Full wwPDB X-ray Structure Validation Report ⓘ

Aug 20, 2020 – 11:25 PM BST

PDB ID	:	6CAO
Title	:	Structure of the ribosomal decoding complex at ambient temperature
Authors	:	DeMirci, H.
Deposited on	:	2018-01-31
Resolution	:	3.45 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 following versions of software and data (see references ⓘ) were used in the production of this report:

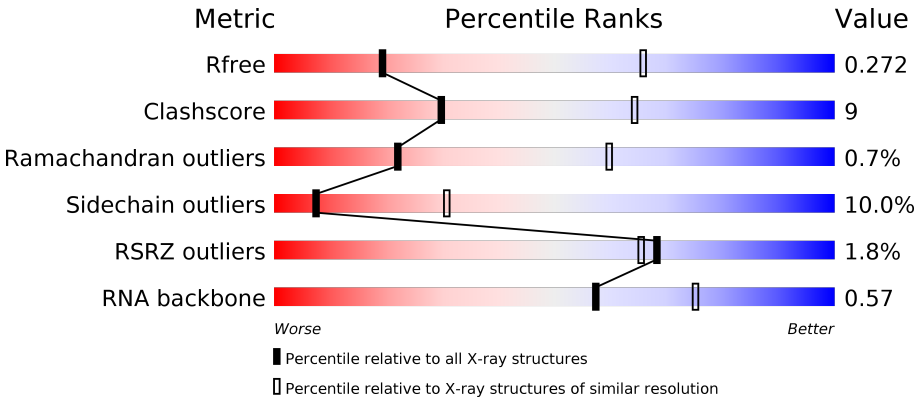
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.13.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.13.1

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 3.45 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}	130704	1291 (3.52-3.40)
Clashscore	141614	1372 (3.52-3.40)
Ramachandran outliers	138981	1337 (3.52-3.40)
Sidechain outliers	138945	1338 (3.52-3.40)
RSRZ outliers	127900	1205 (3.52-3.40)
RNA backbone	3102	1036 (3.96-2.96)

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 on 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 <=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	2% 58% 32% 8%
2	B	236	4% 67% 29%
3	C	207	69% 29%
4	D	208	2% 68% 29%

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Mol	Chain	Length	Quality of chain
5	E	151	66% 26% 7%
6	F	101	71% 27%
7	G	155	69% 28%
8	H	138	65% 28% 6%
9	I	127	65% 28% 8%
10	J	99	6% 56% 38% 6%
11	K	117	75% 21%
12	L	125	62% 30% 7%
13	M	118	57% 36% 7%
14	N	60	3% 70% 25% 5%
15	O	88	72% 25%
16	P	84	64% 35%
17	Q	99	67% 32%
18	R	73	3% 67% 27% 5%
19	S	81	59% 33% 7%
20	T	99	65% 28%
21	U	25	76% 24%
22	W	15	20% 67% 20% 13%
23	Y	6	17% 33% 67%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
1	PSU	A	1540	-	-	-	X
25	K	A	1619	-	-	-	X
25	K	A	1631	-	-	-	X
26	MG	A	1656	-	-	-	X
26	MG	A	1673	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
26	MG	A	1684	-	-	-	X
26	MG	A	1734	-	-	-	X
26	MG	A	1753	-	-	-	X
26	MG	A	1764	-	-	-	X
26	MG	A	1778	-	-	-	X
26	MG	A	1828	-	-	-	X
26	MG	A	1857	-	-	-	X
26	MG	A	1866	-	-	-	X
26	MG	A	1884	-	-	-	X
26	MG	A	1886	-	-	-	X
26	MG	A	1905	-	-	-	X
26	MG	C	301	-	-	-	X

2 Entry composition

There are 28 unique types of molecules in this entry. The entry contains 52855 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 Ribosomal RNA rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	1512	32504	14477	6011	10505	1511	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	236	1874	1195	336	338	5	0	0	1

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	207	1613	1016	315	281	1	0	0	1

- 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	151	1147	724	218	201	4	0	0	1

- 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
7	G	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	99	Total	C	N	O	S	0	0	1
			793	498	157	137	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	117	Total	C	N	O	S	0	0	0
			873	543	166	161	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	125	Total	C	N	O	S	0	0	1
			973	612	196	163	2			

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	84	Total	C	N	O	S	0	0	1
			701	443	140	117	1			

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

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

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	73	Total	C	N	O	0	0	0
			598	381	118	99			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	81	Total	C	N	O	S	0	0	1
			648	414	120	112	2			

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

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

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	25	Total	C	N	O	0	0	1
			209	128	51	30			

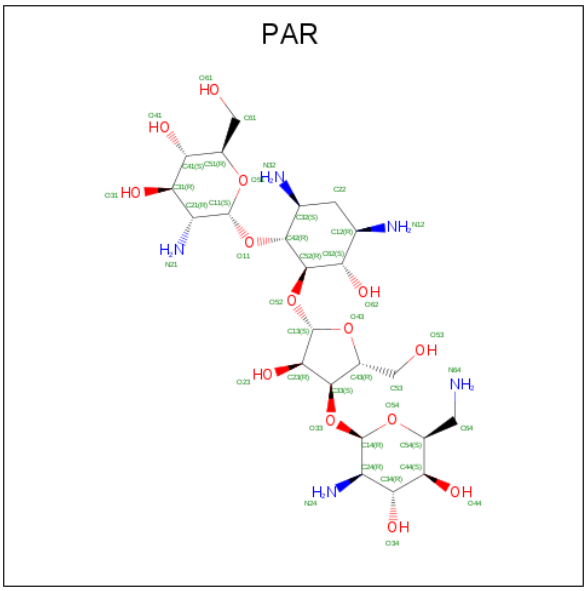
- Molecule 22 is a RNA chain called RNA (5'-R(*GP*GP*GP*AP*UP*UP*GP*AP*AP*AP *AP*UP*CP*CP*C)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	W	15	Total	C	N	O	P	0	0	0
			319	144	60	101	14			

- Molecule 23 is a RNA chain called RNA (5'-R(*UP*UP*UP*UP*UP*U)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	Y	6	Total	C	N	O	P	0	0	0
			117	54	12	46	5			

- Molecule 24 is PAROMOMYCIN (three-letter code: PAR) (formula: $C_{23}H_{45}N_5O_{14}$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
24	A	1	Total	C	N	O	0	0
			42	23	5	14		
24	A	1	Total	C	N	O	0	0
			42	23	5	14		
24	A	1	Total	C	N	O	0	0
			42	23	5	14		
24	A	1	Total	C	N	O	0	0
			42	23	5	14		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
24	A	1	Total C N O 42 23 5 14	0	0
24	A	1	Total C N O 42 23 5 14	0	0

- Molecule 25 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	A	35	Total K 35 35	0	0
25	E	2	Total K 2 2	0	0

- Molecule 26 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
26	P	3	Total Mg 3 3	0	0
26	G	1	Total Mg 1 1	0	0
26	Q	4	Total Mg 4 4	0	0
26	D	2	Total Mg 2 2	0	0
26	E	2	Total Mg 2 2	0	0
26	H	2	Total Mg 2 2	0	0
26	C	1	Total Mg 1 1	0	0
26	A	279	Total Mg 279 279	0	0
26	T	1	Total Mg 1 1	0	0
26	Y	1	Total Mg 1 1	0	0
26	L	2	Total Mg 2 2	0	0
26	S	3	Total Mg 3 3	0	0
26	F	1	Total Mg 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
26	M	1	Total Mg 1 1	0	0

- Molecule 27 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 28 is water.

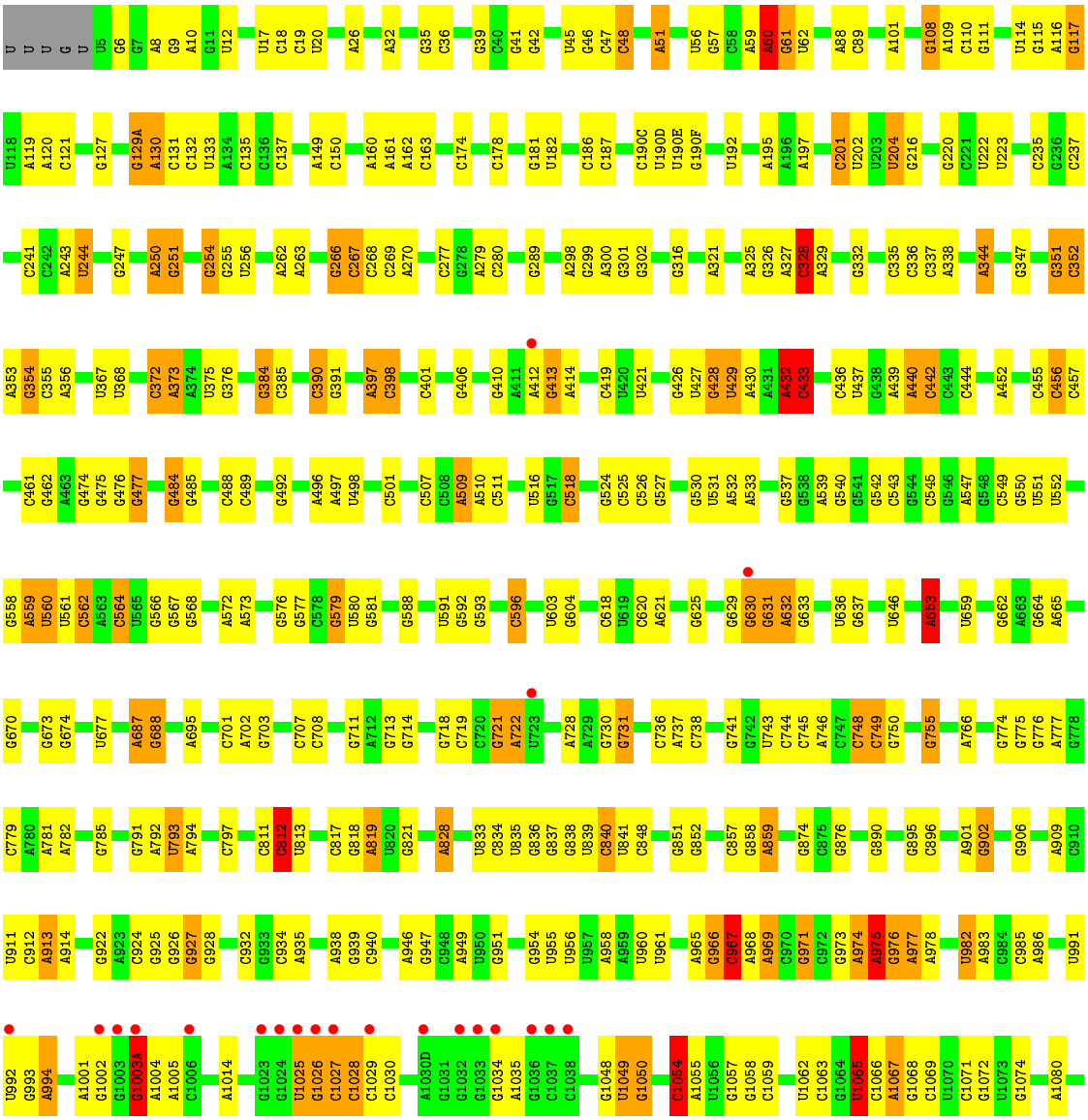
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
28	A	199	Total O 199 199	0	0
28	D	2	Total O 2 2	0	0
28	E	5	Total O 5 5	0	0
28	I	1	Total O 1 1	0	0
28	K	1	Total O 1 1	0	0
28	L	2	Total O 2 2	0	0
28	N	1	Total O 1 1	0	0
28	O	2	Total O 2 2	0	0
28	T	1	Total O 1 1	0	0

