:ARG:HG3	3:C:40:ARG:NH1	2.33	0.43
4:D:8:VAL:HG11	4:D:21:LEU:HB2	2.01	0.43
4:D:146:ILE:HD12	4:D:146:ILE:N	2.33	0.43
4:D:190:ASP:C	4:D:190:ASP:OD2	2.61	0.43
5:E:98:THR:HB	5:E:117:ASP:HB3	2.00	0.43
8:H:27:PRO:HA	8:H:58:TYR:HD2	1.81	0.43
8:H:51:VAL:HG12	8:H:58:TYR:HB2	1.99	0.43
8:H:122:ARG:HD2	8:H:122:ARG:H	1.84	0.43
16:P:53:VAL:O	16:P:54:GLU:C	2.61	0.43
19:S:22:LEU:HD12	19:S:47:HIS:CE1	2.47	0.43
1:A:353:A:H5'	1:A:353:A:H8	1.84	0.43
1:A:1108:G:H2'	1:A:1109:C:H5'	2.00	0.43
1:A:1231:G:C5	1:A:1232:U:C5	3.07	0.43
1:A:1329:A:O2'	1:A:1330:U:H5'	2.18	0.43
1:A:1347:G:O2'	1:A:1348:U:OP2	2.36	0.43
1:A:1499:A:C1'	1:A:1520[A]:G:H5'	2.48	0.43
2:B:84:GLU:OE2	2:B:235:SER:HB2	2.19	0.43
3:C:108:ASN:ND2	3:C:111:LEU:HD23	2.34	0.43
5:E:90:VAL:O	5:E:91:LEU:HD23	2.19	0.43
5:E:139:LEU:N	5:E:139:LEU:HD23	2.34	0.43
7:G:20:ASP:O	7:G:24:THR:HG23	2.19	0.43
7:G:68:ASN:ND2	7:G:128:ALA:HA	2.34	0.43
9:I:22:GLY:HA3	9:I:60:ASP:N	2.33	0.43
10:J:48:THR:HG23	10:J:62:HIS:ND1	2.34	0.43
17:Q:59:ILE:HD13	17:Q:73:VAL:HA	2.00	0.43
1:A:160:A:H8	1:A:160:A:OP1	2.01	0.43
1:A:1112:C:H3'	1:A:1112:C:C6	2.54	0.43
1:A:1367:C:H5'	10:J:60:ARG:NH2	2.34	0.43
3:C:23:TYR:HD1	10:J:11:PHE:CE2	2.36	0.43
3:C:32:LEU:O	3:C:35:GLU:N	2.52	0.43
4:D:14:ARG:HD3	4:D:14:ARG:HA	1.53	0.43
5:E:103:GLY:C	5:E:106:PRO:HD2	2.43	0.43
6:F:12:PRO:CB	6:F:57:GLN:HG3	2.49	0.43
7:G:30:ILE:HG22	7:G:31:MET:N	2.33	0.43
8:H:45:ILE:O	8:H:45:ILE:HG12	2.18	0.43
12:L:77:LEU:HD21	12:L:107:ALA:HA	2.01	0.43
17:Q:6:LEU:O	17:Q:58:GLU:HA	2.19	0.43
20:T:18:GLN:HA	20:T:21:LYS:HD2	2.01	0.43
1:A:708:C:O2'	1:A:709:G:H5'	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:723:U:H5'	1:A:724:G:OP2	2.19	0.43
1:A:743:U:O2'	1:A:744:C:H5'	2.19	0.43
1:A:924:C:O2'	1:A:1502:A:N6	2.52	0.43
1:A:1516[B]:G:H2'	1:A:1517[B]:G:H5''	1.99	0.43
2:B:36:ARG:O	2:B:39:ILE:HD12	2.19	0.43
9:I:55:ALA:HB1	9:I:59:PHE:HB2	2.01	0.43
13:M:3:ARG:HH11	13:M:3:ARG:HB2	1.84	0.43
14:N:8:GLU:O	14:N:11:LYS:HB3	2.18	0.43
15:O:69:TYR:C	15:O:69:TYR:CD2	2.97	0.43
15:O:86:GLY:C	15:O:87:ILE:HG13	2.43	0.43
17:Q:67:LYS:CA	17:Q:70:ARG:HH12	2.30	0.43
17:Q:91:ARG:O	17:Q:94:ASN:N	2.48	0.43
20:T:31:SER:O	20:T:32:ALA:C	2.62	0.43
1:A:310:G:C5	1:A:311:C:C5	3.07	0.43
1:A:521:G:OP1	12:L:54:LYS:HE2	2.18	0.43
1:A:1023:G:N2	1:A:1024:G:H4'	2.34	0.43
1:A:1079:G:C6	1:A:1080:A:N6	2.87	0.43
1:A:1257:U:HO2'	1:A:1258:G:P	2.42	0.43
1:A:1307:U:H2'	1:A:1308:U:O4'	2.18	0.43
1:A:1378:C:H3'	1:A:1379:G:H5''	2.01	0.43
1:A:1514:C:H5'	24:A:2441:HOH:O	2.18	0.43
9:I:15:ALA:HA	9:I:65:VAL:HA	2.01	0.43
9:I:29:ASN:HD21	9:I:65:VAL:HG12	1.83	0.43
12:L:79:GLU:HB3	12:L:80:HIS:ND1	2.33	0.43
13:M:113:PRO:O	13:M:115:LYS:HE3	2.19	0.43
14:N:44:LEU:O	14:N:45:ARG:C	2.60	0.43
18:R:79:LEU:HD23	18:R:80:PRO:CD	2.47	0.43
1:A:411:A:H1'	1:A:413:G:HO2'	1.84	0.42
1:A:1030:C:N4	1:A:1031:G:N7	2.67	0.42
2:B:129:GLU:CG	2:B:130:ARG:HH21	2.32	0.42
3:C:164:ARG:HG3	3:C:165:THR:N	2.33	0.42
3:C:191:THR:HG21	3:C:193:TYR:CE2	2.54	0.42
4:D:11:LEU:HD13	4:D:66:ARG:HG3	2.01	0.42
4:D:94:LEU:H	4:D:94:LEU:HG	1.62	0.42
5:E:118:ILE:O	5:E:119:LEU:HD23	2.19	0.42
8:H:1:MET:HG2	8:H:2:LEU:H	1.84	0.42
12:L:111:LYS:HD2	12:L:112:ASP:N	2.33	0.42
16:P:19:ILE:C	16:P:20:VAL:HG23	2.44	0.42
21:U:14:TRP:C	21:U:16:GLY:N	2.75	0.42
1:A:258:G:H2'	1:A:259:G:H8	1.84	0.42
1:A:380:G:N7	24:A:2369:HOH:O	2.37	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:503:C:C2'	1:A:504:C:H5'	2.49	0.42
1:A:505:G:H2'	1:A:506:G:C8	2.54	0.42
1:A:558:G:H3'	1:A:559:A:H3'	2.00	0.42
1:A:768:A:P	24:A:2041:HOH:O	2.76	0.42
1:A:851:G:C2'	1:A:852:G:H5'	2.50	0.42
1:A:951:G:C6	1:A:952:U:C5	3.07	0.42
1:A:1030(C):G:N3	1:A:1030(D):A:N6	2.66	0.42
1:A:1068:G:N2	1:A:1191:A:N3	2.65	0.42
1:A:1095:U:C4	1:A:1096:C:N4	2.87	0.42
1:A:1518[B]:MA6:O2'	1:A:1519[B]:MA6:OP1	2.35	0.42
3:C:34:LEU:HD13	3:C:35:GLU:N	2.34	0.42
4:D:58:LEU:HD12	4:D:62:GLN:HG2	2.00	0.42
5:E:103:GLY:O	5:E:107:ARG:HB3	2.19	0.42
8:H:31:PHE:C	8:H:33:GLU:N	2.76	0.42
15:O:4:THR:HA	15:O:5:LYS:NZ	2.31	0.42
17:Q:15:MET:CB	17:Q:18:THR:HB	2.50	0.42
17:Q:76:LEU:HD23	17:Q:78:GLU:N	2.34	0.42
18:R:81:PHE:HD2	18:R:81:PHE:HA	1.67	0.42
19:S:53:ASN:ND2	19:S:56:GLN:HG3	2.31	0.42
19:S:61:TYR:C	19:S:61:TYR:CD2	2.98	0.42
20:T:49:ALA:O	20:T:53:LEU:HB2	2.19	0.42
20:T:72:LEU:HD23	20:T:72:LEU:HA	1.75	0.42
20:T:82:SER:O	20:T:83:ARG:C	2.62	0.42
1:A:15:G:H21	5:E:18:ARG:HA	1.84	0.42
1:A:418:C:H2'	1:A:419:C:C6	2.46	0.42
1:A:440:A:H5''	1:A:442:C:OP2	2.20	0.42
1:A:500:G:C6	1:A:501:C:C4	3.08	0.42
1:A:606:G:H1'	1:A:632:A:H61	1.84	0.42
1:A:1003(A):G:H8	1:A:1003(A):G:OP1	2.01	0.42
1:A:1277:C:H1'	1:A:1282:C:H1'	2.02	0.42
2:B:71:VAL:O	2:B:164:VAL:HA	2.19	0.42
3:C:8:ILE:O	3:C:11:ARG:N	2.50	0.42
3:C:147:LYS:HB3	3:C:203:PHE:CD2	2.54	0.42
4:D:155:LEU:HD23	4:D:155:LEU:HA	1.64	0.42
6:F:71:ARG:O	6:F:72:VAL:C	2.62	0.42
7:G:5:ARG:HG3	7:G:7:ALA:CA	2.49	0.42
7:G:151:TYR:C	7:G:153:HIS:N	2.76	0.42
7:G:155:ARG:HD3	7:G:155:ARG:HA	1.59	0.42
13:M:19:LEU:HA	13:M:22:ILE:HD13	2.02	0.42
16:P:42:ARG:H	16:P:42:ARG:HG2	1.62	0.42
18:R:53:ARG:HA	18:R:56:THR:HG23	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:92:C:H2'	1:A:93:G:O4'	2.19	0.42
1:A:138:G:C2	1:A:226:G:N3	2.88	0.42
1:A:350:G:C6	1:A:351:G:O6	2.72	0.42
1:A:357:G:C2	1:A:358:U:C5	3.07	0.42
1:A:374:A:OP1	1:A:452:A:N6	2.41	0.42
1:A:642:A:H2'	1:A:643:C:C6	2.55	0.42
1:A:872:A:C2	1:A:874:G:C6	3.08	0.42
6:F:19:LEU:HD12	6:F:19:LEU:O	2.19	0.42
7:G:103:TRP:O	7:G:104:LEU:C	2.61	0.42
7:G:149:ARG:HH11	7:G:149:ARG:HG2	1.84	0.42
9:I:53:VAL:HG21	9:I:85:LEU:CD2	2.49	0.42
13:M:4:ILE:CG2	13:M:57:ARG:HA	2.50	0.42
15:O:15:PHE:HZ	15:O:85:LEU:HD21	1.83	0.42
15:O:27:VAL:HG12	15:O:31:LEU:HD13	2.00	0.42
16:P:45:THR:HG22	16:P:46:PRO:HD2	2.02	0.42
16:P:74:LEU:HD23	16:P:74:LEU:HA	1.65	0.42
17:Q:5:VAL:HG23	17:Q:59:ILE:O	2.18	0.42
17:Q:47:PRO:HG2	17:Q:48:GLU:OE1	2.20	0.42
1:A:265:G:C5	1:A:267:C:H5	2.37	0.42
1:A:404:U:C2'	1:A:405:U:H5'	2.50	0.42
1:A:428:G:H4'	1:A:429:U:O5'	2.20	0.42
1:A:623:C:O2	1:A:623:C:H2'	2.19	0.42
1:A:1124:G:H1	1:A:1149:C:N4	2.13	0.42
1:A:1342:C:O2'	1:A:1343:G:H5'	2.18	0.42
2:B:74:LYS:O	2:B:78:GLN:HG3	2.19	0.42
5:E:68:GLU:OE1	5:E:68:GLU:N	2.53	0.42
9:I:65:VAL:O	9:I:66:ARG:HB2	2.20	0.42
10:J:21:GLN:O	10:J:24:VAL:HG12	2.19	0.42
10:J:53:PRO:HA	14:N:41:ARG:NH2	2.35	0.42
14:N:42:ILE:O	14:N:46:GLU:HG3	2.19	0.42
15:O:74:ASP:OD2	15:O:77:ARG:HD3	2.18	0.42
17:Q:40:LYS:HD3	17:Q:42:TYR:OH	2.19	0.42
17:Q:84:LEU:HD23	17:Q:84:LEU:HA	1.76	0.42
1:A:35:G:O2'	12:L:118:SER:O	2.33	0.42
1:A:57:G:H2'	1:A:58:C:H6	1.85	0.42
1:A:283:C:O5'	1:A:283:C:H6	2.02	0.42
1:A:303:A:N6	24:A:3017:HOH:O	2.52	0.42
1:A:459:G:H8	1:A:459:G:O5'	2.02	0.42
1:A:773:G:H1	1:A:806:C:N4	2.14	0.42
1:A:821:G:O2'	1:A:822:C:H5'	2.19	0.42
1:A:1492:A:H2'	1:A:1493:A:O5'	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:15:VAL:HG22	2:B:209:ARG:NH1	2.34	0.42
2:B:51:LEU:HD23	2:B:51:LEU:O	2.19	0.42
4:D:4:TYR:CD1	4:D:11:LEU:HD11	2.55	0.42
5:E:18:ARG:O	5:E:18:ARG:HG2	2.19	0.42
5:E:35:GLY:HA3	5:E:112:LEU:O	2.20	0.42
8:H:44:PHE:O	8:H:80:ILE:HD11	2.20	0.42
11:K:84:VAL:HG11	11:K:91:ARG:HH11	1.84	0.42
15:O:45:VAL:HA	15:O:47:LYS:HZ2	1.83	0.42
16:P:56:ALA:O	16:P:60:LEU:HG	2.19	0.42
19:S:80:TYR:CD1	19:S:81:ARG:N	2.87	0.42
1:A:128:G:O2'	1:A:129:U:H5'	2.19	0.42
1:A:161:A:H2'	1:A:162:A:C8	2.54	0.42
1:A:610:G:C5	1:A:611:A:N7	2.88	0.42
1:A:643:C:H5'	8:H:31:PHE:CD1	2.54	0.42
1:A:671:G:H2'	1:A:672:U:C6	2.55	0.42
1:A:693:G:H2'	1:A:694:A:C8	2.54	0.42
1:A:694:A:H2'	1:A:695:A:O4'	2.19	0.42
1:A:737:A:H2'	1:A:738:C:O4'	2.19	0.42
1:A:1059:C:OP1	3:C:199:LYS:NZ	2.53	0.42
1:A:1207:2MG:HM23	1:A:1208:C:C2	2.55	0.42
1:A:1327:C:H2'	1:A:1328:C:C6	2.54	0.42
2:B:19:HIS:CE1	2:B:206:ASP:HB2	2.55	0.42
5:E:48:ALA:HB1	5:E:49:PRO:HD2	2.02	0.42
8:H:92:ARG:O	8:H:93:VAL:HG13	2.20	0.42
10:J:14:LYS:HB3	10:J:14:LYS:HE2	1.71	0.42
10:J:16:LEU:HD22	10:J:16:LEU:HA	1.90	0.42
10:J:63:PHE:CD2	14:N:58:LYS:HA	2.55	0.42
16:P:8:ARG:HG2	16:P:9:PHE:N	2.33	0.42
17:Q:26:GLN:O	17:Q:27:PHE:HB3	2.19	0.42
19:S:28:LYS:NZ	19:S:31:ILE:HA	2.35	0.42
1:A:128:G:OP1	17:Q:2:PRO:HD2	2.20	0.42
1:A:393:A:C2	1:A:394:G:C8	3.08	0.42
1:A:457:C:H2'	1:A:458:C:C6	2.47	0.42
1:A:519:C:H2'	1:A:520:A:C8	2.55	0.42
1:A:581:G:C8	24:A:3191:HOH:O	2.71	0.42
1:A:582:U:O2'	1:A:583:A:H5'	2.20	0.42
1:A:725:G:C5	1:A:726:C:C5	3.08	0.42
1:A:1125:U:H3'	24:A:2985:HOH:O	2.18	0.42
1:A:1125:U:O2'	1:A:1126:U:OP2	2.31	0.42
1:A:1418:A:H5''	1:A:1419:G:OP2	2.20	0.42
2:B:175:ARG:O	2:B:175:ARG:HG2	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:170:GLN:HG2	3:C:171:GLY:N	2.35	0.42
4:D:66:ARG:O	4:D:67:ILE:C	2.62	0.42
4:D:104:VAL:O	4:D:108:LEU:HB2	2.19	0.42
4:D:159:ARG:O	4:D:160:GLN:C	2.63	0.42
7:G:143:ARG:O	7:G:147:ALA:HB2	2.20	0.42
12:L:59:ARG:HD3	12:L:65:GLU:OE1	2.20	0.42
14:N:40:CYS:SG	14:N:42:ILE:HB	2.60	0.42
15:O:70:LEU:HD13	15:O:70:LEU:HA	1.62	0.42
16:P:28:ARG:NH1	16:P:29:ASP:OD2	2.53	0.42
17:Q:5:VAL:C	17:Q:6:LEU:HD23	2.44	0.42
20:T:65:LYS:O	20:T:68:LYS:HB2	2.19	0.42
1:A:1008:C:H2'	1:A:1009:G:C8	2.54	0.42
1:A:1234:C:O2'	1:A:1235:U:H5'	2.20	0.42
1:A:1517[A]:G:C6	1:A:1518[A]:MA6:C5	3.03	0.42
2:B:24:TRP:CH2	2:B:26:PRO:HA	2.55	0.42
2:B:139:LYS:HG2	2:B:140:HIS:N	2.34	0.42
2:B:178:ARG:HH21	8:H:74:PRO:HG3	1.84	0.42
3:C:42:LEU:O	3:C:42:LEU:HG	2.13	0.42
4:D:4:TYR:CE1	4:D:11:LEU:HD11	2.54	0.42
4:D:180:GLY:O	4:D:181:MET:HB2	2.18	0.42
5:E:123:LEU:HA	5:E:123:LEU:HD23	1.62	0.42
6:F:14:LEU:HD22	6:F:18:GLN:HB3	2.02	0.42
7:G:144:MET:O	7:G:147:ALA:HB3	2.20	0.42
19:S:51:VAL:O	19:S:58:VAL:HG23	2.20	0.42
1:A:252:U:H2'	1:A:253:U:C6	2.54	0.42
1:A:449:C:C5	1:A:450:G:C5	3.08	0.42
1:A:1057:G:H4'	3:C:197:GLY:N	2.30	0.42
1:A:1129:C:H4'	1:A:1130:A:OP1	2.20	0.42
1:A:1239:A:H62	1:A:1299:A:N6	2.18	0.42
1:A:1451:A:H2'	1:A:1453:G:O6	2.19	0.42
2:B:41:ILE:HD13	2:B:41:ILE:N	2.34	0.42
4:D:8:VAL:O	4:D:11:LEU:N	2.45	0.42
4:D:120:LEU:HB3	4:D:126:ILE:HD11	2.01	0.42
7:G:85:TYR:CD1	7:G:154:TYR:HE1	2.36	0.42
7:G:151:TYR:O	7:G:152:ALA:C	2.63	0.42
9:I:28:VAL:HG12	9:I:29:ASN:OD1	2.19	0.42
9:I:100:GLY:C	9:I:102:LEU:N	2.77	0.42
11:K:80:VAL:CG2	11:K:103:LEU:HB3	2.49	0.42
13:M:91:ARG:O	13:M:92:HIS:C	2.62	0.42
13:M:96:LEU:O	13:M:110:ARG:NH1	2.53	0.42
16:P:74:LEU:O	16:P:77:ALA:HB3	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:167:G:C2	1:A:168:G:C8	3.08	0.41
1:A:183:G:O2'	1:A:224:C:O2'	2.21	0.41
1:A:235:C:O2'	1:A:236:G:H5'	2.20	0.41
1:A:770:C:H1'	1:A:899:C:H42	1.85	0.41
1:A:922:G:O2'	1:A:1398:A:N1	2.51	0.41
1:A:1228:C:H4'	13:M:116:THR:HA	2.01	0.41
2:B:134:GLU:OE1	2:B:137:ARG:HD2	2.20	0.41
3:C:11:ARG:NH1	3:C:177:THR:O	2.53	0.41
3:C:34:LEU:HD21	3:C:38:ARG:HE	1.84	0.41
3:C:121:ALA:O	3:C:124:ILE:HB	2.19	0.41
3:C:142:MET:HA	3:C:146:ALA:HB3	2.02	0.41
4:D:23:GLY:HA3	4:D:112:VAL:HG12	2.02	0.41
4:D:103:ASN:OD1	4:D:114:ARG:NH2	2.51	0.41
4:D:117:ALA:HA	4:D:120:LEU:HB2	2.01	0.41
4:D:138:TYR:CD2	4:D:138:TYR:C	2.98	0.41
4:D:142:PRO:HA	4:D:185:PHE:HD2	1.84	0.41
5:E:40:ARG:HB3	5:E:66:MET:CE	2.50	0.41
5:E:81:GLU:O	5:E:82:VAL:HG23	2.20	0.41
5:E:131:ILE:HD13	5:E:131:ILE:HA	1.80	0.41
7:G:52:GLU:OE2	7:G:53:LYS:HG2	2.19	0.41
9:I:10:ARG:HD3	9:I:75:ASP:CB	2.49	0.41
17:Q:66:SER:O	17:Q:70:ARG:NH1	2.53	0.41
18:R:21:LYS:HA	18:R:21:LYS:HD3	1.61	0.41
19:S:34:TRP:HD1	19:S:52:TYR:CD2	2.38	0.41
1:A:184:G:H1	1:A:193:C:N4	2.13	0.41
1:A:194:C:H5''	20:T:65:LYS:HG3	2.02	0.41
1:A:317:G:C2'	1:A:318:G:H5'	2.50	0.41
1:A:1239:A:H4'	1:A:1240:U:H5''	2.02	0.41
1:A:1248:A:O2'	9:I:70:LYS:NZ	2.51	0.41
2:B:33:TYR:O	2:B:34:ALA:HB2	2.20	0.41
2:B:80:ILE:HD12	2:B:80:ILE:H	1.85	0.41
2:B:100:GLY:C	2:B:102:LEU:N	2.78	0.41
