



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 10, 2025 – 03:12 PM EST

PDB ID : 4DR3
Title : Crystal structure of the *Thermus thermophilus* (HB8) 30S ribosomal subunit with streptomycin bound
Authors : Demirci, H.; Murphy IV, F.; Murphy, E.; Gregory, S.T.; Dahlberg, A.E.; Jogl, G.
Deposited on : 2012-02-16
Resolution : 3.35 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 : 4.02b-467
Mogul : 2022.3.0, CSD as543be (2022)
Xtrriage (Phenix) : 1.21
EDS : 3.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4 : 9.0.004 (Gargrove)
Density-Fitness : 1.0.11
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.40

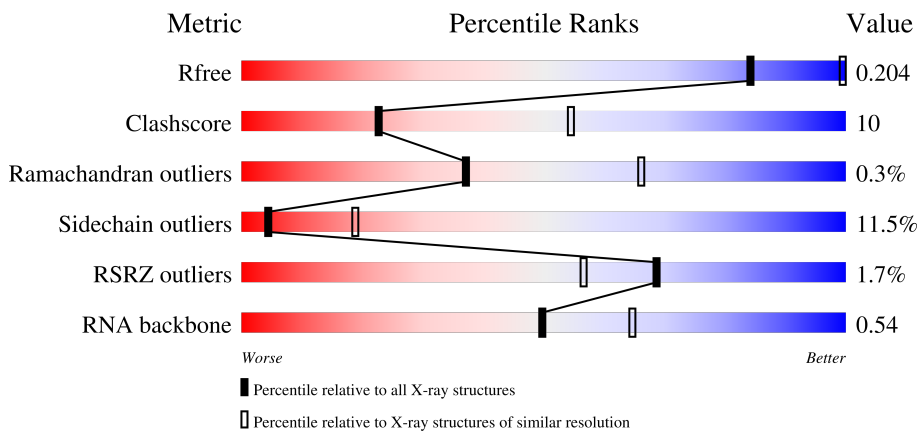
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.35 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.






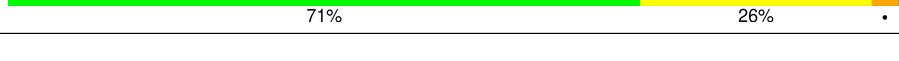
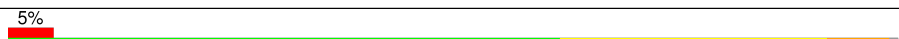


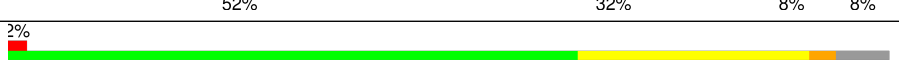


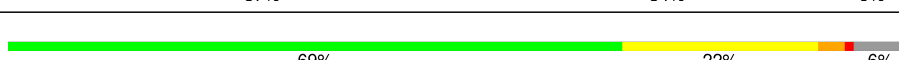


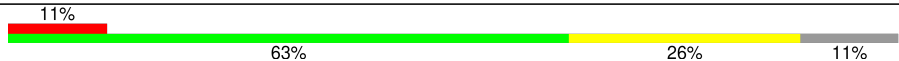


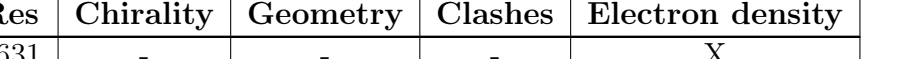

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1325 (3.38-3.30)
Clashscore	180529	1376 (3.38-3.30)
Ramachandran outliers	177936	1376 (3.38-3.30)
Sidechain outliers	177891	1375 (3.38-3.30)
RSRZ outliers	164620	1325 (3.38-3.30)
RNA backbone	3690	1003 (3.70-2.98)

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	 55% 32% 11% ..
2	B	256	 57% 30% . 9%
3	C	239	 51% 28% 7% 14%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
4	D	209	
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
23	MG	A	1631	-	-	-	X
23	MG	A	1643	-	-	-	X
23	MG	A	1676	-	-	-	X
23	MG	A	1715	-	-	-	X
23	MG	A	1725	-	-	-	X
23	MG	A	1751	-	-	-	X
23	MG	A	1765	-	-	-	X

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
23	MG	A	1777	-	-	-	X
23	MG	A	1780	-	-	-	X
23	MG	A	1812	-	-	-	X
23	MG	A	1814	-	-	-	X

2 Entry composition [i](#)

There are 25 unique types of molecules in this entry. The entry contains 52164 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
			Total	C	N	O	P			
1	A	1512	32507	14477	6011	10507	1512	0	0	0

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 30S ribosomal protein S2.

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

- Molecule 3 is a protein called 30S ribosomal protein S3.

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

- Molecule 4 is a protein called 30S ribosomal protein S4.

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

- Molecule 5 is a protein called 30S ribosomal protein S5.

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

- Molecule 6 is a protein called 30S ribosomal protein S6.

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

- Molecule 7 is a protein called 30S ribosomal protein S7.

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

- Molecule 8 is a protein called 30S ribosomal protein S8.

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

- Molecule 9 is a protein called 30S ribosomal protein S9.

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

- Molecule 10 is a protein called 30S ribosomal protein S10.

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

- Molecule 11 is a protein called 30S ribosomal protein S11.

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

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	L	124	972	612	195	163	2	0	0	0

- Molecule 13 is a protein called 30S ribosomal protein S13.

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

- Molecule 14 is a protein called 30S ribosomal protein S14.

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

- Molecule 15 is a protein called 30S ribosomal protein S15.

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

- Molecule 16 is a protein called 30S ribosomal protein S16.

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

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	Q	99	823	528	152	141	2	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	96	GLN	GLU	conflict	UNP Q5SHP7

- Molecule 18 is a protein called 30S ribosomal protein S18.

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

- Molecule 19 is a protein called 30S ribosomal protein S19.

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

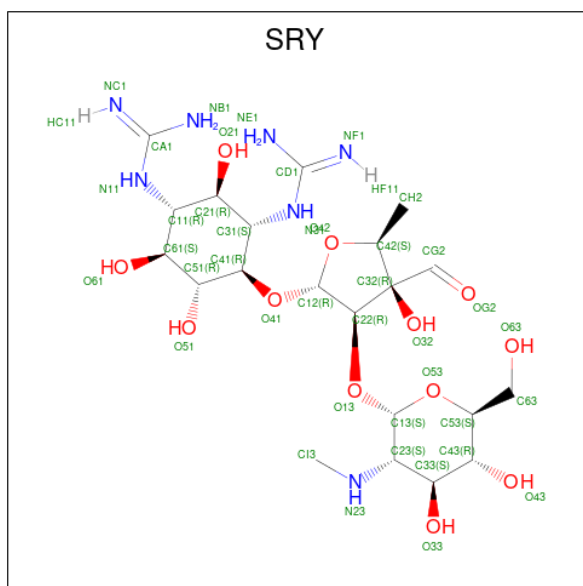
- Molecule 20 is a protein called 30S ribosomal protein S20.

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

- Molecule 21 is a protein called 30S ribosomal protein THX.

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

- Molecule 22 is STREPTOMYCIN (three-letter code: SRY) (formula: $C_{21}H_{39}N_7O_{12}$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
22	A	1	40	21	7	12	0	0

- Molecule 23 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Mg		
23	A	248	248	248	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
23	B	1	Total Mg 1 1	0	0
23	D	1	Total Mg 1 1	0	0
23	E	1	Total Mg 1 1	0	0
23	H	3	Total Mg 3 3	0	0
23	M	1	Total Mg 1 1	0	0
23	N	1	Total Mg 1 1	0	0
23	P	3	Total Mg 3 3	0	0
23	Q	2	Total Mg 2 2	0	0
23	T	2	Total Mg 2 2	0	0
23	U	1	Total Mg 1 1	0	0

- Molecule 24 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

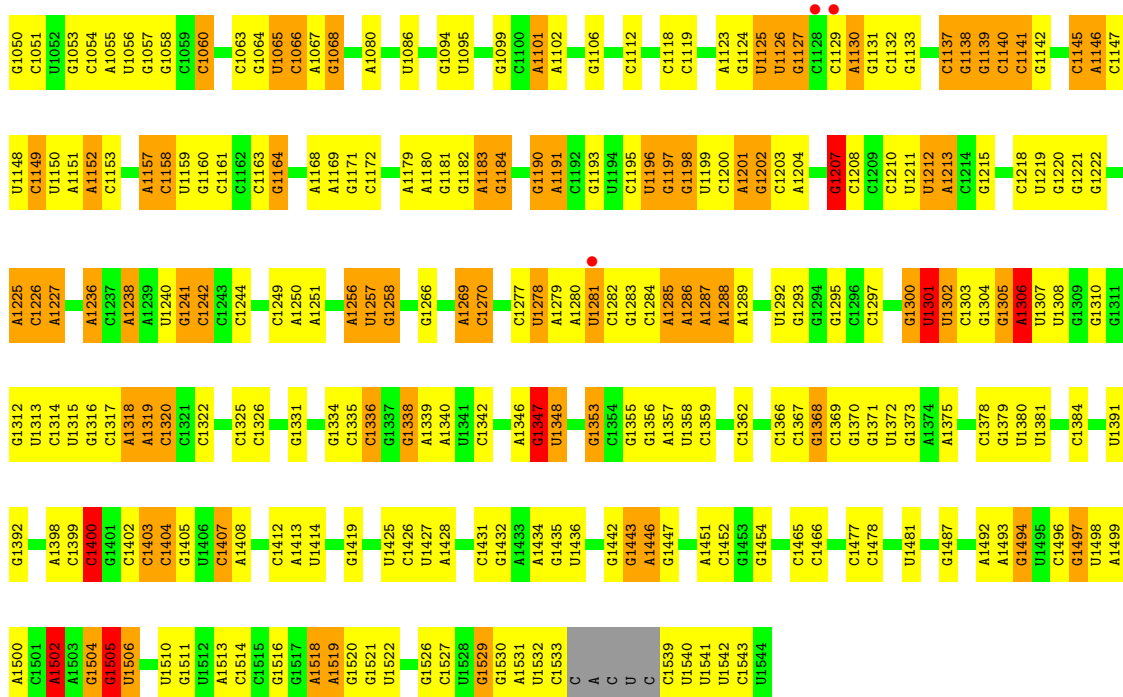
- Molecule 25 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	A	256	Total O 256 256	0	0
25	D	1	Total O 1 1	0	0
25	E	2	Total O 2 2	0	0
25	G	1	Total O 1 1	0	0
25	L	1	Total O 1 1	0	0

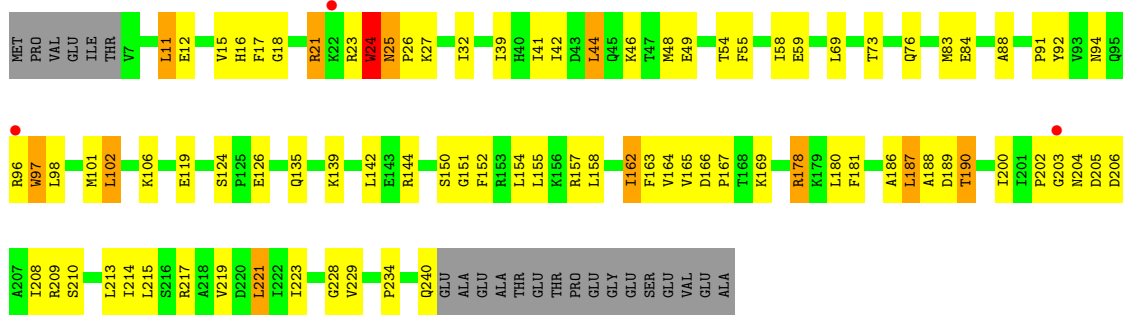
Continued on next page...

Continued from previous page...

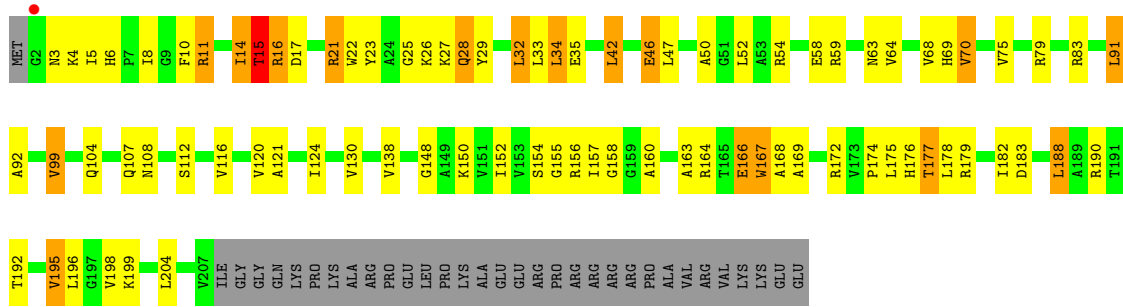
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	N	1	Total O 1 1	0	0
25	U	1	Total O 1 1	0	0



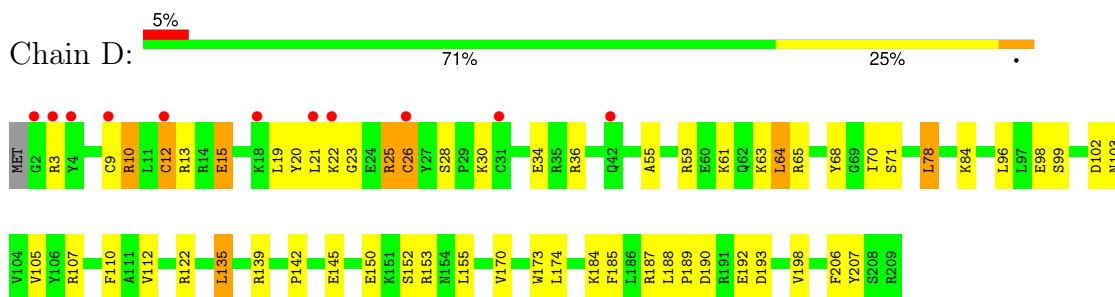
• Molecule 2: 30S ribosomal protein S2



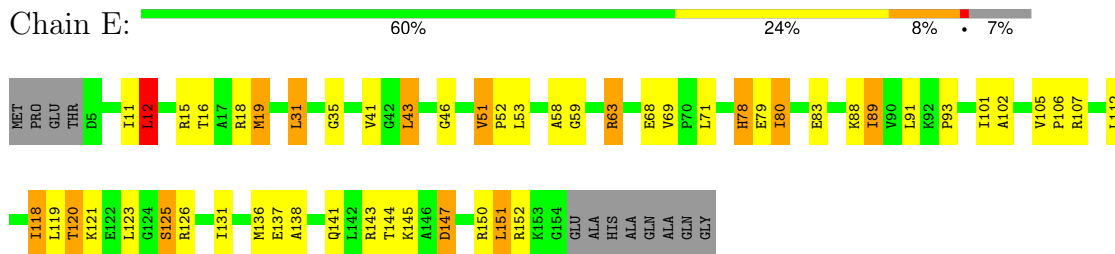
• Molecule 3: 30S ribosomal protein S3



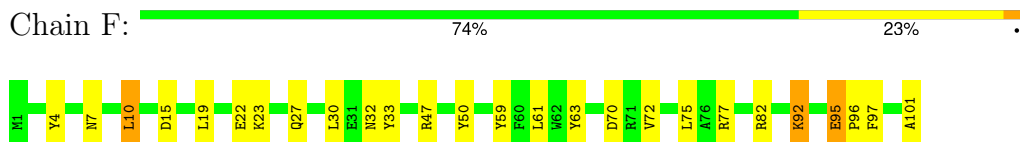
• Molecule 4: 30S ribosomal protein S4



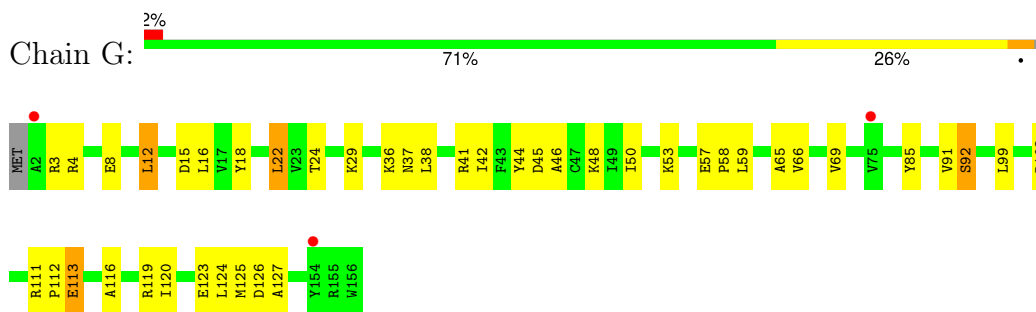
- Molecule 5: 30S ribosomal protein S5



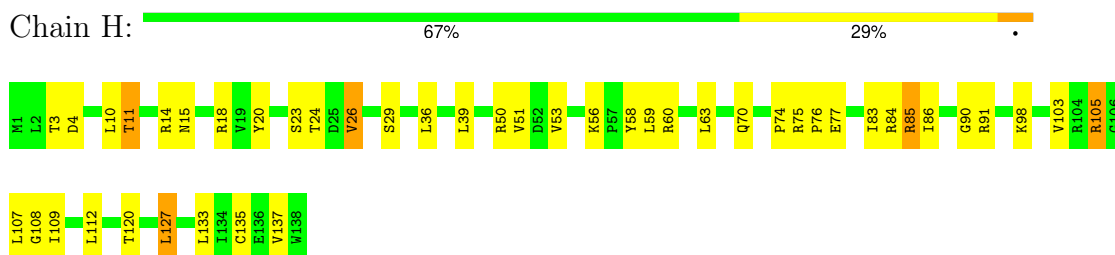
- Molecule 6: 30S ribosomal protein S6



- Molecule 7: 30S ribosomal protein S7



- Molecule 8: 30S ribosomal protein S8

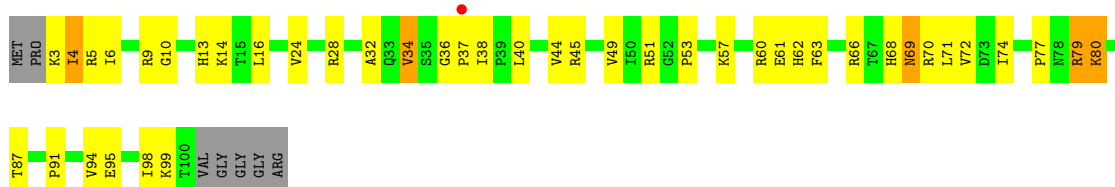


- Molecule 9: 30S ribosomal protein S9

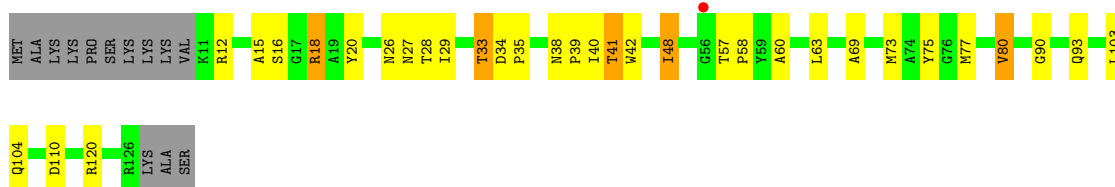




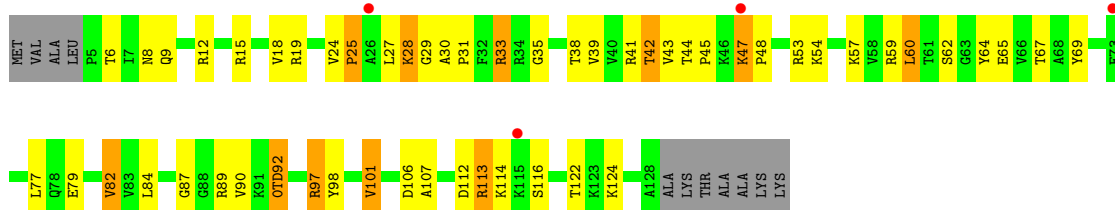
- Molecule 10: 30S ribosomal protein S10



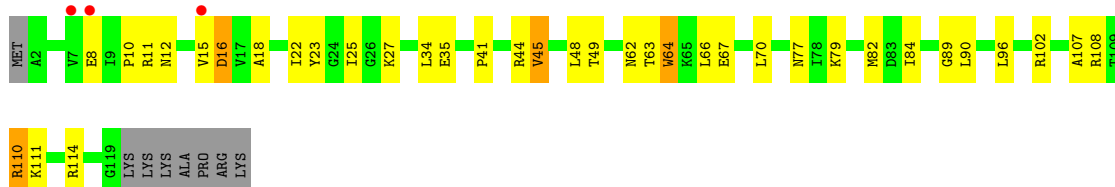
- Molecule 11: 30S ribosomal protein S11