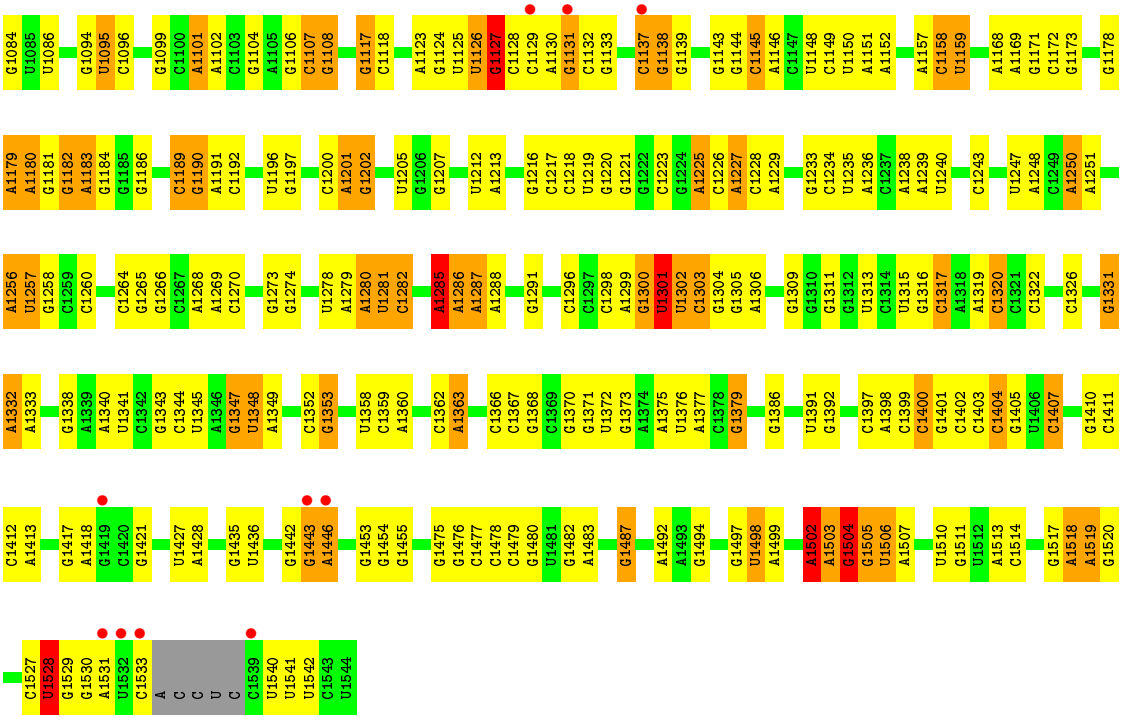
3 Residue-property plots (i)

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

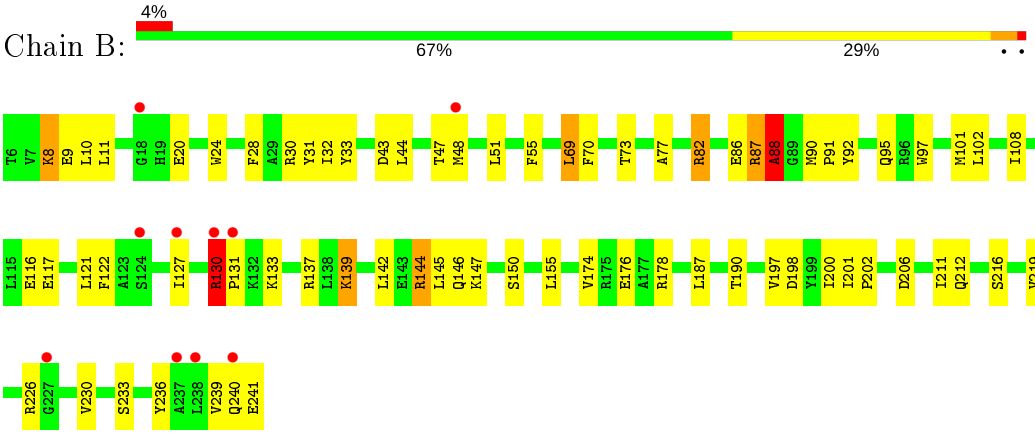
- Molecule 1: 16S Ribosomal RNA rRNA

Chain A: 

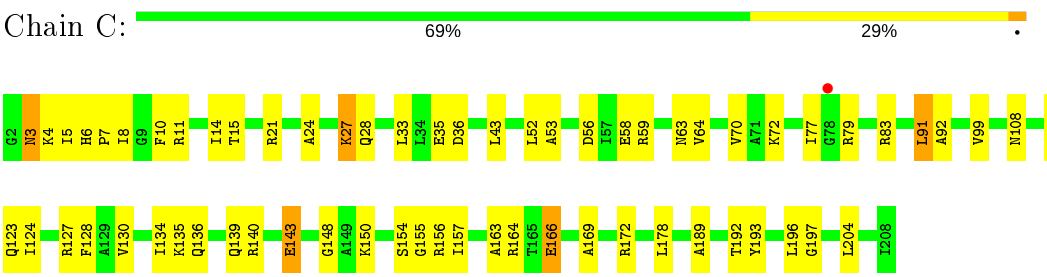




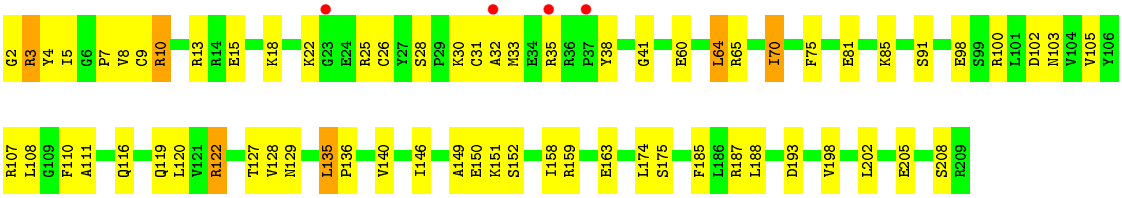
• Molecule 2: 30S ribosomal protein S2



• Molecule 3: 30S ribosomal protein S3



• Molecule 4: 30S ribosomal protein S4

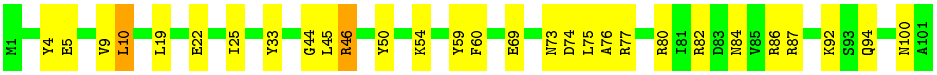


• Molecule 5: 30S ribosomal protein S5

Chain E:

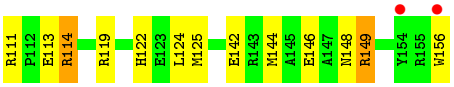
• Molecule 6: 30S ribosomal protein S6

Chain F:



• Molecule 7: 30S ribosomal protein S7

Chain G:

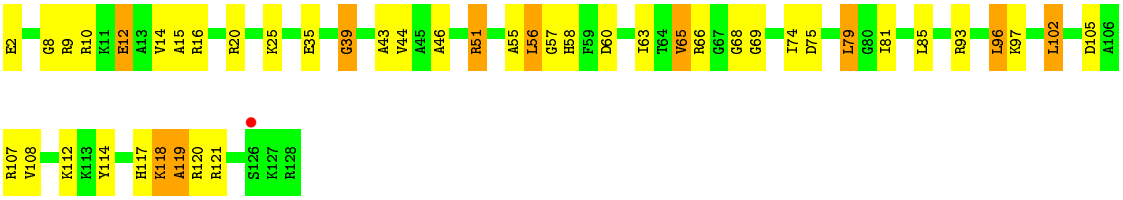


• Molecule 8: 30S ribosomal protein S8

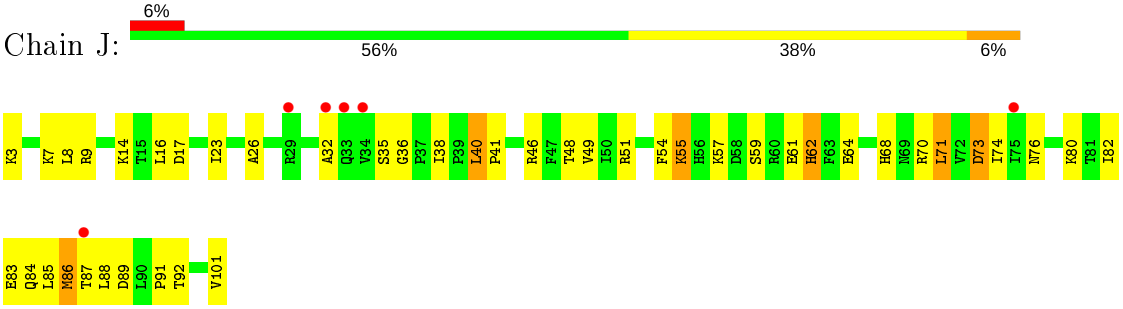
Chain H:

• Molecule 9: 30S ribosomal protein S9

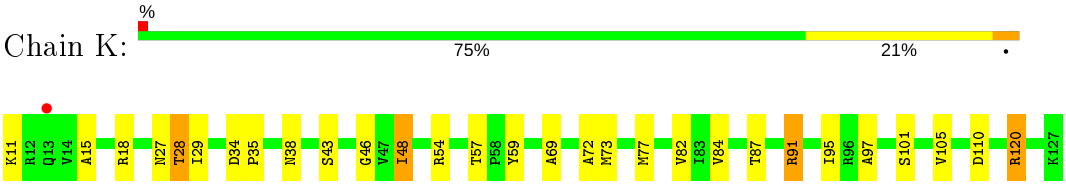
Chain I:



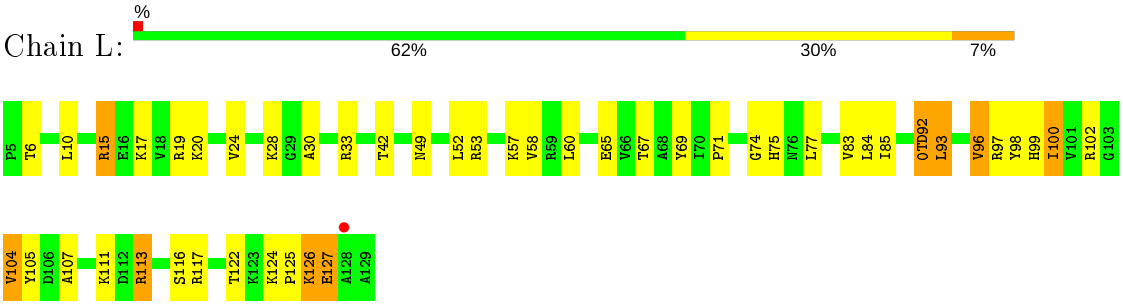
- Molecule 10: 30S ribosomal protein S10