2:B:127:ILE:HG13	2:B:127:ILE:H	1.51	0.41
2:B:153:ARG:HB3	2:B:154:LEU:HD23	2.01	0.41
3:C:147:LYS:HE2	3:C:203:PHE:CE2	2.55	0.41
3:C:172:ARG:C	3:C:174:PRO:HD3	2.44	0.41
13:M:88:ARG:HH11	13:M:88:ARG:HD3	1.71	0.41
1:A:314:C:O2'	1:A:315:A:H5'	2.20	0.41
1:A:655:A:H2'	1:A:656:C:O4'	2.21	0.41
1:A:663:A:O2'	1:A:664:G:H5'	2.20	0.41
1:A:682:G:H1	1:A:708:C:N4	2.17	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:684:A:N3	11:K:39:PRO:HD2	2.35	0.41
1:A:707:C:H4'	11:K:20:TYR:CD2	2.55	0.41
1:A:758:G:O6	24:A:3191:HOH:O	2.22	0.41
1:A:990:C:O2'	1:A:991:U:H5'	2.20	0.41
1:A:1054:C:O2	1:A:1196:U:C5	2.74	0.41
1:A:1316:G:N2	1:A:1319:A:OP2	2.53	0.41
1:A:1505:G:C8	1:A:1505:G:H3'	2.55	0.41
2:B:43:ASP:OD1	2:B:45:GLN:HG2	2.20	0.41
2:B:112:VAL:O	2:B:115:LEU:HB3	2.21	0.41
5:E:150:ARG:HE	5:E:150:ARG:HB2	1.61	0.41
7:G:37:ASN:O	7:G:38:LEU:C	2.63	0.41
10:J:5:ARG:H	10:J:5:ARG:HG2	1.53	0.41
11:K:51:LYS:H	11:K:54:ARG:HH21	1.68	0.41
17:Q:57:VAL:HA	17:Q:77:VAL:HG23	2.02	0.41
1:A:15:G:H5'	1:A:1396:A:O2'	2.20	0.41
1:A:124:G:C5	1:A:125:U:C5	3.09	0.41
1:A:363:A:N6	12:L:28:LYS:HD3	2.35	0.41
1:A:407:G:O2'	4:D:116:GLN:HG3	2.21	0.41
1:A:557:G:H2'	1:A:558:G:O4'	2.20	0.41
1:A:591:U:OP1	8:H:30:ARG:NE	2.53	0.41
1:A:706:A:H1'	11:K:29:ILE:HD11	2.01	0.41
1:A:1033:G:C8	1:A:1034:G:C8	3.09	0.41
1:A:1169:A:C5	1:A:1171:G:H1'	2.56	0.41
1:A:1190:G:H5'	3:C:176:HIS:NE2	2.35	0.41
1:A:1323:G:C6	1:A:1324:A:C6	3.09	0.41
3:C:35:GLU:HA	3:C:38:ARG:HD2	2.03	0.41
3:C:198:VAL:O	3:C:198:VAL:HG12	2.20	0.41
4:D:11:LEU:C	4:D:13:ARG:N	2.77	0.41
4:D:128:VAL:O	4:D:129:ASN:HB2	2.21	0.41
7:G:145:ALA:C	7:G:147:ALA:H	2.27	0.41
8:H:40:ALA:C	8:H:42:GLU:N	2.77	0.41
10:J:5:ARG:CD	10:J:99:LYS:HB2	2.44	0.41
11:K:19:ALA:HB2	11:K:32:ILE:HG23	2.03	0.41
11:K:123:LYS:C	11:K:125:PHE:N	2.76	0.41
12:L:27:LEU:C	12:L:29:GLY:N	2.65	0.41
18:R:29:PHE:HZ	18:R:43:PHE:CE1	2.39	0.41
1:A:127:G:H4'	17:Q:2:PRO:HG2	2.02	0.41
1:A:158:G:H2'	1:A:159:G:H5'	2.02	0.41
1:A:179:A:H2'	1:A:180:U:C6	2.55	0.41
1:A:338:A:H2'	1:A:339:C:O4'	2.19	0.41
1:A:486:U:H2'	1:A:487:A:H8	1.83	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:509:A:C8	1:A:509:A:H3'	2.55	0.41
1:A:737:A:H8	1:A:737:A:O5'	2.03	0.41
1:A:975:A:H4'	1:A:976:G:C5'	2.51	0.41
1:A:1349:A:OP1	9:I:118:LYS:HG3	2.20	0.41
1:A:1405:G:O2'	1:A:1518[A]:MA6:O2'	2.35	0.41
2:B:114:ARG:NH1	2:B:117:GLU:OE2	2.53	0.41
7:G:117:ALA:CA	7:G:120:ILE:HG12	2.36	0.41
9:I:10:ARG:HE	9:I:105:ASP:CG	2.28	0.41
10:J:64:GLU:HG2	14:N:59:ALA:HB2	2.02	0.41
15:O:58:MET:H	15:O:58:MET:HG2	1.59	0.41
16:P:3:LYS:HA	16:P:65:GLN:O	2.20	0.41
16:P:80:PHE:N	16:P:80:PHE:CD1	2.88	0.41
1:A:16:A:N1	1:A:919:A:H2	2.18	0.41
1:A:229:U:H2'	1:A:230:G:C8	2.55	0.41
1:A:251:G:H4'	1:A:252:U:C5'	2.49	0.41
1:A:253:U:H2'	1:A:254:G:C8	2.54	0.41
1:A:662:G:H2'	1:A:663:A:H8	1.79	0.41
1:A:981:U:C2	1:A:982:U:C5	3.09	0.41
1:A:1350:A:H2'	1:A:1351:U:H6	1.85	0.41
3:C:35:GLU:OE1	3:C:59:ARG:NH1	2.45	0.41
3:C:108:ASN:HA	3:C:109:PRO:HD2	1.89	0.41
3:C:123:GLN:HB3	3:C:128:PHE:HD1	1.85	0.41
3:C:148:GLY:HA3	3:C:172:ARG:H	1.85	0.41
4:D:172:PRO:HD2	4:D:173:TRP:CZ3	2.55	0.41
4:D:190:ASP:OD2	4:D:192:GLU:N	2.48	0.41
7:G:111:ARG:NH2	7:G:123:GLU:HA	2.26	0.41
8:H:97:VAL:O	8:H:100:ILE:HD12	2.20	0.41
10:J:48:THR:HG23	10:J:62:HIS:CE1	2.55	0.41
11:K:54:ARG:CZ	11:K:54:ARG:HB2	2.44	0.41
16:P:23:ASP:O	16:P:26:ARG:HB2	2.20	0.41
19:S:3:ARG:HG2	19:S:4:SER:H	1.84	0.41
19:S:32:LYS:H	19:S:32:LYS:HZ3	1.66	0.41
1:A:414:A:N3	1:A:415:A:C8	2.89	0.41
1:A:503:C:H2'	1:A:504:C:H5'	2.02	0.41
1:A:538:G:OP2	12:L:115:LYS:HB2	2.21	0.41
1:A:698:G:N2	24:A:3116:HOH:O	2.38	0.41
1:A:892:A:C2	1:A:893:C:C2	3.09	0.41
1:A:926:G:H5'	1:A:927:G:O5'	2.20	0.41
1:A:1238:A:N7	1:A:1303:C:H1'	2.35	0.41
1:A:1346:A:C5	7:G:10:ARG:CZ	3.04	0.41
1:A:1406:U:H5'	1:A:1518[B]:MA6:O2'	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1427:U:H2'	1:A:1428:A:H8	1.84	0.41
2:B:43:ASP:OD1	2:B:44:LEU:N	2.53	0.41
2:B:240:GLN:OE1	2:B:240:GLN:N	2.53	0.41
3:C:47:LEU:HD12	3:C:83:ARG:HH22	1.86	0.41
4:D:100:ARG:O	4:D:104:VAL:HG23	2.21	0.41
5:E:101:ILE:HD12	5:E:101:ILE:HG23	1.73	0.41
6:F:2:ARG:HB3	6:F:92:LYS:HE3	2.03	0.41
9:I:9:ARG:HA	9:I:76:ALA:CB	2.51	0.41
14:N:12:ARG:HD3	14:N:12:ARG:HA	1.65	0.41
14:N:45:ARG:O	14:N:46:GLU:C	2.63	0.41
14:N:53:LEU:HA	14:N:53:LEU:HD23	1.67	0.41
16:P:38:TYR:O	16:P:49:LEU:HD12	2.20	0.41
1:A:758:G:O2'	1:A:759:A:O5'	2.31	0.41
1:A:986:A:N6	1:A:987:G:C6	2.89	0.41
1:A:986:A:H3'	1:A:987:G:H8	1.85	0.41
1:A:1532:U:C6	1:A:1532:U:C3'	3.03	0.41
4:D:127:THR:HA	4:D:131:ARG:O	2.20	0.41
5:E:17:ALA:HB2	5:E:26:PHE:CD2	2.55	0.41
6:F:80:ARG:NH2	6:F:88:VAL:O	2.53	0.41
7:G:106:GLN:O	7:G:110:GLN:HG3	2.21	0.41
7:G:108:ALA:O	7:G:111:ARG:HB2	2.20	0.41
9:I:85:LEU:HD12	9:I:85:LEU:HA	1.82	0.41
10:J:55:LYS:HG3	10:J:56:HIS:N	2.34	0.41
12:L:21:LYS:H	12:L:21:LYS:HG2	1.52	0.41
1:A:73:C:O2'	1:A:74:C:H5'	2.21	0.41
1:A:191:G:N2	20:T:103:GLY:O	2.53	0.41
1:A:236:G:H1'	17:Q:4:LYS:HZ3	1.86	0.41
1:A:254:G:C4	1:A:255:G:C8	3.09	0.41
1:A:353:A:H5'	1:A:353:A:C8	2.56	0.41
1:A:417:C:H2'	1:A:418:C:H6	1.85	0.41
1:A:450:G:O5'	1:A:450:G:H8	2.04	0.41
1:A:460:A:O2'	1:A:461:C:H5'	2.20	0.41
1:A:742:G:H2'	1:A:743:U:O4'	2.21	0.41
1:A:770:C:N4	24:A:2450:HOH:O	2.37	0.41
1:A:1016:A:H2'	1:A:1017:G:O4'	2.21	0.41
1:A:1253:G:H1'	1:A:1355:G:O2'	2.21	0.41
1:A:1492:A:C8	1:A:1492:A:C3'	3.04	0.41
1:A:1518[B]:MA6:O2'	1:A:1519[B]:MA6:P	2.79	0.41
2:B:44:LEU:HA	2:B:47:THR:HB	2.02	0.41
2:B:59:GLU:HB2	2:B:221:LEU:HD11	2.03	0.41
2:B:97:TRP:CD2	2:B:173:ALA:HB2	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:134:GLU:O	2:B:135:GLN:C	2.64	0.41
2:B:162:ILE:HD13	2:B:162:ILE:HA	1.57	0.41
2:B:165:VAL:CG1	2:B:166:ASP:N	2.82	0.41
3:C:14:ILE:HB	3:C:15:THR:CG2	2.50	0.41
4:D:12:CYS:SG	4:D:19:LEU:O	2.79	0.41
4:D:78:LEU:HB3	4:D:93:PHE:HE2	1.85	0.41
4:D:97:LEU:HD23	4:D:97:LEU:HA	1.76	0.41
4:D:110:PHE:N	4:D:110:PHE:CD1	2.86	0.41
5:E:43:LEU:CB	5:E:136:MET:HE2	2.42	0.41
6:F:69:GLU:O	6:F:72:VAL:HG23	2.20	0.41
7:G:70:LYS:HA	7:G:71:PRO:HD2	1.81	0.41
9:I:15:ALA:HB2	9:I:65:VAL:HG23	2.03	0.41
9:I:88:TYR:O	9:I:88:TYR:CG	2.74	0.41
10:J:11:PHE:CD1	14:N:55:GLY:HA3	2.56	0.41
12:L:6:THR:HG23	12:L:9:GLN:OE1	2.20	0.41
12:L:17:LYS:H	12:L:17:LYS:HG2	1.52	0.41
13:M:3:ARG:HA	13:M:8:GLU:HG2	2.03	0.41
13:M:74:VAL:O	13:M:75:ALA:C	2.64	0.41
17:Q:29:HIS:C	17:Q:31:LEU:N	2.76	0.41
18:R:37:VAL:O	18:R:41:LYS:HG3	2.21	0.41
1:A:138:G:N2	1:A:226:G:H1'	2.36	0.41
1:A:184:G:H8	1:A:184:G:O5'	2.04	0.41
1:A:714:G:N3	1:A:777:A:H1'	2.36	0.41
1:A:727:G:C6	1:A:731:G:C6	3.09	0.41
1:A:811:C:H4'	1:A:900:A:N6	2.36	0.41
1:A:1347:G:C6	9:I:107:ARG:NH1	2.89	0.41
1:A:1501:C:H5''	1:A:1502:A:OP2	2.20	0.41
2:B:9:GLU:CD	2:B:10:LEU:N	2.79	0.41
2:B:69:LEU:HD23	2:B:69:LEU:HA	1.86	0.41
2:B:90:MET:HA	2:B:91:PRO:HD3	1.86	0.41
2:B:129:GLU:H	2:B:129:GLU:HG2	1.64	0.41
3:C:111:LEU:HD21	3:C:144:SER:O	2.21	0.41
3:C:117:ALA:O	3:C:118:GLN:C	2.64	0.41
4:D:11:LEU:HD13	4:D:66:ARG:CG	2.51	0.41
4:D:38:TYR:CD2	4:D:38:TYR:N	2.85	0.41
5:E:63:ARG:HE	5:E:63:ARG:HB2	1.20	0.41
5:E:118:ILE:HD13	5:E:118:ILE:HG21	1.78	0.41
7:G:5:ARG:NH1	7:G:6:ARG:HB2	2.36	0.41
8:H:107:LEU:HD23	8:H:107:LEU:HA	1.77	0.41
13:M:23:TYR:HB2	13:M:67:GLU:OE1	2.20	0.41
13:M:67:GLU:HB3	13:M:68:GLY:H	1.50	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:54:GLU:HA	16:P:54:GLU:OE1	2.21	0.41
18:R:76:LEU:HD23	18:R:76:LEU:HA	1.94	0.41
19:S:62:ILE:HD12	19:S:62:ILE:HA	1.73	0.41
1:A:567:G:H2'	1:A:568:G:O4'	2.21	0.40
1:A:826:C:H2'	1:A:827:U:C6	2.54	0.40
1:A:860:A:H2'	1:A:861:G:O4'	2.21	0.40
1:A:986:A:C2	1:A:1220:G:C2	3.10	0.40
1:A:1005:A:H5'	1:A:1037:C:O2'	2.20	0.40
1:A:1276:G:C4	1:A:1277:C:C5	3.09	0.40
1:A:1371:G:OP1	9:I:12:GLU:HB2	2.22	0.40
1:A:1408:A:C6	1:A:1494:G:N2	2.89	0.40
1:A:1442:G:C6	1:A:1446:A:C6	3.09	0.40
1:A:1463:C:O5'	1:A:1463:C:H6	2.03	0.40
1:A:1466:C:C5	1:A:1467:G:C5	3.09	0.40
1:A:1499:A:O4'	1:A:1520[A]:G:H5'	2.21	0.40
2:B:60:ASP:OD2	2:B:64:ARG:HD2	2.21	0.40
2:B:208:ILE:HG22	2:B:209:ARG:N	2.35	0.40
3:C:188:LEU:CD1	3:C:190:ARG:HG2	2.51	0.40
4:D:163:GLU:O	4:D:166:LYS:HB2	2.20	0.40
6:F:98:LEU:HA	6:F:98:LEU:HD23	1.84	0.40
15:O:50:HIS:O	15:O:53:HIS:HB3	2.21	0.40
19:S:10:PHE:CE2	19:S:37:ARG:HD3	2.53	0.40
19:S:22:LEU:CD1	19:S:27:GLU:HA	2.49	0.40
19:S:58:VAL:O	19:S:60:VAL:HG23	2.21	0.40
20:T:33:ILE:CD1	20:T:63:ILE:HA	2.50	0.40
1:A:937:A:H1'	1:A:1379:G:H22	1.86	0.40
1:A:1108:G:H8	1:A:1108:G:H5''	1.86	0.40
1:A:1216:G:H5''	14:N:5:ALA:HB2	2.04	0.40
1:A:1217:C:C2	1:A:1218:C:C5	3.08	0.40
1:A:1345:U:H3'	24:A:2740:HOH:O	2.22	0.40
2:B:19:HIS:NE2	2:B:206:ASP:HB2	2.36	0.40
3:C:11:ARG:HH11	3:C:180:ALA:HB3	1.86	0.40
3:C:130:VAL:O	3:C:131:ARG:C	2.64	0.40
6:F:48:LEU:N	6:F:56:PRO:O	2.52	0.40
6:F:53:ALA:O	6:F:54:LYS:HB2	2.21	0.40
7:G:78:ARG:HG3	7:G:156:TRP:HE3	1.86	0.40
10:J:32:ALA:O	10:J:34:VAL:HG23	2.21	0.40
12:L:70:ILE:HA	12:L:71:PRO:HD3	1.70	0.40
14:N:26:ARG:NH1	14:N:26:ARG:HG3	2.35	0.40
15:O:11:VAL:O	15:O:12:ILE:C	2.65	0.40
18:R:32:ARG:C	18:R:69:THR:HG21	2.46	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:50:GLU:CB	20:T:99:LEU:HD13	2.50	0.40
1:A:50:A:N6	1:A:361:G:H4'	2.36	0.40
1:A:861:G:H2'	1:A:862:C:H6	1.86	0.40
1:A:1030(A):G:H2'	1:A:1030(C):G:OP2	2.21	0.40
1:A:1036:G:N2	1:A:1037:C:O2	2.55	0.40
1:A:1198:G:C6	1:A:1199:U:C4	3.10	0.40
1:A:1217:C:H2'	1:A:1218:C:C6	2.49	0.40
1:A:1307:U:H2'	1:A:1308:U:C6	2.56	0.40
2:B:174:VAL:CG2	2:B:184:VAL:HG11	2.52	0.40
3:C:81:GLY:O	3:C:82:GLU:C	2.63	0.40
5:E:14:ARG:HE	5:E:16:THR:CG2	2.34	0.40
5:E:33:VAL:HG11	5:E:109:ILE:HA	2.03	0.40
5:E:80:ILE:HD13	5:E:80:ILE:HG21	1.79	0.40
5:E:152:ARG:HE	5:E:152:ARG:HB2	1.51	0.40
10:J:75:ILE:HD13	10:J:76:ASN:OD1	2.21	0.40
11:K:18:ARG:O	11:K:33:THR:HG22	2.21	0.40
15:O:43:LEU:HD23	15:O:43:LEU:HA	1.77	0.40
16:P:19:ILE:O	16:P:36:ILE:N	2.54	0.40
17:Q:27:PHE:CD1	17:Q:27:PHE:O	2.75	0.40
1:A:546:G:O2'	1:A:548:G:H4'	2.22	0.40
1:A:939:G:C4	1:A:940:C:C5	3.09	0.40
1:A:981:U:O4	1:A:1222:G:O6	2.39	0.40
1:A:1053:G:H4'	1:A:1054:C:H5'	2.03	0.40
1:A:1125:U:C5'	24:A:2985:HOH:O	2.68	0.40
1:A:1492:A:H3'	1:A:1492:A:H8	1.85	0.40
1:A:1505:G:H4'	1:A:1506:U:C5'	2.45	0.40
4:D:145:GLU:HB2	4:D:184:LYS:HD2	2.03	0.40
5:E:119:LEU:HD23	5:E:119:LEU:HA	1.67	0.40
7:G:85:TYR:CD1	7:G:154:TYR:CE1	3.04	0.40
8:H:106:GLY:HA2	8:H:122:ARG:HH22	1.85	0.40
11:K:41:THR:OG1	11:K:42:TRP:N	2.55	0.40
12:L:6:THR:CG2	12:L:9:GLN:HG3	2.49	0.40
12:L:48:PRO:HD2	12:L:49:ASN:H	1.85	0.40
14:N:33:VAL:HA	14:N:39:LEU:O	2.21	0.40
15:O:7:GLU:O	15:O:8:LYS:C	2.64	0.40
17:Q:27:PHE:CD1	17:Q:27:PHE:C	2.99	0.40
1:A:88:A:C4	1:A:89:C:C6	3.10	0.40
1:A:956:U:C2'	1:A:957:U:H5'	2.52	0.40
1:A:1008:C:C2	1:A:1021:G:O6	2.75	0.40
1:A:1021:G:C6	1:A:1022:G:H1'	2.56	0.40
1:A:1029:C:H5'	1:A:1033:G:C2	2.57	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1256:A:N6	1:A:1277:C:H3'	2.35	0.40
1:A:1442:G:N7	1:A:1446:A:C6	2.90	0.40
1:A:1451:A:H8	1:A:1451:A:C5'	2.35	0.40
1:A:1515[A]:C:H42	1:A:1520[A]:G:H1	1.69	0.40
1:A:1518[A]:MA6:H2'	1:A:1519[A]:MA6:C8	2.51	0.40
4:D:101:LEU:HD12	4:D:101:LEU:HA	1.74	0.40
5:E:35:GLY:N	5:E:112:LEU:HD22	2.36	0.40
5:E:36:ASP:C	5:E:38:GLN:H	2.28	0.40
5:E:83:GLU:HA	5:E:87:SER:O	2.21	0.40
7:G:91:VAL:CG1	7:G:96:GLN:HG3	2.52	0.40
12:L:53:ARG:NH1	12:L:92:OTD:CG	2.84	0.40
12:L:84:LEU:HB3	12:L:101:VAL:HG23	2.03	0.40
12:L:90:VAL:HB	12:L:96:VAL:HG21	2.04	0.40
13:M:84:ILE:HD12	19:S:74:PHE:CE2	2.57	0.40
15:O:50:HIS:O	15:O:51:HIS:C	2.65	0.40
17:Q:18:THR:HA	17:Q:44:ALA:O	2.22	0.40
19:S:7:LYS:H	19:S:7:LYS:CD	2.17	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:25:THR:OG1	18:R:25:THR:OG1[8_555]	2.07	0.13