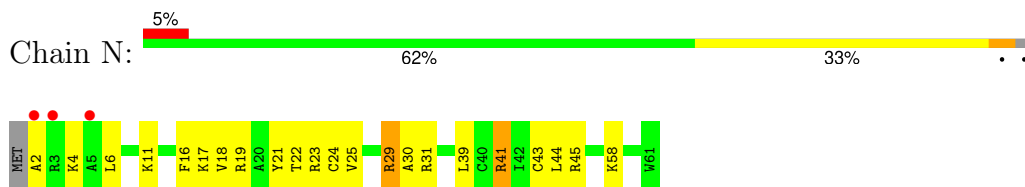
- Molecule 12: 30S ribosomal protein S12



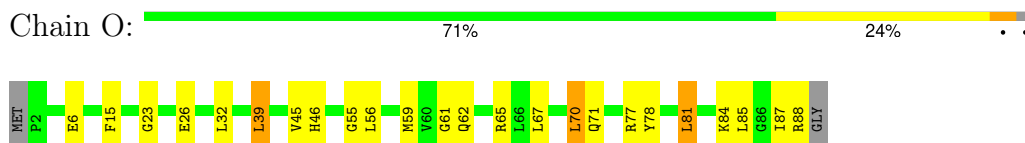
- Molecule 13: 30S ribosomal protein S13



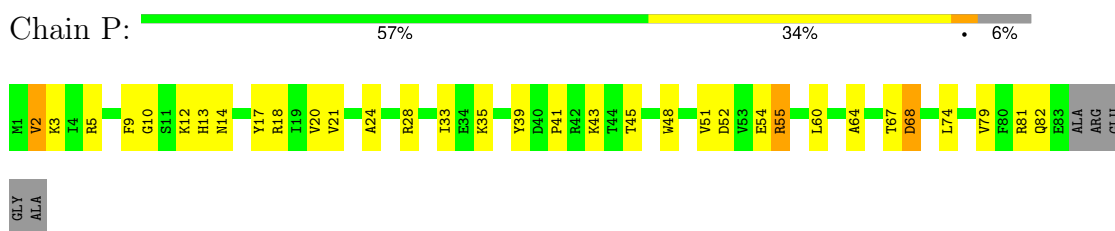
- Molecule 14: 30S ribosomal protein S14



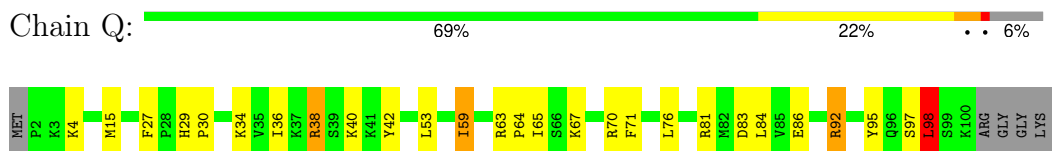
- Molecule 15: 30S ribosomal protein S15



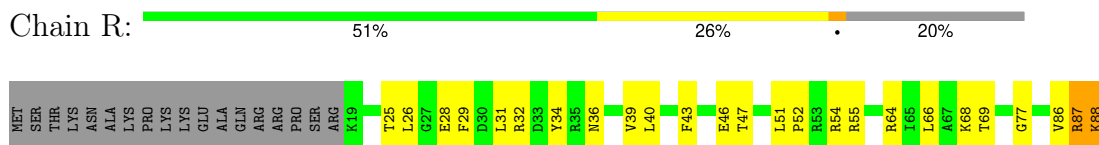
- Molecule 16: 30S ribosomal protein S16



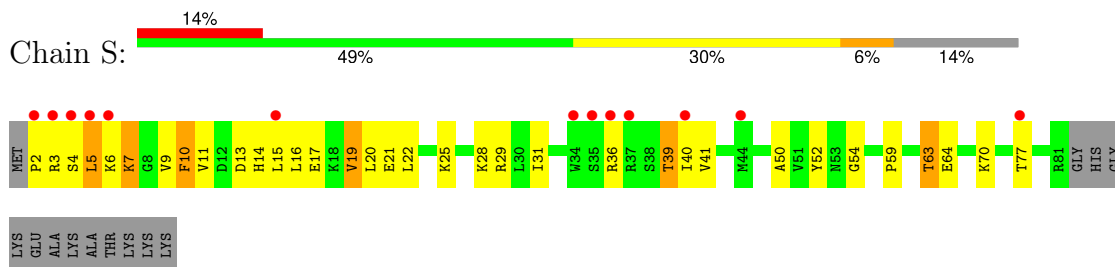
- Molecule 17: 30S ribosomal protein S17



- Molecule 18: 30S ribosomal protein S18



- Molecule 19: 30S ribosomal protein S19



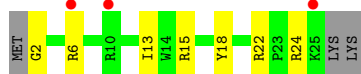
- Molecule 20: 30S ribosomal protein S20

Chain T: 



- Molecule 21: 30S ribosomal protein THX

Chain U: 



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	404.04Å 404.04Å 173.53Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	34.55 – 3.35 34.55 – 3.35	Depositor EDS
% Data completeness (in resolution range)	98.3 (34.55-3.35) 98.0 (34.55-3.35)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.89 (at 3.32Å)	Xtrriage
Refinement program	PHENIX dev_978	Depositor
R, R_{free}	0.168 , 0.206 0.167 , 0.204	Depositor DCC
R_{free} test set	10116 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å ²)	117.9	Xtrriage
Anisotropy	0.341	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 132.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	52164	wwPDB-VP
Average B, all atoms (Å ²)	147.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.63% 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 i

5.1 Standard geometry i

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

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	0.56	3/36040 (0.0%)	0.98	71/56243 (0.1%)
2	B	0.41	0/1935	0.64	0/2609
3	C	0.32	0/1636	0.56	0/2205
4	D	0.39	0/1733	0.56	1/2318 (0.0%)
5	E	0.49	0/1162	0.70	1/1564 (0.1%)
6	F	0.32	0/856	0.52	0/1154
7	G	0.33	0/1276	0.52	0/1709
8	H	0.53	0/1136	0.69	0/1527
9	I	0.34	0/1029	0.58	0/1379
10	J	0.32	0/805	0.58	0/1082
11	K	0.38	0/879	0.60	0/1187
12	L	0.41	0/977	0.68	0/1306
13	M	0.33	0/947	0.60	0/1270
14	N	0.34	0/501	0.53	0/664
15	O	0.37	0/740	0.56	0/987
16	P	0.43	0/716	0.65	0/963
17	Q	0.49	0/836	0.74	1/1117 (0.1%)
18	R	0.34	0/579	0.57	0/768
19	S	0.27	0/661	0.53	0/890
20	T	0.39	0/765	0.64	1/1007 (0.1%)
21	U	0.32	0/212	0.53	0/277
All	All	0.51	3/55421 (0.0%)	0.88	75/82226 (0.1%)

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
3	C	0	1
8	H	0	1

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
10	J	0	1
12	L	0	1
20	T	0	1
All	All	0	5

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	279	A	N9-C4	-8.65	1.32	1.37
1	A	279	A	N3-C4	-5.60	1.31	1.34
1	A	108	G	N9-C8	5.45	1.41	1.37

All (75) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	117	G	N1-C6-O6	11.04	126.53	119.90
1	A	279	A	C2-N3-C4	-10.47	105.37	110.60
1	A	328	C	N1-C2-O2	8.61	124.07	118.90
1	A	117	G	C6-C5-N7	-8.21	125.47	130.40
1	A	328	C	C2-N1-C1'	8.14	127.75	118.80
1	A	328	C	N3-C2-O2	-7.85	116.41	121.90
1	A	266	G	C5-N7-C8	-7.72	100.44	104.30
1	A	279	A	C5-N7-C8	-7.61	100.09	103.90
1	A	108	G	C5-N7-C8	-7.49	100.56	104.30
1	A	839	U	N1-C2-O2	7.48	128.04	122.80
1	A	839	U	C2-N1-C1'	7.39	126.56	117.70
1	A	1502	A	C5-N7-C8	-6.91	100.44	103.90
1	A	1502	A	N7-C8-N9	6.83	117.21	113.80
1	A	266	G	C4-C5-N7	6.75	113.50	110.80
1	A	1442	G	C4-N9-C1'	6.72	135.24	126.50
1	A	279	A	N3-C4-C5	6.69	131.48	126.80
1	A	1181	G	C8-N9-C4	6.69	109.08	106.40
1	A	117	G	C5-C6-N1	-6.66	108.17	111.50
1	A	108	G	C4-C5-N7	6.64	113.45	110.80
1	A	839	U	N3-C2-O2	-6.63	117.56	122.20
1	A	651	C	C6-N1-C2	6.61	122.94	120.30
1	A	795	C	N3-C2-O2	6.56	126.49	121.90
1	A	1306	A	N7-C8-N9	6.55	117.07	113.80
1	A	723	U	C2-N1-C1'	6.51	125.52	117.70
1	A	108	G	N7-C8-N9	6.46	116.33	113.10
1	A	1502	A	C6-C5-N7	-6.45	127.78	132.30
1	A	1502	A	N1-C6-N6	6.42	122.45	118.60

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1126	U	C5-C6-N1	6.39	125.89	122.70
1	A	481	G	N3-C4-N9	6.39	129.83	126.00
1	A	1181	G	N3-C4-C5	6.37	131.78	128.60
1	A	279	A	N3-C4-N9	-6.33	122.33	127.40
1	A	579	G	N1-C6-O6	6.29	123.68	119.90
1	A	266	G	N3-C4-C5	6.28	131.74	128.60
1	A	1505	G	C8-N9-C4	-6.27	103.89	106.40
1	A	299	G	C5-C6-O6	-6.25	124.85	128.60
1	A	252	U	C5-C6-N1	-6.19	119.60	122.70
1	A	107	G	C4-C5-N7	6.13	113.25	110.80
1	A	723	U	N1-C2-O2	6.04	127.03	122.80
1	A	117	G	C4-C5-C6	6.02	122.41	118.80
1	A	328	C	C6-N1-C1'	-5.98	113.62	120.80
1	A	1181	G	C4-N9-C1'	-5.81	118.95	126.50
1	A	1442	G	C8-N9-C1'	-5.80	119.46	127.00
1	A	879	C	C5-C4-N4	-5.79	116.15	120.20
17	Q	98	LEU	CA-CB-CG	5.76	128.56	115.30
1	A	117	G	C2-N3-C4	-5.76	109.02	111.90
1	A	1442	G	N3-C4-N9	5.62	129.37	126.00
1	A	1502	A	C2-N3-C4	-5.57	107.82	110.60
1	A	266	G	N7-C8-N9	5.54	115.87	113.10
1	A	117	G	C5-C6-O6	-5.49	125.31	128.60
1	A	1347	G	C8-N9-C4	5.46	108.58	106.40
1	A	1306	A	N1-C6-N6	5.45	121.87	118.60
1	A	283	C	C6-N1-C2	-5.44	118.13	120.30
1	A	1334	G	C8-N9-C4	5.40	108.56	106.40
1	A	926	G	N3-C4-N9	5.39	129.24	126.00
1	A	1306	A	C5-N7-C8	-5.38	101.21	103.90
1	A	107	G	C6-C5-N7	-5.38	127.17	130.40
1	A	279	A	C5-C6-N1	-5.37	115.02	117.70
1	A	299	G	N9-C4-C5	-5.33	103.27	105.40
1	A	754	C	C2-N1-C1'	5.33	124.66	118.80
1	A	482	A	N7-C8-N9	5.30	116.45	113.80
1	A	948	C	C6-N1-C2	5.22	122.39	120.30
1	A	277	C	C6-N1-C2	5.18	122.37	120.30
1	A	1529	G	C8-N9-C4	-5.17	104.33	106.40
1	A	1403	C	C6-N1-C2	5.16	122.36	120.30
4	D	12	CYS	CA-CB-SG	5.16	123.28	114.00
1	A	530	G	C4-N9-C1'	5.14	133.18	126.50
1	A	879	C	N3-C4-N4	5.14	121.60	118.00
20	T	94	ALA	N-CA-C	-5.11	97.20	111.00
1	A	1502	A	C4-C5-N7	5.10	113.25	110.70

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	129(A)	G	C4-N9-C1'	5.09	133.12	126.50
1	A	166	G	N9-C4-C5	-5.09	103.36	105.40
5	E	12	LEU	CA-CB-CG	5.09	127.01	115.30
1	A	1301	U	P-O3'-C3'	5.06	125.77	119.70
1	A	190(C)	C	C6-N1-C2	-5.04	118.28	120.30
1	A	745	C	C6-N1-C2	5.03	122.31	120.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	166	GLU	Peptide
8	H	90	GLY	Peptide
10	J	87	THR	Peptide
12	L	25	PRO	Peptide
20	T	93	GLU	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32507	0	16433	452	1
2	B	1900	0	1951	57	0
3	C	1612	0	1677	58	0
4	D	1703	0	1763	38	0
5	E	1146	0	1207	36	0
6	F	843	0	857	15	0
7	G	1257	0	1296	29	0
8	H	1116	0	1177	30	0
9	I	1010	0	1037	44	0
10	J	792	0	835	35	0
11	K	864	0	881	22	0
12	L	972	0	1058	40	0
13	M	937	0	995	21	0
14	N	492	0	529	23	0
15	O	729	0	768	17	0
16	P	700	0	720	21	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	Q	823	0	893	21	0
18	R	574	0	644	17	0
19	S	647	0	673	26	0
20	T	763	0	861	20	0
21	U	208	0	221	6	0
22	A	40	0	36	3	0
23	A	248	0	0	0	0
23	B	1	0	0	0	0
23	D	1	0	0	0	0
23	E	1	0	0	0	0
23	H	3	0	0	0	0
23	M	1	0	0	0	0
23	N	1	0	0	0	0
23	P	3	0	0	0	0
23	Q	2	0	0	0	0
23	T	2	0	0	0	0
23	U	1	0	0	0	0
24	D	1	0	0	0	0
24	N	1	0	0	0	0
25	A	256	0	0	5	0
25	D	1	0	0	0	0
25	E	2	0	0	0	0
25	G	1	0	0	0	0
25	L	1	0	0	0	0
25	N	1	0	0	0	0
25	U	1	0	0	1	0
All	All	52164	0	36512	895	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 10.

All (895) 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)
1:A:235:C:H5'	17:Q:70:ARG:HG2	1.55	0.88
1:A:1443:G:H5''	1:A:1446:A:H5'	1.57	0.86
12:L:47:LYS:HD3	12:L:48:PRO:HD3	1.56	0.86
1:A:517:G:N1	1:A:533:A:OP2	2.07	0.86
1:A:103:C:OP1	20:T:17:ARG:NH1	2.09	0.85
1:A:664:G:H22	1:A:741:G:H1	1.20	0.83
13:M:11:ARG:HA	13:M:45:VAL:HG11	1.59	0.83