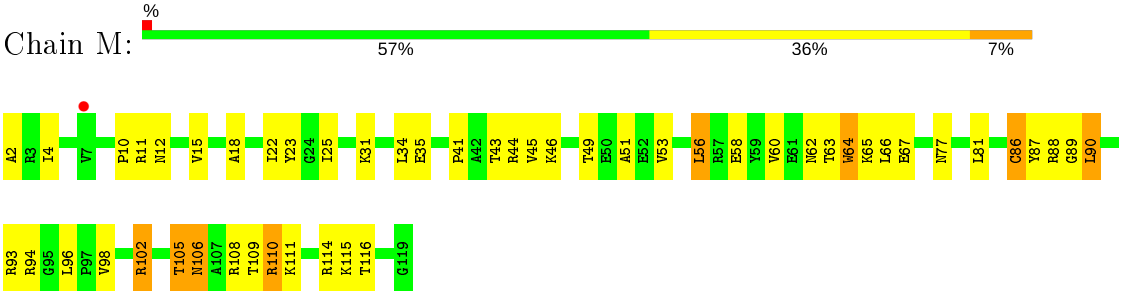
- Molecule 11: 30S ribosomal protein S11



- Molecule 12: 30S ribosomal protein S12



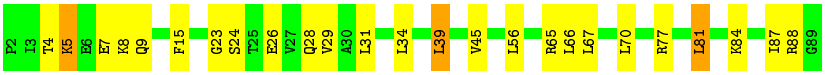
- Molecule 13: 30S ribosomal protein S13



- Molecule 14: 30S ribosomal protein S14 type Z

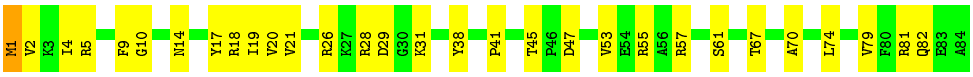
- Molecule 15: 30S ribosomal protein S15

Chain O:



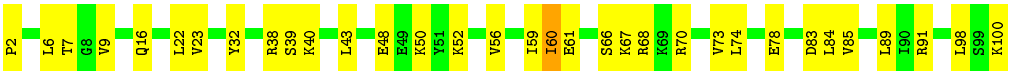
- Molecule 16: 30S ribosomal protein S16

Chain P:



- Molecule 17: 30S ribosomal protein S17

Chain Q:

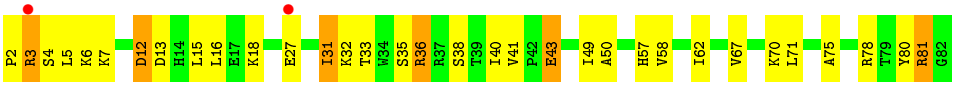


- Molecule 18: 30S ribosomal protein S18

Chain R:

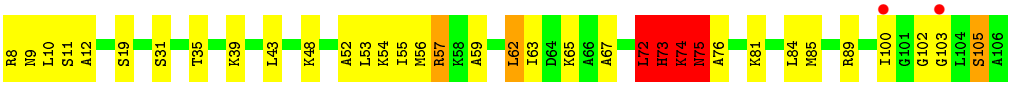
- Molecule 19: 30S ribosomal protein S19

Chain S:



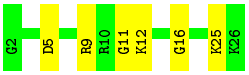
- Molecule 20: 30S ribosomal protein S20

Chain T:



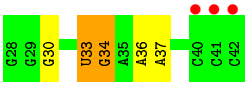
- Molecule 21: 30S ribosomal protein Thx

Chain U:



• Molecule 22: RNA (5'-R(*GP*GP*GP*AP*UP*UP*GP*AP*AP*AP*AP*UP*CP*CP*C)-3')

Chain W:



• Molecule 23: RNA (5'-R(*UP*UP*UP*UP*UP*U)-3')

Chain Y:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α, β, γ	402.30Å 402.30Å 176.40Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.22 – 3.45 39.22 – 3.45	Depositor EDS
% Data completeness (in resolution range)	100.0 (39.22-3.45) 100.0 (39.22-3.45)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.12 (at 3.48Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.219 , 0.272 0.219 , 0.272	Depositor DCC
R_{free} test set	1013 reflections (0.54%)	wwPDB-VP
Wilson B-factor (Å^2)	83.6	Xtriage
Anisotropy	0.042	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 103.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.38$, $< L^2 > = 0.21$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	52855	wwPDB-VP
Average B, all atoms (Å^2)	87.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.39% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, PAR, MA6, G7M, K, 0TD, MG, 2MG, 5MC, UR3, 4OC, M2G, PSU

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	0.43	0/36037	1.00	68/56239 (0.1%)
2	B	0.29	0/1909	0.48	0/2579
3	C	0.30	0/1637	0.50	0/2207
4	D	0.29	0/1733	0.46	0/2318
5	E	0.33	0/1163	0.54	1/1566 (0.1%)
6	F	0.27	0/856	0.46	0/1154
7	G	0.31	0/1276	0.46	0/1709
8	H	0.33	0/1136	0.53	0/1527
9	I	0.30	0/1029	0.54	1/1379 (0.1%)
10	J	0.28	0/806	0.60	0/1084
11	K	0.31	0/888	0.50	0/1198
12	L	0.32	0/978	0.56	0/1308
13	M	0.30	0/947	0.50	0/1270
14	N	0.33	0/501	0.49	0/664
15	O	0.28	0/745	0.48	0/992
16	P	0.31	0/717	0.50	0/965
17	Q	0.34	0/836	0.51	0/1117
18	R	0.31	0/604	0.51	0/801
19	S	0.27	0/662	0.51	0/892
20	T	0.29	0/765	0.52	0/1007
21	U	0.24	0/213	0.45	0/279
22	W	0.37	0/357	0.89	0/555
23	Y	0.48	0/128	1.39	1/196 (0.5%)
All	All	0.39	0/55923	0.87	71/83006 (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
2	B	0	4
8	H	0	1
10	J	0	1
12	L	0	2
13	M	0	1
16	P	0	1
20	T	0	1
All	All	0	11

There are no bond length outliers.

All (71) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	456	C	C6-N1-C2	-8.70	116.82	120.30
1	A	456	C	N3-C2-O2	-8.06	116.26	121.90
1	A	456	C	N1-C2-N3	7.85	124.70	119.20
1	A	477	G	N3-C4-N9	-7.82	121.31	126.00
1	A	328	C	C2-N1-C1'	7.48	127.03	118.80
1	A	254	G	O5'-P-OP1	-7.42	99.02	105.70
1	A	204	U	C2-N1-C1'	7.42	126.60	117.70
1	A	1301	U	P-O3'-C3'	7.04	128.15	119.70
1	A	1054	C	C2-N1-C1'	6.58	126.04	118.80
1	A	216	G	N3-C4-N9	-6.54	122.08	126.00
1	A	1528	U	P-O3'-C3'	6.42	127.40	119.70
1	A	328	C	N1-C2-O2	6.34	122.71	118.90
1	A	216	G	C8-N9-C1'	6.24	135.11	127.00
1	A	216	G	C4-N9-C1'	-6.23	118.40	126.50
1	A	477	G	N9-C4-C5	6.20	107.88	105.40
1	A	201	C	C2-N1-C1'	6.18	125.60	118.80
9	I	39	GLY	N-CA-C	-6.18	97.66	113.10
1	A	477	G	N3-C2-N2	-6.15	115.60	119.90
1	A	204	U	N1-C2-O2	6.10	127.07	122.80
1	A	328	C	C6-N1-C2	-6.02	117.89	120.30
1	A	1285	A	P-O3'-C3'	5.98	126.87	119.70
1	A	216	G	C6-C5-N7	5.96	133.98	130.40
1	A	1127	G	N3-C4-N9	-5.96	122.42	126.00
1	A	328	C	C5-C6-N1	5.95	123.97	121.00
1	A	913	A	P-O3'-C3'	5.89	126.77	119.70
1	A	456	C	C2-N3-C4	-5.89	116.95	119.90
1	A	1404	5MC	OP2-P-O3'	5.83	118.03	105.20
1	A	1065	U	P-O3'-C3'	5.81	126.67	119.70
1	A	1186	G	N3-C2-N2	-5.79	115.84	119.90
1	A	1003(A)	G	N3-C4-N9	-5.78	122.53	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1067	A	P-O3'-C3'	5.75	126.61	119.70
1	A	432	A	P-O3'-C3'	5.67	126.50	119.70
5	E	12	LEU	CA-CB-CG	5.56	128.10	115.30
1	A	1502	A	N1-C6-N6	5.55	121.93	118.60
1	A	812	C	P-O3'-C3'	5.55	126.36	119.70
1	A	653	A	C8-N9-C4	-5.54	103.58	105.80
1	A	433	C	C2-N1-C1'	5.50	124.85	118.80
1	A	216	G	N3-C2-N2	-5.49	116.06	119.90
1	A	484	G	P-O3'-C3'	5.47	126.26	119.70
1	A	108	G	C4-C5-N7	5.45	112.98	110.80
1	A	550	G	C5-C6-O6	5.43	131.86	128.60
1	A	328	C	P-O3'-C3'	5.41	126.19	119.70
1	A	455	C	N1-C2-O2	5.39	122.14	118.90
1	A	1127	G	C5-C6-O6	5.37	131.82	128.60
1	A	1504	G	C8-N9-C4	5.34	108.54	106.40
1	A	117	G	N1-C6-O6	5.32	123.09	119.90
1	A	1303	C	N1-C2-O2	5.31	122.09	118.90
1	A	108	G	O4'-C1'-N9	5.29	112.43	108.20
1	A	432	A	OP1-P-O3'	5.28	116.82	105.20
1	A	60	A	P-O3'-C3'	5.24	125.99	119.70
23	Y	1	U	C2-N1-C1'	5.22	123.96	117.70
1	A	1502	A	C4-C5-N7	5.21	113.31	110.70
1	A	1107	C	C6-N1-C2	-5.21	118.22	120.30
1	A	204	U	N3-C2-O2	-5.19	118.56	122.20
1	A	837	G	N3-C4-N9	-5.19	122.89	126.00
1	A	1028	C	C6-N1-C2	-5.17	118.23	120.30
1	A	1054	C	C6-N1-C1'	-5.17	114.59	120.80
1	A	1221	G	N3-C4-N9	-5.16	122.91	126.00
1	A	1243	C	C6-N1-C2	-5.15	118.24	120.30
1	A	975	A	O4'-C1'-N9	-5.15	104.08	108.20
1	A	1201	A	P-O3'-C3'	5.13	125.85	119.70
1	A	444	C	C2-N1-C1'	5.11	124.42	118.80
1	A	687	A	P-O3'-C3'	5.11	125.83	119.70
1	A	1498	UR3	P-O3'-C3'	5.10	125.82	119.70
1	A	1386	G	N9-C4-C5	5.08	107.43	105.40
1	A	1054	C	N1-C2-O2	5.08	121.95	118.90
1	A	174	C	C2-N1-C1'	5.07	124.38	118.80
1	A	1220	G	N3-C2-N2	-5.07	116.35	119.90
1	A	1260	C	N3-C2-O2	-5.06	118.36	121.90
1	A	433	C	C5-C6-N1	5.06	123.53	121.00
1	A	1386	G	N3-C4-N9	-5.05	122.97	126.00

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	130	ARG	Peptide
2	B	8	LYS	Peptide
2	B	87	ARG	Peptide
2	B	88	ALA	Peptide
8	H	53	VAL	Peptide
10	J	54	PHE	Peptide
12	L	104	VAL	Peptide
12	L	126	LYS	Peptide
13	M	105	THR	Peptide
16	P	19	ILE	Peptide
20	T	72	LEU	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	32504	0	16433	396	0
2	B	1874	0	1887	43	0
3	C	1613	0	1677	44	0
4	D	1703	0	1763	51	0
5	E	1147	0	1207	36	0
6	F	843	0	857	18	0
7	G	1257	0	1296	34	0
8	H	1116	0	1177	30	0
9	I	1010	0	1037	33	0
10	J	793	0	835	28	0
11	K	873	0	894	19	0
12	L	973	0	1058	30	0
13	M	937	0	995	40	0
14	N	492	0	529	13	0
15	O	734	0	771	13	0
16	P	701	0	720	17	0
17	Q	823	0	891	20	0
18	R	598	0	670	22	0
19	S	648	0	673	24	0
20	T	763	0	861	28	0
21	U	209	0	221	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	W	319	0	164	6	0
23	Y	117	0	61	1	0
24	A	252	0	269	14	0
25	A	35	0	0	0	0
25	E	2	0	0	0	0
26	A	279	0	0	0	0
26	C	1	0	0	0	0
26	D	2	0	0	0	0
26	E	2	0	0	0	0
26	F	1	0	0	0	0
26	G	1	0	0	0	0
26	H	2	0	0	0	0
26	L	2	0	0	0	0
26	M	1	0	0	0	0
26	P	3	0	0	0	0
26	Q	4	0	0	0	0
26	S	3	0	0	0	0
26	T	1	0	0	0	0
26	Y	1	0	0	0	0
27	D	1	0	0	0	0
27	N	1	0	0	0	0
28	A	199	0	0	4	0
28	D	2	0	0	0	0
28	E	5	0	0	0	0
28	I	1	0	0	0	0
28	K	1	0	0	0	0
28	L	2	0	0	0	0
28	N	1	0	0	0	0
28	O	2	0	0	0	0
28	T	1	0	0	0	0
All	All	52855	0	36946	830	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 9.