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	
2	B	232/256 (91%)	194 (84%)	32 (14%)	6 (3%)	4	27
3	C	204/239 (85%)	170 (83%)	32 (16%)	2 (1%)	12	45
4	D	206/209 (99%)	186 (90%)	19 (9%)	1 (0%)	24	57

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	E	148/162 (91%)	137 (93%)	8 (5%)	3 (2%)	6	33
6	F	99/101 (98%)	87 (88%)	11 (11%)	1 (1%)	12	45
7	G	153/156 (98%)	135 (88%)	18 (12%)	0	100	100
8	H	136/138 (99%)	123 (90%)	13 (10%)	0	100	100
9	I	125/128 (98%)	105 (84%)	19 (15%)	1 (1%)	16	49
10	J	96/105 (91%)	77 (80%)	14 (15%)	5 (5%)	1	15
11	K	114/129 (88%)	97 (85%)	16 (14%)	1 (1%)	14	47
12	L	121/135 (90%)	101 (84%)	16 (13%)	4 (3%)	3	24
13	M	116/126 (92%)	94 (81%)	20 (17%)	2 (2%)	7	35
14	N	58/61 (95%)	49 (84%)	9 (16%)	0	100	100
15	O	85/89 (96%)	74 (87%)	11 (13%)	0	100	100
16	P	81/88 (92%)	75 (93%)	6 (7%)	0	100	100
17	Q	97/105 (92%)	90 (93%)	7 (7%)	0	100	100
18	R	68/88 (77%)	62 (91%)	5 (7%)	1 (2%)	8	37
19	S	78/93 (84%)	72 (92%)	5 (6%)	1 (1%)	9	40
20	T	97/106 (92%)	75 (77%)	20 (21%)	2 (2%)	5	31
21	U	22/27 (82%)	20 (91%)	2 (9%)	0	100	100
All	All	2336/2541 (92%)	2023 (87%)	283 (12%)	30 (1%)	9	40

All (30) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	21	ARG
10	J	35	SER
12	L	28	LYS
2	B	9	GLU
2	B	11	LEU
2	B	101	MET
3	C	15	THR
3	C	62	ASP
5	E	118	ILE
6	F	96	PRO
19	S	31	ILE
4	D	31	CYS
12	L	25	PRO
18	R	60	ALA

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
20	T	77	ALA
5	E	16	THR
5	E	70	PRO
10	J	54	PHE
12	L	79	GLU
20	T	13	LEU
9	I	119	ALA
10	J	34	VAL
10	J	60	ARG
12	L	46	LYS
13	M	23	TYR
10	J	18	ALA
2	B	25	ASN
2	B	211	ILE
13	M	7	VAL
11	K	95	ILE