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1125:U:OP2	1:A:1145:C:N4	2.11	0.82
1:A:1125:U:H3	10:J:5:ARG:HH21	1.27	0.81
1:A:1008:C:H42	1:A:1021:G:H1	1.28	0.81
1:A:967:5MC:H4'	9:I:128:ARG:HG3	1.63	0.80
1:A:835:U:OP1	18:R:64:ARG:NH2	2.17	0.78
1:A:279:A:OP2	17:Q:95:TYR:OH	2.02	0.77
1:A:532:A:H2'	1:A:533:A:H5''	1.67	0.77
1:A:1392:G:H21	1:A:1502:A:H8	1.31	0.76
20:T:56:MET:HG3	20:T:88:VAL:HG21	1.67	0.76
10:J:53:PRO:HA	14:N:41:ARG:HH21	1.49	0.76
8:H:83:ILE:HG13	8:H:137:VAL:HG22	1.66	0.76
3:C:22:TRP:HB3	3:C:59:ARG:HB3	1.67	0.75
16:P:18:ARG:HD3	16:P:35:LYS:HD2	1.68	0.75
11:K:57:THR:HG23	11:K:60:ALA:H	1.52	0.74
1:A:95:U:H2'	1:A:96:G:C8	2.23	0.74
2:B:12:GLU:HG3	2:B:213:LEU:HD21	1.69	0.74
5:E:11:ILE:HB	5:E:31:LEU:HB3	1.69	0.73
14:N:16:PHE:HD1	14:N:19:ARG:HD2	1.52	0.73
1:A:1373:G:H5''	7:G:36:LYS:HE3	1.71	0.73
1:A:953:G:H5'	1:A:965:A:H61	1.54	0.72
1:A:959:A:HO2'	1:A:984:C:HO2'	1.32	0.72
3:C:21:ARG:HE	3:C:58:GLU:HG2	1.54	0.72
1:A:974:A:OP2	14:N:29:ARG:NH2	2.23	0.72
5:E:147:ASP:N	5:E:147:ASP:OD1	2.23	0.72
1:A:263:A:OP2	20:T:79:ARG:NH1	2.23	0.71
1:A:113:G:H1'	1:A:354:G:H5'	1.72	0.71
10:J:44:VAL:HG13	10:J:66:ARG:HG2	1.71	0.71
13:M:107:ALA:HB3	13:M:111:LYS:HE2	1.72	0.71
3:C:14:ILE:HB	3:C:15:THR:HG23	1.72	0.70
5:E:80:ILE:HD13	5:E:138:ALA:HB1	1.72	0.70
1:A:1518:MA6:H93	1:A:1519:MA6:N1	2.06	0.70
1:A:788:U:O2'	1:A:1539:C:O2	2.08	0.70
1:A:1183:A:O2'	1:A:1184:G:OP1	2.09	0.70
1:A:427:U:OP1	4:D:13:ARG:NH2	2.24	0.70
1:A:1313:U:H5	19:S:4:SER:HB2	1.54	0.70
11:K:90:GLY:HA2	11:K:93:GLN:HB2	1.73	0.70
1:A:1505:G:O2'	1:A:1506:U:OP2	2.09	0.70
1:A:250:A:H4'	1:A:251:G:O5'	1.92	0.70
1:A:914:A:OP1	22:A:1601:SRV:HI33	1.92	0.70
1:A:166:G:H2'	1:A:167:G:H8	1.57	0.70
2:B:17:PHE:HD1	2:B:18:GLY:H	1.40	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:91:LEU:HD21	3:C:99:VAL:HG13	1.74	0.70
1:A:1305:G:HO2'	1:A:1306:A:H8	1.37	0.70
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.75	0.69
1:A:372:C:H4'	1:A:373:A:O5'	1.92	0.69
1:A:1316:G:H4'	14:N:18:VAL:HG11	1.74	0.69
3:C:46:GLU:OE1	3:C:83:ARG:NH2	2.26	0.69
1:A:560:U:H5'	1:A:566:G:N2	2.07	0.68
1:A:976:G:OP2	1:A:1358:U:H1'	1.94	0.68
1:A:1238:A:H5'	1:A:1336:C:H41	1.57	0.68
5:E:137:GLU:HG3	5:E:141:GLN:HE21	1.58	0.67
1:A:825:G:H21	8:H:11:THR:HG21	1.59	0.67
1:A:1125:U:H3	10:J:5:ARG:NH2	1.93	0.67
1:A:1008:C:N3	1:A:1021:G:N2	2.42	0.67
1:A:1510:U:H2'	1:A:1511:G:C8	2.29	0.67
3:C:150:LYS:HG3	3:C:169:ALA:HB2	1.76	0.67
1:A:1305:G:O2'	1:A:1306:A:H8	1.78	0.67
13:M:16:ASP:OD1	13:M:16:ASP:N	2.25	0.67
1:A:1000:U:H3	1:A:1041:A:H61	1.43	0.67
1:A:1285:A:H4'	1:A:1286:A:O5'	1.94	0.67
1:A:1047:G:OP1	14:N:4:LYS:NZ	2.23	0.66
1:A:144:G:H1	1:A:178:C:H42	1.43	0.66
17:Q:40:LYS:HE3	17:Q:42:TYR:CZ	2.30	0.66
5:E:78:HIS:HD2	8:H:107:LEU:HD12	1.61	0.66
1:A:95:U:H2'	1:A:96:G:H8	1.60	0.65
1:A:481:G:HO2'	1:A:482:A:H8	1.44	0.65
7:G:69:VAL:HG21	7:G:104:LEU:HD21	1.77	0.65
1:A:89:C:H2'	1:A:90:U:O4'	1.97	0.65
1:A:501:C:H2'	1:A:502:G:C8	2.31	0.65
13:M:8:GLU:HG3	13:M:22:ILE:HG23	1.79	0.65
1:A:1305:G:N2	1:A:1331:G:H1'	2.12	0.65
1:A:390:C:O3'	16:P:28:ARG:NH2	2.30	0.65
3:C:25:GLY:O	3:C:29:TYR:HB2	1.97	0.65
8:H:4:ASP:OD2	8:H:85:ARG:NH1	2.30	0.64
10:J:49:VAL:HG13	14:N:41:ARG:HB2	1.79	0.64
1:A:559:A:OP1	5:E:126:ARG:NH2	2.30	0.64
1:A:1119:C:OP2	9:I:9:ARG:NH2	2.31	0.64
10:J:34:VAL:HG13	10:J:74:ILE:HG12	1.79	0.64
1:A:1338:G:H2'	1:A:1339:A:C8	2.33	0.64
2:B:18:GLY:HA3	2:B:41:ILE:HA	1.80	0.64
1:A:839:U:H5'	1:A:840:C:H5	1.63	0.63
12:L:89:ARG:HG2	12:L:97:ARG:HA	1.80	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1000:U:H2'	1:A:1001:A:H8	1.63	0.63
1:A:1392:G:N2	1:A:1502:A:H8	1.97	0.63
5:E:101:ILE:O	5:E:120:THR:HB	1.98	0.63
1:A:130:A:OP2	1:A:190(E):U:O2'	2.11	0.63
1:A:421:U:H5'	1:A:422:C:H5	1.64	0.63
3:C:75:VAL:O	3:C:83:ARG:NH1	2.32	0.63
12:L:27:LEU:O	12:L:29:GLY:N	2.32	0.63
1:A:1270:C:OP2	21:U:24:ARG:NH2	2.32	0.62
12:L:87:GLY:HA2	12:L:98:TYR:HA	1.80	0.62
2:B:18:GLY:HA2	2:B:42:ILE:HG13	1.82	0.62
9:I:10:ARG:NE	9:I:105:ASP:OD1	2.32	0.62
1:A:1195:C:H3'	1:A:1196:U:H5''	1.81	0.62
19:S:5:LEU:HD12	19:S:9:VAL:HG13	1.81	0.62
1:A:1435:G:H2'	1:A:1436:U:C6	2.34	0.62
1:A:1532:U:H2'	1:A:1533:C:H3'	1.81	0.62
9:I:3:GLN:HG3	9:I:20:ARG:HG3	1.81	0.62
11:K:40:ILE:HG22	11:K:41:THR:HG22	1.81	0.62
1:A:612:C:OP1	4:D:84:LYS:NZ	2.30	0.62
2:B:240:GLN:N	2:B:240:GLN:OE1	2.31	0.62
1:A:1130:A:O2'	9:I:3:GLN:NE2	2.33	0.62
1:A:1493:A:H2'	1:A:1494:G:C8	2.34	0.62
1:A:673:G:H2'	1:A:674:G:C8	2.35	0.62
1:A:1068:G:H8	1:A:1068:G:OP2	1.82	0.62
3:C:50:ALA:HB2	3:C:75:VAL:HB	1.81	0.62
5:E:137:GLU:O	5:E:141:GLN:HG3	2.00	0.62
7:G:15:ASP:OD2	7:G:44:TYR:OH	2.18	0.62
12:L:25:PRO:HB3	12:L:27:LEU:HD13	1.81	0.62
1:A:990:C:H42	1:A:1215:G:H1	1.47	0.62
3:C:156:ARG:H	3:C:163:ALA:HA	1.64	0.62
3:C:14:ILE:O	3:C:16:ARG:N	2.32	0.61
1:A:452:A:O2'	1:A:453:A:O4'	2.19	0.61
20:T:67:ALA:HA	20:T:73:HIS:H	1.64	0.61
1:A:1195:C:H3'	1:A:1196:U:C5'	2.31	0.61
12:L:77:LEU:HD21	12:L:107:ALA:HB2	1.82	0.61
15:O:87:ILE:HG22	15:O:88:ARG:HG2	1.82	0.61
1:A:1145:C:O2'	1:A:1146:A:O5'	2.19	0.61
1:A:562:C:H1'	12:L:15:ARG:HB3	1.82	0.61
18:R:86:VAL:HG12	18:R:87:ARG:H	1.66	0.61
3:C:167:TRP:HE3	3:C:168:ALA:H	1.48	0.60
20:T:49:ALA:HB3	20:T:99:LEU:HG	1.82	0.60
1:A:80:G:H1	1:A:89:C:H42	1.49	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:78:G:O6	1:A:91:C:N4	2.32	0.60
1:A:1256:A:H4'	1:A:1257:U:O5'	2.01	0.60
20:T:45:GLN:HG2	20:T:91:LEU:HD13	1.83	0.60
4:D:102:ASP:OD1	4:D:103:ASN:N	2.34	0.60
1:A:928:G:O2'	1:A:1533:C:OP1	2.19	0.60
1:A:939:G:H5''	7:G:102:ARG:HH12	1.66	0.60
2:B:200:ILE:HG23	2:B:202:PRO:HD3	1.84	0.60
12:L:8:ASN:O	12:L:12:ARG:HG3	2.02	0.60
1:A:269:C:H2'	1:A:270:A:C8	2.37	0.60
11:K:27:ASN:OD1	11:K:28:THR:N	2.34	0.60
2:B:73:THR:HG21	2:B:96:ARG:HD2	1.83	0.59
1:A:1368:G:H5''	9:I:112:LYS:HB3	1.84	0.59
4:D:65:ARG:HG3	4:D:70:ILE:HG22	1.84	0.59
12:L:27:LEU:C	12:L:29:GLY:H	2.06	0.59
16:P:43:LYS:HG2	16:P:48:TRP:CD2	2.38	0.59
15:O:32:LEU:HD11	15:O:62:GLN:HB3	1.84	0.59
4:D:68:TYR:OH	4:D:98:GLU:OE1	2.17	0.59
4:D:99:SER:HB3	4:D:139:ARG:HG3	1.84	0.59
1:A:975:A:H4'	1:A:976:G:O5'	2.02	0.59
1:A:748:C:H4'	1:A:749:C:O5'	2.03	0.58
1:A:939:G:H5''	7:G:102:ARG:NH1	2.19	0.58
4:D:15:GLU:HG2	4:D:63:LYS:HG3	1.85	0.58
8:H:10:LEU:HD22	8:H:83:ILE:HG12	1.85	0.58
9:I:48:GLU:OE1	9:I:51:ARG:NH2	2.32	0.58
13:M:34:LEU:HD13	13:M:41:PRO:HA	1.86	0.58
14:N:39:LEU:HD22	14:N:43:CYS:HB3	1.85	0.58
3:C:155:GLY:HA2	3:C:164:ARG:H	1.68	0.58
1:A:691:G:H3'	11:K:26:ASN:HD21	1.68	0.58
1:A:1283:G:H2'	1:A:1284:C:H6	1.69	0.58
1:A:1493:A:H2'	1:A:1494:G:H8	1.69	0.58
4:D:22:LYS:HB2	4:D:26:CYS:SG	2.44	0.58
17:Q:95:TYR:HA	17:Q:98:LEU:HD11	1.84	0.58
1:A:1127:G:N1	1:A:1145:C:N3	2.52	0.58
18:R:52:PRO:HB2	18:R:54:ARG:HD3	1.86	0.58
1:A:518:C:H4'	1:A:519:C:O5'	2.03	0.58
16:P:68:ASP:OD1	16:P:68:ASP:N	2.37	0.58
1:A:926:G:N2	1:A:1542:U:OP1	2.32	0.57
1:A:353:A:H5'	1:A:353:A:H8	1.69	0.57
11:K:12:ARG:HB2	11:K:75:TYR:HD2	1.68	0.57
19:S:13:ASP:HA	19:S:16:LEU:HB3	1.87	0.57
1:A:35:G:H2'	1:A:36:C:C6	2.40	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:526:C:O3'	22:A:1601:SRV:HI31	2.05	0.57
1:A:1007:C:O2	1:A:1023:G:N1	2.37	0.57
5:E:152:ARG:NH2	8:H:107:LEU:O	2.33	0.57
10:J:9:ARG:HG3	10:J:95:GLU:HB2	1.87	0.57
1:A:537:G:OP1	12:L:113:ARG:NH2	2.38	0.57
1:A:1292:U:OP1	7:G:41:ARG:NH2	2.24	0.57
13:M:108:ARG:HD3	13:M:114:ARG:NH1	2.20	0.57
4:D:23:GLY:HA3	4:D:112:VAL:HG12	1.87	0.56
1:A:933:G:O6	7:G:3:ARG:NH2	2.38	0.56
1:A:1203:C:OP1	14:N:2:ALA:N	2.38	0.56
3:C:175:LEU:HD23	3:C:182:ILE:HD12	1.87	0.56
20:T:71:THR:O	20:T:72:LEU:HD23	2.05	0.56
10:J:40:LEU:HB2	10:J:69:ASN:HB2	1.87	0.56
1:A:269:C:H2'	1:A:270:A:H8	1.70	0.56
1:A:1399:C:H4'	1:A:1400:5MC:H5''	1.87	0.56
1:A:1502:A:H2	1:A:1505:G:H1	1.54	0.56
12:L:24:VAL:HG13	12:L:98:TYR:HE2	1.69	0.56
1:A:1047:G:H5''	14:N:4:LYS:HD3	1.85	0.56
1:A:1305:G:O2'	1:A:1306:A:O5'	2.24	0.56
3:C:148:GLY:HA3	3:C:172:ARG:O	2.06	0.56
1:A:1056:U:H5'	3:C:163:ALA:HB2	1.87	0.56
3:C:26:LYS:HG2	10:J:45:ARG:HH12	1.71	0.56
11:K:48:ILE:HD13	11:K:63:LEU:HB2	1.87	0.56
1:A:973:G:H3'	1:A:974:A:H5''	1.88	0.56
1:A:1244:C:H42	1:A:1293:G:H1	1.52	0.56
10:J:16:LEU:HD23	10:J:94:VAL:HG22	1.86	0.56
1:A:542:G:OP1	4:D:10:ARG:NH2	2.35	0.56
5:E:102:ALA:O	5:E:107:ARG:NH1	2.39	0.56
1:A:129:U:O3'	1:A:129(A):G:H3'	2.06	0.56
3:C:155:GLY:O	3:C:196:LEU:HD22	2.06	0.56
1:A:299:G:H2'	1:A:300:A:C8	2.41	0.55
4:D:105:VAL:HG13	4:D:110:PHE:HB2	1.87	0.55
6:F:97:PHE:HB2	18:R:32:ARG:NH1	2.21	0.55
10:J:51:ARG:CZ	10:J:61:GLU:HB2	2.36	0.55
1:A:1152:A:H5''	10:J:13:HIS:CD2	2.42	0.55
1:A:1356:G:H2'	1:A:1357:A:C8	2.41	0.55
1:A:279:A:OP1	1:A:280:C:O2'	2.18	0.55
3:C:5:ILE:HD13	3:C:10:PHE:HB2	1.88	0.55
1:A:975:A:H5'	1:A:975:A:H8	1.72	0.55
5:E:35:GLY:HA3	5:E:41:VAL:HG12	1.87	0.55
7:G:45:ASP:OD1	7:G:48:LYS:NZ	2.33	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:6:ILE:HG23	10:J:98:ILE:HG12	1.89	0.55
1:A:235:C:N4	25:A:1991:HOH:O	2.39	0.55
10:J:16:LEU:HD12	10:J:68:HIS:HB2	1.88	0.55
1:A:1281:U:H5'	1:A:1282:C:H5	1.70	0.55
12:L:53:ARG:HH12	12:L:92:0TD:CG	2.19	0.55
18:R:39:VAL:HG13	18:R:40:LEU:HD23	1.89	0.55
1:A:117:G:O5'	1:A:117:G:H8	1.90	0.54
1:A:524:G:H2'	1:A:525:C:C6	2.42	0.54
2:B:124:SER:HB2	2:B:126:GLU:HG2	1.90	0.54
5:E:12:LEU:HD13	5:E:31:LEU:HB2	1.90	0.54
19:S:22:LEU:HD22	19:S:28:LYS:HG3	1.89	0.54
1:A:481:G:O2'	1:A:482:A:H8	1.90	0.54
2:B:23:ARG:O	2:B:24:TRP:HD1	1.90	0.54
1:A:677:U:H3	1:A:713:G:H22	1.55	0.54
4:D:187:ARG:HH22	4:D:188:LEU:HD12	1.71	0.54
1:A:707:C:O2	11:K:39:PRO:HD3	2.08	0.54
4:D:173:TRP:CD2	4:D:189:PRO:HB3	2.42	0.54
11:K:15:ALA:HA	11:K:77:MET:HA	1.90	0.54
12:L:59:ARG:HD3	12:L:65:GLU:HG3	1.89	0.54
1:A:792:A:O2'	1:A:793:U:OP2	2.15	0.54
3:C:156:ARG:NH1	3:C:160:ALA:O	2.41	0.54
5:E:89:ILE:HD12	5:E:91:LEU:HD21	1.90	0.54
13:M:79:LYS:HD2	13:M:82:MET:HE3	1.89	0.54
7:G:46:ALA:O	7:G:50:ILE:HG12	2.08	0.54
1:A:166:G:H2'	1:A:167:G:C8	2.41	0.54
1:A:518:C:H2'	1:A:530:G:C8	2.43	0.54
1:A:858:G:N7	25:A:2101:HOH:O	2.33	0.54
1:A:1513:A:H2'	1:A:1514:C:C6	2.43	0.54
10:J:79:ARG:HB2	10:J:80:LYS:HD2	1.90	0.54
1:A:384:G:H2'	1:A:385:C:C6	2.42	0.54
1:A:1124:G:H2'	1:A:1145:C:H41	1.73	0.54
1:A:1347:G:H1'	1:A:1348:U:H5	1.73	0.54
17:Q:40:LYS:HE3	17:Q:42:TYR:OH	2.08	0.54
20:T:50:GLU:HA	20:T:100:ILE:HG13	1.90	0.54
10:J:32:ALA:O	10:J:34:VAL:HG23	2.08	0.54
1:A:671:G:H5'	6:F:77:ARG:HH21	1.73	0.53
1:A:757:U:H2'	1:A:758:G:O4'	2.08	0.53
7:G:16:LEU:HD21	9:I:42:ARG:HG3	1.90	0.53
12:L:24:VAL:HG13	12:L:98:TYR:CE2	2.43	0.53
2:B:16:HIS:HB3	2:B:210:SER:HB2	1.89	0.53
21:U:2:GLY:N	25:U:1401:HOH:O	2.40	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:21:ARG:HA	2:B:39:ILE:HA	1.89	0.53
4:D:55:ALA:O	4:D:59:ARG:HG2	2.08	0.53
15:O:55:GLY:O	15:O:59:MET:HG3	2.07	0.53
1:A:1419:G:H1	1:A:1481:U:H3	1.56	0.53
1:A:1318:A:H5'	19:S:10:PHE:CZ	2.44	0.53
1:A:980:C:H5'	1:A:981:U:OP2	2.09	0.53
16:P:17:TYR:HD1	16:P:39:TYR:HD2	1.55	0.53
9:I:126:SER:OG	9:I:127:LYS:N	2.42	0.53
1:A:328:C:H2'	1:A:328:C:O2	2.09	0.53
1:A:1225:A:H5'	1:A:1226:C:OP2	2.09	0.53
1:A:666:G:H5'	1:A:726:C:H1'	1.90	0.53
1:A:981:U:H5'	14:N:21:TYR:CZ	2.44	0.53
1:A:1372:U:H2'	1:A:1373:G:O4'	2.08	0.53
2:B:178:ARG:HH21	8:H:74:PRO:HB3	1.73	0.53
1:A:56:U:H2'	1:A:57:G:H8	1.74	0.52
1:A:1200:C:H1'	1:A:1204:A:N6	2.24	0.52
1:A:1301:U:O2'	1:A:1302:U:H3'	2.09	0.52
1:A:344:A:H5'	1:A:345:C:H5	1.75	0.52
4:D:187:ARG:CZ	4:D:188:LEU:H	2.22	0.52
11:K:33:THR:HB	11:K:39:PRO:HA	1.91	0.52
3:C:23:TYR:HD2	10:J:95:GLU:HG3	1.75	0.52
3:C:25:GLY:HA2	3:C:28:GLN:H	1.74	0.52
7:G:38:LEU:O	7:G:42:ILE:HG13	2.10	0.52
10:J:61:GLU:OE1	14:N:45:ARG:NH1	2.42	0.52
1:A:258:G:H2'	1:A:259:G:H8	1.75	0.52
1:A:692:U:H1'	1:A:695:A:N7	2.25	0.52
1:A:1164:G:H1	1:A:1172:C:H42	1.56	0.52
1:A:1300:G:H4'	1:A:1301:U:O5'	2.10	0.52
1:A:826:C:O2	8:H:15:ASN:ND2	2.43	0.52
1:A:1201:A:H4'	1:A:1202:G:O5'	2.09	0.52
2:B:84:GLU:HB3	2:B:219:VAL:HG21	1.92	0.52
9:I:71:SER:HA	9:I:74:ILE:HD12	1.91	0.52
12:L:6:THR:OG1	12:L:9:GLN:HG3	2.10	0.52
1:A:191:G:O2'	20:T:102:GLY:O	2.16	0.51
1:A:216:G:H2'	1:A:217:C:C6	2.45	0.51
1:A:838:G:H1	1:A:848:C:H42	1.58	0.51
2:B:16:HIS:HD2	2:B:204:ASN:HD22	1.58	0.51
2:B:91:PRO:HB3	2:B:154:LEU:HB2	1.92	0.51
2:B:102:LEU:HB3	2:B:180:LEU:HD12	1.92	0.51
15:O:26:GLU:HG3	15:O:81:LEU:HG	1.91	0.51
1:A:1236:A:H4'	1:A:1304:G:H4'	1.92	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:78:LEU:HD21	4:D:96:LEU:HB3	1.92	0.51
5:E:91:LEU:HB3	5:E:118:ILE:HD11	1.91	0.51
1:A:164:U:H2'	1:A:165:C:C6	2.46	0.51
1:A:371:G:O2'	1:A:372:C:H5'	2.10	0.51
1:A:694:A:N1	1:A:787:A:O2'	2.42	0.51
1:A:184:G:H2'	1:A:185:A:H8	1.75	0.51
1:A:1256:A:H5''	1:A:1258:G:H1'	1.92	0.51
20:T:67:ALA:HB2	20:T:77:ALA:HB2	1.92	0.51
1:A:243:A:H4'	1:A:244:U:O5'	2.10	0.51
1:A:980:C:H5''	1:A:981:U:C5	2.46	0.51
1:A:993:G:O6	1:A:1045:C:N4	2.41	0.51
1:A:1101:A:H4'	1:A:1102:A:O5'	2.10	0.51
1:A:1251:A:H4'	9:I:12:GLU:OE2	2.10	0.51
1:A:501:C:H2'	1:A:502:G:H8	1.76	0.51
6:F:101:ALA:HA	18:R:28:GLU:HG3	1.93	0.51
12:L:113:ARG:NH1	12:L:116:SER:H	2.08	0.51
2:B:98:LEU:O	2:B:101:MET:HG3	2.11	0.51
5:E:43:LEU:HD22	5:E:136:MET:HG3	1.93	0.51
1:A:1240:U:OP1	7:G:119:ARG:NH2	2.41	0.51
6:F:23:LYS:O	6:F:27:GLN:HG2	2.10	0.51
8:H:20:TYR:CE1	8:H:76:PRO:HD2	2.45	0.51
17:Q:81:ARG:NH1	17:Q:84:LEU:HD11	2.25	0.51
1:A:457:C:H2'	1:A:458:C:C6	2.46	0.51
1:A:1053:G:H4'	1:A:1054:C:H5'	1.92	0.51
1:A:860:A:H2'	1:A:861:G:O4'	2.12	0.50
1:A:974:A:P	14:N:41:ARG:HH12	2.34	0.50
16:P:2:VAL:O	16:P:64:ALA:HA	2.11	0.50
2:B:15:VAL:HG13	2:B:209:ARG:HD2	1.93	0.50
16:P:51:VAL:O	16:P:52:ASP:HB3	2.10	0.50
1:A:1014:A:H4'	19:S:14:HIS:CE1	2.46	0.50
1:A:1060:C:OP1	14:N:45:ARG:NH2	2.44	0.50
1:A:1347:G:H3'	9:I:108:VAL:O	2.11	0.50
4:D:98:GLU:OE2	4:D:107:ARG:NE	2.44	0.50
12:L:27:LEU:C	12:L:29:GLY:N	2.64	0.50
15:O:15:PHE:CE2	15:O:84:LYS:HD3	2.47	0.50
1:A:476:G:H2'	1:A:477:G:C8	2.45	0.50
1:A:476:G:H2'	1:A:477:G:H8	1.75	0.50
1:A:691:G:H2'	1:A:692:U:C6	2.45	0.50
1:A:1198:G:H2'	1:A:1199:U:C6	2.47	0.50
1:A:1347:G:O6	9:I:10:ARG:NH2	2.43	0.50
3:C:120:VAL:O	3:C:124:ILE:HG13	2.11	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:3:LYS:HG3	16:P:24:ALA:HB2	1.93	0.50
1:A:1278:U:H5''	1:A:1279:A:O4'	2.11	0.50
1:A:254:G:OP1	17:Q:67:LYS:O	2.29	0.50
1:A:457:C:H2'	1:A:458:C:H6	1.77	0.50
3:C:188:LEU:HD11	3:C:195:VAL:HG13	1.92	0.50
1:A:114:U:O2'	1:A:115:G:H5'	2.12	0.50
1:A:1283:G:H2'	1:A:1284:C:C6	2.47	0.50
1:A:1371:G:O3'	9:I:69:GLY:HA3	2.12	0.50
4:D:20:TYR:HD2	4:D:26:CYS:HB3	1.77	0.50
6:F:95:GLU:HG3	6:F:96:PRO:HD2	1.94	0.50
8:H:26:VAL:HG13	8:H:59:LEU:HB2	1.94	0.50
1:A:1147:C:O2'	9:I:5:TYR:OH	2.29	0.50
20:T:92:LEU:O	20:T:96:GLY:HA2	2.11	0.50
1:A:527:7MG:OP2	22:A:1601:SRY:O32	2.21	0.49
1:A:992:U:H3	1:A:1044:A:N6	2.09	0.49
1:A:1305:G:O2'	1:A:1306:A:P	2.70	0.49
1:A:1434:A:H2'	1:A:1435:G:O4'	2.11	0.49
3:C:120:VAL:HB	3:C:198:VAL:HG11	1.94	0.49
1:A:56:U:H2'	1:A:57:G:C8	2.46	0.49
1:A:243:A:C2	1:A:246:A:C8	3.00	0.49
1:A:1266:G:N2	1:A:1269:A:OP2	2.41	0.49
4:D:187:ARG:NH1	4:D:188:LEU:H	2.10	0.49
12:L:41:ARG:HG2	12:L:42:THR:H	1.77	0.49
14:N:16:PHE:CD1	14:N:19:ARG:HD2	2.41	0.49
1:A:918:A:H2'	1:A:919:A:C8	2.47	0.49
1:A:17:U:H2'	1:A:18:C:C6	2.47	0.49
1:A:828:A:H4'	1:A:828:A:OP1	2.12	0.49
1:A:980:C:H3'	1:A:981:U:H6	1.76	0.49
12:L:25:PRO:C	12:L:27:LEU:N	2.61	0.49
1:A:580:U:H2'	1:A:581:G:O4'	2.12	0.49
1:A:992:U:H3	1:A:1044:A:H62	1.61	0.49
17:Q:63:ARG:HG2	17:Q:64:PRO:HD2	1.95	0.49
1:A:93:G:C2	1:A:95:U:C2	3.00	0.49
1:A:1035:A:H2'	1:A:1036:G:C8	2.47	0.49
1:A:1225:A:H2'	1:A:1225:A:N3	2.26	0.49
4:D:9:CYS:O	4:D:12:CYS:HB2	2.12	0.49
9:I:126:SER:OG	9:I:127:LYS:HD2	2.11	0.49
17:Q:29:HIS:CG	17:Q:30:PRO:HD2	2.48	0.49
1:A:975:A:H5'	1:A:975:A:C8	2.48	0.49
1:A:1055:A:H1'	3:C:156:ARG:HH21	1.77	0.49
1:A:1242:C:H42	1:A:1295:G:H1	1.59	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:118:ILE:HG12	5:E:119:LEU:N	2.28	0.49
8:H:86:ILE:HG12	8:H:135:CYS:HA	1.95	0.49
16:P:43:LYS:HG2	16:P:48:TRP:CG	2.48	0.49
1:A:1318:A:H5''	1:A:1319:A:OP2	2.12	0.49
6:F:7:ASN:HD21	18:R:34:TYR:HE1	1.59	0.49
13:M:63:THR:HG23	13:M:64:TRP:CD2	2.47	0.49
1:A:191:G:H21	20:T:104:LEU:HA	1.77	0.49
1:A:1057:G:H5''	3:C:154:SER:HB2	1.94	0.49
2:B:189:ASP:HB3	2:B:203:GLY:O	2.12	0.49
7:G:116:ALA:O	7:G:120:ILE:HG12	2.11	0.49
1:A:991:U:O4	1:A:1212:U:O2'	2.24	0.49
2:B:162:ILE:HG23	2:B:164:VAL:HG23	1.94	0.49
7:G:18:TYR:OH	7:G:58:PRO:HB2	2.13	0.49
9:I:17:VAL:HG11	9:I:81:ILE:HA	1.95	0.49
17:Q:40:LYS:HG2	17:Q:42:TYR:CE1	2.47	0.49
17:Q:92:ARG:HH11	17:Q:92:ARG:HB3	1.78	0.49
1:A:1148:U:O3'	9:I:14:VAL:HG11	2.13	0.48
1:A:1305:G:H22	1:A:1331:G:H1'	1.76	0.48
2:B:188:ALA:O	2:B:202:PRO:HA	2.13	0.48
3:C:11:ARG:NH1	3:C:177:THR:O	2.45	0.48
3:C:174:PRO:HB2	3:C:177:THR:HG23	1.93	0.48
1:A:35:G:H2'	1:A:36:C:H6	1.77	0.48
1:A:532:A:N6	3:C:158:GLY:O	2.43	0.48
1:A:738:C:OP2	6:F:92:LYS:HE3	2.13	0.48
1:A:1391:U:H2'	1:A:1392:G:C8	2.48	0.48
1:A:1412:C:H2'	1:A:1413:A:C8	2.48	0.48
2:B:97:TRP:HZ2	2:B:102:LEU:HD22	1.78	0.48
7:G:111:ARG:NH1	7:G:113:GLU:OE2	2.46	0.48
13:M:96:LEU:O	13:M:110:ARG:NH1	2.45	0.48
1:A:383:A:C5	1:A:384:G:H1'	2.49	0.48
1:A:1137:C:H4'	1:A:1138:G:C2	2.48	0.48
1:A:1168:A:H2'	1:A:1169:A:C8	2.48	0.48
1:A:1250:A:H4'	9:I:68:GLY:N	2.29	0.48
1:A:1366:C:H2'	1:A:1367:C:C6	2.48	0.48
2:B:44:LEU:HD12	2:B:44:LEU:H	1.77	0.48
1:A:967:5MC:C4'	9:I:128:ARG:HG3	2.38	0.48
1:A:1477:C:H2'	1:A:1478:C:H6	1.79	0.48
3:C:22:TRP:CZ2	3:C:32:LEU:HD22	2.48	0.48
1:A:1009:G:H1	1:A:1020:U:H3	1.60	0.48
1:A:1147:C:H4'	9:I:5:TYR:CE1	2.49	0.48
4:D:25:ARG:O	4:D:25:ARG:HG2	2.13	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:12:ARG:HB2	11:K:75:TYR:CD2	2.48	0.48
1:A:9:G:OP2	5:E:121:LYS:NZ	2.32	0.48
1:A:1126:U:H6	1:A:1126:U:O5'	1.96	0.48
7:G:91:VAL:HG12	7:G:92:SER:H	1.78	0.48
16:P:74:LEU:O	16:P:79:VAL:HG23	2.14	0.48
1:A:1403:C:H2'	1:A:1404:5MC:C6	2.49	0.48
9:I:19:LEU:HD22	9:I:59:PHE:CD2	2.49	0.48
11:K:18:ARG:HB3	11:K:20:TYR:CE1	2.49	0.48
12:L:38:THR:HB	12:L:57:LYS:HB2	1.96	0.48
14:N:23:ARG:HG2	14:N:30:ALA:HB2	1.96	0.48
1:A:113:G:H2'	1:A:114:U:C6	2.48	0.48
1:A:443:C:H42	1:A:491:G:H1	1.60	0.48
1:A:451:A:N6	1:A:481:G:C4	2.82	0.48
1:A:731:G:OP1	1:A:766:A:H1'	2.13	0.48
1:A:1310:G:H5'	13:M:77:ASN:HD21	1.79	0.48
5:E:69:VAL:HG12	5:E:71:LEU:HG	1.95	0.48
10:J:16:LEU:HD13	10:J:70:ARG:HG2	1.94	0.48
1:A:96:G:H2'	1:A:97:G:C8	2.49	0.48
1:A:264:U:H4'	17:Q:63:ARG:HD3	1.94	0.48
1:A:933:G:OP2	7:G:3:ARG:HB3	2.13	0.48
1:A:1207:2MG:HM23	1:A:1208:C:H1'	1.95	0.48
1:A:1542:U:H2'	1:A:1543:C:C6	2.48	0.48
2:B:167:PRO:HG3	2:B:186:ALA:HB1	1.96	0.48
3:C:34:LEU:HG	14:N:25:VAL:HG21	1.96	0.48
9:I:26:VAL:HB	9:I:33:PHE:HB2	1.96	0.48
16:P:52:ASP:OD2	16:P:55:ARG:HB2	2.14	0.48
1:A:452:A:O2'	1:A:453:A:O5'	2.32	0.48
2:B:205:ASP:OD1	2:B:206:ASP:N	2.46	0.48
4:D:142:PRO:HA	4:D:185:PHE:HD2	1.78	0.48
13:M:25:ILE:HD11	13:M:66:LEU:HD21	1.94	0.48
1:A:877:C:O2	8:H:3:THR:HG21	2.14	0.47
1:A:500:G:H5''	12:L:124:LYS:HE3	1.95	0.47
1:A:765:G:H5''	1:A:766:A:OP1	2.14	0.47
1:A:1347:G:O2'	1:A:1348:U:P	2.72	0.47
3:C:6:HIS:HE1	3:C:8:ILE:HD12	1.78	0.47