All (830) 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:664:G:H22	1:A:741:G:H1	1.15	0.93
24:A:1606:PAR:H322	24:A:1606:PAR:HN21	1.17	0.93
19:S:33:THR:HG22	19:S:35:SER:H	1.33	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:298:A:N6	28:A:2001:HOH:O	2.03	0.90
1:A:954:G:H21	1:A:1227:A:H62	1.25	0.84
1:A:659:U:OP2	15:O:8:LYS:NZ	2.13	0.82
20:T:10:LEU:HG	20:T:12:ALA:H	1.46	0.81
1:A:48:C:OP1	24:A:1603:PAR:N12	2.13	0.81
20:T:74:LYS:O	20:T:76:ALA:N	2.14	0.80
1:A:542:G:OP1	4:D:10:ARG:NH2	2.15	0.79
1:A:662:G:N7	24:A:1604:PAR:N12	2.28	0.79
10:J:51:ARG:HD2	10:J:59:SER:HB2	1.63	0.78
1:A:1502:A:H2	1:A:1505:G:H1	1.31	0.78
2:B:223:ILE:HD13	2:B:230:VAL:H	1.45	0.78
9:I:112:LYS:HA	9:I:119:ALA:HB2	1.67	0.77
14:N:26:ARG:NH2	14:N:46:GLU:OE1	2.17	0.77
12:L:75:HIS:HA	12:L:102:ARG:HH22	1.49	0.77
1:A:559:A:OP1	5:E:126:ARG:NH2	2.18	0.77
1:A:501:C:OP1	12:L:117:ARG:NH2	2.17	0.76
18:R:32:ARG:HA	18:R:69:THR:HG21	1.68	0.75
1:A:1291:G:H4'	9:I:39:GLY:HA3	1.68	0.75
1:A:235:C:N4	28:A:2002:HOH:O	2.20	0.75
12:L:53:ARG:NH1	12:L:92:0TD:OD2	2.20	0.75
1:A:976:G:OP2	1:A:1358:U:O2'	2.06	0.73
8:H:85:ARG:NE	8:H:87:SER:O	2.21	0.73
11:K:15:ALA:HA	11:K:77:MET:HA	1.70	0.73
17:Q:9:VAL:HG21	17:Q:84:LEU:HD13	1.71	0.73
2:B:77:ALA:HB2	2:B:211:ILE:HD13	1.71	0.73
1:A:132:C:O3'	20:T:74:LYS:NZ	2.18	0.73
19:S:50:ALA:HA	19:S:58:VAL:O	1.88	0.72
2:B:8:LYS:O	2:B:10:LEU:N	2.23	0.71
3:C:156:ARG:H	3:C:163:ALA:HA	1.55	0.71
12:L:85:ILE:HG22	12:L:100:ILE:HG13	1.71	0.71
1:A:946:A:H2'	1:A:947:G:C8	2.26	0.70
2:B:97:TRP:HZ2	2:B:102:LEU:HD13	1.54	0.70
9:I:97:LYS:HA	9:I:102:LEU:HD11	1.72	0.70
3:C:27:LYS:H	3:C:27:LYS:HD3	1.55	0.70
1:A:1281:U:H5"	1:A:1282:C:H5	1.56	0.69
1:A:1124:G:N7	1:A:1145:C:O2'	2.21	0.69
1:A:625:G:O6	24:A:1605:PAR:N24	2.25	0.69
1:A:410:G:OP1	4:D:30:LYS:NZ	2.25	0.69
1:A:266:G:H5'	1:A:268:C:H41	1.57	0.68
5:E:80:ILE:HD12	5:E:91:LEU:HB2	1.76	0.68
19:S:50:ALA:HB1	19:S:57:HIS:HB3	1.73	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:677:U:H3	1:A:713:G:H22	1.41	0.68
1:A:1309:G:O2'	13:M:77:ASN:ND2	2.26	0.68
12:L:49:ASN:ND2	12:L:92:0TD:SB	2.66	0.68
13:M:86:CYS:SG	13:M:87:TYR:N	2.66	0.68
19:S:13:ASP:HA	19:S:16:LEU:HB3	1.76	0.68
3:C:64:VAL:HG23	3:C:99:VAL:HG11	1.76	0.67
3:C:35:GLU:OE2	3:C:59:ARG:NH1	2.22	0.67
1:A:975:A:H4'	1:A:976:G:H5"	1.77	0.67
6:F:10:LEU:HD12	6:F:59:TYR:HB3	1.78	0.66
1:A:45:U:H2'	1:A:46:G:C8	2.30	0.66
14:N:9:LYS:HE2	14:N:23:ARG:HB2	1.75	0.66
20:T:75:ASN:OD1	20:T:75:ASN:N	2.27	0.66
1:A:1132:C:H2'	1:A:1133:G:H8	1.60	0.66
1:A:670:G:OP2	24:A:1606:PAR:N24	2.29	0.66
1:A:1191:A:OP2	3:C:3:ASN:ND2	2.29	0.66
1:A:985:C:H2'	1:A:986:A:C8	2.31	0.66
4:D:18:LYS:NZ	4:D:31:CYS:SG	2.69	0.66
7:G:15:ASP:HB3	7:G:20:ASP:H	1.60	0.66
1:A:1266:G:N2	1:A:1269:A:OP2	2.22	0.65
3:C:189:ALA:HB3	3:C:196:LEU:HB2	1.77	0.65
1:A:1151:A:H5'	10:J:41:PRO:HA	1.79	0.65
7:G:72:ARG:NH2	7:G:142:GLU:OE2	2.30	0.65
1:A:983:A:O2'	1:A:1050:G:OP2	2.15	0.65
9:I:46:ALA:HB2	9:I:74:ILE:HG23	1.79	0.65
20:T:89:ARG:NH2	20:T:105:SER:O	2.30	0.65
1:A:1319:A:H5'	19:S:5:LEU:HD22	1.78	0.64
22:W:36:A:H2'	22:W:37:A:H8	1.62	0.64
9:I:44:VAL:HG12	9:I:51:ARG:HH22	1.61	0.64
1:A:277:C:H5"	17:Q:68:ARG:NH2	2.12	0.64
1:A:1391:U:H2'	1:A:1392:G:C8	2.33	0.63
1:A:1189:C:OP1	10:J:51:ARG:NH2	2.30	0.63
11:K:27:ASN:OD1	11:K:28:THR:N	2.31	0.63
1:A:1313:U:O4	19:S:4:SER:OG	2.13	0.63
1:A:1137:C:H4'	1:A:1138:G:C2	2.32	0.63
1:A:250:A:H4'	1:A:251:G:O5'	1.99	0.63
5:E:12:LEU:HD13	5:E:31:LEU:HB2	1.80	0.63
1:A:254:G:OP1	17:Q:66:SER:OG	2.17	0.63
1:A:1264:C:H2'	1:A:1265:G:H8	1.63	0.63
10:J:38:ILE:HD12	10:J:71:LEU:HD12	1.81	0.63
1:A:356:A:N3	1:A:368:U:O2'	2.30	0.62
1:A:811:C:O2'	1:A:901:A:N1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:W:36:A:H2'	22:W:37:A:C8	2.35	0.62
1:A:1412:C:H2'	1:A:1413:A:C8	2.35	0.62
6:F:22:GLU:OE1	6:F:84:ASN:ND2	2.28	0.62
6:F:74:ASP:O	6:F:77:ARG:HB3	1.99	0.62
1:A:130:A:OP2	1:A:190(E):U:O2'	2.15	0.62
4:D:187:ARG:NH2	4:D:193:ASP:OD2	2.33	0.62
13:M:23:TYR:HB3	13:M:67:GLU:HG2	1.82	0.61
13:M:22:ILE:HB	13:M:25:ILE:HB	1.82	0.61
1:A:1062:U:H2'	1:A:1063:C:C6	2.35	0.61
1:A:1504:G:OP1	1:A:1507:A:H4'	1.99	0.61
3:C:59:ARG:HG2	3:C:64:VAL:HG22	1.82	0.61
6:F:9:VAL:HB	6:F:87:ARG:HB2	1.82	0.61
7:G:146:GLU:HA	7:G:149:ARG:HG2	1.83	0.61
20:T:43:LEU:HB2	20:T:52:ALA:HB2	1.82	0.61
5:E:98:THR:HB	5:E:117:ASP:HB3	1.82	0.61
1:A:1152:A:OP1	10:J:68:HIS:ND1	2.34	0.61
20:T:53:LEU:HD13	20:T:102:GLY:H	1.65	0.61
1:A:1256:A:N6	1:A:1278:U:O4'	2.33	0.61
3:C:3:ASN:N	3:C:3:ASN:OD1	2.32	0.61
1:A:1301:U:O2'	1:A:1302:U:O5'	2.14	0.61
2:B:142:LEU:HD23	2:B:146:GLN:HG3	1.82	0.60
11:K:18:ARG:NH1	11:K:35:PRO:O	2.34	0.60
1:A:501:C:H1'	1:A:549:C:H1'	1.83	0.60
11:K:69:ALA:O	11:K:73:MET:HG2	2.00	0.60
1:A:241:C:H4'	12:L:19:ARG:HH22	1.67	0.60
7:G:23:VAL:O	7:G:27:ILE:HG12	2.02	0.60
11:K:87:THR:HA	11:K:91:ARG:HH12	1.66	0.60
7:G:111:ARG:HB2	7:G:119:ARG:HG2	1.84	0.60
1:A:35:G:H2'	1:A:36:C:C6	2.36	0.60
5:E:50:GLU:HG3	5:E:52:PRO:HD2	1.82	0.60
7:G:28:ASN:OD1	7:G:36:LYS:NZ	2.34	0.60
19:S:5:LEU:HD21	19:S:70:LYS:HZ1	1.67	0.60
1:A:791:G:O6	1:A:792:A:N6	2.34	0.60
4:D:64:LEU:HD23	4:D:198:VAL:HG21	1.84	0.59
1:A:1190:G:OP1	3:C:5:ILE:HG13	2.03	0.59
16:P:38:TYR:OH	16:P:47:ASP:OD2	2.19	0.59
11:K:57:THR:HG22	11:K:59:TYR:H	1.67	0.59
1:A:1080:A:H5"	5:E:16:THR:HG21	1.85	0.59
1:A:1074:G:OP2	5:E:61:TYR:OH	2.18	0.59
1:A:1315:U:O2'	1:A:1360:A:N3	2.28	0.59
1:A:1510:U:H2'	1:A:1511:G:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:537:G:OP1	12:L:113:ARG:NH2	2.36	0.59
13:M:23:TYR:CD2	13:M:67:GLU:HA	2.38	0.59
17:Q:9:VAL:HG22	17:Q:56:VAL:HG22	1.85	0.59
3:C:6:HIS:HD2	3:C:8:ILE:H	1.51	0.59
1:A:390:C:O3'	16:P:28:ARG:NH2	2.36	0.59
19:S:31:ILE:HD13	19:S:32:LYS:H	1.68	0.59
1:A:1435:G:H2'	1:A:1436:U:C6	2.38	0.58