5.3.2 Protein sidechains ⓘ

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	
2	B	202/220 (92%)	138 (68%)	64 (32%)	0	2
3	C	160/188 (85%)	104 (65%)	56 (35%)	0	1
4	D	180/181 (99%)	128 (71%)	52 (29%)	0	3
5	E	115/123 (94%)	78 (68%)	37 (32%)	0	2
6	F	90/90 (100%)	71 (79%)	19 (21%)	1	7
7	G	126/127 (99%)	86 (68%)	40 (32%)	0	2
8	H	119/119 (100%)	83 (70%)	36 (30%)	0	2
9	I	98/99 (99%)	73 (74%)	25 (26%)	0	4
10	J	87/92 (95%)	62 (71%)	25 (29%)	0	3
11	K	88/99 (89%)	63 (72%)	25 (28%)	0	3
12	L	103/110 (94%)	67 (65%)	36 (35%)	0	1

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	M	94/101 (93%)	60 (64%)	34 (36%)	0	1
14	N	49/50 (98%)	34 (69%)	15 (31%)	0	2
15	O	79/80 (99%)	44 (56%)	35 (44%)	0	0
16	P	72/74 (97%)	58 (81%)	14 (19%)	1	8
17	Q	94/97 (97%)	61 (65%)	33 (35%)	0	1
18	R	61/77 (79%)	45 (74%)	16 (26%)	0	4
19	S	71/80 (89%)	53 (75%)	18 (25%)	0	4
20	T	76/82 (93%)	50 (66%)	26 (34%)	0	2
21	U	19/22 (86%)	12 (63%)	7 (37%)	0	1
All	All	1983/2111 (94%)	1370 (69%)	613 (31%)	0	2

All (613) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	7	VAL
2	B	11	LEU
2	B	12	GLU
2	B	17	PHE
2	B	19	HIS
2	B	20	GLU
2	B	22	LYS
2	B	23	ARG
2	B	24	TRP
2	B	30	ARG
2	B	33	TYR
2	B	36	ARG
2	B	47	THR
2	B	48	MET
2	B	50	GLU
2	B	51	LEU
2	B	53	ARG
2	B	60	ASP
2	B	63	MET
2	B	69	LEU
2	B	73	THR
2	B	74	LYS
2	B	76	GLN
2	B	79	ASP
2	B	87	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	90	MET
2	B	102	LEU
2	B	109	SER
2	B	110	GLN
2	B	111	ARG
2	B	112	VAL
2	B	118	LEU
2	B	121	LEU
2	B	127	ILE
2	B	129	GLU
2	B	130	ARG
2	B	132	LYS
2	B	133	LYS
2	B	135	GLN
2	B	143	GLU
2	B	144	ARG
2	B	145	LEU
2	B	154	LEU
2	B	155	LEU
2	B	157	ARG
2	B	162	ILE
2	B	164	VAL
2	B	168	THR
2	B	170	GLU
2	B	172	ILE
2	B	174	VAL
2	B	175	ARG
2	B	178	ARG
2	B	182	ILE
2	B	184	VAL
2	B	194	PRO
2	B	205	ASP
2	B	208	ILE
2	B	214	ILE
2	B	221	LEU
2	B	222	ILE
2	B	226	ARG
2	B	238	LEU
2	B	239	VAL
3	C	4	LYS
3	C	8	ILE
3	C	11	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	C	12	LEU
3	C	14	ILE
3	C	15	THR
3	C	21	ARG
3	C	27	LYS
3	C	30	ARG
3	C	34	LEU
3	C	35	GLU
3	C	37	GLN
3	C	42	LEU
3	C	43	LEU
3	C	44	GLU
3	C	45	LYS
3	C	46	GLU
3	C	47	LEU
3	C	52	LEU
3	C	62	ASP
3	C	66	VAL
3	C	67	THR
3	C	70	VAL
3	C	82	GLU
3	C	84	ILE
3	C	87	LEU
3	C	89	GLU
3	C	94	LEU
3	C	97	LYS
3	C	101	LEU
3	C	102	ASN
3	C	111	LEU
3	C	112	SER
3	C	120	VAL
3	C	131	ARG
3	C	132	ARG
3	C	134	ILE
3	C	135	LYS
3	C	138	VAL
3	C	144	SER
3	C	151	VAL
3	C	153	VAL
3	C	157	ILE
3	C	162	GLN
3	C	165	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	C	167	TRP
3	C	172	ARG
3	C	173	VAL
3	C	175	LEU
3	C	178	LEU
3	C	188	LEU
3	C	191	THR
3	C	192	THR
3	C	195	VAL
3	C	199	LYS
3	C	204	LEU
4	D	3	ARG
4	D	5	ILE
4	D	10	ARG
4	D	17	VAL
4	D	24	GLU
4	D	25	ARG
4	D	26	CYS
4	D	28	SER
4	D	35	ARG
4	D	38	TYR
4	D	39	PRO
4	D	49	ARG
4	D	57	ARG
4	D	58	LEU
4	D	63	LYS
4	D	64	LEU
4	D	70	ILE
4	D	71	SER
4	D	73	ARG
4	D	74	GLN
4	D	78	LEU
4	D	84	LYS
4	D	88	VAL
4	D	107	ARG
4	D	118	ARG
4	D	122	ARG
4	D	126	ILE
4	D	131	ARG
4	D	132	ARG
4	D	133	VAL
4	D	135	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
4	D	137	SER
4	D	140	VAL
4	D	150	GLU
4	D	153	ARG
4	D	157	LEU
4	D	162	LEU
4	D	166	LYS
4	D	169	LYS
4	D	170	VAL
4	D	178	VAL
4	D	181	MET
4	D	182	LYS
4	D	184	LYS
4	D	186	LEU
4	D	187	ARG
4	D	188	LEU
4	D	190	ASP
4	D	191	ARG
4	D	194	LEU
4	D	196	LEU
4	D	202	LEU
5	E	6	PHE
5	E	10	MET
5	E	11	ILE
5	E	12	LEU
5	E	13	ILE
5	E	15	ARG
5	E	16	THR
5	E	18	ARG
5	E	24	ARG
5	E	25	ARG
5	E	26	PHE
5	E	27	ARG
5	E	31	LEU
5	E	41	VAL
5	E	47	LYS
5	E	50	GLU
5	E	55	VAL
5	E	56	GLN
5	E	63	ARG
5	E	64	ARG
5	E	67	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	E	71	LEU
5	E	78	HIS
5	E	79	GLU
5	E	81	GLU
5	E	87	SER
5	E	100	VAL
5	E	101	ILE
5	E	105	VAL
5	E	107	ARG
5	E	111	GLU
5	E	112	LEU
5	E	117	ASP
5	E	131	ILE
5	E	144	THR
5	E	150	ARG
5	E	153	LYS
6	F	8	ILE
6	F	10	LEU
6	F	19	LEU
6	F	21	LEU
6	F	27	GLN
6	F	30	LEU
6	F	32	ASN
6	F	38	GLU
6	F	40	VAL
6	F	42	GLU
6	F	43	LEU
6	F	54	LYS
6	F	66	GLU
6	F	73	ASN
6	F	74	ASP
6	F	82	ARG
6	F	83	ASP
6	F	92	LYS
6	F	93	SER
7	G	5	ARG
7	G	9	VAL
7	G	12	LEU
7	G	16	LEU
7	G	17	VAL
7	G	21	VAL
7	G	22	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	G	23	VAL
7	G	27	ILE
7	G	38	LEU
7	G	49	ILE
7	G	50	ILE
7	G	51	GLN
7	G	53	LYS
7	G	54	THR
7	G	59	LEU
7	G	66	VAL
7	G	70	LYS
7	G	75	VAL
7	G	84	ASN
7	G	87	VAL
7	G	90	GLU
7	G	96	GLN
7	G	106	GLN
7	G	109	ASN
7	G	113	GLU
7	G	115	ARG
7	G	118	VAL
7	G	120	ILE
7	G	125	MET
7	G	126	ASP
7	G	129	GLU
7	G	131	LYS
7	G	135	VAL
7	G	137	LYS
7	G	141	VAL
7	G	143	ARG
7	G	144	MET
7	G	146	GLU
7	G	155	ARG
8	H	3	THR
8	H	13	ILE
8	H	15	ASN
8	H	18	ARG
8	H	24	THR
8	H	25	ASP
8	H	26	VAL
8	H	35	ILE
8	H	36	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	H	37	ARG
8	H	39	LEU
8	H	45	ILE
8	H	51	VAL
8	H	53	VAL
8	H	56	LYS
8	H	61	VAL
8	H	62	TYR
8	H	64	LYS
8	H	69	ARG
8	H	76	PRO
8	H	80	ILE
8	H	82	HIS
8	H	84	ARG
8	H	85	ARG
8	H	87	SER
8	H	91	ARG
8	H	93	VAL
8	H	102	ARG
8	H	104	ARG
8	H	105	ARG
8	H	116	LYS
8	H	119	LEU
8	H	121	ASP
8	H	127	LEU
8	H	129	VAL
8	H	133	LEU
9	I	2	GLU
9	I	9	ARG
9	I	11	LYS
9	I	23	ASN
9	I	29	ASN
9	I	34	ASN
9	I	42	ARG
9	I	47	LEU
9	I	53	VAL
9	I	56	LEU
9	I	64	THR
9	I	71	SER
9	I	75	ASP
9	I	79	LEU
9	I	85	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
9	I	91	ASP
9	I	99	LEU
9	I	102	LEU
9	I	107	ARG
9	I	108	VAL
9	I	111	ARG
9	I	112	LYS
9	I	116	LYS
9	I	121	ARG
9	I	124	GLN
10	J	3	LYS
10	J	5	ARG
10	J	6	ILE
10	J	15	THR
10	J	16	LEU
10	J	23	ILE
10	J	30	SER
10	J	38	ILE
10	J	44	VAL
10	J	46	ARG
10	J	48	THR
10	J	60	ARG
10	J	65	LEU
10	J	66	ARG
10	J	67	THR
10	J	69	ASN
10	J	73	ASP
10	J	75	ILE
10	J	76	ASN
10	J	81	THR
10	J	85	LEU
10	J	87	THR
10	J	88	LEU
10	J	90	LEU
10	J	95	GLU
11	K	11	LYS
11	K	12	ARG
11	K	18	ARG
11	K	29	ILE
11	K	30	VAL
11	K	36	ASP
11	K	38	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
11	K	40	ILE
11	K	41	THR
11	K	51	LYS
11	K	58	PRO
11	K	62	GLN
11	K	70	LYS
11	K	80	VAL
11	K	84	VAL
11	K	87	THR
11	K	104	GLN
11	K	108	ILE
11	K	111	ASP
11	K	114	VAL
11	K	117	ASN
11	K	120	ARG
11	K	123	LYS
11	K	124	LYS
11	K	126	ARG
12	L	13	LYS
12	L	17	LYS
12	L	18	VAL
12	L	19	ARG
12	L	20	LYS
12	L	21	LYS
12	L	23	LYS
12	L	24	VAL
12	L	28	LYS
12	L	33	ARG
12	L	38	THR
12	L	39	VAL
12	L	42	THR
12	L	43	VAL
12	L	44	THR
12	L	46	LYS
12	L	47	LYS
12	L	60	LEU
12	L	61	THR
12	L	66	VAL
12	L	78	GLN
12	L	79	GLU
12	L	80	HIS
12	L	82	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
12	L	83	VAL
12	L	89	ARG
12	L	93	LEU
12	L	94	LEU
12	L	100	ILE
12	L	101	VAL
12	L	113	ARG
12	L	114	LYS
12	L	116	SER
12	L	118	SER
12	L	126	LYS
12	L	127	GLU
13	M	4	ILE
13	M	9	ILE
13	M	14	ARG
13	M	27	LYS
13	M	29	ARG
13	M	32	GLU
13	M	36	LYS
13	M	39	ILE
13	M	45	VAL
13	M	46	LYS
13	M	47	ASP
13	M	49	THR
13	M	56	LEU
13	M	58	GLU
13	M	62	ASN
13	M	63	THR
13	M	66	LEU
13	M	69	GLU
13	M	70	LEU
13	M	71	ARG
13	M	73	GLU
13	M	78	ILE
13	M	81	LEU
13	M	90	LEU
13	M	92	HIS
13	M	98	VAL
13	M	106	ASN
13	M	108	ARG
13	M	109	THR
13	M	110	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
13	M	111	LYS
13	M	115	LYS
13	M	116	THR
13	M	117	VAL
14	N	7	ILE
14	N	8	GLU
14	N	9	LYS
14	N	11	LYS
14	N	17	LYS
14	N	21	TYR
14	N	29	ARG
14	N	31	ARG
14	N	33	VAL
14	N	41	ARG
14	N	44	LEU
14	N	45	ARG
14	N	47	LEU
14	N	52	GLN
14	N	58	LYS
15	O	5	LYS
15	O	6	GLU
15	O	8	LYS
15	O	9	GLN
15	O	10	LYS
15	O	13	GLN
15	O	14	GLU
15	O	21	ASP
15	O	22	THR
15	O	29	VAL
15	O	32	LEU
15	O	33	THR
15	O	34	LEU
15	O	36	ILE
15	O	39	LEU
15	O	45	VAL
15	O	47	LYS
15	O	54	ARG
15	O	56	LEU
15	O	57	LEU
15	O	58	MET
15	O	60	VAL
15	O	63	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
15	O	64	ARG
15	O	66	LEU
15	O	68	ARG
15	O	70	LEU
15	O	73	GLU
15	O	75	PRO
15	O	76	GLU
15	O	77	ARG
15	O	81	LEU
15	O	82	ILE
15	O	84	LYS
15	O	87	ILE
16	P	4	ILE
16	P	12	LYS
16	P	21	VAL
16	P	26	ARG
16	P	42	ARG
16	P	45	THR
16	P	48	TRP
16	P	50	LYS
16	P	51	VAL
16	P	52	ASP
16	P	67	THR
16	P	68	ASP
16	P	76	GLN
16	P	83	GLU
17	Q	3	LYS
17	Q	4	LYS
17	Q	5	VAL
17	Q	6	LEU
17	Q	7	THR
17	Q	9	VAL
17	Q	10	VAL
17	Q	11	VAL
17	Q	17	LYS
17	Q	22	LEU
17	Q	34	LYS
17	Q	35	VAL
17	Q	36	ILE
17	Q	43	LEU
17	Q	48	GLU
17	Q	57	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
17	Q	59	ILE
17	Q	60	ILE
17	Q	62	SER
17	Q	63	ARG
17	Q	68	ARG
17	Q	69	LYS
17	Q	72	ARG
17	Q	78	GLU
17	Q	79	SER
17	Q	86	GLU
17	Q	87	LYS
17	Q	88	TYR
17	Q	89	LEU
17	Q	92	ARG
17	Q	96	GLU
17	Q	98	LEU
17	Q	100	LYS
18	R	26	LEU
18	R	28	GLU
18	R	39	VAL
18	R	47	THR
18	R	53	ARG
18	R	54	ARG
18	R	55	ARG
18	R	56	THR
18	R	65	ILE
18	R	68	LYS
18	R	69	THR
18	R	75	ILE
18	R	78	LEU
18	R	83	GLU
18	R	86	VAL
18	R	88	LYS
19	S	4	SER
19	S	5	LEU
19	S	6	LYS
19	S	7	LYS
19	S	14	HIS
19	S	18	LYS
19	S	29	ARG
19	S	31	ILE
19	S	32	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S	35	SER
19	S	36	ARG
19	S	37	ARG
19	S	41	VAL
19	S	43	GLU
19	S	58	VAL
19	S	63	THR
19	S	71	LEU
19	S	79	THR
20	T	14	LYS
20	T	18	GLN
20	T	23	ARG
20	T	24	LEU
20	T	29	LYS
20	T	36	LEU
20	T	41	ILE
20	T	45	GLN
20	T	50	GLU
20	T	51	GLU
20	T	53	LEU
20	T	54	LYS
20	T	56	MET
20	T	62	LEU
20	T	71	THR
20	T	72	LEU
20	T	73	HIS
20	T	75	ASN
20	T	80	ARG
20	T	81	LYS
20	T	84	LEU
20	T	88	VAL
20	T	89	ARG
20	T	91	LEU
20	T	93	GLU
20	T	100	ILE
21	U	6	ARG
21	U	8	THR
21	U	12	LYS
21	U	13	ILE
21	U	15	ARG
21	U	17	THR
21	U	22	ARG