5:E:88:LYS:HB3	5:E:123:LEU:HB2	1.95	0.47
19:S:11:VAL:HG22	19:S:39:THR:HB	1.95	0.47
1:A:381:C:H2'	1:A:382:A:O4'	2.14	0.47
7:G:37:ASN:O	7:G:41:ARG:HG3	2.14	0.47
16:P:39:TYR:CE2	16:P:41:PRO:HB3	2.49	0.47
1:A:78:G:C2	1:A:92:C:C2	3.02	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:65:ALA:HB1	7:G:127:ALA:HB3	1.96	0.47
15:O:45:VAL:HG12	15:O:46:HIS:H	1.80	0.47
1:A:359:U:H2'	1:A:360:A:C8	2.50	0.47
1:A:481:G:O2'	1:A:482:A:C8	2.63	0.47
1:A:825:G:N2	8:H:11:THR:HG21	2.27	0.47
1:A:946:A:H2'	1:A:947:G:C8	2.49	0.47
1:A:1157:A:H4'	1:A:1158:C:O5'	2.13	0.47
17:Q:27:PHE:CE1	17:Q:36:ILE:HD11	2.50	0.47
19:S:19:VAL:HA	19:S:22:LEU:HB2	1.96	0.47
1:A:1342:C:O2'	9:I:124:GLN:HB2	2.14	0.47
8:H:112:LEU:HD22	8:H:133:LEU:HA	1.96	0.47
21:U:13:ILE:HA	21:U:22:ARG:NH1	2.29	0.47
1:A:184:G:H2'	1:A:185:A:C8	2.50	0.47
1:A:688:G:O2'	1:A:704:A:N1	2.37	0.47
1:A:1313:U:C5	19:S:4:SER:HB2	2.43	0.47
1:A:1347:G:N2	1:A:1373:G:H2'	2.30	0.47
1:A:1407:5MC:O2'	1:A:1408:A:H5'	2.15	0.47
1:A:1443:G:H5''	1:A:1446:A:C5'	2.36	0.47
10:J:49:VAL:HG21	14:N:44:LEU:HD23	1.97	0.47
11:K:48:ILE:H	11:K:48:ILE:HG13	1.44	0.47
20:T:67:ALA:O	20:T:73:HIS:ND1	2.47	0.47
1:A:950:U:H2'	1:A:951:G:C8	2.50	0.47
2:B:119:GLU:HG3	2:B:142:LEU:HD21	1.95	0.47
5:E:11:ILE:HG23	5:E:105:VAL:HG22	1.97	0.47
6:F:10:LEU:HD12	6:F:59:TYR:HB3	1.97	0.47
9:I:89:ASN:HB3	9:I:92:TYR:CE1	2.50	0.47
19:S:20:LEU:HD12	19:S:21:GLU:HG3	1.97	0.47
1:A:1281:U:H5'	1:A:1282:C:C5	2.49	0.47
4:D:70:ILE:HG23	4:D:71:SER:N	2.30	0.47
11:K:16:SER:O	11:K:35:PRO:HD3	2.14	0.47
15:O:71:GLN:HB2	15:O:78:TYR:CD1	2.50	0.47
20:T:73:HIS:HB3	20:T:74:LYS:H	1.50	0.47
1:A:217:C:H2'	1:A:218:C:H6	1.80	0.47
1:A:1086:U:H3	1:A:1099:G:H22	1.62	0.47
1:A:1496:C:O2'	1:A:1497:G:O5'	2.28	0.47
9:I:65:VAL:HG11	9:I:77:ILE:HD11	1.97	0.47
17:Q:59:ILE:HG23	17:Q:71:PHE:HB3	1.96	0.47
4:D:61:LYS:HD3	4:D:206:PHE:CE2	2.51	0.46
8:H:53:VAL:HB	8:H:58:TYR:CD1	2.50	0.46
10:J:91:PRO:HB2	10:J:94:VAL:HB	1.98	0.46
1:A:192:U:H4'	20:T:57:ARG:HD2	1.96	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:279:A:C6	17:Q:98:LEU:HD13	2.51	0.46
1:A:781:A:O2'	1:A:1522:U:O2	2.32	0.46
1:A:1112:C:H1'	3:C:179:ARG:NH1	2.30	0.46
1:A:372:C:H1'	1:A:373:A:OP2	2.15	0.46
19:S:40:ILE:HG13	19:S:70:LYS:O	2.15	0.46
1:A:116:A:H5''	25:A:1913:HOH:O	2.14	0.46
1:A:279:A:H5''	1:A:281:G:H5'	1.97	0.46
1:A:750:G:N3	15:O:23:GLY:HA3	2.29	0.46
1:A:932:C:H5'	7:G:4:ARG:HG2	1.97	0.46
1:A:1314:C:H2'	1:A:1315:U:C6	2.51	0.46
7:G:111:ARG:HD2	7:G:112:PRO:HD2	1.97	0.46
9:I:50:LEU:HD11	9:I:81:ILE:HD12	1.97	0.46
12:L:30:ALA:HA	12:L:31:PRO:HD3	1.77	0.46
1:A:45:U:H2'	1:A:46:G:C8	2.51	0.46
1:A:974:A:H4'	1:A:975:A:H3'	1.97	0.46
1:A:1152:A:H5''	10:J:13:HIS:CG	2.50	0.46
1:A:1241:G:H2'	1:A:1242:C:C6	2.50	0.46
5:E:105:VAL:HB	5:E:106:PRO:HD3	1.97	0.46
12:L:24:VAL:HG12	12:L:24:VAL:O	2.16	0.46
1:A:974:A:OP2	14:N:41:ARG:NH1	2.49	0.46
1:A:1281:U:H4'	1:A:1282:C:OP2	2.16	0.46
13:M:12:ASN:H	13:M:45:VAL:HG12	1.81	0.46
1:A:455:C:H6	1:A:455:C:O5'	1.99	0.46
1:A:1375:A:H4'	7:G:29:LYS:HE2	1.97	0.46
3:C:16:ARG:HH22	3:C:183:ASP:HA	1.81	0.46
6:F:33:TYR:HB2	6:F:75:LEU:HD23	1.97	0.46
11:K:41:THR:OG1	11:K:42:TRP:N	2.49	0.46
1:A:376:G:OP2	16:P:67:THR:HG21	2.16	0.46
2:B:158:LEU:HD23	2:B:158:LEU:HA	1.67	0.46
9:I:121:ARG:NH1	9:I:122:ALA:O	2.49	0.46
1:A:345:C:OP2	1:A:345:C:H6	1.99	0.46
1:A:1064:G:H21	1:A:1190:G:H2'	1.81	0.46
3:C:91:LEU:HD23	3:C:92:ALA:N	2.31	0.46
5:E:93:PRO:HG2	8:H:105:ARG:NH2	2.30	0.46
9:I:48:GLU:N	9:I:49:PRO:HD2	2.31	0.46
9:I:63:ILE:HG21	9:I:77:ILE:HG12	1.97	0.46
19:S:10:PHE:O	19:S:39:THR:OG1	2.18	0.46
2:B:181:PHE:CE2	8:H:70:GLN:HB3	2.50	0.46
3:C:91:LEU:HD11	3:C:99:VAL:HG22	1.98	0.46
8:H:103:VAL:HG12	8:H:108:GLY:HA3	1.98	0.46
10:J:4:ILE:HD11	10:J:74:ILE:HD12	1.97	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:21:VAL:HG12	16:P:33:ILE:HD12	1.97	0.46
1:A:5:U:H4'	1:A:6:G:O5'	2.15	0.45
1:A:322:C:OP2	1:A:328:C:N4	2.48	0.45
1:A:563:A:H2'	1:A:567:G:C8	2.52	0.45
1:A:818:G:C3'	1:A:819:A:H5''	2.47	0.45
1:A:1257:U:H4'	1:A:1258:G:O5'	2.17	0.45
2:B:88:ALA:HB2	2:B:219:VAL:HG13	1.98	0.45
8:H:84:ARG:O	8:H:135:CYS:HB2	2.16	0.45
1:A:1355:G:H2'	1:A:1356:G:H8	1.80	0.45
4:D:61:LYS:HD2	4:D:207:TYR:OH	2.15	0.45
13:M:27:LYS:HD2	13:M:27:LYS:HA	1.63	0.45
1:A:986:A:H1'	19:S:54:GLY:O	2.16	0.45
1:A:1249:C:O2'	9:I:73:GLN:NE2	2.49	0.45
2:B:152:PHE:CE1	2:B:155:LEU:HD12	2.52	0.45
2:B:215:LEU:HD23	2:B:215:LEU:HA	1.79	0.45
11:K:58:PRO:HA	11:K:90:GLY:HA3	1.99	0.45
1:A:620:C:N1	4:D:135:LEU:HD13	2.31	0.45
1:A:1118:C:H1'	1:A:1179:A:C4	2.51	0.45
1:A:1366:C:H2'	1:A:1367:C:H6	1.81	0.45
2:B:83:MET:HE1	2:B:234:PRO:HB2	1.99	0.45
12:L:28:LYS:HG3	12:L:33:ARG:NH1	2.31	0.45
12:L:38:THR:HG22	12:L:39:VAL:HG23	1.98	0.45
1:A:436:C:H2'	1:A:437:U:H6	1.80	0.45
1:A:1210:C:O2'	1:A:1213:A:O2'	2.22	0.45
3:C:167:TRP:HE3	3:C:168:ALA:N	2.14	0.45
7:G:12:LEU:H	7:G:12:LEU:HG	1.62	0.45
11:K:34:ASP:HB2	11:K:35:PRO:HD2	1.97	0.45
19:S:11:VAL:HG21	19:S:41:VAL:HG13	1.98	0.45
1:A:258:G:H2'	1:A:259:G:C8	2.52	0.45
1:A:518:C:H5''	1:A:519:C:C6	2.52	0.45
1:A:840:C:H5''	1:A:841:U:OP1	2.17	0.45
1:A:936:C:H2'	1:A:937:A:O4'	2.17	0.45
1:A:955:U:H1'	1:A:1227:A:N6	2.31	0.45
1:A:1200:C:H1'	1:A:1204:A:H62	1.81	0.45
1:A:1521:G:H2'	1:A:1522:U:C6	2.52	0.45
3:C:59:ARG:HG3	3:C:63:ASN:O	2.17	0.45
5:E:83:GLU:HG2	5:E:88:LYS:HG3	1.99	0.45
12:L:82:VAL:O	12:L:106:ASP:HB2	2.17	0.45
19:S:36:ARG:NH1	19:S:52:TYR:O	2.50	0.45
1:A:838:G:H2'	1:A:839:U:H5''	1.98	0.45
1:A:1080:A:O3'	5:E:16:THR:OG1	2.35	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:78:LEU:CD2	4:D:96:LEU:HB3	2.47	0.45
6:F:50:TYR:CE1	18:R:77:GLY:HA2	2.52	0.45
7:G:108:ALA:O	7:G:119:ARG:HB3	2.17	0.45
18:R:26:LEU:HD23	18:R:29:PHE:CE2	2.52	0.45
1:A:679:C:H2'	1:A:680:C:C6	2.52	0.45
1:A:938:A:N6	1:A:939:G:C6	2.85	0.45
1:A:1357:A:H2'	1:A:1358:U:C6	2.51	0.45
1:A:1435:G:H2'	1:A:1436:U:H6	1.82	0.45
17:Q:38:ARG:HD2	17:Q:38:ARG:N	2.30	0.45
1:A:620:C:H2'	1:A:621:A:O4'	2.17	0.45
2:B:25:ASN:HD21	2:B:27:LYS:HE3	1.81	0.45
16:P:12:LYS:HG2	16:P:13:HIS:CD2	2.52	0.45
1:A:522:C:H41	12:L:53:ARG:HH22	1.65	0.45
1:A:695:A:C2	1:A:787:A:H1'	2.52	0.45
1:A:953:G:H2'	1:A:954:G:O4'	2.17	0.45
1:A:951:G:OP2	13:M:102:ARG:NH2	2.50	0.44
1:A:1123:A:H2'	1:A:1124:G:C8	2.52	0.44
1:A:1519:MA6:O5'	1:A:1519:MA6:H8	2.17	0.44
2:B:219:VAL:O	2:B:223:ILE:HG13	2.16	0.44
14:N:6:LEU:HB3	14:N:23:ARG:NH2	2.31	0.44
15:O:70:LEU:HD12	15:O:81:LEU:HD12	1.99	0.44
15:O:85:LEU:HD23	15:O:85:LEU:HA	1.64	0.44
1:A:980:C:H5''	1:A:981:U:H5	1.81	0.44
7:G:53:LYS:HA	7:G:53:LYS:HD3	1.82	0.44
1:A:186:C:H2'	1:A:187:C:C6	2.52	0.44
1:A:452:A:H2'	1:A:453:A:C8	2.52	0.44
1:A:579:G:H2'	1:A:580:U:C6	2.51	0.44
1:A:1058:G:H5''	3:C:199:LYS:NZ	2.33	0.44
12:L:54:LYS:HD2	12:L:54:LYS:N	2.33	0.44
16:P:39:TYR:HE2	16:P:41:PRO:HB3	1.82	0.44
17:Q:97:SER:O	17:Q:98:LEU:HD12	2.17	0.44
1:A:154:C:H42	1:A:167:G:H1	1.65	0.44
1:A:839:U:H5'	1:A:840:C:C5	2.48	0.44
1:A:999:C:H2'	1:A:1000:U:C6	2.52	0.44
1:A:1022:G:N2	1:A:1023:G:O6	2.49	0.44
1:A:1106:G:H5''	3:C:172:ARG:HG2	1.98	0.44
2:B:181:PHE:CD2	8:H:70:GLN:HB3	2.52	0.44
2:B:189:ASP:OD1	2:B:189:ASP:N	2.48	0.44
11:K:69:ALA:O	11:K:73:MET:HG2	2.18	0.44
15:O:70:LEU:HD13	15:O:78:TYR:HA	1.99	0.44
1:A:687:A:H4'	1:A:688:G:O5'	2.17	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1147:C:HO2'	9:I:5:TYR:HH	1.63	0.44
3:C:14:ILE:C	3:C:16:ARG:H	2.21	0.44
3:C:32:LEU:HD21	3:C:59:ARG:CZ	2.48	0.44
18:R:36:ASN:O	18:R:40:LEU:HG	2.18	0.44
1:A:190(K):G:H2'	1:A:190(L):U:C6	2.53	0.44
1:A:539:A:H2'	1:A:540:G:C8	2.53	0.44
1:A:858:G:O2'	1:A:859:A:H5'	2.18	0.44
1:A:1179:A:H2'	1:A:1180:A:O4'	2.17	0.44
3:C:152:ILE:HB	3:C:199:LYS:HB2	1.99	0.44
4:D:28:SER:O	4:D:30:LYS:N	2.49	0.44
4:D:64:LEU:HD23	4:D:198:VAL:HG21	1.99	0.44
5:E:112:LEU:HD23	5:E:112:LEU:HA	1.78	0.44
16:P:10:GLY:HA3	16:P:14:ASN:O	2.18	0.44
18:R:36:ASN:OD1	18:R:39:VAL:HG12	2.16	0.44
20:T:39:LYS:O	20:T:43:LEU:HG	2.18	0.44
20:T:62:LEU:HD22	20:T:62:LEU:HA	1.73	0.44
21:U:6:ARG:HH11	21:U:15:ARG:HH12	1.66	0.44
1:A:633:G:H2'	1:A:634:C:C6	2.53	0.44
1:A:1427:U:H2'	1:A:1428:A:H8	1.83	0.44
3:C:42:LEU:O	3:C:46:GLU:HB2	2.18	0.44
9:I:45:ALA:HA	9:I:48:GLU:HB2	2.00	0.44
1:A:278:G:C6	17:Q:95:TYR:HD2	2.36	0.44
1:A:767:A:H2'	1:A:768:A:O4'	2.17	0.44
2:B:135:GLN:O	2:B:139:LYS:HB2	2.18	0.44
8:H:51:VAL:HG21	8:H:60:ARG:HG3	2.00	0.44
8:H:127:LEU:HD13	8:H:127:LEU:HA	1.71	0.44
9:I:19:LEU:HD22	9:I:59:PHE:HD2	1.83	0.44
1:A:321:A:N6	1:A:329:A:OP2	2.48	0.44
1:A:679:C:H2'	1:A:680:C:H6	1.83	0.44
1:A:1141:C:H2'	1:A:1142:G:H8	1.82	0.44
2:B:11:LEU:HD23	2:B:11:LEU:HA	1.85	0.44
2:B:54:THR:O	2:B:58:ILE:HG13	2.18	0.44
10:J:10:GLY:H	10:J:16:LEU:HD11	1.82	0.44
13:M:62:ASN:OD1	13:M:62:ASN:N	2.51	0.44
18:R:31:LEU:HD22	18:R:66:LEU:HB2	2.00	0.44
1:A:1427:U:H2'	1:A:1428:A:C8	2.53	0.43
9:I:19:LEU:HD23	9:I:19:LEU:HA	1.86	0.43
10:J:5:ARG:HB3	10:J:99:LYS:HE2	2.01	0.43
12:L:27:LEU:HG	12:L:28:LYS:H	1.83	0.43
19:S:63:THR:HG22	19:S:64:GLU:H	1.83	0.43
1:A:131:C:O2	1:A:262:A:H2	2.01	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:427:U:OP2	4:D:36:ARG:NH2	2.52	0.43
1:A:1218:C:H2'	1:A:1219:U:C6	2.54	0.43
1:A:1516:G:O2'	1:A:1518:MA6:H102	2.18	0.43
2:B:83:MET:CE	2:B:234:PRO:HB2	2.49	0.43
3:C:68:VAL:HG12	3:C:70:VAL:HG22	1.99	0.43
7:G:99:LEU:HD23	7:G:99:LEU:HA	1.86	0.43
10:J:3:LYS:N	10:J:77:PRO:HG3	2.33	0.43
1:A:818:G:H3'	1:A:819:A:H5''	1.99	0.43
1:A:1015:A:H2'	1:A:1016:A:O4'	2.18	0.43
1:A:1368:G:OP2	9:I:112:LYS:HD3	2.19	0.43
6:F:22:GLU:OE2	6:F:82:ARG:NH1	2.51	0.43
1:A:1504:G:H4'	1:A:1505:G:H5'	2.01	0.43
2:B:178:ARG:NH2	8:H:74:PRO:HB3	2.34	0.43
12:L:69:TYR:CD1	12:L:90:VAL:HG21	2.54	0.43
1:A:113:G:C1'	1:A:354:G:H5'	2.47	0.43
1:A:1257:U:O2'	1:A:1258:G:P	2.77	0.43
4:D:170:VAL:CG1	4:D:174:LEU:HB2	2.49	0.43
20:T:92:LEU:HD23	20:T:92:LEU:HA	1.80	0.43
1:A:216:G:H2'	1:A:217:C:H6	1.83	0.43
1:A:670:G:O2'	6:F:77:ARG:NH2	2.52	0.43
1:A:1065:U:H4'	1:A:1066:C:O5'	2.19	0.43
1:A:1124:G:C8	1:A:1145:C:H5	2.36	0.43
1:A:1132:C:H2'	1:A:1133:G:H8	1.83	0.43
1:A:1526:G:H2'	1:A:1527:C:H6	1.84	0.43
2:B:59:GLU:HB2	2:B:221:LEU:HD11	2.00	0.43
2:B:223:ILE:HG22	2:B:228:GLY:HA3	2.00	0.43
3:C:16:ARG:NH2	3:C:183:ASP:HA	2.33	0.43
9:I:79:LEU:HD13	9:I:83:ARG:HD2	2.01	0.43
12:L:77:LEU:HD23	12:L:77:LEU:HA	1.88	0.43
1:A:113:G:H2'	1:A:114:U:H6	1.83	0.43
1:A:1000:U:H2'	1:A:1001:A:C8	2.50	0.43
1:A:1325:C:OP1	21:U:15:ARG:HD3	2.19	0.43
8:H:14:ARG:HG3	8:H:83:ILE:HG22	1.99	0.43
9:I:75:ASP:O	9:I:78:LYS:HB3	2.18	0.43
2:B:46:LYS:HD3	2:B:49:GLU:OE1	2.19	0.43
2:B:157:ARG:HG2	2:B:158:LEU:N	2.34	0.43
4:D:152:SER:O	4:D:155:LEU:HG	2.18	0.43
10:J:36:GLY:O	10:J:38:ILE:HG22	2.19	0.43
12:L:60:LEU:HD13	12:L:60:LEU:HA	1.76	0.43
15:O:45:VAL:HB	15:O:46:HIS:ND1	2.33	0.43
1:A:22:G:H2'	1:A:23:C:H6	1.84	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:390:C:H2'	1:A:391:G:C8	2.54	0.43
1:A:560:U:H4'	1:A:561:U:H5''	2.01	0.43
1:A:820:U:H4'	1:A:821:G:OP2	2.19	0.43
1:A:974:A:OP1	1:A:974:A:H8	2.02	0.43
1:A:1277:C:H1'	1:A:1282:C:O2	2.19	0.43
2:B:150:SER:OG	2:B:151:GLY:N	2.52	0.43
3:C:32:LEU:O	3:C:35:GLU:HB3	2.18	0.43
1:A:31:G:N2	1:A:48:C:OP1	2.44	0.42
1:A:129(A):G:H1'	1:A:190(E):U:H2'	2.01	0.42
1:A:179:A:H2'	1:A:180:U:C6	2.54	0.42
1:A:484:G:H4'	1:A:485:G:O5'	2.19	0.42
1:A:833:U:H2'	1:A:834:C:C6	2.54	0.42
1:A:1025:U:H2'	1:A:1026:G:C8	2.54	0.42
1:A:1123:A:H4'	10:J:37:PRO:HG2	2.01	0.42
1:A:1213:A:N6	1:A:1215:G:N3	2.67	0.42
1:A:1317:C:OP1	14:N:17:LYS:HG2	2.18	0.42
2:B:16:HIS:CD2	2:B:204:ASN:HD22	2.36	0.42
5:E:18:ARG:HG2	5:E:19:MET:N	2.33	0.42
7:G:124:LEU:HD23	7:G:124:LEU:HA	1.81	0.42
11:K:110:ASP:HB2	18:R:88:LYS:HG3	2.00	0.42
12:L:84:LEU:O	12:L:101:VAL:HG23	2.19	0.42
13:M:82:MET:HA	13:M:89:GLY:HA3	2.01	0.42
19:S:50:ALA:HA	19:S:59:PRO:HA	2.01	0.42
1:A:376:G:H5''	16:P:5:ARG:HD2	2.00	0.42
1:A:1339:A:H2'	1:A:1340:A:O4'	2.19	0.42
17:Q:67:LYS:HA	17:Q:70:ARG:HH12	1.85	0.42
14:N:16:PHE:HB2	14:N:19:ARG:HG3	2.02	0.42
1:A:320:C:O2'	1:A:1435:G:H1'	2.19	0.42
1:A:838:G:N2	1:A:849:C:C2	2.88	0.42
1:A:1221:G:O3'	19:S:77:THR:HG21	2.20	0.42
1:A:1287:A:H2	1:A:1353:G:N3	2.17	0.42
1:A:1320:C:H5''	19:S:3:ARG:HH22	1.85	0.42
6:F:30:LEU:HD11	6:F:63:TYR:HD2	1.84	0.42
10:J:34:VAL:HG22	10:J:74:ILE:HG23	2.01	0.42
13:M:63:THR:HG23	13:M:64:TRP:H	1.84	0.42
1:A:1413:A:H2'	1:A:1414:U:O4'	2.20	0.42
2:B:24:TRP:HB2	2:B:190:THR:HG22	2.02	0.42
2:B:180:LEU:HD23	2:B:180:LEU:HA	1.89	0.42
6:F:30:LEU:HD23	6:F:75:LEU:HD21	2.01	0.42
19:S:13:ASP:O	19:S:17:GLU:HG2	2.19	0.42
1:A:459:G:H1'	1:A:463:A:H61	1.84	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1222:G:OP2	1:A:1322:C:N4	2.44	0.42
2:B:187:LEU:HD21	2:B:214:ILE:HG13	2.01	0.42
7:G:108:ALA:HB2	7:G:123:GLU:HG2	2.02	0.42
15:O:61:GLY:O	15:O:65:ARG:HD2	2.20	0.42
20:T:14:LYS:O	20:T:18:GLN:HG3	2.19	0.42
1:A:369:C:OP2	1:A:388:G:N2	2.45	0.42
3:C:69:HIS:HA	3:C:104:GLN:O	2.19	0.42
4:D:150:GLU:HA	4:D:153:ARG:HG3	2.00	0.42
12:L:25:PRO:HA	12:L:27:LEU:H	1.84	0.42
12:L:47:LYS:H	12:L:47:LYS:HG3	1.46	0.42
1:A:736:C:H2'	1:A:737:A:C8	2.55	0.42
1:A:1347:G:C2'	1:A:1348:U:OP2	2.68	0.42
8:H:75:ARG:HA	8:H:76:PRO:HD3	1.75	0.42
9:I:79:LEU:HD23	9:I:79:LEU:HA	1.93	0.42
10:J:14:LYS:HE2	10:J:14:LYS:HB3	1.82	0.42
10:J:24:VAL:O	10:J:28:ARG:HG2	2.20	0.42
1:A:1001:A:H61	1:A:1040:U:H3	1.67	0.42
1:A:1063:C:H2'	1:A:1064:G:C8	2.55	0.42
1:A:1196:U:OP1	1:A:1197:G:H5'	2.20	0.42
1:A:1425:U:H2'	1:A:1426:C:C6	2.55	0.42
2:B:166:ASP:HB3	2:B:169:LYS:HB3	2.01	0.42
5:E:51:VAL:HG23	5:E:52:PRO:HD3	2.01	0.42
9:I:108:VAL:HG12	9:I:109:VAL:H	1.84	0.42
12:L:53:ARG:NH1	12:L:92:OTD:OD2	2.45	0.42
16:P:60:LEU:HD23	16:P:60:LEU:HA	1.81	0.42
19:S:7:LYS:H	19:S:7:LYS:HD3	1.83	0.42
1:A:869:G:H5''	1:A:870:U:OP1	2.20	0.41
1:A:959:A:O2'	1:A:984:C:O2'	2.13	0.41
1:A:1139:G:O2'	1:A:1140:C:OP2	2.30	0.41
1:A:1191:A:OP1	3:C:4:LYS:NZ	2.44	0.41
18:R:43:PHE:C	18:R:51:LEU:HD12	2.40	0.41
19:S:16:LEU:O	19:S:20:LEU:HG	2.20	0.41
1:A:149:A:H2'	1:A:150:C:H6	1.84	0.41
1:A:266:G:H3'	17:Q:67:LYS:HB2	2.01	0.41
1:A:289:G:P	25:A:1910:HOH:O	2.78	0.41
1:A:474:G:H4'	16:P:81:ARG:NH2	2.36	0.41
1:A:664:G:OP1	18:R:64:ARG:NH1	2.53	0.41
1:A:1007:C:H2'	1:A:1008:C:C6	2.55	0.41
1:A:1241:G:H2'	1:A:1242:C:H6	1.85	0.41
1:A:1391:U:H2'	1:A:1392:G:H8	1.84	0.41
15:O:39:LEU:HD13	15:O:56:LEU:HB2	2.02	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'	2.54	0.41
1:A:765:G:N2	1:A:813:U:OP2	2.49	0.41
1:A:1287:A:H2'	1:A:1288:A:C8	2.55	0.41
1:A:1318:A:H5'	19:S:10:PHE:CE1	2.56	0.41
5:E:59:GLY:O	5:E:63:ARG:HD2	2.19	0.41
5:E:151:LEU:HD23	5:E:151:LEU:HA	1.71	0.41
9:I:118:LYS:O	9:I:120:ARG:N	2.49	0.41
13:M:34:LEU:HD23	13:M:34:LEU:HA	1.89	0.41
15:O:26:GLU:OE1	15:O:77:ARG:HD2	2.20	0.41
1:A:1147:C:H4'	9:I:5:TYR:HE1	1.84	0.41
1:A:1492:A:H2'	1:A:1493:A:O4'	2.21	0.41
3:C:138:VAL:HG21	3:C:168:ALA:O	2.20	0.41
4:D:3:ARG:NH1	4:D:71:SER:HB3	2.35	0.41
5:E:143:ARG:NH1	8:H:77:GLU:OE2	2.53	0.41
6:F:4:TYR:CZ	6:F:72:VAL:HG21	2.56	0.41
8:H:109:ILE:O	8:H:109:ILE:HG13	2.20	0.41
13:M:15:VAL:HG21	13:M:48:LEU:HD21	2.01	0.41
1:A:98:U:H2'	1:A:99:C:C6	2.55	0.41
1:A:410:G:H2'	1:A:429:U:C4	2.56	0.41
1:A:812:C:H4'	1:A:813:U:O5'	2.20	0.41
1:A:980:C:H3'	1:A:981:U:C6	2.54	0.41
1:A:1257:U:O2'	1:A:1258:G:OP2	2.27	0.41
1:A:1500:A:OP2	1:A:1505:G:OP1	2.39	0.41
4:D:190:ASP:H	4:D:193:ASP:HB2	1.86	0.41
11:K:18:ARG:HB3	11:K:20:TYR:HE1	1.86	0.41
1:A:840:C:H4'	1:A:841:U:O5'	2.21	0.41
3:C:47:LEU:HD23	3:C:68:VAL:HG11	2.03	0.41
4:D:184:LYS:HE3	4:D:184:LYS:HB2	1.71	0.41
5:E:31:LEU:HD23	5:E:31:LEU:HA	1.66	0.41
7:G:22:LEU:HD21	7:G:66:VAL:HG11	2.02	0.41
8:H:36:LEU:HD23	8:H:36:LEU:HA	1.83	0.41
9:I:118:LYS:C	9:I:120:ARG:H	2.23	0.41
10:J:63:PHE:HE1	14:N:45:ARG:HA	1.85	0.41
12:L:35:GLY:HA3	12:L:60:LEU:HD13	2.01	0.41
15:O:67:LEU:HD23	15:O:67:LEU:HA	1.82	0.41
1:A:35:G:C6	1:A:36:C:N4	2.88	0.41
1:A:723:U:O2	1:A:723:U:H2'	2.20	0.41
1:A:1151:A:HO2'	1:A:1152:A:H8	1.68	0.41
1:A:1310:G:N7	19:S:2:PRO:HG2	2.36	0.41
1:A:1347:G:O2'	1:A:1348:U:OP2	2.38	0.41
1:A:1465:C:H2'	1:A:1466:C:O4'	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:131:ILE:HA	5:E:131:ILE:HD13	1.81	0.41
12:L:44:THR:HA	12:L:45:PRO:HD3	1.67	0.41
12:L:59:ARG:HE	12:L:59:ARG:HB2	1.57	0.41
1:A:875:C:O2'	8:H:14:ARG:NH1	2.54	0.41
1:A:1369:C:H2'	1:A:1370:G:C8	2.56	0.41
2:B:16:HIS:CG	2:B:17:PHE:N	2.89	0.41
5:E:46:GLY:H	5:E:58:ALA:HB2	1.86	0.41
18:R:55:ARG:HD2	18:R:55:ARG:HA	1.93	0.41
1:A:123:C:OP1	1:A:312:C:H5'	2.21	0.41
1:A:442:C:H42	1:A:492:G:H1	1.68	0.41
1:A:701:C:H4'	1:A:702:A:O5'	2.21	0.41
1:A:815:A:N3	1:A:1527:C:O2'	2.46	0.41
1:A:952:U:H2'	1:A:953:G:H8	1.86	0.41
1:A:1163:C:H2'	1:A:1164:G:C8	2.56	0.41
1:A:1307:U:H2'	1:A:1308:U:C6	2.56	0.41
1:A:1355:G:H2'	1:A:1356:G:C8	2.56	0.41
1:A:1367:C:H5'	10:J:60:ARG:NH1	2.36	0.41
1:A:1405:G:H1	1:A:1496:C:N4	2.19	0.41
2:B:24:TRP:CZ3	2:B:26:PRO:HA	2.56	0.41
4:D:98:GLU:HG2	4:D:189:PRO:HG3	2.03	0.41
9:I:32:ASP:OD1	9:I:33:PHE:N	2.54	0.41
11:K:34:ASP:OD2	11:K:38:ASN:HB2	2.21	0.41
13:M:23:TYR:HB3	13:M:67:GLU:H	1.85	0.41
19:S:25:LYS:HD2	19:S:25:LYS:N	2.36	0.41
1:A:397:A:H5'	1:A:398:C:OP1	2.20	0.41
16:P:74:LEU:HD22	16:P:79:VAL:HG21	2.02	0.41
1:A:103:C:P	20:T:17:ARG:HH12	2.44	0.40
1:A:912:C:O2'	1:A:913:A:H5'	2.21	0.40
1:A:1526:G:H2'	1:A:1527:C:C6	2.56	0.40
2:B:27:LYS:HE3	2:B:27:LYS:HB2	1.88	0.40
2:B:55:PHE:CD1	2:B:58:ILE:HD12	2.56	0.40
3:C:112:SER:O	3:C:116:VAL:HG23	2.21	0.40
17:Q:63:ARG:O	17:Q:65:ILE:HD12	2.20	0.40
18:R:26:LEU:HD12	18:R:26:LEU:HA	1.97	0.40
1:A:620:C:C1'	4:D:135:LEU:HD13	2.51	0.40
1:A:663:A:H2'	1:A:664:G:O4'	2.21	0.40
1:A:1148:U:H2'	1:A:1149:C:O4'	2.21	0.40
1:A:1392:G:N2	1:A:1502:A:C8	2.83	0.40
2:B:92:TYR:CD1	2:B:94:ASN:HB2	2.56	0.40
2:B:217:ARG:HA	2:B:217:ARG:HD3	1.84	0.40
10:J:51:ARG:NH2	10:J:61:GLU:HB2	2.36	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:79:ARG:H	10:J:79:ARG:HG2	1.68	0.40
14:N:17:LYS:HG3	14:N:18:VAL:HG13	2.03	0.40
1:A:939:G:H2'	1:A:940:C:C6	2.56	0.40
1:A:1219:U:C4	1:A:1220:G:N7	2.89	0.40
3:C:16:ARG:HA	3:C:16:ARG:HD3	1.94	0.40
5:E:93:PRO:HG2	8:H:105:ARG:HH21	1.87	0.40
15:O:6:GLU:H	15:O:6:GLU:CD	2.23	0.40
21:U:18:TYR:CG	21:U:24:ARG:HG2	2.56	0.40
1:A:19:C:OP1	5:E:125:SER:OG	2.31	0.40
1:A:79:G:C6	1:A:80:G:C6	3.10	0.40
1:A:152:A:N6	1:A:170:U:C2	2.89	0.40
1:A:527:7MG:O2'	1:A:535:A:N1	2.41	0.40
1:A:1150:U:H2'	1:A:1151:A:H5'	2.03	0.40
3:C:33:LEU:HD23	3:C:33:LEU:HA	1.98	0.40
1:A:110:C:H2'	1:A:111:G:O4'	2.21	0.40
1:A:453:A:C6	1:A:454:C:N3	2.90	0.40
1:A:485:G:O2'	1:A:486:U:P	2.79	0.40
1:A:538:G:H5''	12:L:114:LYS:HB2	2.03	0.40
1:A:868:C:H3'	25:A:2103:HOH:O	2.21	0.40
1:A:1020:U:H2'	1:A:1021:G:H8	1.87	0.40
1:A:1055:A:O2'	3:C:156:ARG:NH2	2.54	0.40
1:A:1431:C:H2'	1:A:1432:G:O4'	2.22	0.40
3:C:16:ARG:HB2	3:C:16:ARG:HH11	1.87	0.40
3:C:121:ALA:HB2	3:C:198:VAL:HG21	2.02	0.40
5:E:144:THR:HG22	5:E:145:LYS:H	1.87	0.40
11:K:80:VAL:HG22	11:K:103:LEU:HD22	2.04	0.40
19:S:7:LYS:NZ	19:S:7:LYS:HB2	2.36	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)
1:A:81:U:O4	1:A:1384:C:O2'[3_545]	2.19	0.01