1:A:376:G:H5"	16:P:5:ARG:HD2	1.84	0.58
1:A:958:A:N3	1:A:985:C:O2'	2.34	0.58
1:A:1151:A:HO2'	1:A:1152:A:H8	1.49	0.58
2:B:8:LYS:O	2:B:11:LEU:N	2.32	0.58
24:A:1602:PAR:HN21	24:A:1602:PAR:H23	1.68	0.58
1:A:509:A:N3	1:A:543:C:O2'	2.33	0.58
13:M:98:VAL:HG23	13:M:110:ARG:HH12	1.68	0.58
3:C:155:GLY:HA3	3:C:163:ALA:HB1	1.85	0.58
8:H:112:LEU:HD23	8:H:133:LEU:HA	1.85	0.58
1:A:1379:G:OP1	7:G:6:ARG:NH1	2.36	0.58
1:A:835:U:OP1	18:R:64:ARG:NH2	2.29	0.58
1:A:426:G:OP1	4:D:38:TYR:OH	2.19	0.58
7:G:122:HIS:HA	7:G:125:MET:HE2	1.86	0.58
1:A:302:G:H5"	12:L:17:LYS:HE2	1.86	0.58
1:A:670:G:N7	24:A:1606:PAR:O44	2.36	0.58
12:L:57:LYS:HG2	12:L:67:THR:HG22	1.85	0.58
1:A:279:A:OP1	1:A:280:C:O2'	2.19	0.58
1:A:954:G:N2	1:A:1227:A:H62	1.98	0.57
12:L:77:LEU:HD21	12:L:107:ALA:HB2	1.86	0.57
1:A:1048:G:O3'	1:A:1049:U:H3'	2.03	0.57
4:D:3:ARG:CZ	4:D:5:ILE:HD11	2.34	0.57
1:A:129(A):G:H1'	1:A:190(E):U:H2'	1.86	0.57
12:L:113:ARG:HH11	12:L:116:SER:H	1.53	0.57
12:L:42:THR:HG21	12:L:52:LEU:HD13	1.86	0.57
1:A:539:A:H2'	1:A:540:G:C8	2.39	0.57
12:L:104:VAL:HG12	12:L:105:TYR:H	1.69	0.57
15:O:5:LYS:HD2	15:O:5:LYS:H	1.68	0.57
1:A:1004:A:OP1	1:A:1025:U:N3	2.38	0.57
1:A:1301:U:HO2'	1:A:1302:U:C5'	2.16	0.57
15:O:87:ILE:HG22	15:O:88:ARG:H	1.69	0.57
3:C:150:LYS:HG3	3:C:169:ALA:HB2	1.85	0.57
13:M:11:ARG:HG3	13:M:12:ASN:HB2	1.86	0.57
8:H:121:ASP:HB2	8:H:125:ARG:NH2	2.20	0.57
1:A:8:A:N7	4:D:208:SER:OG	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:140:VAL:HG11	4:D:146:ILE:HD11	1.87	0.56
1:A:60:A:H4'	1:A:61:G:O5'	2.05	0.56
10:J:8:LEU:HB2	10:J:70:ARG:HB2	1.87	0.56
1:A:1034:G:H2'	1:A:1035:A:C8	2.41	0.56
1:A:946:A:H2'	1:A:947:G:H8	1.70	0.56
1:A:401:C:O2'	1:A:621:A:N3	2.34	0.56
1:A:975:A:H5'	1:A:975:A:H8	1.71	0.56
20:T:73:HIS:O	20:T:74:LYS:O	2.24	0.56
1:A:949:A:OP2	13:M:106:ASN:ND2	2.39	0.56
2:B:33:TYR:HB2	2:B:43:ASP:HA	1.86	0.56
18:R:31:LEU:HD22	18:R:66:LEU:HB2	1.86	0.56
1:A:1250:A:H4'	9:I:68:GLY:N	2.20	0.56
1:A:413:G:H1'	1:A:428:G:N2	2.21	0.56
13:M:23:TYR:HD2	13:M:67:GLU:HA	1.70	0.56
1:A:928:G:O2'	1:A:1533:C:OP1	2.24	0.56
16:P:26:ARG:HD2	16:P:31:LYS:O	2.05	0.56
1:A:436:C:H2'	1:A:437:U:C6	2.41	0.56
3:C:148:GLY:HA3	3:C:172:ARG:O	2.06	0.56
1:A:235:C:H5'	17:Q:70:ARG:HG2	1.88	0.56
1:A:10:A:O2'	1:A:507:C:O2'	2.24	0.55
1:A:427:U:OP1	4:D:13:ARG:NH2	2.39	0.55
1:A:1054:C:N4	22:W:34:G:H1'	2.21	0.55
11:K:72:ALA:HB1	11:K:77:MET:HE2	1.88	0.55
1:A:1057:G:H5"	3:C:154:SER:HB2	1.89	0.55
1:A:1518:MA6:H8	1:A:1518:MA6:O5'	2.05	0.55
1:A:978:A:O2'	1:A:1322:C:N3	2.38	0.55
1:A:299:G:H2'	1:A:300:A:C8	2.42	0.55
1:A:413:G:H1'	1:A:428:G:H21	1.71	0.55
12:L:93:LEU:HD13	12:L:96:VAL:HG21	1.88	0.55
13:M:89:GLY:O	13:M:93:ARG:HB2	2.07	0.55
16:P:28:ARG:NH1	16:P:29:ASP:OD1	2.40	0.55
17:Q:83:ASP:N	17:Q:83:ASP:OD1	2.40	0.55
5:E:80:ILE:HG23	8:H:104:ARG:HH22	1.72	0.55
1:A:1377:A:OP2	7:G:94:ARG:NE	2.40	0.54
9:I:25:LYS:N	9:I:60:ASP:OD1	2.30	0.54
10:J:86:MET:O	10:J:87:THR:OG1	2.20	0.54
1:A:976:G:H5'	1:A:1358:U:O2'	2.08	0.54
1:A:237:C:OP2	17:Q:40:LYS:NZ	2.38	0.54
4:D:149:ALA:HB3	4:D:152:SER:HB2	1.89	0.54
5:E:11:ILE:HG21	5:E:105:VAL:HG13	1.89	0.54
14:N:27:CYS:SG	14:N:29:ARG:HB2	2.47	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:65:ARG:HG3	4:D:75:PHE:CG	2.41	0.54
13:M:108:ARG:HD2	13:M:114:ARG:HE	1.72	0.54
1:A:1069:C:O2'	1:A:1192:C:H1'	2.08	0.54
1:A:1278:U:H5"	1:A:1279:A:C8	2.42	0.54
10:J:89:ASP:HB2	10:J:91:PRO:HD2	1.90	0.54
1:A:956:U:C2	1:A:1225:A:C2	2.96	0.54
1:A:974:A:OP2	14:N:29:ARG:NH1	2.28	0.54
1:A:442:C:H42	1:A:492:G:H1	1.55	0.54
9:I:15:ALA:HB2	9:I:65:VAL:HG13	1.89	0.54
1:A:192:U:H1'	20:T:103:GLY:HA2	1.90	0.54
20:T:39:LYS:O	20:T:43:LEU:HG	2.08	0.54
1:A:1286:A:H2'	1:A:1287:A:H4'	1.90	0.54
1:A:664:G:N2	1:A:741:G:H1	1.94	0.54
4:D:159:ARG:O	4:D:163:GLU:HB2	2.08	0.54
19:S:36:ARG:NH2	19:S:75:ALA:O	2.39	0.54
5:E:79:GLU:O	8:H:104:ARG:NH1	2.41	0.54
1:A:925:G:H1	1:A:1391:U:H3	1.54	0.54
5:E:102:ALA:HB1	5:E:106:PRO:HG2	1.90	0.54
10:J:48:THR:HA	10:J:62:HIS:HB3	1.90	0.54
1:A:456:C:O2	1:A:477:G:N2	2.41	0.53
16:P:9:PHE:CE1	16:P:18:ARG:HD2	2.42	0.53
1:A:1168:A:H2'	1:A:1169:A:C8	2.42	0.53
1:A:45:U:H2'	1:A:46:G:H8	1.71	0.53
1:A:8:A:N6	4:D:205:GLU:O	2.41	0.53
1:A:110:C:H2'	1:A:111:G:O4'	2.08	0.53
1:A:662:G:O2'	1:A:836:G:OP1	2.27	0.53
4:D:111:ALA:HB2	4:D:120:LEU:HD12	1.90	0.53
2:B:197:VAL:HB	2:B:200:ILE:HG12	1.90	0.53
1:A:1026:G:H3'	1:A:1027:C:H5"	1.89	0.53
1:A:1178:G:N2	1:A:1180:A:H3'	2.24	0.53
1:A:1443:G:H4'	1:A:1446:A:C5'	2.39	0.53
2:B:87:ARG:CZ	2:B:233:SER:HB2	2.39	0.53
1:A:1159:U:O4'	1:A:1182:G:N2	2.41	0.53
1:A:1285:A:H4'	1:A:1286:A:O5'	2.08	0.53
1:A:951:G:OP2	13:M:102:ARG:NH2	2.38	0.53
20:T:31:SER:O	20:T:35:THR:OG1	2.27	0.53
1:A:6:G:H1	5:E:98:THR:HG1	1.55	0.53
9:I:51:ARG:HG3	9:I:56:LEU:HD21	1.90	0.53
13:M:96:LEU:O	13:M:110:ARG:NH1	2.42	0.53
5:E:90:VAL:O	5:E:120:THR:HA	2.09	0.53
2:B:47:THR:HA	2:B:202:PRO:HG2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:64:LEU:HD12	4:D:75:PHE:HZ	1.74	0.52
5:E:11:ILE:HB	5:E:31:LEU:HB3	1.91	0.52
7:G:51:GLN:C	7:G:53:LYS:H	2.13	0.52
8:H:53:VAL:O	8:H:55:GLY:N	2.42	0.52
10:J:26:ALA:O	10:J:84:GLN:NE2	2.42	0.52
1:A:41:G:H2'	1:A:42:G:C8	2.45	0.52
19:S:36:ARG:HA	19:S:71:LEU:HB2	1.91	0.52
1:A:1034:G:H2'	1:A:1035:A:H8	1.74	0.52
9:I:55:ALA:O	9:I:57:GLY:N	2.42	0.52
1:A:161:A:H2'	1:A:162:A:C8	2.44	0.52
1:A:325:A:H2'	1:A:326:G:O4'	2.10	0.52
4:D:150:GLU:CD	4:D:150:GLU:H	2.12	0.52
16:P:53:VAL:HG12	16:P:57:ARG:HE	1.75	0.52
1:A:562:C:H1'	12:L:15:ARG:HG3	1.90	0.52
1:A:927:G:O2'	1:A:1503:A:N7	2.40	0.52
12:L:58:VAL:O	12:L:65:GLU:HA	2.09	0.52
1:A:372:C:H4'	1:A:373:A:O5'	2.10	0.52
1:A:974:A:H8	1:A:974:A:OP1	1.93	0.52
3:C:58:GLU:HB3	10:J:92:THR:HG21	1.91	0.52
19:S:41:VAL:HG23	19:S:43:GLU:HG2	1.92	0.52