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

Mol	Chain	Res	Type
2	B	140	HIS
2	B	204	ASN
3	C	3	ASN
3	C	6	HIS
3	C	110	ASN
4	D	77	ASN
5	E	65	ASN
7	G	13	GLN
7	G	64	GLN
8	H	15	ASN
9	I	29	ASN
10	J	33	GLN
10	J	84	GLN
15	O	28	GLN
15	O	62	GLN
16	P	82	GLN
17	Q	94	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1506/1522 (98%)	423 (28%)	46 (3%)

All (423) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	4	U
1	A	9	G
1	A	12	U
1	A	15	G
1	A	16	A
1	A	30	U
1	A	31	G
1	A	32	A
1	A	39	G
1	A	43	C
1	A	45	U
1	A	47	C
1	A	48	C
1	A	49	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	51	A
1	A	54	C
1	A	55	A
1	A	58	C
1	A	77	G
1	A	81	U
1	A	82	U
1	A	101	A
1	A	109	A
1	A	115	G
1	A	116	A
1	A	117	G
1	A	121	C
1	A	129(A)	G
1	A	130	A
1	A	131	C
1	A	138	G
1	A	145	G
1	A	151	A
1	A	158	G
1	A	163	C
1	A	174	C
1	A	176	C
1	A	181	G
1	A	182	U
1	A	190(E)	U
1	A	190(H)	G
1	A	191	G
1	A	195	A
1	A	197	A
1	A	198	G
1	A	202	U
1	A	203	U
1	A	204	U
1	A	216	G
1	A	220	G
1	A	224	C
1	A	225	C
1	A	231	G
1	A	236	G
1	A	240	C
1	A	243	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	244	U
1	A	245	C
1	A	247	G
1	A	250	A
1	A	251	G
1	A	253	U
1	A	264	U
1	A	266	G
1	A	267	C
1	A	272	C
1	A	279	A
1	A	280	C
1	A	289	G
1	A	293	G
1	A	298	A
1	A	301	G
1	A	319	G
1	A	321	A
1	A	328	C
1	A	329	A
1	A	330	C
1	A	331	G
1	A	344	A
1	A	345	C
1	A	350	G
1	A	351	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	355	C
1	A	356	A
1	A	365	U
1	A	366	C
1	A	367	U
1	A	369	C
1	A	373	A
1	A	384	G
1	A	390	C
1	A	398	C
1	A	406	G
1	A	409	G
1	A	411	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	412	A
1	A	413	G
1	A	415	A
1	A	421	U
1	A	422	C
1	A	424	G
1	A	429	U
1	A	430	A
1	A	439	A
1	A	440	A
1	A	446	G
1	A	452	A
1	A	456	C
1	A	461	C
1	A	462	G
1	A	477	G
1	A	484	G
1	A	485	G
1	A	496	A
1	A	497	A
1	A	498	U
1	A	500	G
1	A	503	C
1	A	504	C
1	A	507	C
1	A	509	A
1	A	510	A
1	A	511	C
1	A	514	C
1	A	515	G
1	A	518	C
1	A	519	C
1	A	524	G
1	A	526	C
1	A	527	7MG
1	A	531	U
1	A	532	A
1	A	533	A
1	A	536	C
1	A	537	G
1	A	539	A
1	A	545	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	547	A
1	A	559	A
1	A	560	U
1	A	562	C
1	A	563	A
1	A	564	C
1	A	568	G
1	A	572	A
1	A	573	A
1	A	576	G
1	A	577	G
1	A	579	G
1	A	581	G
1	A	587	G
1	A	588	G
1	A	589	C
1	A	609	A
1	A	618	C
1	A	625	G
1	A	642	A
1	A	653	A
1	A	665	A
1	A	666	G
1	A	670	G
1	A	672	U
1	A	674	G
1	A	686	U
1	A	687	A
1	A	689	C
1	A	692	U
1	A	695	A
1	A	702	A
1	A	703	G
1	A	705	U
1	A	716	A
1	A	719	C
1	A	720	C
1	A	721	G
1	A	722	A
1	A	723	U
1	A	724	G
1	A	729	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	731	G
1	A	734	G
1	A	741	G
1	A	744	C
1	A	747	C
1	A	748	C
1	A	749	C
1	A	753	A
1	A	755	G
1	A	759	A
1	A	764	C
1	A	766	A
1	A	774	G
1	A	777	A
1	A	780	A
1	A	781	A
1	A	793	U
1	A	794	A
1	A	804	U
1	A	807	A
1	A	815	A
1	A	817	C
1	A	818	G
1	A	819	A
1	A	820	U
1	A	822	C
1	A	827	U
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	848	C
1	A	855	G
1	A	857	C
1	A	870	U
1	A	872	A
1	A	873	A
1	A	889	A
1	A	902	G
1	A	917	G
1	A	920	U
1	A	922	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	926	G
1	A	927	G
1	A	931	C
1	A	933	G
1	A	934	C
1	A	935	A
1	A	937	A
1	A	939	G
1	A	942	G
1	A	952	U
1	A	954	G
1	A	960	U
1	A	964	A
1	A	965	A
1	A	966	M2G
1	A	969	A
1	A	971	G
1	A	972	C
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	982	U
1	A	986	A
1	A	992	U
1	A	993	G
1	A	997	U
1	A	1002	G
1	A	1003(A)	G
1	A	1004	A
1	A	1005	A
1	A	1007	C
1	A	1009	G
1	A	1010	G
1	A	1011	G
1	A	1012	U
1	A	1021	G
1	A	1022	G
1	A	1026	G
1	A	1027	C
1	A	1028	C
1	A	1029	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1030	C
1	A	1030(A)	G
1	A	1030(B)	C
1	A	1030(C)	G
1	A	1031	G
1	A	1033	G
1	A	1034	G
1	A	1035	A
1	A	1038	C
1	A	1039	C
1	A	1045	C
1	A	1046	A
1	A	1053	G
1	A	1054	C
1	A	1055	A
1	A	1060	C
1	A	1065	U
1	A	1066	C
1	A	1070	U
1	A	1077	G
1	A	1094	G
1	A	1095	U
1	A	1100	C
1	A	1101	A
1	A	1104	G
1	A	1108	G
1	A	1109	C
1	A	1110	A
1	A	1125	U
1	A	1126	U
1	A	1127	G
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1135	U
1	A	1136	U
1	A	1137	C
1	A	1139	G
1	A	1140	C
1	A	1141	C
1	A	1145	C
1	A	1146	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1151	A
1	A	1152	A
1	A	1153	C
1	A	1154	G
1	A	1157	A
1	A	1159	U
1	A	1160	G
1	A	1162	C
1	A	1163	C
1	A	1171	G
1	A	1173	G
1	A	1175	G
1	A	1179	A
1	A	1182	G
1	A	1183	A
1	A	1184	G
1	A	1190	G
1	A	1196	U
1	A	1197	G
1	A	1200	C
1	A	1201	A
1	A	1202	G
1	A	1209	C
1	A	1211	U
1	A	1212	U
1	A	1213	A
1	A	1214	C
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1233	G
1	A	1238	A
1	A	1240	U
1	A	1241	G
1	A	1247	U
1	A	1249	C
1	A	1253	G
1	A	1257	U
1	A	1258	G
1	A	1270	C
1	A	1277	C
1	A	1278	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1279	A
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1286	A
1	A	1287	A
1	A	1298	C
1	A	1300	G
1	A	1302	U
1	A	1304	G
1	A	1310	G
1	A	1312	G
1	A	1317	C
1	A	1319	A
1	A	1320	C
1	A	1322	C
1	A	1332	A
1	A	1336	C
1	A	1338	G
1	A	1341	U
1	A	1346	A
1	A	1347	G
1	A	1353	G
1	A	1356	G
1	A	1363	A
1	A	1364	U
1	A	1370	G
1	A	1376	U
1	A	1377	A
1	A	1378	C
1	A	1379	G
1	A	1380	U
1	A	1381	U
1	A	1393	U
1	A	1394	A
1	A	1401	G
1	A	1402	4OC
1	A	1403	C
1	A	1407	5MC
1	A	1408	A
1	A	1410	G
1	A	1413	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1414	U
1	A	1418	A
1	A	1440	C
1	A	1442	G
1	A	1446	A
1	A	1451	A
1	A	1452	C
1	A	1460	A
1	A	1474	G
1	A	1476	G
1	A	1487	G
1	A	1489	G
1	A	1490	C
1	A	1491	G
1	A	1492	A
1	A	1493	A
1	A	1494	G
1	A	1495	U
1	A	1496	C
1	A	1498	UR3
1	A	1499	A
1	A	1502	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1508	G
1	A	1529	G
1	A	1530	G
1	A	1531	A

All (46) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	115	G
1	A	129(A)	G
1	A	181	G
1	A	243	A
1	A	250	A
1	A	328	C
1	A	329	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	350	G
1	A	353	A
1	A	372	C
1	A	428	G
1	A	429	U
1	A	509	A
1	A	518	C
1	A	531	U
1	A	532	A
1	A	559	A
1	A	588	G
1	A	609	A
1	A	748	C
1	A	758	G
1	A	780	A
1	A	793	U
1	A	817	C
1	A	832	C
1	A	890	G
1	A	919	A
1	A	992	U
1	A	1054	C
1	A	1065	U
1	A	1093	A
1	A	1125	U
1	A	1201	A
1	A	1225	A
1	A	1226	C
1	A	1256	A
1	A	1257	U
1	A	1319	A
1	A	1346	A
1	A	1380	U
1	A	1490	C
1	A	1491	G
1	A	1493	A
1	A	1505	G
1	A	1529	G
1	A	1530	G

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

17 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
12	0TD	L	92	12	8,9,10	1.32	1 (12%)	6,11,13	4.32	3 (50%)
1	MA6	A	1518[B]	1	23,26,27	1.73	8 (34%)	33,38,41	0.92	2 (6%)
1	M2G	A	966	1	24,27,28	0.99	2 (8%)	33,40,43	1.31	4 (12%)
1	PSU	A	1540	1	18,21,22	0.94	1 (5%)	21,30,33	1.72	4 (19%)
1	5MC	A	967	1	19,22,23	2.03	5 (26%)	26,32,35	1.45	5 (19%)
1	5MC	A	1407	1	19,22,23	1.15	2 (10%)	26,32,35	1.45	5 (19%)
1	7MG	A	527	1	23,26,27	3.05	4 (17%)	27,39,42	2.36	8 (29%)
1	MA6	A	1519[B]	1	23,26,27	1.69	5 (21%)	33,38,41	0.91	3 (9%)
1	MA6	A	1518[A]	1	23,26,27	1.11	3 (13%)	33,38,41	0.93	2 (6%)
1	UR3	A	1498	1	19,22,23	1.97	5 (26%)	26,32,35	1.48	4 (15%)
1	PSU	A	516	1,22	18,21,22	1.35	3 (16%)	21,30,33	1.47	5 (23%)
1	MA6	A	1519[A]	1	23,26,27	1.51	4 (17%)	33,38,41	1.23	4 (12%)
1	PSU	A	1541	1	18,21,22	1.09	3 (16%)	21,30,33	1.59	4 (19%)
1	2MG	A	1207	1,22	23,26,27	0.96	1 (4%)	33,38,41	1.57	9 (27%)
1	5MC	A	1400	1	19,22,23	5.34	6 (31%)	26,32,35	2.93	12 (46%)
1	4OC	A	1402	1	20,23,24	1.44	3 (15%)	25,32,35	1.06	3 (12%)
1	5MC	A	1404	1	19,22,23	2.25	7 (36%)	26,32,35	1.12	2 (7%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
12	0TD	L	92	12	-	2/7/12/14	-
1	MA6	A	1518[B]	1	-	2/11/29/30	0/3/3/3
1	M2G	A	966	1	-	4/11/29/30	0/3/3/3

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	A	1540	1	-	2/7/25/26	0/2/2/2
1	5MC	A	967	1	-	1/7/25/26	0/2/2/2
1	5MC	A	1407	1	-	2/7/25/26	0/2/2/2
1	7MG	A	527	1	-	1/7/37/38	0/3/3/3
1	MA6	A	1519[B]	1	-	2/11/29/30	0/3/3/3
1	MA6	A	1518[A]	1	-	2/11/29/30	0/3/3/3
1	UR3	A	1498	1	-	0/7/25/26	0/2/2/2
1	PSU	A	516	1,22	-	0/7/25/26	0/2/2/2
1	MA6	A	1519[A]	1	-	5/11/29/30	0/3/3/3
1	PSU	A	1541	1	-	0/7/25/26	0/2/2/2
1	2MG	A	1207	1,22	-	2/9/27/28	0/3/3/3
1	5MC	A	1400	1	-	6/7/25/26	0/2/2/2
1	4OC	A	1402	1	-	3/9/29/30	0/2/2/2
1	5MC	A	1404	1	-	0/7/25/26	0/2/2/2

All (63) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1400	5MC	C5-C4	18.88	1.58	1.44
1	A	527	7MG	C8-N9	-11.53	1.38	1.45
1	A	1400	5MC	CM5-C5	7.12	1.68	1.50
1	A	1400	5MC	C6-C5	7.00	1.46	1.34
1	A	967	5MC	C5-C4	-6.78	1.39	1.44
1	A	1400	5MC	C4-N3	-6.77	1.23	1.34
1	A	527	7MG	C6-N1	-6.05	1.27	1.38
1	A	1404	5MC	C5-C4	-5.78	1.39	1.44
1	A	1400	5MC	O2-C2	-5.07	1.14	1.23
1	A	1498	UR3	C4-N3	-5.04	1.30	1.40
1	A	1404	5MC	O2-C2	-4.41	1.15	1.23
1	A	1519[A]	MA6	C5-C4	4.13	1.46	1.39
1	A	1402	4OC	C6-N1	-4.10	1.28	1.38
1	A	516	PSU	C6-C5	4.10	1.39	1.35
1	A	1519[B]	MA6	C5-C4	4.02	1.46	1.39
1	A	527	7MG	C2-N1	-3.82	1.28	1.37
1	A	1518[B]	MA6	C5-C4	3.77	1.45	1.39
1	A	1519[A]	MA6	C2-N1	3.72	1.40	1.33
1	A	1518[B]	MA6	C8-N9	3.68	1.43	1.37
1	A	527	7MG	C5-N7	3.66	1.40	1.35
1	A	1404	5MC	C2-N3	3.52	1.43	1.36
1	A	1498	UR3	C3U-N3	-3.37	1.41	1.47