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%)	210 (90%)	19 (8%)	3 (1%)	10	37
3	C	204/239 (85%)	180 (88%)	23 (11%)	1 (0%)	25	56
4	D	206/209 (99%)	194 (94%)	12 (6%)	0	100	100
5	E	148/162 (91%)	140 (95%)	8 (5%)	0	100	100
6	F	99/101 (98%)	97 (98%)	2 (2%)	0	100	100
7	G	153/156 (98%)	143 (94%)	10 (6%)	0	100	100
8	H	136/138 (99%)	134 (98%)	2 (2%)	0	100	100
9	I	125/128 (98%)	114 (91%)	11 (9%)	0	100	100
10	J	96/105 (91%)	77 (80%)	17 (18%)	2 (2%)	5	28
11	K	114/129 (88%)	106 (93%)	8 (7%)	0	100	100
12	L	121/135 (90%)	112 (93%)	8 (7%)	1 (1%)	16	47
13	M	116/126 (92%)	106 (91%)	10 (9%)	0	100	100
14	N	58/61 (95%)	53 (91%)	5 (9%)	0	100	100
15	O	85/89 (96%)	83 (98%)	2 (2%)	0	100	100
16	P	81/88 (92%)	77 (95%)	4 (5%)	0	100	100
17	Q	97/105 (92%)	90 (93%)	7 (7%)	0	100	100
18	R	68/88 (77%)	63 (93%)	5 (7%)	0	100	100
19	S	78/93 (84%)	69 (88%)	8 (10%)	1 (1%)	10	37
20	T	97/106 (92%)	84 (87%)	13 (13%)	0	100	100
21	U	22/27 (82%)	21 (96%)	1 (4%)	0	100	100
All	All	2336/2541 (92%)	2153 (92%)	175 (8%)	8 (0%)	37	66