1:A:56:U:H2'	1:A:57:G:C8	2.45	0.51
10:J:82:ILE:HA	10:J:85:LEU:HB2	1.92	0.51
1:A:135:C:O2	16:P:1:MET:N	2.33	0.51
1:A:1475:G:H2'	1:A:1476:G:H8	1.74	0.51
1:A:1505:G:O2'	1:A:1506:U:OP2	2.26	0.51
1:A:940:C:OP1	7:G:29:LYS:NZ	2.43	0.51
2:B:122:PHE:HA	2:B:127:ILE:HG12	1.91	0.51
7:G:5:ARG:HG3	7:G:7:ALA:H	1.75	0.51
18:R:38:GLU:HA	18:R:41:LYS:HE3	1.91	0.51
9:I:118:LYS:O	9:I:120:ARG:N	2.43	0.51
10:J:51:ARG:NE	10:J:61:GLU:HB2	2.25	0.51
1:A:1347:G:O2'	1:A:1348:U:P	2.68	0.51
2:B:239:VAL:O	2:B:241:GLU:N	2.43	0.51
1:A:1131:G:H2'	1:A:1132:C:C6	2.45	0.51
1:A:971:G:N2	1:A:1363:A:OP2	2.35	0.51
3:C:124:ILE:HG12	3:C:130:VAL:HG22	1.92	0.51
9:I:16:ARG:O	9:I:63:ILE:HA	2.10	0.51
1:A:1251:A:H5'	9:I:12:GLU:HG2	1.92	0.51
9:I:81:ILE:O	9:I:85:LEU:HB2	2.10	0.51
1:A:1127:G:N2	1:A:1146:A:H62	2.08	0.51
1:A:160:A:H1'	1:A:344:A:N7	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:98:GLU:OE2	4:D:107:ARG:NE	2.34	0.51
18:R:21:LYS:O	18:R:25:THR:OG1	2.22	0.51
19:S:5:LEU:HD11	19:S:70:LYS:HZ1	1.75	0.51
1:A:1304:G:C6	1:A:1305:G:N1	2.78	0.51
1:A:255:G:H2'	1:A:256:U:C6	2.46	0.51
2:B:95:GLN:HG3	2:B:147:LYS:HG2	1.93	0.51
12:L:83:VAL:HG21	12:L:100:ILE:HG12	1.92	0.51
1:A:337:C:H2'	1:A:338:A:C8	2.45	0.51
1:A:737:A:H2'	1:A:738:C:C6	2.45	0.51
1:A:890:G:O2'	1:A:906:G:O6	2.24	0.51
2:B:87:ARG:HH21	2:B:219:VAL:HB	1.76	0.51
1:A:266:G:H5"	1:A:267:C:C5	2.46	0.50
2:B:133:LYS:O	2:B:137:ARG:HG3	2.11	0.50
2:B:88:ALA:HB1	2:B:226:ARG:HH21	1.75	0.50
1:A:1397:C:N4	23:Y:4:U:OP2	2.45	0.50
1:A:1455:G:OP1	20:T:35:THR:OG1	2.28	0.50
1:A:1306:A:N6	1:A:1331:G:H1'	2.26	0.50
1:A:372:C:H1'	1:A:373:A:OP2	2.11	0.50
4:D:100:ARG:NH2	4:D:136:PRO:HB2	2.26	0.50
13:M:15:VAL:HG23	13:M:43:THR:O	2.11	0.50
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.91	0.50
1:A:1106:G:H5"	3:C:172:ARG:HG2	1.93	0.50
8:H:108:GLY:HA3	8:H:138:TRP:HB3	1.94	0.50
9:I:105:ASP:OD1	9:I:107:ARG:HG3	2.11	0.50
1:A:1086:U:H3	1:A:1099:G:H22	1.60	0.50
1:A:149:A:H2'	1:A:150:C:C6	2.47	0.50
11:K:87:THR:HA	11:K:91:ARG:NH1	2.26	0.50
1:A:1228:C:H4'	13:M:116:THR:HA	1.93	0.50
1:A:1475:G:H2'	1:A:1476:G:C8	2.47	0.50
17:Q:67:LYS:HA	17:Q:70:ARG:HH12	1.77	0.50
19:S:40:ILE:HG22	19:S:67:VAL:HA	1.94	0.49
1:A:593:G:H1	1:A:646:U:H3	1.60	0.49
1:A:673:G:H2'	1:A:674:G:C8	2.47	0.49
8:H:53:VAL:HG12	8:H:54:ASP:H	1.75	0.49
1:A:1118:C:H1'	1:A:1179:A:C5	2.47	0.49
1:A:1399:C:H4'	1:A:1400:5MC:H5"	1.94	0.49
1:A:335:C:H2'	1:A:336:C:C6	2.47	0.49
14:N:24:CYS:HB2	14:N:40:CYS:HB3	1.93	0.49
18:R:26:LEU:HD21	18:R:39:VAL:HG23	1.93	0.49
1:A:1296:C:H4'	1:A:1302:U:C5	2.48	0.49
1:A:874:G:OP1	24:A:1602:PAR:O31	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:59:ILE:HD13	17:Q:73:VAL:HA	1.95	0.49
1:A:524:G:H2'	1:A:525:C:C6	2.48	0.49
1:A:939:G:H2'	1:A:940:C:C6	2.47	0.49
6:F:22:GLU:OE2	6:F:82:ARG:HD3	2.13	0.49
13:M:90:LEU:O	13:M:94:ARG:HG2	2.13	0.49
1:A:432:A:O2'	1:A:433:C:OP1	2.24	0.49
1:A:748:C:H4'	1:A:749:C:O5'	2.12	0.49
12:L:24:VAL:HG13	12:L:98:TYR:CE1	2.47	0.49
1:A:1273:G:H2'	1:A:1274:G:O4'	2.13	0.49
1:A:745:C:OP1	1:A:851:G:O2'	2.29	0.49
1:A:1280:A:H5'	10:J:40:LEU:HD22	1.95	0.49
1:A:1453:G:N2	1:A:1454:G:N7	2.61	0.49
4:D:128:VAL:HG12	4:D:129:ASN:ND2	2.27	0.49
7:G:113:GLU:HB2	7:G:119:ARG:HG3	1.95	0.49
7:G:54:THR:HG22	7:G:56:GLN:H	1.78	0.49
9:I:93:ARG:HB3	9:I:93:ARG:NH1	2.28	0.49
1:A:1256:A:HO2'	1:A:1257:U:P	2.35	0.49
2:B:212:GLN:O	2:B:216:SER:OG	2.15	0.49
1:A:1001:A:H2'	1:A:1002:G:C8	2.48	0.48
1:A:603:U:H2'	1:A:604:G:C8	2.48	0.48
1:A:542:G:H5'	4:D:41:GLY:HA3	1.95	0.48
5:E:10:MET:HA	5:E:32:VAL:HA	1.95	0.48
19:S:5:LEU:HD21	19:S:70:LYS:NZ	2.28	0.48
7:G:45:ASP:O	7:G:49:ILE:HG13	2.13	0.48
13:M:12:ASN:H	13:M:45:VAL:HB	1.78	0.48
20:T:10:LEU:HD12	20:T:11:SER:H	1.78	0.48
20:T:81:LYS:O	20:T:85:MET:HG3	2.13	0.48
1:A:1427:U:H2'	1:A:1428:A:C8	2.48	0.48
14:N:23:ARG:NH1	14:N:28:GLY:O	2.47	0.48
1:A:1477:C:H2'	1:A:1478:C:C6	2.48	0.48
1:A:316:G:OP2	1:A:351:G:O2'	2.31	0.48
1:A:109:A:C6	1:A:326:G:C6	3.01	0.48
3:C:155:GLY:HA2	3:C:164:ARG:O	2.12	0.48
1:A:1191:A:H5"	3:C:4:LYS:NZ	2.29	0.48
19:S:12:ASP:H	19:S:38:SER:HB3	1.77	0.48
7:G:15:ASP:OD1	7:G:44:TYR:OH	2.31	0.48
2:B:32:ILE:HD11	2:B:190:THR:HG23	1.95	0.48
3:C:33:LEU:HD21	14:N:53:LEU:HD22	1.96	0.48
18:R:25:THR:O	18:R:42:ARG:NH2	2.45	0.48
1:A:1368:G:OP1	9:I:114:TYR:N	2.47	0.48
1:A:750:G:N3	15:O:23:GLY:HA3	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:243:A:H4'	1:A:244:U:H5'	1.96	0.48
3:C:135:LYS:NZ	5:E:50:GLU:HG2	2.28	0.48
1:A:384:G:H2'	1:A:385:C:C6	2.49	0.48
7:G:75:VAL:HG21	7:G:86:GLN:HB3	1.95	0.48
1:A:1402:4OC:H2'	1:A:1403:C:O4'	2.14	0.48
1:A:235:C:N4	28:A:2005:HOH:O	2.46	0.48
4:D:105:VAL:HG13	4:D:110:PHE:HB2	1.95	0.48
10:J:46:ARG:NH1	10:J:64:GLU:OE1	2.47	0.48
13:M:11:ARG:CZ	13:M:46:LYS:HB3	2.44	0.48
1:A:1288:A:N3	1:A:1352:C:O2'	2.38	0.47
4:D:152:SER:O	4:D:158:ILE:HD12	2.14	0.47
1:A:1123:A:H4'	10:J:36:GLY:HA3	1.96	0.47
1:A:1239:A:H4'	1:A:1240:U:H5"	1.95	0.47
1:A:1298:C:N4	7:G:114:ARG:HG3	2.28	0.47
1:A:1502:A:H2	1:A:1505:G:N1	2.05	0.47
4:D:81:GLU:O	4:D:85:LYS:HG3	2.14	0.47
1:A:1345:U:OP1	9:I:120:ARG:NH1	2.46	0.47
6:F:94:GLN:HB3	18:R:32:ARG:HH11	1.79	0.47
21:U:5:ASP:O	21:U:11:GLY:HA3	2.14	0.47
1:A:1054:C:H42	22:W:34:G:H1'	1.79	0.47
2:B:91:PRO:HG2	2:B:155:LEU:HG	1.96	0.47
12:L:10:LEU:HB3	17:Q:32:TYR:CE2	2.50	0.47
1:A:1179:A:O2'	1:A:1180:A:OP1	2.29	0.47
1:A:137:C:O2'	16:P:61:SER:O	2.32	0.47
1:A:821:G:N7	24:A:1602:PAR:O34	2.44	0.47
2:B:51:LEU:HD21	2:B:201:ILE:HG23	1.96	0.47
1:A:1311:G:N7	19:S:2:PRO:HA	2.30	0.47
1:A:1417:G:O2'	1:A:1483:A:N6	2.48	0.47
1:A:161:A:N1	1:A:347:G:O2'	2.40	0.47
1:A:749:C:H2'	1:A:750:G:H8	1.79	0.47
12:L:53:ARG:HH12	12:L:92:0TD:CG	2.22	0.47
15:O:5:LYS:O	15:O:9:GLN:HG2	2.14	0.47
1:A:1427:U:H2'	1:A:1428:A:H8	1.80	0.47