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1498	UR3	O4-C4	-3.15	1.16	1.23
1	A	1519[B]	MA6	C2-N1	3.14	1.39	1.33
1	A	1400	5MC	C2-N1	3.07	1.46	1.40
1	A	1519[A]	MA6	C10-N6	-2.95	1.39	1.45
1	A	1402	4OC	C2-N3	2.88	1.42	1.36
1	A	1540	PSU	C6-C5	2.87	1.38	1.35
1	A	966	M2G	C6-N1	-2.83	1.33	1.38
1	A	967	5MC	C6-N1	-2.82	1.33	1.38
1	A	967	5MC	C2-N1	2.78	1.45	1.40
1	A	1519[B]	MA6	C6-N1	2.76	1.39	1.34
1	A	1541	PSU	C6-C5	2.76	1.38	1.35
1	A	1207	2MG	C2-N3	2.76	1.37	1.32
1	A	1407	5MC	C5-C4	-2.72	1.42	1.44
1	A	1518[A]	MA6	C10-N6	-2.67	1.39	1.45
1	A	516	PSU	C4-C5	-2.64	1.37	1.44
1	A	1404	5MC	C6-C5	2.58	1.38	1.34
1	A	1518[B]	MA6	C5-N7	2.58	1.43	1.39
1	A	1518[A]	MA6	C2-N1	2.58	1.38	1.33
1	A	1518[B]	MA6	C4-N9	2.50	1.42	1.37
1	A	1519[B]	MA6	C8-N9	2.49	1.41	1.37
1	A	1518[A]	MA6	C5-C4	2.47	1.43	1.39
1	A	1498	UR3	C2-N1	2.46	1.41	1.38
1	A	1519[B]	MA6	C4-N3	2.41	1.38	1.34
1	A	1404	5MC	C6-N1	-2.39	1.33	1.38
1	A	1402	4OC	C5-C4	-2.37	1.36	1.41
1	A	1518[B]	MA6	C8-N7	2.35	1.36	1.31
1	A	1541	PSU	O4'-C1'	-2.32	1.40	1.43
1	A	1404	5MC	C4-N4	2.30	1.40	1.34
1	A	1518[B]	MA6	C6-N6	2.30	1.43	1.36
1	A	1541	PSU	C4-C5	-2.25	1.38	1.44
1	A	967	5MC	C6-C5	-2.25	1.31	1.34
1	A	967	5MC	O2-C2	-2.23	1.19	1.23
1	A	1518[B]	MA6	C6-N1	2.21	1.38	1.34
1	A	1407	5MC	C6-C5	-2.18	1.31	1.34
1	A	516	PSU	O4'-C1'	-2.16	1.40	1.43
1	A	1519[A]	MA6	C8-N7	2.14	1.35	1.31
12	L	92	0TD	CB-SB	-2.12	1.80	1.82
1	A	1518[B]	MA6	C2-N1	2.07	1.37	1.33
1	A	1404	5MC	CM5-C5	-2.04	1.45	1.50
1	A	966	M2G	C2-N2	-2.01	1.31	1.35
1	A	1498	UR3	O2-C2	2.00	1.26	1.22

All (79) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	92	0TD	CSB-SB-CB	-9.91	84.54	102.36
1	A	1400	5MC	N4-C4-N3	-6.98	105.86	118.51
1	A	1400	5MC	O2-C2-N3	-5.51	113.64	122.33
1	A	527	7MG	C5-C4-N3	-5.18	118.40	128.13
1	A	1400	5MC	C5-C4-N4	5.03	128.48	121.39
1	A	527	7MG	N9-C4-N3	4.95	132.71	125.46
1	A	527	7MG	N9-C8-N7	4.85	110.24	103.37
1	A	1400	5MC	C1'-N1-C6	4.82	129.09	121.15
1	A	1400	5MC	N1-C2-N3	4.47	126.56	118.80
1	A	1540	PSU	N1-C2-N3	4.38	119.79	115.17
1	A	527	7MG	C5-C6-N1	4.32	118.54	110.94
1	A	1400	5MC	C5-C6-N1	-4.22	118.73	123.31
1	A	1541	PSU	C4-N3-C2	-4.02	120.83	126.37
1	A	1400	5MC	C5-C4-N3	3.80	125.65	121.75
1	A	1540	PSU	C4-N3-C2	-3.74	121.22	126.37
1	A	1498	UR3	C6-N1-C2	-3.70	118.77	121.80
1	A	1498	UR3	O3'-C3'-C2'	3.70	123.67	111.82
1	A	527	7MG	C2-N1-C6	-3.43	118.89	125.11
1	A	1407	5MC	C5-C4-N3	3.42	125.26	121.75
1	A	966	M2G	O6-C6-N1	-3.39	113.73	120.11
1	A	1207	2MG	C2-N1-C6	-3.35	120.50	124.55
1	A	516	PSU	C6-C5-C4	-3.33	115.92	118.17
1	A	1540	PSU	C6-N1-C2	-3.33	119.60	122.69
1	A	1541	PSU	O2-C2-N1	-3.18	119.51	122.79
1	A	966	M2G	C5-C4-N3	-3.16	123.36	128.39
1	A	1407	5MC	N4-C4-N3	-3.13	112.84	118.51
1	A	966	M2G	O6-C6-C5	3.12	134.76	126.53
1	A	967	5MC	C5-C4-N3	3.10	124.94	121.75
1	A	527	7MG	C2-N3-C4	3.08	117.61	112.30
1	A	1541	PSU	N1-C2-N3	3.08	118.42	115.17
1	A	967	5MC	C4-N3-C2	-3.08	116.53	120.81
1	A	1207	2MG	C5-C4-N3	-3.02	123.59	128.39
1	A	1207	2MG	N9-C4-N3	3.00	131.95	125.95
1	A	1519[A]	MA6	C4-C5-C6	2.99	119.00	115.91
1	A	1519[A]	MA6	C4-C5-N7	-2.94	107.22	110.58
1	A	1400	5MC	C4-N3-C2	-2.94	116.73	120.81
1	A	1207	2MG	CM2-N2-C2	-2.89	117.44	123.65
1	A	1498	UR3	O4-C4-N3	-2.76	116.31	119.66
1	A	1400	5MC	C1'-N1-C2	-2.75	112.36	118.44
1	A	1402	4OC	C5-C4-N4	-2.63	116.63	122.40
1	A	1400	5MC	CM5-C5-C4	2.62	124.82	120.51
1	A	1207	2MG	C6-C5-N7	-2.60	125.56	130.29
1	A	1540	PSU	O2-C2-N1	-2.60	120.11	122.79

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1207	2MG	C6-C5-C4	2.59	122.73	118.83
1	A	527	7MG	N1-C2-N3	2.59	128.07	123.32
1	A	1498	UR3	O2'-C2'-C3'	2.53	119.94	111.82
1	A	1402	4OC	C2'-C1'-N1	-2.50	109.50	114.24
1	A	1518[A]	MA6	C4-C5-C6	2.48	118.47	115.91
1	A	1402	4OC	C4-N3-C2	-2.46	116.85	120.11
1	A	516	PSU	O4'-C1'-C2'	2.44	108.53	105.15
1	A	967	5MC	C1'-N1-C6	-2.43	117.15	121.15
1	A	516	PSU	C6-N1-C2	-2.40	120.46	122.69
1	A	1207	2MG	O6-C6-N1	-2.40	115.61	120.11
1	A	1400	5MC	O4'-C1'-N1	-2.38	102.97	108.36
1	A	966	M2G	N1-C2-N3	2.34	129.69	122.08
1	A	1400	5MC	C2'-C1'-N1	2.33	119.73	113.25
12	L	92	0TD	CB-CA-N	2.32	113.79	109.10
1	A	1407	5MC	C5-C6-N1	-2.28	120.84	123.31
12	L	92	0TD	O-C-CA	-2.28	118.90	124.77
1	A	1207	2MG	N1-C2-N3	2.25	127.47	123.68
1	A	1519[A]	MA6	C2-N1-C6	2.24	117.31	111.83
1	A	527	7MG	C6-C5-C4	-2.24	118.47	122.40
1	A	1519[B]	MA6	C4-C5-C6	2.20	118.19	115.91
1	A	1404	5MC	CM5-C5-C4	-2.17	116.95	120.51
1	A	1404	5MC	C6-N1-C2	-2.17	118.07	120.95
1	A	1407	5MC	C4-N3-C2	-2.15	117.82	120.81
1	A	1407	5MC	C1'-N1-C6	-2.14	117.62	121.15
1	A	1207	2MG	N1-C2-N2	-2.13	114.39	116.56
1	A	1518[B]	MA6	C5-C4-N3	-2.09	123.84	126.72
1	A	967	5MC	O2'-C2'-C1'	-2.09	102.92	110.10
1	A	967	5MC	O2-C2-N3	-2.08	119.05	122.33
1	A	1519[A]	MA6	C5-N7-C8	2.06	106.69	103.45
1	A	1541	PSU	C6-N1-C2	-2.05	120.79	122.69
1	A	1518[B]	MA6	C2-N1-C6	2.04	116.81	111.83
1	A	516	PSU	O4-C4-C5	-2.04	118.95	124.01
1	A	516	PSU	C4-N3-C2	-2.03	123.58	126.37
1	A	1519[B]	MA6	C2-N1-C6	2.01	116.75	111.83
1	A	1518[A]	MA6	C2-N1-C6	2.01	116.74	111.83
1	A	1519[B]	MA6	C5-C4-N3	-2.00	123.96	126.72

There are no chirality outliers.

All (34) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	966	M2G	N1-C2-N2-CM1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
1	A	966	M2G	N3-C2-N2-CM1
1	A	966	M2G	N3-C2-N2-CM2
1	A	1207	2MG	N1-C2-N2-CM2
1	A	1207	2MG	N3-C2-N2-CM2
1	A	1400	5MC	C2'-C1'-N1-C2
1	A	1400	5MC	C2'-C1'-N1-C6
1	A	1402	4OC	O4'-C4'-C5'-O5'
1	A	1407	5MC	O4'-C4'-C5'-O5'
1	A	1518[B]	MA6	O4'-C4'-C5'-O5'
1	A	1519[A]	MA6	O4'-C4'-C5'-O5'
1	A	1519[A]	MA6	C5-C6-N6-C9
1	A	1540	PSU	C2'-C1'-C5-C4
1	A	1540	PSU	C2'-C1'-C5-C6
12	L	92	0TD	O-C-CA-CB
1	A	1400	5MC	O4'-C4'-C5'-O5'
1	A	1407	5MC	C3'-C4'-C5'-O5'
1	A	1518[B]	MA6	C3'-C4'-C5'-O5'
1	A	1519[A]	MA6	C3'-C4'-C5'-O5'
1	A	1519[A]	MA6	N1-C6-N6-C9
1	A	1402	4OC	C3'-C4'-C5'-O5'
1	A	1518[A]	MA6	C3'-C4'-C5'-O5'
1	A	1400	5MC	C3'-C4'-C5'-O5'
1	A	1518[A]	MA6	O4'-C4'-C5'-O5'
1	A	1519[A]	MA6	C5-C6-N6-C10
1	A	1519[B]	MA6	C5-C6-N6-C9
1	A	527	7MG	C4'-C5'-O5'-P
1	A	1400	5MC	O4'-C1'-N1-C2
1	A	966	M2G	N1-C2-N2-CM2
1	A	1400	5MC	O4'-C1'-N1-C6
1	A	1519[B]	MA6	C3'-C4'-C5'-O5'
12	L	92	0TD	CG-CB-SB-CSB
1	A	1402	4OC	C3'-C2'-O2'-CM2
1	A	967	5MC	O4'-C4'-C5'-O5'

There are no ring outliers.

15 monomers are involved in 35 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
12	L	92	0TD	5	0
1	A	1518[B]	MA6	9	0
1	A	966	M2G	2	0
1	A	1540	PSU	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	967	5MC	3	0
1	A	1407	5MC	1	0
1	A	527	7MG	1	0
1	A	1519[B]	MA6	6	0
1	A	1518[A]	MA6	6	0
1	A	1498	UR3	3	0
1	A	516	PSU	1	0
1	A	1519[A]	MA6	3	0
1	A	1541	PSU	1	0
1	A	1207	2MG	2	0
1	A	1402	4OC	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 403 ligands modelled in this entry, 403 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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 ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1500/1522 (98%)	-0.67	12 (0%) 82 58	47, 130, 210, 340	4 (0%)
2	B	234/256 (91%)	-0.30	2 (0%) 81 56	106, 148, 236, 282	0
3	C	206/239 (86%)	-0.40	2 (0%) 79 54	100, 136, 182, 210	0
4	D	208/209 (99%)	-0.16	12 (5%) 29 16	89, 126, 172, 212	0
5	E	150/162 (92%)	-0.45	1 (0%) 84 61	80, 112, 151, 188	0
6	F	101/101 (100%)	-0.39	0 100 100	118, 147, 181, 236	0
7	G	155/156 (99%)	-0.44	2 (1%) 75 47	130, 166, 208, 238	0
8	H	138/138 (100%)	-0.62	0 100 100	95, 120, 158, 192	0
9	I	127/128 (99%)	0.07	6 (4%) 36 19	126, 167, 207, 227	0
10	J	98/105 (93%)	0.01	4 (4%) 41 22	113, 164, 199, 261	0
11	K	116/129 (89%)	-0.17	2 (1%) 69 40	106, 145, 192, 209	0
12	L	123/135 (91%)	-0.25	3 (2%) 59 33	87, 117, 145, 197	0
13	M	118/126 (93%)	-0.23	1 (0%) 82 58	129, 173, 210, 242	0
14	N	60/61 (98%)	-0.12	1 (1%) 69 40	110, 139, 199, 221	0
15	O	87/89 (97%)	-0.44	0 100 100	115, 143, 171, 203	0
16	P	83/88 (94%)	-0.36	0 100 100	97, 128, 160, 186	0
17	Q	99/105 (94%)	-0.15	3 (3%) 52 29	98, 124, 161, 168	0
18	R	70/88 (79%)	-0.45	0 100 100	124, 162, 232, 270	0
19	S	80/93 (86%)	-0.07	2 (2%) 58 33	140, 175, 218, 249	0
20	T	99/106 (93%)	-0.18	3 (3%) 52 29	107, 133, 184, 208	0
21	U	24/27 (88%)	0.57	3 (12%) 8 6	149, 172, 193, 207	0
All	All	3876/4063 (95%)	-0.43	59 (1%) 72 44	47, 138, 201, 340	4 (0%)

All (59) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1516[A]	G	10.1
1	A	1129	C	5.8
9	I	66	ARG	5.8
19	S	2	PRO	5.4
21	U	25	LYS	4.8
19	S	3	ARG	4.6
13	M	7	VAL	4.5
1	A	1517[A]	G	4.5
1	A	1520[A]	G	4.4
20	T	12	ALA	4.4
10	J	100	THR	3.9
20	T	9	ASN	3.7
11	K	126	ARG	3.6
4	D	2	GLY	3.5
1	A	1030(D)	A	3.3
4	D	9	CYS	3.3
7	G	81	GLY	3.1
4	D	31	CYS	3.1
4	D	119	GLN	3.1
20	T	11	SER	3.1
17	Q	24	GLU	3.1
17	Q	100	LYS	3.0
4	D	12	CYS	3.0
9	I	64	THR	3.0
4	D	4	TYR	2.9
2	B	131	PRO	2.9
1	A	1533	C	2.8
3	C	27	LYS	2.8
9	I	15	ALA	2.7
17	Q	99	SER	2.7
3	C	207	VAL	2.7
1	A	1539	C	2.7
10	J	45	ARG	2.6
12	L	26	ALA	2.6
5	E	24	ARG	2.5
12	L	28	LYS	2.5
4	D	22	LYS	2.4
1	A	81	U	2.4
11	K	11	LYS	2.4
10	J	90	LEU	2.4
9	I	65	VAL	2.4
4	D	42	GLN	2.3
9	I	128	ARG	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	B	137	ARG	2.3
21	U	7	ARG	2.3
4	D	6	GLY	2.3
1	A	1334	G	2.3
1	A	977	A	2.3
9	I	62	TYR	2.2
7	G	33	ASP	2.2
12	L	19	ARG	2.1
4	D	131	ARG	2.1
10	J	73	ASP	2.1
14	N	61	TRP	2.1
4	D	26	CYS	2.1
1	A	532	A	2.0
21	U	6	ARG	2.0
4	D	120	LEU	2.0
1	A	839	U	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
1	PSU	A	1540	20/21	0.82	0.21	244,249,261,261	0
1	PSU	A	1541	20/21	0.86	0.18	211,223,230,234	0
1	MA6	A	1518[A]	24/25	0.87	0.19	96,104,114,119	24
1	MA6	A	1518[B]	24/25	0.87	0.19	101,105,117,119	24
1	2MG	A	1207	24/25	0.94	0.06	115,127,139,142	0
1	MA6	A	1519[B]	24/25	0.96	0.11	90,96,98,106	24
1	5MC	A	1407	21/22	0.96	0.05	109,123,133,135	0
1	MA6	A	1519[A]	24/25	0.96	0.11	91,97,106,109	24
1	UR3	A	1498	21/22	0.97	0.08	94,108,123,134	0
1	M2G	A	966	25/26	0.97	0.08	121,130,137,138	0
1	PSU	A	516	20/21	0.97	0.04	114,123,141,142	0
1	5MC	A	1400	21/22	0.97	0.08	92,111,126,132	0
1	4OC	A	1402	22/23	0.97	0.10	114,119,123,133	0
1	5MC	A	1404	21/22	0.97	0.14	103,111,130,135	0
1	7MG	A	527	24/25	0.97	0.07	105,113,130,135	0
1	5MC	A	967	21/22	0.98	0.09	121,129,135,138	0
12	0TD	L	92	10/11	0.98	0.15	81,121,135,281	0