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	21	ARG
2	B	24	TRP
12	L	28	LYS
19	S	31	ILE
3	C	15	THR
10	J	34	VAL
10	J	72	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	229	VAL

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	B	202/220 (92%)	182 (90%)	20 (10%)	6	25
3	C	160/188 (85%)	126 (79%)	34 (21%)	1	3
4	D	180/181 (99%)	167 (93%)	13 (7%)	12	37
5	E	115/123 (94%)	96 (84%)	19 (16%)	2	8
6	F	90/90 (100%)	81 (90%)	9 (10%)	6	24
7	G	126/127 (99%)	115 (91%)	11 (9%)	8	30
8	H	119/119 (100%)	103 (87%)	16 (13%)	3	14
9	I	98/99 (99%)	87 (89%)	11 (11%)	5	20
10	J	87/92 (95%)	80 (92%)	7 (8%)	10	33
11	K	88/99 (89%)	80 (91%)	8 (9%)	7	28
12	L	103/110 (94%)	86 (84%)	17 (16%)	2	8
13	M	94/101 (93%)	84 (89%)	10 (11%)	5	22
14	N	49/50 (98%)	42 (86%)	7 (14%)	2	12
15	O	79/80 (99%)	76 (96%)	3 (4%)	28	56
16	P	72/74 (97%)	64 (89%)	8 (11%)	5	20
17	Q	94/97 (97%)	83 (88%)	11 (12%)	4	18
18	R	61/77 (79%)	54 (88%)	7 (12%)	4	19
19	S	71/80 (89%)	62 (87%)	9 (13%)	3	15
20	T	76/82 (93%)	67 (88%)	9 (12%)	4	18
21	U	19/22 (86%)	19 (100%)	0	100	100
All	All	1983/2111 (94%)	1754 (88%)	229 (12%)	4	19

All (229) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	11	LEU
2	B	24	TRP
2	B	25	ASN
2	B	32	ILE
2	B	44	LEU
2	B	48	MET
2	B	69	LEU
2	B	76	GLN
2	B	97	TRP
2	B	102	LEU
2	B	106	LYS
2	B	144	ARG
2	B	162	ILE
2	B	163	PHE
2	B	165	VAL
2	B	178	ARG
2	B	187	LEU
2	B	190	THR
2	B	208	ILE
2	B	221	LEU
3	C	3	ASN
3	C	11	ARG
3	C	14	ILE
3	C	15	THR
3	C	16	ARG
3	C	17	ASP
3	C	21	ARG
3	C	27	LYS
3	C	28	GLN
3	C	32	LEU
3	C	34	LEU
3	C	42	LEU
3	C	46	GLU
3	C	52	LEU
3	C	54	ARG
3	C	64	VAL
3	C	70	VAL
3	C	79	ARG
3	C	91	LEU
3	C	99	VAL
3	C	107	GLN
3	C	108	ASN
3	C	130	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	C	157	ILE
3	C	166	GLU
3	C	167	TRP
3	C	176	HIS
3	C	177	THR
3	C	178	LEU
3	C	188	LEU
3	C	190	ARG
3	C	192	THR
3	C	195	VAL
3	C	204	LEU
4	D	10	ARG
4	D	15	GLU
4	D	19	LEU
4	D	21	LEU
4	D	25	ARG
4	D	26	CYS
4	D	34	GLU
4	D	64	LEU
4	D	78	LEU
4	D	122	ARG
4	D	135	LEU
4	D	145	GLU
4	D	192	GLU
5	E	12	LEU
5	E	15	ARG
5	E	19	MET
5	E	31	LEU
5	E	43	LEU
5	E	51	VAL
5	E	53	LEU
5	E	63	ARG
5	E	68	GLU
5	E	78	HIS
5	E	79	GLU
5	E	80	ILE
5	E	89	ILE
5	E	118	ILE
5	E	120	THR
5	E	125	SER
5	E	147	ASP
5	E	150	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	E	151	LEU
6	F	10	LEU
6	F	15	ASP
6	F	19	LEU
6	F	32	ASN
6	F	47	ARG
6	F	61	LEU
6	F	70	ASP
6	F	92	LYS
6	F	95	GLU
7	G	8	GLU
7	G	12	LEU
7	G	22	LEU
7	G	24	THR
7	G	57	GLU
7	G	59	LEU
7	G	85	TYR
7	G	92	SER
7	G	113	GLU
7	G	125	MET
7	G	126	ASP
8	H	11	THR
8	H	18	ARG
8	H	23	SER
8	H	24	THR
8	H	26	VAL
8	H	29	SER
8	H	39	LEU
8	H	50	ARG
8	H	56	LYS
8	H	63	LEU
8	H	85	ARG
8	H	91	ARG
8	H	98	LYS
8	H	105	ARG
8	H	120	THR
8	H	127	LEU
9	I	10	ARG
9	I	14	VAL
9	I	53	VAL
9	I	54	ASP
9	I	79	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
9	I	81	ILE
9	I	108	VAL
9	I	109	VAL
9	I	118	LYS
9	I	121	ARG
9	I	127	LYS
10	J	4	ILE
10	J	57	LYS
10	J	62	HIS
10	J	69	ASN
10	J	71	LEU
10	J	79	ARG
10	J	80	LYS
11	K	18	ARG
11	K	29	ILE
11	K	33	THR
11	K	41	THR
11	K	48	ILE
11	K	80	VAL
11	K	104	GLN
11	K	120	ARG
12	L	18	VAL
12	L	19	ARG
12	L	33	ARG
12	L	42	THR
12	L	43	VAL
12	L	47	LYS
12	L	60	LEU
12	L	62	SER
12	L	64	TYR
12	L	67	THR
12	L	79	GLU
12	L	82	VAL
12	L	97	ARG
12	L	101	VAL
12	L	112	ASP
12	L	113	ARG
12	L	122	THR
13	M	16	ASP
13	M	35	GLU
13	M	44	ARG
13	M	45	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
13	M	49	THR
13	M	64	TRP
13	M	70	LEU
13	M	84	ILE
13	M	90	LEU
13	M	110	ARG
14	N	11	LYS
14	N	22	THR
14	N	24	CYS
14	N	29	ARG
14	N	31	ARG
14	N	41	ARG
14	N	58	LYS
15	O	39	LEU
15	O	70	LEU
15	O	81	LEU
16	P	2	VAL
16	P	9	PHE
16	P	20	VAL
16	P	45	THR
16	P	54	GLU
16	P	55	ARG
16	P	68	ASP
16	P	82	GLN
17	Q	4	LYS
17	Q	15	MET
17	Q	34	LYS
17	Q	38	ARG
17	Q	53	LEU
17	Q	59	ILE
17	Q	76	LEU
17	Q	83	ASP
17	Q	86	GLU
17	Q	92	ARG
17	Q	98	LEU
18	R	25	THR
18	R	46	GLU
18	R	47	THR
18	R	68	LYS
18	R	69	THR
18	R	87	ARG
18	R	88	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
19	S	5	LEU
19	S	6	LYS
19	S	7	LYS
19	S	10	PHE
19	S	15	LEU
19	S	19	VAL
19	S	29	ARG
19	S	39	THR
19	S	63	THR
20	T	9	ASN
20	T	10	LEU
20	T	19	SER
20	T	56	MET
20	T	62	LEU
20	T	72	LEU
20	T	73	HIS
20	T	84	LEU
20	T	104	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	16	HIS
2	B	25	ASN
3	C	108	ASN
5	E	78	HIS
5	E	141	GLN
6	F	11	ASN
9	I	3	GLN
10	J	13	HIS
11	K	26	ASN
13	M	77	ASN
19	S	23	ASN
19	S	47	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1508/1522 (99%)	282 (18%)	47 (3%)

All (282) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	6	G
1	A	7	G
1	A	9	G
1	A	32	A
1	A	33	A
1	A	39	G
1	A	47	C
1	A	48	C
1	A	50	A
1	A	51	A
1	A	66	G
1	A	68	G
1	A	81	U
1	A	88	A
1	A	91	C
1	A	92	C
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	136	C
1	A	163	C
1	A	180	U
1	A	182	U
1	A	183	G
1	A	190(D)	U
1	A	195	A
1	A	197	A
1	A	201	C
1	A	202	U
1	A	203	U
1	A	204	U
1	A	216	G
1	A	220	G
1	A	231	G
1	A	243	A
1	A	244	U
1	A	247	G
1	A	251	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	252	U
1	A	266	G
1	A	267	C
1	A	279	A
1	A	281	G
1	A	282	A
1	A	289	G
1	A	301	G
1	A	321	A
1	A	328	C
1	A	329	A
1	A	332	G
1	A	344	A
1	A	345	C
1	A	351	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	367	U
1	A	373	A
1	A	384	G
1	A	390	C
1	A	397	A
1	A	398	C
1	A	406	G
1	A	409	G
1	A	412	A
1	A	413	G
1	A	421	U
1	A	424	G
1	A	429	U
1	A	439	A
1	A	460	A
1	A	461	C
1	A	481	G
1	A	485	G
1	A	486	U
1	A	497	A
1	A	498	U
1	A	509	A
1	A	510	A
1	A	511	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	518	C
1	A	519	C
1	A	527	7MG
1	A	532	A
1	A	533	A
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	570	G
1	A	572	A
1	A	573	A
1	A	576	G
1	A	577	G
1	A	579	G
1	A	588	G
1	A	616	G
1	A	618	C
1	A	620	C
1	A	653	A
1	A	665	A
1	A	686	U
1	A	687	A
1	A	688	G
1	A	701	C
1	A	702	A
1	A	723	U
1	A	724	G
1	A	731	G
1	A	734	G
1	A	749	C
1	A	755	G
1	A	774	G
1	A	777	A
1	A	780	A
1	A	781	A
1	A	782	A
1	A	792	A
1	A	793	U
1	A	794	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	799	G
1	A	812	C
1	A	813	U
1	A	817	C
1	A	818	G
1	A	819	A
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	848	C
1	A	858	G
1	A	859	A
1	A	864	A
1	A	869	G
1	A	872	A
1	A	876	G
1	A	902	G
1	A	914	A
1	A	916	G
1	A	922	G
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	942	G
1	A	945	G
1	A	954	G
1	A	960	U
1	A	966	M2G
1	A	969	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	982	U
1	A	984	C
1	A	989	C
1	A	991	U
1	A	992	U
1	A	993	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1003(A)	G
1	A	1004	A
1	A	1005	A
1	A	1023	G
1	A	1026	G
1	A	1031	G
1	A	1045	C
1	A	1050	G
1	A	1051	C
1	A	1060	C
1	A	1065	U
1	A	1066	C
1	A	1068	G
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1125	U
1	A	1127	G
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1141	C
1	A	1145	C
1	A	1146	A
1	A	1149	C
1	A	1152	A
1	A	1153	C
1	A	1157	A
1	A	1158	C
1	A	1159	U
1	A	1160	G
1	A	1161	C
1	A	1164	G
1	A	1171	G
1	A	1183	A
1	A	1184	G
1	A	1191	A
1	A	1193	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1196	U
1	A	1197	G
1	A	1198	G
1	A	1201	A
1	A	1202	G
1	A	1207	2MG
1	A	1211	U
1	A	1212	U
1	A	1213	A
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1236	A
1	A	1238	A
1	A	1241	G
1	A	1242	C
1	A	1257	U
1	A	1258	G
1	A	1269	A
1	A	1270	C
1	A	1278	U
1	A	1280	A
1	A	1281	U
1	A	1286	A
1	A	1287	A
1	A	1288	A
1	A	1289	A
1	A	1297	C
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1303	C
1	A	1305	G
1	A	1306	A
1	A	1312	G
1	A	1318	A
1	A	1319	A
1	A	1320	C
1	A	1326	C
1	A	1335	C
1	A	1336	C
1	A	1338	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1353	G
1	A	1359	C
1	A	1362	C
1	A	1368	G
1	A	1378	C
1	A	1379	G
1	A	1381	U
1	A	1398	A
1	A	1400	5MC
1	A	1443	G
1	A	1446	A
1	A	1447	G
1	A	1451	A
1	A	1452	C
1	A	1454	G
1	A	1487	G
1	A	1494	G
1	A	1497	G
1	A	1499	A
1	A	1502	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1520	G
1	A	1529	G
1	A	1530	G
1	A	1531	A

All (47) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	7	G
1	A	115	G
1	A	129(A)	G
1	A	181	G
1	A	243	A
1	A	250	A
1	A	251	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	281	G
1	A	328	C
1	A	372	C
1	A	428	G
1	A	484	G
1	A	485	G
1	A	496	A
1	A	509	A
1	A	518	C
1	A	532	A
1	A	559	A
1	A	687	A
1	A	701	C
1	A	748	C
1	A	792	A
1	A	812	C
1	A	840	C
1	A	913	A
1	A	975	A
1	A	991	U
1	A	992	U
1	A	1065	U
1	A	1067	A
1	A	1139	G
1	A	1145	C
1	A	1182	G
1	A	1183	A
1	A	1190	G
1	A	1201	A
1	A	1256	A
1	A	1257	U
1	A	1285	A
1	A	1300	G
1	A	1301	U
1	A	1305	G
1	A	1346	A
1	A	1347	G
1	A	1380	U
1	A	1505	G

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

15 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
1	5MC	A	1400	1	19,22,23	1.25	3 (15%)	26,32,35	0.94	2 (7%)
1	M2G	A	966	1	20,27,28	1.43	3 (15%)	19,40,43	1.26	2 (10%)
12	0TD	L	92	12	8,9,10	1.32	1 (12%)	6,11,13	2.79	3 (50%)
1	2MG	A	1207	1	18,26,27	1.60	4 (22%)	16,38,41	1.45	2 (12%)
1	5MC	A	1407	1	19,22,23	1.02	1 (5%)	26,32,35	1.21	4 (15%)
1	PSU	A	516	1,23	18,21,22	1.22	2 (11%)	21,30,33	1.89	5 (23%)
1	PSU	A	1540	1,23	18,21,22	1.25	1 (5%)	21,30,33	1.71	4 (19%)
1	UR3	A	1498	1	19,22,23	1.05	1 (5%)	26,32,35	1.12	1 (3%)
1	MA6	A	1518	1	19,26,27	1.23	3 (15%)	18,38,41	0.79	0
1	7MG	A	527	1	23,26,27	3.82	4 (17%)	27,39,42	2.32	9 (33%)
1	MA6	A	1519	1	19,26,27	1.48	4 (21%)	18,38,41	0.61	0
1	PSU	A	1541	1	18,21,22	1.15	1 (5%)	21,30,33	1.84	5 (23%)
1	4OC	A	1402	1	20,23,24	0.93	2 (10%)	25,32,35	0.80	1 (4%)
1	5MC	A	967	1	19,22,23	0.98	1 (5%)	26,32,35	0.75	0
1	5MC	A	1404	1	19,22,23	0.96	1 (5%)	26,32,35	0.84	1 (3%)