6:F:22:GLU:CD	6:F:84:ASN:HD22	2.14	0.47
12:L:71:PRO:O	12:L:102:ARG:HD2	2.13	0.47
1:A:1095:U:H2'	1:A:1096:C:C6	2.50	0.47
1:A:1498:UR3:OP2	1:A:1542:U:O2'	2.28	0.47
1:A:579:G:H5'	1:A:728:A:H1'	1.95	0.47
3:C:63:ASN:HA	3:C:99:VAL:HG12	1.95	0.47
5:E:36:ASP:O	5:E:38:GLN:HG2	2.15	0.47
7:G:65:ALA:O	7:G:69:VAL:HG23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:501:C:O2	1:A:549:C:O2'	2.28	0.47
4:D:111:ALA:HB1	4:D:116:GLN:HB3	1.96	0.47
15:O:39:LEU:HD13	15:O:56:LEU:HB2	1.97	0.47
18:R:34:TYR:CE2	18:R:35:ARG:HG3	2.50	0.47
1:A:1223:C:OP2	19:S:78:ARG:NH1	2.47	0.47
6:F:33:TYR:HB2	6:F:75:LEU:HD12	1.96	0.47
1:A:631:G:H5'	1:A:632:A:OP1	2.15	0.47
7:G:144:MET:O	7:G:148:ASN:ND2	2.48	0.47
12:L:117:ARG:HB3	12:L:122:THR:O	2.14	0.47
1:A:1027:C:N4	1:A:1035:A:H61	2.13	0.47
1:A:1048:G:H5"	14:N:3:ARG:HG3	1.97	0.47
1:A:1399:C:C2	1:A:1401:G:C5	3.03	0.47
20:T:53:LEU:O	20:T:57:ARG:HD2	2.15	0.47
1:A:1352:C:H2'	1:A:1353:G:C8	2.51	0.46
9:I:112:LYS:HE3	9:I:117:HIS:O	2.15	0.46
17:Q:59:ILE:HA	17:Q:59:ILE:HD13	1.74	0.46
1:A:413:G:N2	1:A:429:U:OP2	2.45	0.46
4:D:32:ALA:HA	4:D:35:ARG:HG2	1.97	0.46
8:H:17:THR:O	8:H:78:GLN:NE2	2.48	0.46
16:P:10:GLY:HA3	16:P:14:ASN:O	2.14	0.46
1:A:1349:A:OP1	9:I:120:ARG:HB2	2.15	0.46
1:A:1376:U:H2'	1:A:1377:A:C8	2.50	0.46
24:A:1604:PAR:O53	24:A:1604:PAR:N21	2.44	0.46
1:A:1128:C:H42	1:A:1143:G:H1	1.62	0.46
1:A:1392:G:N2	1:A:1502:A:H8	2.13	0.46
1:A:462:G:H21	16:P:82:GLN:NE2	2.14	0.46
2:B:73:THR:HG23	2:B:95:GLN:O	2.14	0.46
6:F:25:ILE:HD13	6:F:82:ARG:HD2	1.97	0.46
7:G:15:ASP:CB	7:G:20:ASP:H	2.29	0.46
1:A:1413:A:H2	1:A:1487:G:H22	1.63	0.46
1:A:1498:UR3:O4'	1:A:1519:MA6:H2	2.15	0.46
3:C:70:VAL:HG12	3:C:72:LYS:H	1.79	0.46
3:C:77:ILE:O	3:C:83:ARG:HB3	2.15	0.46
1:A:1071:C:H2'	1:A:1072:G:H8	1.80	0.46
1:A:1074:G:O2'	1:A:1101:A:N1	2.42	0.46
1:A:629:G:H2'	1:A:630:G:O4'	2.16	0.46
1:A:718:G:O6	18:R:74:ARG:NH1	2.49	0.46
1:A:178:C:OP2	20:T:65:LYS:NZ	2.40	0.46
3:C:178:LEU:HD13	3:C:178:LEU:HA	1.78	0.46
1:A:62:U:OP1	1:A:385:C:O2'	2.32	0.46
1:A:932:C:H4'	7:G:4:ARG:NH2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:43:LEU:HD11	20:T:55:ILE:HD12	1.96	0.46
1:A:560:U:H5'	1:A:566:G:N2	2.31	0.46
1:A:695:A:H61	1:A:797:C:H1'	1.81	0.46
1:A:838:G:N2	1:A:840:C:H5'	2.31	0.46
8:H:110:ALA:HB1	8:H:133:LEU:HD21	1.97	0.46
1:A:133:U:P	20:T:74:LYS:HZ1	2.37	0.46
5:E:78:HIS:CD2	8:H:107:LEU:HD12	2.51	0.46
8:H:48:TYR:HA	8:H:60:ARG:O	2.16	0.46
1:A:1226:C:H4'	19:S:80:TYR:CZ	2.51	0.45
1:A:1343:G:H2'	1:A:1344:C:C6	2.51	0.45
1:A:1392:G:H21	1:A:1502:A:H8	1.63	0.45
1:A:580:U:H2'	1:A:581:G:O4'	2.16	0.45
1:A:591:U:H2'	1:A:592:G:C8	2.50	0.45
2:B:174:VAL:O	2:B:178:ARG:HG2	2.15	0.45
6:F:33:TYR:HE1	6:F:74:ASP:HB3	1.80	0.45
6:F:4:TYR:CE2	6:F:92:LYS:HG2	2.51	0.45
12:L:24:VAL:HG13	12:L:98:TYR:HE1	1.81	0.45
1:A:1373:G:H5"	7:G:36:LYS:HB2	1.98	0.45
8:H:25:ASP:OD1	8:H:25:ASP:N	2.47	0.45
15:O:26:GLU:HA	15:O:81:LEU:HD11	1.97	0.45
4:D:70:ILE:HD11	4:D:100:ARG:CZ	2.47	0.45
4:D:4:TYR:OH	4:D:7:PRO:O	2.18	0.45
5:E:76:ILE:O	5:E:93:PRO:HB3	2.16	0.45
5:E:89:ILE:HD13	5:E:90:VAL:H	1.81	0.45
8:H:82:HIS:HE1	8:H:136:GLU:OE2	2.00	0.45
10:J:71:LEU:O	10:J:73:ASP:HB2	2.16	0.45
19:S:33:THR:HG22	19:S:35:SER:N	2.15	0.45
1:A:955:U:H2'	1:A:956:U:H6	1.81	0.45
4:D:70:ILE:HD12	4:D:70:ILE:HA	1.72	0.45
5:E:33:VAL:HG11	5:E:109:ILE:HA	1.98	0.45
9:I:85:LEU:HD23	9:I:96:LEU:HD21	1.98	0.45
1:A:1300:G:O2'	1:A:1301:U:P	2.75	0.45
1:A:632:A:H2'	1:A:633:G:O4'	2.17	0.45
1:A:924:C:H2'	1:A:925:G:C8	2.52	0.45
2:B:70:PHE:O	2:B:92:TYR:HA	2.16	0.45
18:R:58:LEU:HD11	18:R:66:LEU:HD13	1.99	0.45
1:A:707:C:H2'	1:A:708:C:C6	2.52	0.45
1:A:775:G:H2'	1:A:776:G:O4'	2.17	0.45
1:A:851:G:H2'	1:A:852:G:C8	2.51	0.45
2:B:24:TRP:HB2	2:B:190:THR:HG22	1.99	0.45
12:L:124:LYS:HG3	12:L:125:PRO:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:34:TYR:CD2	18:R:35:ARG:HG3	2.52	0.45
1:A:1157:A:H4'	1:A:1158:C:O5'	2.17	0.45
1:A:1172:C:H2'	1:A:1173:G:H8	1.82	0.45
1:A:1331:G:O2'	1:A:1332:A:H8	2.00	0.45
1:A:730:G:C5	1:A:731:G:H1'	2.52	0.45
4:D:9:CYS:SG	4:D:22:LYS:HD2	2.57	0.45
7:G:74:GLU:HG2	7:G:91:VAL:HG22	1.98	0.45
12:L:69:TYR:O	12:L:100:ILE:HB	2.16	0.45
13:M:2:ALA:HB3	13:M:53:VAL:HG11	1.98	0.45
1:A:1264:C:H2'	1:A:1265:G:C8	2.47	0.45
1:A:390:C:H2'	1:A:391:G:C8	2.52	0.45
1:A:560:U:H5'	1:A:566:G:C2	2.52	0.45
2:B:112:VAL:O	2:B:116:GLU:HG2	2.17	0.45
15:O:70:LEU:HD21	15:O:77:ARG:HB2	1.99	0.45
1:A:26:A:N6	1:A:558:G:H1'	2.32	0.45
1:A:51:A:OP2	24:A:1603:PAR:N24	2.50	0.45
4:D:4:TYR:O	4:D:4:TYR:CG	2.68	0.45
1:A:1065:U:H5"	1:A:1190:G:N2	2.32	0.45
1:A:664:G:OP1	18:R:64:ARG:HD2	2.17	0.45
4:D:2:GLY:C	4:D:3:ARG:HG3	2.36	0.45
5:E:81:GLU:HG2	5:E:90:VAL:HG22	1.99	0.45
9:I:10:ARG:HG2	9:I:75:ASP:HB2	1.98	0.45
20:T:62:LEU:HA	20:T:62:LEU:HD22	1.76	0.45
1:A:1340:A:H2'	1:A:1341:U:O4'	2.16	0.44
1:A:1513:A:H2'	1:A:1514:C:C6	2.52	0.44
1:A:352:C:O2'	1:A:354:G:OP1	2.29	0.44
4:D:108:LEU:HD21	4:D:174:LEU:HD22	2.00	0.44
5:E:118:ILE:HG13	5:E:119:LEU:N	2.32	0.44
5:E:51:VAL:HB	5:E:52:PRO:HD3	1.99	0.44
1:A:1127:G:H5'	9:I:66:ARG:HH22	1.81	0.44
10:J:7:LYS:HD3	10:J:9:ARG:NH2	2.32	0.44
18:R:31:LEU:HD23	18:R:31:LEU:HA	1.76	0.44
1:A:299:G:N1	28:A:2001:HOH:O	2.36	0.44
1:A:375:U:C4	1:A:376:G:N7	2.85	0.44
1:A:994:A:N7	1:A:1216:G:H4'	2.32	0.44
2:B:48:MET:HA	2:B:51:LEU:HB2	1.99	0.44
3:C:139:GLN:O	3:C:143:GLU:HB2	2.17	0.44
14:N:24:CYS:SG	14:N:40:CYS:N	2.88	0.44
19:S:31:ILE:HG22	19:S:49:ILE:HA	1.99	0.44
21:U:12:LYS:O	21:U:16:GLY:N	2.50	0.44
1:A:1399:C:C2	1:A:1502:A:N6	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:69:LEU:HG	2:B:155:LEU:HD11	1.98	0.44
3:C:5:ILE:HD13	3:C:10:PHE:HB2	1.98	0.44
1:A:1371:G:O3'	9:I:69:GLY:HA3	2.17	0.44
13:M:63:THR:HG23	13:M:64:TRP:CD2	2.52	0.44
1:A:119:A:H4'	1:A:120:A:C8	2.53	0.44