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q<0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
22	MG	A	1956	1/1	-0.04	0.41	156,156,156,156	0
22	MG	A	1943	1/1	0.36	0.48	139,139,139,139	0
22	MG	A	1789	1/1	0.44	0.17	529,529,529,529	0
22	MG	A	1878	1/1	0.45	0.11	498,498,498,498	0
22	MG	G	201	1/1	0.45	0.23	550,550,550,550	0
22	MG	A	1945	1/1	0.51	0.25	168,168,168,168	0
22	MG	A	1866	1/1	0.52	0.11	497,497,497,497	0
22	MG	A	1764	1/1	0.53	0.06	502,502,502,502	0
22	MG	A	1856	1/1	0.53	0.21	484,484,484,484	0
22	MG	A	1944	1/1	0.54	0.25	153,153,153,153	0
22	MG	A	1967	1/1	0.55	0.42	144,144,144,144	0
22	MG	A	1816	1/1	0.55	0.19	449,449,449,449	0
22	MG	A	1768	1/1	0.60	0.08	501,501,501,501	0
22	MG	A	1765	1/1	0.60	0.10	482,482,482,482	0
22	MG	A	1977	1/1	0.61	0.21	129,129,129,129	0
22	MG	A	1747	1/1	0.61	0.23	131,131,131,131	0
22	MG	A	1732	1/1	0.65	0.17	123,123,123,123	0
22	MG	A	1777	1/1	0.65	0.21	481,481,481,481	0
22	MG	L	201	1/1	0.66	0.17	468,468,468,468	0
22	MG	A	1737	1/1	0.67	0.20	133,133,133,133	0
22	MG	A	1746	1/1	0.67	0.36	132,132,132,132	0
22	MG	A	1946	1/1	0.70	0.27	155,155,155,155	0
22	MG	D	304	1/1	0.70	0.10	470,470,470,470	0
22	MG	A	1781	1/1	0.71	0.14	504,504,504,504	0
22	MG	A	1836	1/1	0.71	0.22	409,409,409,409	0
22	MG	A	1690	1/1	0.71	0.12	190,190,190,190	0
22	MG	A	1859	1/1	0.73	0.24	495,495,495,495	0
22	MG	A	1722	1/1	0.74	0.47	120,120,120,120	0
22	MG	A	1885	1/1	0.74	0.20	534,534,534,534	0
22	MG	A	1660	1/1	0.74	0.23	132,132,132,132	0
22	MG	A	1757	1/1	0.75	0.28	550,550,550,550	0
22	MG	A	1964	1/1	0.75	0.17	124,124,124,124	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1822	1/1	0.75	0.12	443,443,443,443	0
22	MG	A	1763	1/1	0.75	0.07	451,451,451,451	0
22	MG	A	1869	1/1	0.75	0.12	550,550,550,550	0
22	MG	A	1875	1/1	0.75	0.11	447,447,447,447	0
22	MG	A	1876	1/1	0.75	0.21	422,422,422,422	0
22	MG	S	101	1/1	0.75	0.22	127,127,127,127	0
22	MG	A	1727	1/1	0.76	0.29	122,122,122,122	0
22	MG	A	1621	1/1	0.76	0.25	178,178,178,178	0
22	MG	A	1849	1/1	0.77	0.24	512,512,512,512	0
22	MG	A	1970	1/1	0.77	0.07	140,140,140,140	0
22	MG	A	1891	1/1	0.77	0.38	496,496,496,496	0
22	MG	D	303	1/1	0.77	0.21	127,127,127,127	0
22	MG	A	1966	1/1	0.78	0.18	138,138,138,138	0
22	MG	A	1881	1/1	0.78	0.07	525,525,525,525	0
22	MG	A	1953	1/1	0.78	0.19	130,130,130,130	0
22	MG	A	1683	1/1	0.79	0.48	135,135,135,135	0
22	MG	A	1837	1/1	0.79	0.08	523,523,523,523	0
22	MG	A	1651	1/1	0.79	0.44	131,131,131,131	0
22	MG	A	1972	1/1	0.79	0.21	135,135,135,135	0
22	MG	A	1833	1/1	0.79	0.09	319,319,319,319	0
22	MG	A	1893	1/1	0.80	0.06	406,406,406,406	0
22	MG	A	1787	1/1	0.80	0.09	430,430,430,430	0
22	MG	A	1708	1/1	0.80	0.24	129,129,129,129	0
22	MG	A	1960	1/1	0.80	0.21	136,136,136,136	0
22	MG	A	1659	1/1	0.80	0.13	131,131,131,131	0
22	MG	A	1908	1/1	0.81	0.13	345,345,345,345	0
22	MG	A	1938	1/1	0.81	0.18	149,149,149,149	0
22	MG	A	1761	1/1	0.81	0.22	458,458,458,458	0
22	MG	A	1645	1/1	0.81	0.22	144,144,144,144	0
22	MG	A	1954	1/1	0.82	0.54	139,139,139,139	0
22	MG	A	1668	1/1	0.82	0.08	111,111,111,111	0
22	MG	A	1684	1/1	0.82	0.18	121,121,121,121	0
22	MG	A	1827	1/1	0.82	0.08	500,500,500,500	0
22	MG	A	1929	1/1	0.82	0.42	111,111,111,111	0
22	MG	A	1951	1/1	0.82	0.42	131,131,131,131	0
22	MG	A	1797	1/1	0.82	0.14	431,431,431,431	0
22	MG	A	1770	1/1	0.83	0.30	532,532,532,532	0
22	MG	A	1870	1/1	0.83	0.11	444,444,444,444	0
22	MG	A	1889	1/1	0.83	0.22	456,456,456,456	0
22	MG	A	1715	1/1	0.83	0.37	125,125,125,125	0
22	MG	A	1730	1/1	0.83	0.38	118,118,118,118	0
22	MG	A	1896	1/1	0.83	0.23	436,436,436,436	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1628	1/1	0.83	0.11	203,203,203,203	0
22	MG	N	102	1/1	0.83	0.19	116,116,116,116	0
22	MG	A	1968	1/1	0.83	0.27	127,127,127,127	0
22	MG	A	1955	1/1	0.84	0.07	132,132,132,132	0
22	MG	A	1834	1/1	0.84	0.08	349,349,349,349	0
22	MG	A	1706	1/1	0.84	0.23	110,110,110,110	0
22	MG	A	1971	1/1	0.84	0.21	116,116,116,116	0
22	MG	A	1716	1/1	0.84	0.41	132,132,132,132	0
22	MG	A	1820	1/1	0.84	0.19	448,448,448,448	0
22	MG	A	1808	1/1	0.85	0.31	480,480,480,480	0
22	MG	A	1700	1/1	0.85	0.35	142,142,142,142	0
22	MG	A	1947	1/1	0.85	0.17	116,116,116,116	0
22	MG	A	1948	1/1	0.85	0.48	127,127,127,127	0
22	MG	A	1718	1/1	0.85	0.30	87,87,87,87	0
22	MG	A	1973	1/1	0.85	0.31	137,137,137,137	0
22	MG	A	1784	1/1	0.85	0.10	486,486,486,486	0
22	MG	A	1910	1/1	0.85	0.26	526,526,526,526	0
22	MG	A	1710	1/1	0.85	0.15	105,105,105,105	0
22	MG	A	1934	1/1	0.85	0.25	111,111,111,111	0
22	MG	K	201	1/1	0.85	0.15	123,123,123,123	0
22	MG	A	1884	1/1	0.85	0.18	428,428,428,428	0
22	MG	A	1769	1/1	0.85	0.08	397,397,397,397	0
22	MG	N	103	1/1	0.85	0.18	333,333,333,333	0
22	MG	A	1689	1/1	0.85	0.19	125,125,125,125	0
22	MG	A	1868	1/1	0.86	0.16	442,442,442,442	0
22	MG	A	1766	1/1	0.86	0.15	549,549,549,549	0
22	MG	A	1857	1/1	0.86	0.19	487,487,487,487	0
22	MG	H	201	1/1	0.86	0.21	421,421,421,421	0
22	MG	A	1847	1/1	0.86	0.17	453,453,453,453	0
22	MG	A	1863	1/1	0.86	0.20	472,472,472,472	0
22	MG	A	1723	1/1	0.86	0.50	126,126,126,126	0
22	MG	A	1942	1/1	0.86	0.29	122,122,122,122	0
22	MG	D	302	1/1	0.86	0.07	92,92,92,92	0
22	MG	A	1861	1/1	0.87	0.25	497,497,497,497	0
22	MG	A	1831	1/1	0.87	0.08	486,486,486,486	0
22	MG	A	1801	1/1	0.87	0.20	480,480,480,480	0
22	MG	A	1802	1/1	0.87	0.22	458,458,458,458	0
22	MG	A	1807	1/1	0.87	0.28	550,550,550,550	0
22	MG	A	1751	1/1	0.87	0.24	130,130,130,130	0
22	MG	A	1840	1/1	0.87	0.19	493,493,493,493	0
22	MG	A	1813	1/1	0.87	0.15	491,491,491,491	0
22	MG	A	1963	1/1	0.87	0.34	153,153,153,153	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1775	1/1	0.87	0.19	538,538,538,538	0
22	MG	A	1855	1/1	0.87	0.10	466,466,466,466	0
22	MG	A	1712	1/1	0.87	0.12	123,123,123,123	0
22	MG	A	1792	1/1	0.87	0.17	530,530,530,530	0
22	MG	A	1688	1/1	0.87	0.30	122,122,122,122	0
22	MG	A	1728	1/1	0.88	0.15	140,140,140,140	0
22	MG	A	1780	1/1	0.88	0.11	432,432,432,432	0
22	MG	A	1720	1/1	0.88	0.22	130,130,130,130	0
22	MG	A	1782	1/1	0.88	0.28	501,501,501,501	0
22	MG	A	1655	1/1	0.88	0.13	150,150,150,150	0
22	MG	A	1736	1/1	0.88	0.29	118,118,118,118	0
22	MG	A	1898	1/1	0.88	0.16	463,463,463,463	0
22	MG	A	1698	1/1	0.88	0.16	113,113,113,113	0
22	MG	A	1719	1/1	0.88	0.51	121,121,121,121	0
22	MG	A	1658	1/1	0.89	0.06	207,207,207,207	0
22	MG	A	1879	1/1	0.89	0.19	509,509,509,509	0
22	MG	A	1791	1/1	0.89	0.26	373,373,373,373	0
22	MG	A	1858	1/1	0.89	0.24	429,429,429,429	0
22	MG	A	1654	1/1	0.89	0.37	113,113,113,113	0
22	MG	A	1835	1/1	0.89	0.14	363,363,363,363	0
22	MG	A	1814	1/1	0.89	0.34	506,506,506,506	0
22	MG	A	1864	1/1	0.89	0.20	316,316,316,316	0
22	MG	A	1795	1/1	0.89	0.19	416,416,416,416	0
22	MG	A	1693	1/1	0.89	0.28	131,131,131,131	0
22	MG	A	1899	1/1	0.89	0.28	550,550,550,550	0
22	MG	A	1776	1/1	0.89	0.26	523,523,523,523	0
22	MG	I	202	1/1	0.89	0.15	146,146,146,146	0
22	MG	A	1674	1/1	0.89	0.11	189,189,189,189	0
22	MG	A	1916	1/1	0.89	0.49	290,290,290,290	0
22	MG	A	1851	1/1	0.89	0.22	481,481,481,481	0
22	MG	A	1933	1/1	0.89	0.22	483,483,483,483	0
22	MG	A	1829	1/1	0.89	0.54	507,507,507,507	0
22	MG	A	1798	1/1	0.90	0.18	550,550,550,550	0
22	MG	A	1759	1/1	0.90	0.14	496,496,496,496	0
22	MG	A	1743	1/1	0.90	0.18	104,104,104,104	0
22	MG	A	1939	1/1	0.90	0.12	103,103,103,103	0
22	MG	A	1959	1/1	0.90	0.41	133,133,133,133	0
22	MG	A	1975	1/1	0.90	0.66	108,108,108,108	0
22	MG	A	1922	1/1	0.91	0.07	446,446,446,446	0
22	MG	A	1949	1/1	0.91	0.46	116,116,116,116	0
22	MG	A	1928	1/1	0.91	0.25	126,126,126,126	0
22	MG	A	1886	1/1	0.91	0.21	490,490,490,490	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1671	1/1	0.91	0.32	121,121,121,121	0
22	MG	A	1890	1/1	0.91	0.15	425,425,425,425	0
22	MG	A	1936	1/1	0.91	0.34	110,110,110,110	0
22	MG	A	1957	1/1	0.91	0.32	105,105,105,105	0
22	MG	A	1608	1/1	0.91	0.14	122,122,122,122	0
22	MG	A	1744	1/1	0.91	0.09	237,237,237,237	0
22	MG	A	1793	1/1	0.91	0.23	550,550,550,550	0
22	MG	A	1862	1/1	0.91	0.16	487,487,487,487	0
22	MG	A	1794	1/1	0.91	0.14	393,393,393,393	0
22	MG	A	1675	1/1	0.91	0.50	125,125,125,125	0
22	MG	A	1796	1/1	0.91	0.26	480,480,480,480	0
22	MG	A	1788	1/1	0.91	0.14	550,550,550,550	0
22	MG	A	1821	1/1	0.92	0.15	543,543,543,543	0
22	MG	A	1969	1/1	0.92	0.11	78,78,78,78	0
22	MG	A	1902	1/1	0.92	0.30	435,435,435,435	0
22	MG	A	1767	1/1	0.92	0.13	548,548,548,548	0
22	MG	A	1752	1/1	0.92	0.38	141,141,141,141	0
22	MG	A	1911	1/1	0.92	0.15	502,502,502,502	0
22	MG	A	1950	1/1	0.92	0.41	126,126,126,126	0
22	MG	A	1976	1/1	0.92	0.15	133,133,133,133	0
22	MG	A	1756	1/1	0.92	0.25	127,127,127,127	0
22	MG	A	1614	1/1	0.92	0.18	120,120,120,120	0
22	MG	A	1806	1/1	0.92	0.47	412,412,412,412	0
22	MG	A	1725	1/1	0.92	0.16	120,120,120,120	0
22	MG	F	201	1/1	0.92	0.15	435,435,435,435	0
22	MG	A	1649	1/1	0.92	0.10	137,137,137,137	0
22	MG	A	1888	1/1	0.92	0.11	470,470,470,470	0
22	MG	A	1644	1/1	0.92	0.11	141,141,141,141	0
22	MG	A	1677	1/1	0.92	0.09	191,191,191,191	0
22	MG	A	1703	1/1	0.92	0.29	125,125,125,125	0
22	MG	A	1845	1/1	0.92	0.11	395,395,395,395	0
22	MG	A	1817	1/1	0.92	0.12	385,385,385,385	0
22	MG	O	1000	1/1	0.92	0.06	242,242,242,242	0
22	MG	A	1734	1/1	0.92	0.26	91,91,91,91	0
22	MG	A	1860	1/1	0.93	0.24	434,434,434,434	0
22	MG	A	1695	1/1	0.93	0.29	118,118,118,118	0
22	MG	A	1940	1/1	0.93	0.06	119,119,119,119	0
22	MG	A	1832	1/1	0.93	0.11	312,312,312,312	0
22	MG	A	1804	1/1	0.93	0.16	318,318,318,318	0
22	MG	A	1642	1/1	0.93	0.14	96,96,96,96	0
22	MG	A	1669	1/1	0.93	0.14	137,137,137,137	0