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
1	5MC	A	1400	1	-	2/7/25/26	0/2/2/2
1	M2G	A	966	1	-	4/7/29/30	0/3/3/3
12	0TD	L	92	12	-	1/7/12/14	-
1	2MG	A	1207	1	-	2/5/27/28	0/3/3/3
1	5MC	A	1407	1	-	0/7/25/26	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	A	516	1,23	-	0/7/25/26	0/2/2/2
1	PSU	A	1540	1,23	-	2/7/25/26	0/2/2/2
1	UR3	A	1498	1	-	0/7/25/26	0/2/2/2
1	MA6	A	1518	1	-	3/7/29/30	0/3/3/3
1	7MG	A	527	1	-	2/7/37/38	0/3/3/3
1	MA6	A	1519	1	-	3/7/29/30	0/3/3/3
1	PSU	A	1541	1	-	0/7/25/26	0/2/2/2
1	4OC	A	1402	1	-	2/9/29/30	0/2/2/2
1	5MC	A	967	1	-	0/7/25/26	0/2/2/2
1	5MC	A	1404	1	-	0/7/25/26	0/2/2/2

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	527	7MG	C8-N9	-16.86	1.34	1.45
1	A	527	7MG	C5-N7	4.34	1.41	1.35
1	A	1540	PSU	C6-C5	4.33	1.40	1.35
1	A	1519	MA6	C6-N1	4.20	1.38	1.32
1	A	1541	PSU	C6-C5	4.05	1.39	1.35
1	A	527	7MG	C2-N2	4.01	1.43	1.34
1	A	516	PSU	C6-C5	3.83	1.39	1.35
1	A	1207	2MG	C6-N1	3.63	1.43	1.37
1	A	1207	2MG	C2-N2	3.54	1.40	1.33
1	A	1518	MA6	C6-N1	3.53	1.37	1.32
1	A	966	M2G	C6-N1	3.47	1.43	1.37
1	A	1207	2MG	C2-N1	3.35	1.42	1.36
1	A	966	M2G	C2-N3	3.27	1.35	1.30
1	A	1498	UR3	C2-N1	3.07	1.42	1.38
1	A	1404	5MC	C2-N3	2.86	1.42	1.36
1	A	966	M2G	C2-N2	2.85	1.40	1.35
1	A	1407	5MC	C2-N1	2.80	1.45	1.40
1	A	967	5MC	C2-N3	2.77	1.41	1.36
1	A	1400	5MC	C2-N1	2.76	1.45	1.40
1	A	1519	MA6	C2-N3	2.53	1.36	1.32
1	A	1402	4OC	C2-N3	2.51	1.41	1.36
1	A	1519	MA6	C4-N3	2.51	1.39	1.35
1	A	527	7MG	C4-N3	2.49	1.39	1.34
1	A	1518	MA6	C2-N1	2.44	1.38	1.33
1	A	1402	4OC	O2-C2	-2.43	1.19	1.23
1	A	1518	MA6	C2-N3	2.40	1.35	1.32
1	A	1400	5MC	C6-C5	2.33	1.38	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1400	5MC	C2-N3	2.31	1.40	1.36
12	L	92	0TD	CB-CA	-2.31	1.54	1.54
1	A	1519	MA6	C2-N1	2.20	1.37	1.33
1	A	1207	2MG	C5-C6	-2.20	1.43	1.47
1	A	516	PSU	O4'-C1'	-2.02	1.41	1.43

All (39) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	92	0TD	CSB-SB-CB	-5.50	92.47	102.36
1	A	527	7MG	C5-C6-N1	5.31	120.28	110.94
1	A	527	7MG	C2-N3-C4	4.81	120.59	112.30
1	A	527	7MG	N9-C4-N3	4.72	132.37	125.46
1	A	516	PSU	C4-N3-C2	-4.71	119.89	126.37
1	A	1541	PSU	N1-C2-N3	4.69	120.11	115.17
1	A	516	PSU	N1-C2-N3	4.52	119.94	115.17
1	A	1540	PSU	C4-N3-C2	-4.41	120.30	126.37
1	A	527	7MG	C5-C4-N3	-4.40	119.88	128.13
1	A	1541	PSU	C4-N3-C2	-4.36	120.37	126.37
1	A	1207	2MG	O6-C6-N1	-4.18	115.66	120.62
1	A	1540	PSU	N1-C2-N3	4.04	119.43	115.17
1	A	966	M2G	O6-C6-N1	-3.49	116.48	120.62
1	A	1207	2MG	O6-C6-C5	3.40	131.06	124.32
1	A	966	M2G	O6-C6-C5	3.37	131.00	124.32
1	A	527	7MG	N9-C8-N7	3.36	108.13	103.37
1	A	1498	UR3	C6-N1-C2	-3.30	119.10	121.80
1	A	527	7MG	C2-N1-C6	-3.15	119.39	125.11
1	A	1541	PSU	O2-C2-N1	-3.04	119.66	122.79
1	A	527	7MG	C6-C5-C4	-2.92	117.27	122.40
1	A	1407	5MC	C5-C4-N3	2.90	124.72	121.75
1	A	527	7MG	C6-C5-N7	2.87	136.38	131.93
1	A	1541	PSU	C6-N1-C2	-2.80	120.09	122.69
1	A	1407	5MC	N4-C4-N3	-2.63	113.75	118.51
1	A	1407	5MC	C5-C6-N1	-2.55	120.55	123.31
1	A	527	7MG	O6-C6-C5	-2.49	121.52	127.62
12	L	92	0TD	CB-CA-N	-2.44	104.16	109.10
1	A	1540	PSU	C6-N1-C2	-2.42	120.44	122.69
1	A	516	PSU	C6-C5-C4	2.42	119.80	118.17
1	A	1540	PSU	O2-C2-N1	-2.42	120.30	122.79
1	A	1407	5MC	C4-N3-C2	-2.41	117.47	120.81
1	A	516	PSU	C6-N1-C2	-2.32	120.54	122.69
1	A	516	PSU	O4'-C1'-C2'	2.27	108.29	105.15

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1541	PSU	O4'-C1'-C2'	2.16	108.14	105.15
1	A	1402	4OC	C5-C4-N4	-2.07	117.85	122.40
12	L	92	0TD	OD1-CG-CB	-2.04	118.17	122.44
1	A	1404	5MC	C4-N3-C2	-2.02	118.00	120.81
1	A	1400	5MC	N4-C4-N3	-2.01	114.87	118.51
1	A	1400	5MC	C5-C4-N3	2.00	123.81	121.75

There are no chirality outliers.

All (21) torsion outliers are listed below:

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

There are no ring outliers.

9 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	1400	5MC	1	0
12	L	92	0TD	2	0
1	A	1207	2MG	1	0
1	A	1407	5MC	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	1518	MA6	2	0
1	A	527	7MG	2	0
1	A	1519	MA6	2	0
1	A	967	5MC	2	0
1	A	1404	5MC	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 267 ligands modelled in this entry, 266 are monoatomic - leaving 1 for Mogul analysis.

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
22	SRY	A	1601	-	40,42,42	2.34	10 (25%)	49,63,63	2.00	12 (24%)

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
22	SRY	A	1601	-	-	1/20/87/87	0/3/3/3

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	A	1601	SRY	CD1-N31	9.27	1.49	1.33
22	A	1601	SRY	CA1-N11	7.00	1.45	1.33
22	A	1601	SRY	O53-C53	-3.37	1.36	1.44
22	A	1601	SRY	CA1-NB1	3.03	1.45	1.34

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	A	1601	SRY	CD1-NE1	2.82	1.44	1.34
22	A	1601	SRY	C23-N23	-2.65	1.43	1.47
22	A	1601	SRY	O51-C51	-2.54	1.36	1.43
22	A	1601	SRY	O32-C32	-2.43	1.40	1.44
22	A	1601	SRY	C32-CG2	-2.04	1.49	1.52
22	A	1601	SRY	C21-C11	-2.00	1.49	1.53

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	1601	SRY	C13-O13-C22	-5.96	106.12	116.26
22	A	1601	SRY	C12-O42-C42	-5.66	99.33	108.48
22	A	1601	SRY	O13-C13-C23	5.26	116.61	108.07
22	A	1601	SRY	O42-C12-C22	-3.42	103.65	107.31
22	A	1601	SRY	O41-C12-O42	-3.41	107.89	111.37
22	A	1601	SRY	CI3-N23-C23	-3.19	110.11	114.23
22	A	1601	SRY	C61-C11-N11	-2.70	105.64	110.62
22	A	1601	SRY	C31-N31-CD1	-2.50	118.43	123.39
22	A	1601	SRY	C11-N11-CA1	-2.43	118.59	123.39
22	A	1601	SRY	C41-C31-N31	2.37	114.69	110.91
22	A	1601	SRY	C13-C23-N23	2.34	115.01	110.92
22	A	1601	SRY	C12-O41-C41	-2.10	113.00	117.98

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
22	A	1601	SRY	C13-C23-N23-CI3

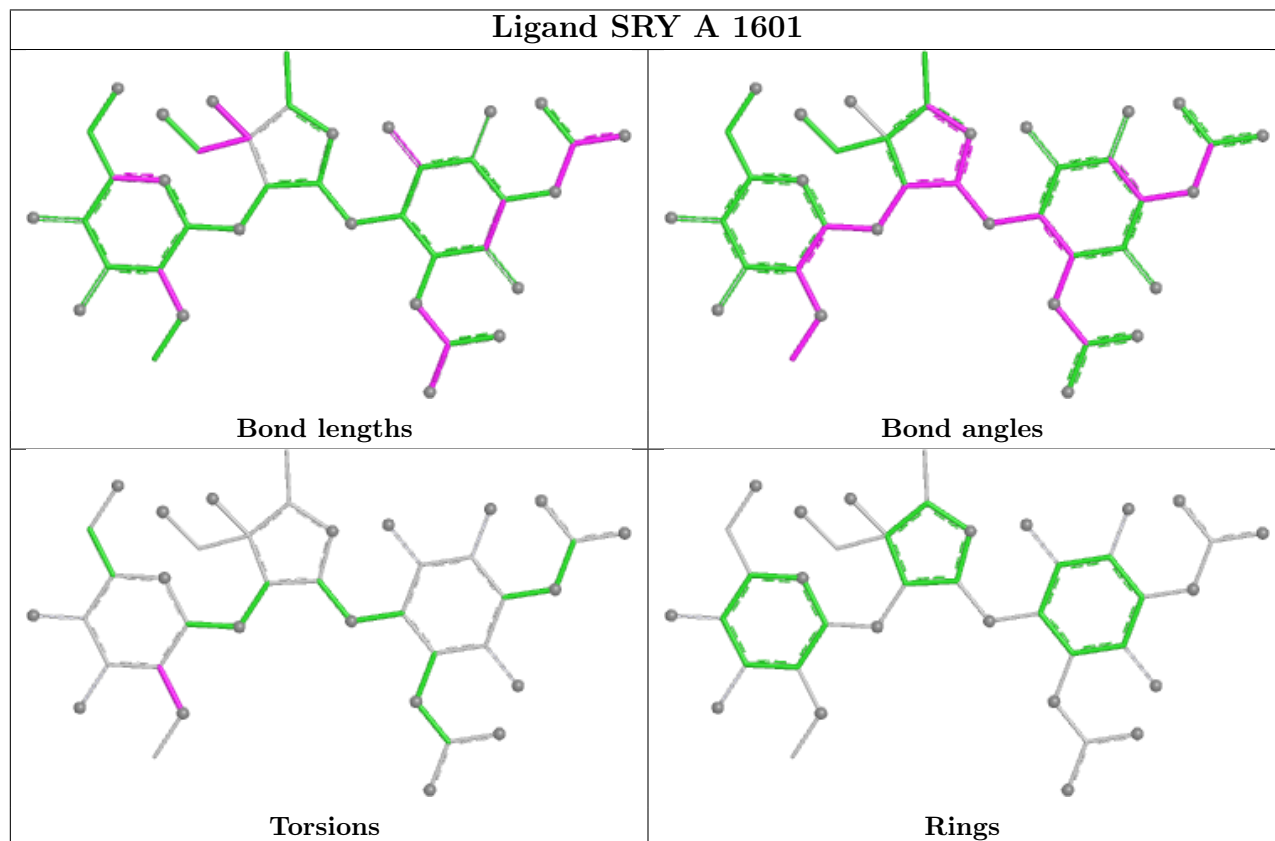
There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	A	1601	SRY	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be

highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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 [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	1498/1522 (98%)	-0.55	10 (0%) 84 76	70, 128, 260, 393	0
2	B	234/256 (91%)	-0.39	3 (1%) 74 63	95, 139, 218, 251	0
3	C	206/239 (86%)	-0.16	1 (0%) 87 82	129, 201, 262, 285	0
4	D	208/209 (99%)	-0.20	11 (5%) 33 26	87, 136, 183, 219	0
5	E	150/162 (92%)	-0.63	0 100 100	72, 103, 137, 175	0
6	F	101/101 (100%)	-0.43	0 100 100	120, 154, 180, 209	0
7	G	155/156 (99%)	-0.23	3 (1%) 66 53	132, 181, 235, 243	0
8	H	138/138 (100%)	-0.67	0 100 100	65, 93, 130, 146	0
9	I	127/128 (99%)	0.02	7 (5%) 32 26	136, 204, 254, 268	0
10	J	98/105 (93%)	0.15	1 (1%) 79 69	152, 218, 293, 338	0
11	K	116/129 (89%)	-0.38	1 (0%) 81 71	100, 130, 166, 195	0
12	L	123/135 (91%)	-0.28	4 (3%) 49 37	71, 124, 164, 204	0
13	M	118/126 (93%)	-0.16	3 (2%) 58 45	131, 161, 192, 300	0
14	N	60/61 (98%)	0.36	3 (5%) 35 28	146, 184, 244, 276	0
15	O	87/89 (97%)	-0.69	0 100 100	83, 116, 157, 169	0
16	P	83/88 (94%)	-0.35	0 100 100	97, 129, 169, 193	0
17	Q	99/105 (94%)	-0.55	0 100 100	78, 106, 146, 159	0
18	R	70/88 (79%)	-0.53	0 100 100	92, 127, 183, 213	0
19	S	80/93 (86%)	0.42	13 (16%) 5 6	176, 226, 259, 274	0
20	T	99/106 (93%)	-0.22	2 (2%) 64 51	99, 131, 178, 198	0
21	U	24/27 (88%)	0.41	3 (12%) 9 10	139, 164, 207, 223	0
All	All	3874/4063 (95%)	-0.38	65 (1%) 69 56	65, 140, 243, 393	0

All (65) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	203	GLY	5.6
4	D	2	GLY	5.5
20	T	106	ALA	5.3
1	A	1129	C	5.0
3	C	2	GLY	4.9
19	S	3	ARG	4.9
4	D	9	CYS	4.8
4	D	31	CYS	4.8
19	S	2	PRO	4.6
10	J	37	PRO	3.9
19	S	4	SER	3.8
4	D	26	CYS	3.8
11	K	56	GLY	3.5
7	G	2	ALA	3.4
12	L	47	LYS	3.3
1	A	793	U	3.3
1	A	789	U	3.2
13	M	8	GLU	3.2
19	S	40	ILE	3.2
4	D	21	LEU	3.2
9	I	128	ARG	3.2
19	S	37	ARG	3.1
4	D	18	LYS	3.1
9	I	127	LYS	3.1
9	I	9	ARG	3.0
12	L	26	ALA	3.0
12	L	115	LYS	2.8
19	S	44	MET	2.7
4	D	3	ARG	2.7
21	U	25	LYS	2.6
4	D	22	LYS	2.6
9	I	126	SER	2.6
14	N	5	ALA	2.5
21	U	10	ARG	2.5
12	L	73	GLU	2.5
1	A	1128	C	2.5
1	A	992	U	2.5
9	I	33	PHE	2.5
1	A	190(B)	C	2.5
19	S	35	SER	2.5
4	D	42	GLN	2.5
9	I	56	LEU	2.4
7	G	75	VAL	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
19	S	15	LEU	2.4
1	A	723	U	2.4
9	I	110	GLU	2.4
1	A	1281	U	2.4
7	G	154	TYR	2.3
19	S	77	THR	2.3
13	M	15	VAL	2.3
19	S	5	LEU	2.2
19	S	34	TRP	2.2
21	U	6	ARG	2.2
19	S	36	ARG	2.2
2	B	22	LYS	2.2
4	D	4	TYR	2.2
1	A	1027	C	2.1
14	N	3	ARG	2.1
14	N	2	ALA	2.1
1	A	92	C	2.1
4	D	12	CYS	2.1
20	T	103	GLY	2.1
13	M	7	VAL	2.1
19	S	6	LYS	2.0
2	B	96	ARG	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	1541	20/21	0.58	0.18	272,282,296,297	0
1	PSU	A	1540	20/21	0.82	0.20	182,221,301,301	0
1	5MC	A	1407	21/22	0.95	0.08	118,141,154,159	0
1	2MG	A	1207	24/25	0.95	0.12	175,197,217,222	0
1	5MC	A	1404	21/22	0.95	0.09	103,108,121,123	0
1	UR3	A	1498	21/22	0.96	0.10	106,117,127,143	0
1	MA6	A	1518	24/25	0.96	0.07	110,123,144,146	0
1	MA6	A	1519	24/25	0.96	0.08	101,119,127,132	0
1	PSU	A	516	20/21	0.96	0.08	121,133,147,153	0
1	5MC	A	1400	21/22	0.96	0.06	98,130,139,140	0
1	7MG	A	527	24/25	0.97	0.08	94,105,118,125	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
1	M2G	A	966	25/26	0.97	0.08	117,136,146,153	0
1	5MC	A	967	21/22	0.97	0.08	121,129,139,144	0
12	0TD	L	92	10/11	0.97	0.11	103,124,136,321	0
1	4OC	A	1402	22/23	0.99	0.08	104,109,121,128	0