22	MG	A	1625	1/1	0.93	0.15	188,188,188,188	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1974	1/1	0.93	0.12	137,137,137,137	0
22	MG	A	1900	1/1	0.93	0.17	442,442,442,442	0
22	MG	A	1733	1/1	0.93	0.10	116,116,116,116	0
22	MG	A	1907	1/1	0.93	0.09	329,329,329,329	0
22	MG	A	1754	1/1	0.93	0.06	170,170,170,170	0
22	MG	A	1774	1/1	0.93	0.14	402,402,402,402	0
22	MG	A	1952	1/1	0.93	0.21	93,93,93,93	0
22	MG	A	1618	1/1	0.93	0.11	107,107,107,107	0
22	MG	A	1818	1/1	0.93	0.20	478,478,478,478	0
22	MG	A	1630	1/1	0.93	0.20	146,146,146,146	0
22	MG	A	1926	1/1	0.93	0.16	462,462,462,462	0
22	MG	A	1692	1/1	0.93	0.67	95,95,95,95	0
22	MG	A	1958	1/1	0.93	0.25	124,124,124,124	0
22	MG	A	1738	1/1	0.93	0.20	114,114,114,114	0
22	MG	A	1826	1/1	0.93	0.22	537,537,537,537	0
22	MG	A	1742	1/1	0.93	0.10	133,133,133,133	0
22	MG	P	101	1/1	0.93	0.14	111,111,111,111	0
22	MG	Q	201	1/1	0.93	0.11	99,99,99,99	0
22	MG	A	1639	1/1	0.93	0.20	126,126,126,126	0
22	MG	A	1790	1/1	0.94	0.29	504,504,504,504	0
22	MG	A	1750	1/1	0.94	0.12	96,96,96,96	0
22	MG	A	1612	1/1	0.94	0.08	116,116,116,116	0
22	MG	A	1634	1/1	0.94	0.16	154,154,154,154	0
22	MG	A	1871	1/1	0.94	0.15	426,426,426,426	0
22	MG	A	1935	1/1	0.94	0.17	102,102,102,102	0
22	MG	A	1872	1/1	0.94	0.39	389,389,389,389	0
22	MG	A	1707	1/1	0.94	0.14	100,100,100,100	0
22	MG	A	1755	1/1	0.94	0.11	144,144,144,144	0
22	MG	A	1717	1/1	0.94	0.14	102,102,102,102	0
22	MG	A	1962	1/1	0.94	0.12	127,127,127,127	0
22	MG	A	1906	1/1	0.94	0.17	394,394,394,394	0
22	MG	A	1745	1/1	0.94	0.17	236,236,236,236	0
22	MG	A	1785	1/1	0.94	0.05	353,353,353,353	0
22	MG	A	1657	1/1	0.94	0.22	148,148,148,148	0
22	MG	A	1773	1/1	0.94	0.37	550,550,550,550	0
22	MG	A	1663	1/1	0.94	0.10	166,166,166,166	0
22	MG	A	1918	1/1	0.94	0.19	422,422,422,422	0
22	MG	A	1919	1/1	0.94	0.23	401,401,401,401	0
22	MG	A	1865	1/1	0.94	0.23	474,474,474,474	0
22	MG	A	1815	1/1	0.95	0.16	515,515,515,515	0
22	MG	A	1667	1/1	0.95	0.10	112,112,112,112	0
22	MG	A	1760	1/1	0.95	0.10	407,407,407,407	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1653	1/1	0.95	0.04	228,228,228,228	0
22	MG	A	1622	1/1	0.95	0.13	119,119,119,119	0
22	MG	A	1643	1/1	0.95	0.11	126,126,126,126	0
22	MG	A	1673	1/1	0.95	0.07	109,109,109,109	0
22	MG	A	1633	1/1	0.95	0.20	101,101,101,101	0
22	MG	A	1915	1/1	0.95	0.20	419,419,419,419	0
22	MG	A	1696	1/1	0.95	0.11	127,127,127,127	0
22	MG	A	1867	1/1	0.95	0.16	459,459,459,459	0
22	MG	A	1828	1/1	0.95	0.24	467,467,467,467	0
22	MG	A	1920	1/1	0.95	0.07	245,245,245,245	0
22	MG	A	1604	1/1	0.95	0.20	93,93,93,93	0
22	MG	A	1647	1/1	0.95	0.11	201,201,201,201	0
22	MG	A	1682	1/1	0.95	0.06	218,218,218,218	0
22	MG	A	1772	1/1	0.95	0.12	274,274,274,274	0
22	MG	A	1748	1/1	0.95	0.12	153,153,153,153	0
22	MG	A	1799	1/1	0.95	0.41	550,550,550,550	0
22	MG	A	1800	1/1	0.95	0.29	441,441,441,441	0
22	MG	A	1704	1/1	0.95	0.10	97,97,97,97	0
22	MG	A	1839	1/1	0.95	0.09	271,271,271,271	0
22	MG	C	302	1/1	0.95	0.08	122,122,122,122	0
22	MG	C	303	1/1	0.95	0.09	144,144,144,144	0
22	MG	A	1882	1/1	0.95	0.24	501,501,501,501	0
22	MG	A	1883	1/1	0.95	0.17	500,500,500,500	0
22	MG	A	1941	1/1	0.95	0.20	132,132,132,132	0
22	MG	D	305	1/1	0.95	0.20	103,103,103,103	0
22	MG	A	1705	1/1	0.95	0.13	135,135,135,135	0
22	MG	A	1843	1/1	0.95	0.19	456,456,456,456	0
22	MG	A	1617	1/1	0.95	0.28	107,107,107,107	0
22	MG	A	1729	1/1	0.95	0.11	125,125,125,125	0
22	MG	A	1640	1/1	0.95	0.14	143,143,143,143	0
22	MG	A	1850	1/1	0.95	0.12	233,233,233,233	0
22	MG	A	1685	1/1	0.95	0.10	141,141,141,141	0
22	MG	A	1892	1/1	0.95	0.35	400,400,400,400	0
22	MG	A	1811	1/1	0.95	0.12	436,436,436,436	0
22	MG	A	1709	1/1	0.95	0.15	112,112,112,112	0
22	MG	A	1897	1/1	0.95	0.30	428,428,428,428	0
22	MG	A	1758	1/1	0.95	0.40	481,481,481,481	0
22	MG	A	1841	1/1	0.96	0.28	462,462,462,462	0
22	MG	A	1620	1/1	0.96	0.34	82,82,82,82	0
22	MG	A	1924	1/1	0.96	0.06	322,322,322,322	0
22	MG	A	1824	1/1	0.96	0.34	484,484,484,484	0
22	MG	B	301	1/1	0.96	0.25	141,141,141,141	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1825	1/1	0.96	0.26	490,490,490,490	0
22	MG	A	1895	1/1	0.96	0.33	525,525,525,525	0
22	MG	A	1691	1/1	0.96	0.21	91,91,91,91	0
22	MG	A	1680	1/1	0.96	0.08	116,116,116,116	0
22	MG	A	1810	1/1	0.96	0.05	264,264,264,264	0
22	MG	A	1853	1/1	0.96	0.22	264,264,264,264	0
22	MG	A	1783	1/1	0.96	0.26	535,535,535,535	0
22	MG	A	1812	1/1	0.96	0.17	474,474,474,474	0
22	MG	A	1905	1/1	0.96	0.18	426,426,426,426	0
22	MG	I	201	1/1	0.96	0.48	137,137,137,137	0
22	MG	A	1686	1/1	0.96	0.12	225,225,225,225	0
22	MG	A	1666	1/1	0.96	0.13	81,81,81,81	0
22	MG	A	1786	1/1	0.96	0.08	300,300,300,300	0
22	MG	A	1740	1/1	0.96	0.05	85,85,85,85	0
22	MG	A	1721	1/1	0.96	0.09	97,97,97,97	0
22	MG	A	1753	1/1	0.96	0.12	117,117,117,117	0
22	MG	A	1838	1/1	0.96	0.40	388,388,388,388	0
22	MG	A	1731	1/1	0.96	0.07	114,114,114,114	0
22	MG	A	1672	1/1	0.96	0.06	144,144,144,144	0
22	MG	A	1701	1/1	0.97	0.11	60,60,60,60	0
22	MG	A	1965	1/1	0.97	0.16	101,101,101,101	0
22	MG	A	1930	1/1	0.97	0.09	156,156,156,156	0
22	MG	A	1931	1/1	0.97	0.11	232,232,232,232	0
22	MG	A	1656	1/1	0.97	0.16	166,166,166,166	0
22	MG	A	1601	1/1	0.97	0.04	145,145,145,145	0
22	MG	A	1648	1/1	0.97	0.08	121,121,121,121	0
22	MG	A	1624	1/1	0.97	0.24	106,106,106,106	0
22	MG	A	1650	1/1	0.97	0.10	129,129,129,129	0
22	MG	A	1724	1/1	0.97	0.07	93,93,93,93	0
22	MG	A	1844	1/1	0.97	0.12	369,369,369,369	0
22	MG	A	1676	1/1	0.97	0.06	93,93,93,93	0
22	MG	A	1846	1/1	0.97	0.18	484,484,484,484	0
22	MG	A	1615	1/1	0.97	0.07	98,98,98,98	0
22	MG	A	1848	1/1	0.97	0.43	550,550,550,550	0
22	MG	B	302	1/1	0.97	0.06	116,116,116,116	0
22	MG	A	1904	1/1	0.97	0.10	217,217,217,217	0
22	MG	A	1873	1/1	0.97	0.26	390,390,390,390	0
22	MG	A	1679	1/1	0.97	0.09	107,107,107,107	0
22	MG	A	1805	1/1	0.97	0.34	550,550,550,550	0
22	MG	A	1877	1/1	0.97	0.26	460,460,460,460	0
22	MG	A	1711	1/1	0.97	0.17	106,106,106,106	0
22	MG	E	201	1/1	0.97	0.06	135,135,135,135	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1852	1/1	0.97	0.23	480,480,480,480	0
22	MG	A	1914	1/1	0.97	0.29	439,439,439,439	0
22	MG	A	1880	1/1	0.97	0.25	431,431,431,431	0
22	MG	A	1652	1/1	0.97	0.16	95,95,95,95	0
22	MG	A	1713	1/1	0.97	0.12	107,107,107,107	0
22	MG	A	1809	1/1	0.97	0.21	485,485,485,485	0
22	MG	A	1626	1/1	0.97	0.07	169,169,169,169	0
22	MG	A	1635	1/1	0.97	0.05	74,74,74,74	0
22	MG	A	1638	1/1	0.97	0.10	96,96,96,96	0
22	MG	A	1925	1/1	0.97	0.13	262,262,262,262	0
22	MG	A	1961	1/1	0.97	0.38	126,126,126,126	0
22	MG	A	1887	1/1	0.97	0.25	191,191,191,191	0
22	MG	Q	202	1/1	0.97	0.07	455,455,455,455	0
22	MG	A	1735	1/1	0.97	0.05	87,87,87,87	0
22	MG	A	1803	1/1	0.98	0.10	129,129,129,129	0
22	MG	A	1762	1/1	0.98	0.09	137,137,137,137	0
22	MG	A	1662	1/1	0.98	0.06	110,110,110,110	0
22	MG	A	1603	1/1	0.98	0.03	157,157,157,157	0
22	MG	A	1830	1/1	0.98	0.11	395,395,395,395	0
22	MG	A	1909	1/1	0.98	0.08	149,149,149,149	0
22	MG	A	1687	1/1	0.98	0.08	99,99,99,99	0
22	MG	A	1664	1/1	0.98	0.06	126,126,126,126	0
22	MG	A	1913	1/1	0.98	0.10	317,317,317,317	0
22	MG	A	1749	1/1	0.98	0.05	122,122,122,122	0
22	MG	C	301	1/1	0.98	0.09	111,111,111,111	0
22	MG	A	1665	1/1	0.98	0.12	158,158,158,158	0
22	MG	A	1609	1/1	0.98	0.05	114,114,114,114	0
22	MG	A	1917	1/1	0.98	0.33	456,456,456,456	0
22	MG	A	1678	1/1	0.98	0.08	132,132,132,132	0
22	MG	A	1771	1/1	0.98	0.39	519,519,519,519	0
22	MG	A	1611	1/1	0.98	0.15	148,148,148,148	0
22	MG	A	1921	1/1	0.98	0.14	349,349,349,349	0
22	MG	A	1623	1/1	0.98	0.06	90,90,90,90	0
22	MG	A	1606	1/1	0.98	0.05	183,183,183,183	0
22	MG	A	1739	1/1	0.98	0.12	83,83,83,83	0
22	MG	A	1842	1/1	0.98	0.16	151,151,151,151	0
22	MG	A	1641	1/1	0.98	0.15	158,158,158,158	0
22	MG	A	1741	1/1	0.98	0.06	137,137,137,137	0
22	MG	A	1778	1/1	0.98	0.05	232,232,232,232	0
22	MG	A	1726	1/1	0.98	0.04	104,104,104,104	0
22	MG	A	1823	1/1	0.98	0.20	496,496,496,496	0
22	MG	A	1697	1/1	0.98	0.04	87,87,87,87	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
22	MG	A	1874	1/1	0.98	0.14	437,437,437,437	0
22	MG	A	1661	1/1	0.98	0.32	163,163,163,163	0
22	MG	A	1937	1/1	0.98	0.05	107,107,107,107	0
22	MG	A	1903	1/1	0.98	0.14	223,223,223,223	0
23	ZN	D	301	1/1	0.98	0.20	119,119,119,119	0
22	MG	A	1927	1/1	0.99	0.06	160,160,160,160	0
22	MG	A	1779	1/1	0.99	0.16	411,411,411,411	0
22	MG	A	1619	1/1	0.99	0.10	132,132,132,132	0
22	MG	A	1819	1/1	0.99	0.34	360,360,360,360	0
22	MG	A	1627	1/1	0.99	0.09	98,98,98,98	0
22	MG	A	1613	1/1	0.99	0.05	97,97,97,97	0
22	MG	A	1602	1/1	0.99	0.06	124,124,124,124	0
22	MG	A	1694	1/1	0.99	0.08	127,127,127,127	0
22	MG	A	1631	1/1	0.99	0.04	99,99,99,99	0
22	MG	A	1681	1/1	0.99	0.14	247,247,247,247	0
22	MG	A	1714	1/1	0.99	0.03	76,76,76,76	0
22	MG	A	1610	1/1	0.99	0.07	123,123,123,123	0
22	MG	A	1616	1/1	0.99	0.05	88,88,88,88	0
22	MG	A	1699	1/1	0.99	0.18	112,112,112,112	0
22	MG	A	1670	1/1	0.99	0.07	87,87,87,87	0
22	MG	A	1646	1/1	0.99	0.03	95,95,95,95	0
22	MG	A	1894	1/1	0.99	0.10	379,379,379,379	0
22	MG	A	1702	1/1	0.99	0.07	122,122,122,122	0
22	MG	A	1607	1/1	0.99	0.03	121,121,121,121	0
22	MG	A	1854	1/1	0.99	0.05	126,126,126,126	0
22	MG	A	1636	1/1	0.99	0.02	79,79,79,79	0
22	MG	A	1923	1/1	0.99	0.24	424,424,424,424	0
22	MG	A	1637	1/1	0.99	0.07	124,124,124,124	0
22	MG	A	1605	1/1	0.99	0.06	89,89,89,89	0
22	MG	A	1901	1/1	0.99	0.07	212,212,212,212	0
22	MG	A	1632	1/1	1.00	0.02	82,82,82,82	0
22	MG	A	1932	1/1	1.00	0.04	92,92,92,92	0
22	MG	A	1629	1/1	1.00	0.05	145,145,145,145	0
22	MG	A	1912	1/1	1.00	0.06	46,46,46,46	0
23	ZN	N	101	1/1	1.00	0.01	114,114,114,114	0

6.5 Other polymers

There are no such residues in this entry.