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [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
23	MG	A	1823	1/1	0.41	0.39	138,138,138,138	0
23	MG	A	1776	1/1	0.58	0.39	122,122,122,122	0
23	MG	A	1775	1/1	0.60	0.18	142,142,142,142	0
23	MG	A	1643	1/1	0.62	0.77	123,123,123,123	0
23	MG	A	1751	1/1	0.63	0.51	104,104,104,104	0
23	MG	A	1807	1/1	0.65	0.34	106,106,106,106	0
23	MG	A	1722	1/1	0.67	0.33	127,127,127,127	0
23	MG	A	1768	1/1	0.68	0.30	136,136,136,136	0
23	MG	A	1765	1/1	0.69	0.55	119,119,119,119	0
23	MG	A	1676	1/1	0.69	0.42	108,108,108,108	0
23	MG	A	1780	1/1	0.70	0.77	110,110,110,110	0
23	MG	A	1766	1/1	0.70	0.35	125,125,125,125	0
23	MG	A	1631	1/1	0.70	0.54	128,128,128,128	0
23	MG	A	1812	1/1	0.71	0.41	128,128,128,128	0
23	MG	A	1725	1/1	0.71	0.50	133,133,133,133	0
23	MG	A	1674	1/1	0.72	0.28	116,116,116,116	0
23	MG	A	1814	1/1	0.74	0.57	118,118,118,118	0
23	MG	A	1777	1/1	0.74	0.49	102,102,102,102	0
23	MG	A	1746	1/1	0.75	0.29	116,116,116,116	0
23	MG	A	1843	1/1	0.75	0.21	139,139,139,139	0
23	MG	A	1831	1/1	0.76	0.37	122,122,122,122	0
23	MG	N	102	1/1	0.77	0.31	139,139,139,139	0
23	MG	A	1834	1/1	0.78	0.33	143,143,143,143	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1702	1/1	0.78	0.10	343,343,343,343	0
23	MG	A	1715	1/1	0.78	0.64	131,131,131,131	0
23	MG	B	301	1/1	0.79	0.21	131,131,131,131	0
23	MG	A	1774	1/1	0.79	0.22	150,150,150,150	0
23	MG	A	1778	1/1	0.80	0.43	129,129,129,129	0
23	MG	A	1833	1/1	0.80	0.09	113,113,113,113	0
23	MG	A	1828	1/1	0.80	0.08	436,436,436,436	0
23	MG	A	1719	1/1	0.81	0.09	206,206,206,206	0
23	MG	A	1671	1/1	0.81	0.20	173,173,173,173	0
23	MG	A	1753	1/1	0.81	0.40	133,133,133,133	0
23	MG	A	1818	1/1	0.81	0.24	111,111,111,111	0
23	MG	A	1683	1/1	0.81	0.29	111,111,111,111	0
23	MG	M	201	1/1	0.81	0.29	136,136,136,136	0
23	MG	A	1783	1/1	0.81	0.55	118,118,118,118	0
23	MG	P	102	1/1	0.81	0.15	128,128,128,128	0
23	MG	A	1844	1/1	0.82	0.20	118,118,118,118	0
23	MG	A	1815	1/1	0.82	0.26	110,110,110,110	0
23	MG	A	1748	1/1	0.82	0.73	106,106,106,106	0
23	MG	A	1758	1/1	0.82	0.37	132,132,132,132	0
23	MG	A	1610	1/1	0.82	0.10	122,122,122,122	0
23	MG	A	1760	1/1	0.83	0.29	105,105,105,105	0
23	MG	A	1699	1/1	0.83	0.10	227,227,227,227	0
23	MG	A	1841	1/1	0.83	0.26	107,107,107,107	0
23	MG	A	1842	1/1	0.83	0.26	108,108,108,108	0
23	MG	A	1675	1/1	0.83	0.14	187,187,187,187	0
23	MG	A	1688	1/1	0.83	0.24	111,111,111,111	0
23	MG	A	1729	1/1	0.83	0.51	121,121,121,121	0
23	MG	H	202	1/1	0.83	0.13	88,88,88,88	0
23	MG	A	1789	1/1	0.83	0.51	100,100,100,100	0
23	MG	A	1737	1/1	0.83	0.49	114,114,114,114	0
23	MG	A	1832	1/1	0.83	0.33	110,110,110,110	0
23	MG	A	1620	1/1	0.84	0.44	111,111,111,111	0
23	MG	A	1846	1/1	0.84	0.31	156,156,156,156	0
23	MG	A	1849	1/1	0.84	0.30	126,126,126,126	0
23	MG	A	1763	1/1	0.84	0.80	121,121,121,121	0
23	MG	A	1787	1/1	0.84	0.32	140,140,140,140	0
23	MG	A	1685	1/1	0.84	0.37	197,197,197,197	0
23	MG	A	1741	1/1	0.84	0.39	117,117,117,117	0
23	MG	A	1679	1/1	0.84	0.38	120,120,120,120	0
23	MG	A	1732	1/1	0.85	0.36	126,126,126,126	0
23	MG	A	1796	1/1	0.85	0.35	132,132,132,132	0
23	MG	A	1817	1/1	0.85	0.16	119,119,119,119	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	MG	A	1801	1/1	0.85	0.13	274,274,274,274	0
23	MG	A	1839	1/1	0.85	0.28	111,111,111,111	0
23	MG	A	1703	1/1	0.85	0.09	259,259,259,259	0
23	MG	A	1824	1/1	0.85	0.12	300,300,300,300	0
23	MG	A	1667	1/1	0.85	0.17	110,110,110,110	0
23	MG	A	1644	1/1	0.86	0.38	164,164,164,164	0
23	MG	A	1695	1/1	0.86	0.25	150,150,150,150	0
23	MG	A	1736	1/1	0.86	0.32	119,119,119,119	0
23	MG	A	1799	1/1	0.86	0.09	144,144,144,144	0
23	MG	A	1665	1/1	0.86	0.32	116,116,116,116	0
23	MG	A	1764	1/1	0.86	0.65	118,118,118,118	0
23	MG	A	1788	1/1	0.87	0.32	114,114,114,114	0
23	MG	A	1840	1/1	0.87	0.24	105,105,105,105	0
23	MG	A	1713	1/1	0.87	0.37	389,389,389,389	0
23	MG	A	1790	1/1	0.87	0.20	112,112,112,112	0
23	MG	A	1791	1/1	0.87	0.33	100,100,100,100	0
23	MG	A	1792	1/1	0.87	0.41	110,110,110,110	0
23	MG	A	1773	1/1	0.87	0.30	75,75,75,75	0
23	MG	A	1779	1/1	0.87	0.12	97,97,97,97	0
23	MG	A	1754	1/1	0.87	0.23	100,100,100,100	0
23	MG	A	1738	1/1	0.87	0.22	98,98,98,98	0
23	MG	A	1810	1/1	0.87	0.38	151,151,151,151	0
23	MG	A	1730	1/1	0.87	0.17	102,102,102,102	0
23	MG	A	1835	1/1	0.87	0.24	132,132,132,132	0
23	MG	A	1825	1/1	0.88	0.11	282,282,282,282	0
23	MG	A	1651	1/1	0.88	0.23	111,111,111,111	0
23	MG	A	1772	1/1	0.88	0.13	105,105,105,105	0
23	MG	A	1806	1/1	0.88	0.18	87,87,87,87	0
23	MG	P	101	1/1	0.88	0.29	92,92,92,92	0
23	MG	A	1630	1/1	0.88	0.17	142,142,142,142	0
23	MG	A	1698	1/1	0.89	0.20	194,194,194,194	0
23	MG	A	1837	1/1	0.89	0.40	89,89,89,89	0
23	MG	A	1794	1/1	0.89	0.10	129,129,129,129	0
23	MG	A	1656	1/1	0.89	0.15	90,90,90,90	0
23	MG	H	203	1/1	0.89	0.21	120,120,120,120	0
23	MG	A	1749	1/1	0.89	0.45	123,123,123,123	0
23	MG	A	1750	1/1	0.89	0.32	97,97,97,97	0
23	MG	A	1759	1/1	0.89	0.30	112,112,112,112	0
23	MG	A	1782	1/1	0.89	0.17	120,120,120,120	0
23	MG	Q	201	1/1	0.89	0.18	114,114,114,114	0
23	MG	A	1633	1/1	0.90	0.21	111,111,111,111	0
23	MG	A	1826	1/1	0.90	0.08	237,237,237,237	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1716	1/1	0.90	0.17	135,135,135,135	0
23	MG	A	1830	1/1	0.90	0.29	103,103,103,103	0
23	MG	A	1697	1/1	0.90	0.29	110,110,110,110	0
23	MG	A	1681	1/1	0.90	0.09	149,149,149,149	0
23	MG	A	1663	1/1	0.90	0.17	121,121,121,121	0
23	MG	A	1816	1/1	0.90	0.20	95,95,95,95	0
23	MG	A	1603	1/1	0.90	0.22	113,113,113,113	0
23	MG	A	1784	1/1	0.90	0.17	132,132,132,132	0
23	MG	A	1819	1/1	0.90	0.38	117,117,117,117	0
23	MG	A	1687	1/1	0.90	0.25	113,113,113,113	0
23	MG	A	1652	1/1	0.90	0.26	97,97,97,97	0
23	MG	A	1629	1/1	0.91	0.13	93,93,93,93	0
23	MG	A	1821	1/1	0.91	0.18	116,116,116,116	0
23	MG	A	1726	1/1	0.91	0.34	93,93,93,93	0
23	MG	A	1767	1/1	0.91	0.43	91,91,91,91	0
23	MG	A	1756	1/1	0.91	0.19	115,115,115,115	0
23	MG	A	1804	1/1	0.91	0.20	116,116,116,116	0
23	MG	A	1848	1/1	0.91	0.13	116,116,116,116	0
23	MG	A	1769	1/1	0.91	0.32	96,96,96,96	0
23	MG	A	1771	1/1	0.91	0.21	101,101,101,101	0
23	MG	A	1785	1/1	0.91	0.19	99,99,99,99	0
23	MG	A	1684	1/1	0.91	0.37	152,152,152,152	0
23	MG	A	1622	1/1	0.91	0.11	90,90,90,90	0
23	MG	A	1680	1/1	0.91	0.24	151,151,151,151	0
23	MG	A	1762	1/1	0.91	0.28	102,102,102,102	0
23	MG	A	1701	1/1	0.91	0.26	136,136,136,136	0
23	MG	A	1645	1/1	0.91	0.19	89,89,89,89	0
23	MG	T	202	1/1	0.91	0.23	106,106,106,106	0
23	MG	U	1300	1/1	0.91	0.18	166,166,166,166	0
23	MG	A	1740	1/1	0.92	0.30	107,107,107,107	0
23	MG	A	1605	1/1	0.92	0.31	115,115,115,115	0
23	MG	A	1609	1/1	0.92	0.28	101,101,101,101	0
23	MG	A	1723	1/1	0.92	0.08	115,115,115,115	0
23	MG	A	1700	1/1	0.92	0.13	121,121,121,121	0
23	MG	D	302	1/1	0.92	0.20	111,111,111,111	0
23	MG	A	1623	1/1	0.92	0.20	136,136,136,136	0
23	MG	A	1658	1/1	0.92	0.18	134,134,134,134	0
23	MG	A	1604	1/1	0.92	0.18	113,113,113,113	0
23	MG	A	1838	1/1	0.92	0.29	82,82,82,82	0
23	MG	A	1800	1/1	0.92	0.16	122,122,122,122	0
23	MG	A	1691	1/1	0.92	0.38	123,123,123,123	0
23	MG	P	103	1/1	0.92	0.10	120,120,120,120	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	MG	A	1612	1/1	0.92	0.15	120,120,120,120	0
23	MG	A	1647	1/1	0.92	0.33	135,135,135,135	0
23	MG	A	1718	1/1	0.92	0.36	213,213,213,213	0
23	MG	A	1694	1/1	0.93	0.20	114,114,114,114	0
23	MG	A	1739	1/1	0.93	0.17	127,127,127,127	0
23	MG	A	1648	1/1	0.93	0.08	156,156,156,156	0
23	MG	A	1664	1/1	0.93	0.75	105,105,105,105	0
23	MG	A	1743	1/1	0.93	0.41	94,94,94,94	0
23	MG	A	1650	1/1	0.93	0.34	109,109,109,109	0
23	MG	A	1747	1/1	0.93	0.14	124,124,124,124	0
23	MG	A	1845	1/1	0.93	0.22	128,128,128,128	0
23	MG	A	1721	1/1	0.93	0.46	99,99,99,99	0
23	MG	A	1847	1/1	0.93	0.16	81,81,81,81	0
23	MG	A	1820	1/1	0.93	0.04	163,163,163,163	0
23	MG	A	1617	1/1	0.93	0.21	75,75,75,75	0
23	MG	A	1602	1/1	0.93	0.10	133,133,133,133	0
23	MG	A	1673	1/1	0.93	0.14	143,143,143,143	0
23	MG	E	201	1/1	0.93	0.19	129,129,129,129	0
23	MG	A	1634	1/1	0.93	0.48	102,102,102,102	0
23	MG	A	1636	1/1	0.93	0.15	162,162,162,162	0
23	MG	A	1704	1/1	0.93	0.12	98,98,98,98	0
23	MG	A	1709	1/1	0.93	0.30	138,138,138,138	0
23	MG	A	1803	1/1	0.93	0.11	96,96,96,96	0
23	MG	A	1712	1/1	0.93	0.22	117,117,117,117	0
23	MG	A	1805	1/1	0.93	0.28	104,104,104,104	0
23	MG	A	1659	1/1	0.93	0.15	102,102,102,102	0
23	MG	A	1761	1/1	0.93	0.21	105,105,105,105	0
23	MG	A	1808	1/1	0.93	0.34	147,147,147,147	0
23	MG	A	1693	1/1	0.94	0.26	95,95,95,95	0
23	MG	A	1744	1/1	0.94	0.45	118,118,118,118	0
23	MG	A	1733	1/1	0.94	0.59	125,125,125,125	0
23	MG	A	1752	1/1	0.94	0.34	146,146,146,146	0
23	MG	A	1611	1/1	0.94	0.15	74,74,74,74	0
23	MG	A	1793	1/1	0.94	0.11	139,139,139,139	0
23	MG	A	1717	1/1	0.94	0.16	140,140,140,140	0
23	MG	A	1795	1/1	0.94	0.24	75,75,75,75	0
23	MG	A	1755	1/1	0.94	0.19	81,81,81,81	0
23	MG	A	1836	1/1	0.94	0.38	110,110,110,110	0
23	MG	A	1809	1/1	0.94	0.35	115,115,115,115	0
23	MG	A	1797	1/1	0.94	0.16	129,129,129,129	0
23	MG	A	1708	1/1	0.95	0.23	170,170,170,170	0
23	MG	A	1813	1/1	0.95	0.11	139,139,139,139	0

Continued on next page...

Continued from previous page...

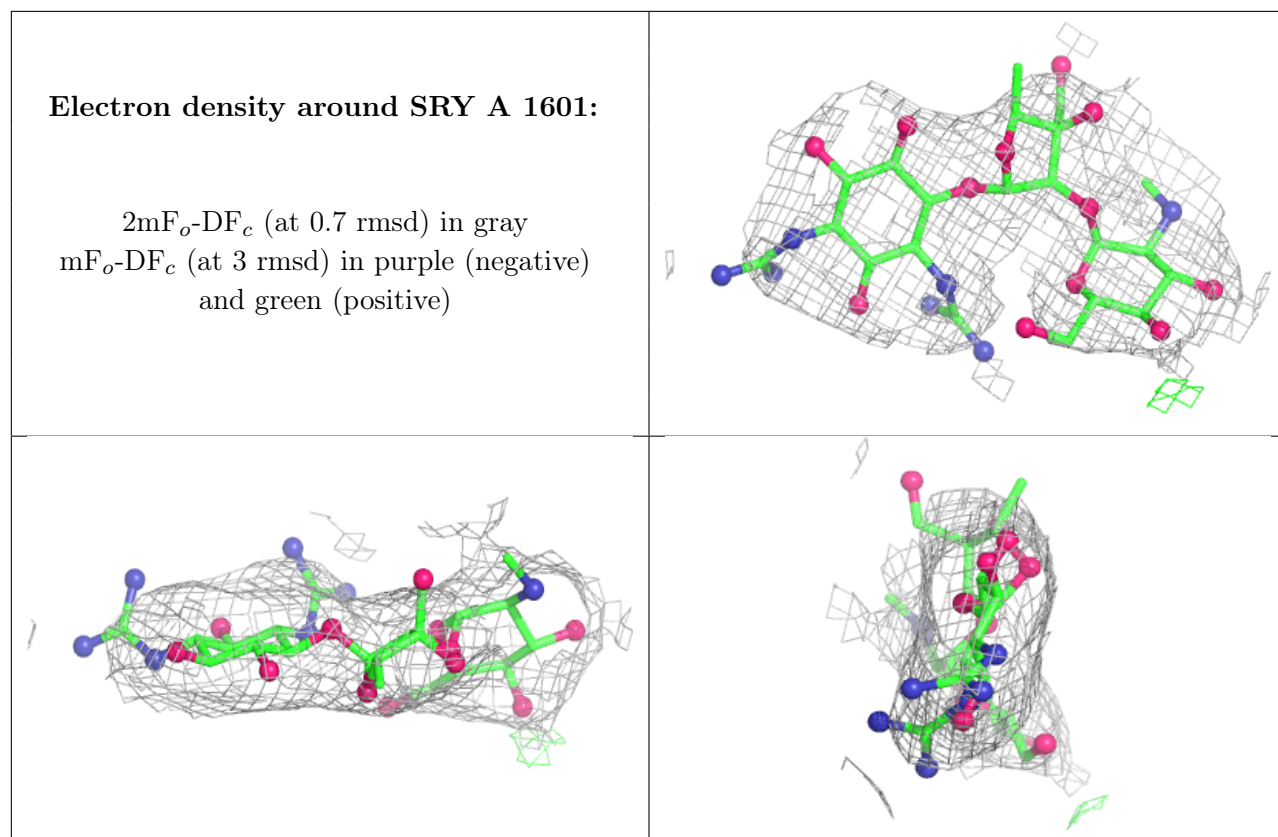
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
23	MG	A	1781	1/1	0.95	0.09	126,126,126,126	0
23	MG	A	1632	1/1	0.95	0.13	192,192,192,192	0
23	MG	A	1711	1/1	0.95	0.64	123,123,123,123	0
23	MG	A	1678	1/1	0.95	0.15	124,124,124,124	0
23	MG	A	1757	1/1	0.95	0.16	78,78,78,78	0
23	MG	A	1728	1/1	0.95	0.11	113,113,113,113	0
23	MG	A	1668	1/1	0.95	0.14	153,153,153,153	0
23	MG	A	1641	1/1	0.95	0.16	169,169,169,169	0
23	MG	A	1628	1/1	0.95	0.13	123,123,123,123	0
23	MG	A	1613	1/1	0.95	0.12	112,112,112,112	0
23	MG	A	1666	1/1	0.95	0.17	113,113,113,113	0
23	MG	A	1696	1/1	0.95	0.09	116,116,116,116	0
23	MG	T	201	1/1	0.95	0.11	70,70,70,70	0
23	MG	A	1706	1/1	0.95	0.09	94,94,94,94	0
23	MG	A	1811	1/1	0.95	0.37	93,93,93,93	0
23	MG	A	1724	1/1	0.96	0.07	111,111,111,111	0
23	MG	A	1822	1/1	0.96	0.11	80,80,80,80	0
23	MG	A	1661	1/1	0.96	0.11	214,214,214,214	0
23	MG	A	1642	1/1	0.96	0.10	65,65,65,65	0
23	MG	A	1627	1/1	0.96	0.25	147,147,147,147	0
23	MG	A	1692	1/1	0.96	0.12	92,92,92,92	0
23	MG	A	1607	1/1	0.96	0.23	91,91,91,91	0
23	MG	A	1829	1/1	0.96	0.10	101,101,101,101	0
23	MG	A	1677	1/1	0.96	0.23	130,130,130,130	0
23	MG	A	1770	1/1	0.96	0.24	119,119,119,119	0
23	MG	H	201	1/1	0.96	0.14	85,85,85,85	0
23	MG	A	1616	1/1	0.96	0.18	80,80,80,80	0
23	MG	A	1734	1/1	0.96	0.45	102,102,102,102	0
23	MG	A	1657	1/1	0.96	0.15	155,155,155,155	0
23	MG	A	1608	1/1	0.96	0.08	137,137,137,137	0
23	MG	A	1669	1/1	0.96	0.20	124,124,124,124	0
23	MG	A	1682	1/1	0.96	0.21	154,154,154,154	0
23	MG	A	1670	1/1	0.96	0.19	133,133,133,133	0
23	MG	A	1624	1/1	0.96	0.11	126,126,126,126	0
23	MG	A	1798	1/1	0.96	0.19	117,117,117,117	0
23	MG	A	1672	1/1	0.96	0.35	136,136,136,136	0
23	MG	A	1686	1/1	0.96	0.19	142,142,142,142	0
22	SRY	A	1601	40/40	0.97	0.09	86,111,131,138	0
23	MG	A	1735	1/1	0.97	0.14	83,83,83,83	0
23	MG	A	1635	1/1	0.97	0.09	109,109,109,109	0
23	MG	A	1621	1/1	0.97	0.08	76,76,76,76	0
23	MG	A	1637	1/1	0.97	0.10	118,118,118,118	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
23	MG	A	1689	1/1	0.97	0.17	149,149,149,149	0
23	MG	A	1639	1/1	0.97	0.27	65,65,65,65	0
23	MG	A	1727	1/1	0.97	0.04	99,99,99,99	0
23	MG	A	1742	1/1	0.97	0.22	126,126,126,126	0
23	MG	A	1649	1/1	0.97	0.10	121,121,121,121	0
23	MG	A	1640	1/1	0.97	0.28	110,110,110,110	0
23	MG	A	1745	1/1	0.97	0.05	85,85,85,85	0
23	MG	A	1615	1/1	0.97	0.08	79,79,79,79	0
23	MG	Q	202	1/1	0.97	0.04	89,89,89,89	0
23	MG	A	1731	1/1	0.97	0.17	121,121,121,121	0
23	MG	A	1619	1/1	0.97	0.28	109,109,109,109	0
23	MG	A	1720	1/1	0.97	0.15	97,97,97,97	0
23	MG	A	1710	1/1	0.98	0.12	173,173,173,173	0
23	MG	A	1614	1/1	0.98	0.21	108,108,108,108	0
23	MG	A	1802	1/1	0.98	0.09	171,171,171,171	0
23	MG	A	1618	1/1	0.98	0.05	109,109,109,109	0
23	MG	A	1625	1/1	0.98	0.17	83,83,83,83	0
23	MG	A	1714	1/1	0.98	0.10	181,181,181,181	0
23	MG	A	1626	1/1	0.98	0.07	87,87,87,87	0
23	MG	A	1660	1/1	0.98	0.06	103,103,103,103	0
23	MG	A	1705	1/1	0.98	0.11	208,208,208,208	0
23	MG	A	1655	1/1	0.98	0.07	69,69,69,69	0
23	MG	A	1690	1/1	0.98	0.32	102,102,102,102	0
23	MG	A	1786	1/1	0.98	0.07	96,96,96,96	0
23	MG	A	1662	1/1	0.98	0.06	105,105,105,105	0
24	ZN	D	301	1/1	0.98	0.23	113,113,113,113	0
23	MG	A	1638	1/1	0.99	0.12	69,69,69,69	0
23	MG	A	1606	1/1	0.99	0.07	97,97,97,97	0
23	MG	A	1827	1/1	0.99	0.06	189,189,189,189	0
23	MG	A	1707	1/1	0.99	0.14	288,288,288,288	0
23	MG	A	1646	1/1	0.99	0.02	69,69,69,69	0
23	MG	A	1653	1/1	0.99	0.13	86,86,86,86	0
23	MG	A	1654	1/1	0.99	0.09	93,93,93,93	0
24	ZN	N	101	1/1	0.99	0.05	163,163,163,163	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



6.5 Other polymers [i](#)

There are no such residues in this entry.