1:A:1316:G:H4'	14:N:18:VAL:HG13	1.98	0.44
1:A:1410:G:H2'	1:A:1411:C:C6	2.53	0.44
2:B:48:MET:HA	2:B:51:LEU:HD12	1.98	0.44
4:D:151:LYS:H	4:D:151:LYS:HD2	1.82	0.44
1:A:1057:G:H5"	3:C:154:SER:CB	2.47	0.44
1:A:114:U:H5"	24:A:1603:PAR:H52	1.99	0.44
1:A:736:C:H2'	1:A:737:A:C8	2.52	0.44
1:A:812:C:H6	1:A:812:C:H2'	1.58	0.44
1:A:851:G:H2'	1:A:852:G:H8	1.82	0.44
1:A:1375:A:H4'	7:G:29:LYS:HD3	1.99	0.44
10:J:3:LYS:O	10:J:101:VAL:N	2.51	0.44
1:A:1498:UR3:H6	1:A:1498:UR3:O5'	2.18	0.44
11:K:84:VAL:CG2	11:K:95:ILE:HD11	2.46	0.44
1:A:266:G:O3'	17:Q:67:LYS:HB2	2.18	0.44
19:S:12:ASP:OD2	19:S:35:SER:OG	2.32	0.44
1:A:1303:C:H2'	1:A:1304:G:H5'	1.99	0.44
3:C:157:ILE:HD13	3:C:166:GLU:HB2	2.00	0.44
3:C:35:GLU:HG2	3:C:59:ARG:HH22	1.83	0.44
5:E:142:LEU:O	5:E:143:ARG:NE	2.49	0.44
11:K:110:ASP:OD2	18:R:88:LYS:NZ	2.47	0.44
11:K:84:VAL:HG11	11:K:91:ARG:HE	1.83	0.44
1:A:1028:C:H2'	1:A:1029:C:C6	2.53	0.44
4:D:103:ASN:O	4:D:107:ARG:HG2	2.18	0.44
7:G:108:ALA:HA	7:G:111:ARG:HD2	2.00	0.44
1:A:779:C:O2'	11:K:120:ARG:HD3	2.18	0.44
13:M:88:ARG:HH11	19:S:3:ARG:HH21	1.65	0.44
13:M:98:VAL:HG23	13:M:110:ARG:NH1	2.32	0.44
1:A:1128:C:H42	1:A:1143:G:H22	1.65	0.44
8:H:86:ILE:HD12	8:H:133:LEU:HD22	2.00	0.44
13:M:49:THR:HG22	13:M:51:ALA:H	1.82	0.44
1:A:755:G:OP2	15:O:65:ARG:HD2	2.17	0.44
1:A:1494:G:OP1	24:A:1601:PAR:N32	2.43	0.43
1:A:967:5MC:OP1	1:A:969:A:H5'	2.18	0.43
4:D:102:ASP:N	4:D:102:ASP:OD1	2.48	0.43
5:E:31:LEU:HD23	5:E:31:LEU:HA	1.91	0.43
1:A:187:C:O2	20:T:105:SER:HB3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1101:A:H4'	1:A:1102:A:O5'	2.18	0.43
1:A:620:C:H2'	1:A:621:A:O4'	2.17	0.43
2:B:88:ALA:O	2:B:90:MET:N	2.36	0.43
3:C:24:ALA:HB1	3:C:28:GLN:HB2	2.00	0.43
4:D:122:ARG:HA	4:D:122:ARG:HE	1.83	0.43
6:F:5:GLU:OE1	18:R:34:TYR:OH	2.30	0.43
13:M:65:LYS:O	13:M:66:LEU:HD23	2.18	0.43
16:P:4:ILE:HG12	16:P:21:VAL:HG22	1.99	0.43
20:T:72:LEU:O	20:T:73:HIS:O	2.36	0.43
1:A:1029:C:H2'	1:A:1030:C:C6	2.54	0.43
1:A:1301:U:HO2'	1:A:1302:U:P	2.38	0.43
4:D:13:ARG:HD2	4:D:38:TYR:O	2.17	0.43
4:D:108:LEU:HD23	4:D:174:LEU:HD13	2.00	0.43
4:D:60:GLU:HG2	4:D:202:LEU:HB2	2.00	0.43
10:J:51:ARG:NH2	10:J:61:GLU:HG3	2.33	0.43
18:R:26:LEU:HA	18:R:26:LEU:HD12	1.82	0.43
1:A:269:C:H2'	1:A:270:A:H8	1.83	0.43
1:A:269:C:H2'	1:A:270:A:C8	2.53	0.43
1:A:833:U:H2'	1:A:834:C:H6	1.84	0.43
1:A:911:U:H2'	1:A:912:C:C6	2.53	0.43
1:A:977:A:H1'	1:A:982:U:O4	2.17	0.43
2:B:144:ARG:HG3	2:B:145:LEU:N	2.34	0.43
20:T:54:LYS:HE2	20:T:54:LYS:HB3	1.76	0.43
1:A:1117:G:N2	1:A:1180:A:H1'	2.34	0.43
3:C:14:ILE:HG22	3:C:15:THR:HG23	2.00	0.43
5:E:64:ARG:HE	5:E:64:ARG:HB2	1.74	0.43
5:E:80:ILE:CD1	5:E:91:LEU:HB2	2.47	0.43
7:G:94:ARG:O	7:G:97:GLN:HB3	2.19	0.43
8:H:97:VAL:HG21	8:H:128:GLY:HA2	1.99	0.43
13:M:34:LEU:HD23	13:M:34:LEU:HA	1.87	0.43
17:Q:48:GLU:OE1	17:Q:50:LYS:HD2	2.18	0.43
1:A:1320:C:O2	19:S:36:ARG:NH1	2.52	0.43
1:A:1107:C:C4	1:A:1108:G:C8	3.06	0.43
1:A:1217:C:H2'	1:A:1218:C:O4'	2.17	0.43
1:A:1247:U:O2'	1:A:1248:A:H5'	2.18	0.43
1:A:1256:A:O2'	1:A:1257:U:O5'	2.33	0.43
1:A:792:A:H4'	1:A:793:U:O5'	2.19	0.43
2:B:198:ASP:OD1	8:H:68:ARG:NH2	2.36	0.43
8:H:113:SER:O	8:H:131:GLY:HA3	2.19	0.43
1:A:653:A:C8	8:H:56:LYS:HG2	2.53	0.43
17:Q:60:ILE:HG12	17:Q:61:GLU:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:57:ARG:HE	20:T:102:GLY:HA2	1.83	0.43
1:A:1366:C:H2'	1:A:1367:C:C6	2.54	0.43
1:A:222:U:H2'	1:A:223:U:C6	2.53	0.43
1:A:745:C:H2'	1:A:746:A:C8	2.54	0.43
1:A:828:A:H5"	1:A:859:A:C2	2.54	0.43
6:F:50:TYR:CE2	18:R:77:GLY:HA2	2.54	0.43
7:G:26:PHE:CE2	7:G:30:ILE:HD11	2.54	0.43
13:M:102:ARG:HD3	13:M:105:THR:OG1	2.18	0.43
13:M:34:LEU:HD13	13:M:41:PRO:HA	2.00	0.43
1:A:1084:G:H5'	1:A:1102:A:OP2	2.19	0.43
3:C:123:GLN:O	3:C:128:PHE:HB2	2.19	0.43
1:A:939:G:H5"	7:G:102:ARG:NH2	2.34	0.43
11:K:91:ARG:CZ	18:R:88:LYS:HZ1	2.32	0.43
12:L:74:GLY:O	12:L:102:ARG:NH1	2.43	0.43
14:N:11:LYS:O	14:N:14:PRO:HD3	2.18	0.43
1:A:1143:G:H2'	1:A:1144:G:C8	2.54	0.43
1:A:1126:U:H5'	1:A:1280:A:O2'	2.19	0.43
1:A:17:U:H2'	1:A:18:C:C6	2.53	0.43
1:A:939:G:H5"	7:G:102:ARG:NH1	2.33	0.43
1:A:1150:U:O3'	10:J:41:PRO:HB3	2.19	0.43
20:T:67:ALA:O	20:T:73:HIS:ND1	2.52	0.43
1:A:596:C:O5'	1:A:596:C:H6	2.02	0.43
1:A:1104:G:OP1	2:B:111:ARG:HD2	2.19	0.43
8:H:29:SER:OG	8:H:32:LYS:HG3	2.19	0.43
9:I:10:ARG:HD3	9:I:105:ASP:HB3	2.00	0.43
10:J:32:ALA:HB2	10:J:76:ASN:HB2	2.01	0.43
16:P:45:THR:OG1	16:P:47:ASP:O	2.37	0.43
1:A:327:A:O2'	1:A:328:C:H6	2.01	0.42
1:A:397:A:H5'	1:A:398:C:OP1	2.19	0.42
1:A:721:G:H4'	1:A:722:A:O4'	2.19	0.42
3:C:5:ILE:HG23	10:J:51:ARG:HH12	1.84	0.42
1:A:711:G:P	6:F:54:LYS:HZ1	2.42	0.42
8:H:61:VAL:HG12	8:H:63:LEU:HD13	2.00	0.42
9:I:93:ARG:HB3	9:I:93:ARG:HH11	1.83	0.42
15:O:29:VAL:HG11	15:O:67:LEU:HD21	2.01	0.42
16:P:53:VAL:HG13	16:P:79:VAL:HG22	2.01	0.42
18:R:33:ASP:OD2	18:R:36:ASN:HB2	2.19	0.42
20:T:72:LEU:HA	20:T:72:LEU:HD23	1.85	0.42
1:A:1182:G:H4'	1:A:1183:A:O5'	2.19	0.42
1:A:1319:A:H4'	1:A:1320:C:OP1	2.19	0.42
1:A:129(A):G:N3	1:A:190(E):U:H3'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:567:G:H2'	1:A:568:G:O4'	2.19	0.42
2:B:130:ARG:HA	2:B:130:ARG:HD3	1.49	0.42
2:B:30:ARG:HG3	2:B:31:TYR:CD1	2.54	0.42
10:J:14:LYS:HB3	10:J:14:LYS:HE2	1.63	0.42
11:K:54:ARG:O	11:K:57:THR:OG1	2.29	0.42
17:Q:7:THR:O	17:Q:23:VAL:HG13	2.20	0.42
2:B:146:GLN:O	2:B:150:SER:HB2	2.20	0.42
3:C:130:VAL:O	3:C:134:ILE:HG13	2.19	0.42
4:D:3:ARG:HB2	4:D:3:ARG:HE	1.57	0.42
16:P:17:TYR:HE2	16:P:41:PRO:HG3	1.84	0.42
19:S:6:LYS:HB2	19:S:6:LYS:HE3	1.83	0.42
1:A:1172:C:H2'	1:A:1173:G:C8	2.54	0.42
1:A:1179:A:HO2'	1:A:1180:A:P	2.43	0.42
1:A:713:G:H2'	1:A:714:G:C8	2.53	0.42
1:A:818:G:C3'	1:A:819:A:H5"	2.50	0.42
17:Q:22:LEU:HD11	17:Q:39:SER:HB2	2.00	0.42
22:W:33:U:H5'	22:W:34:G:OP2	2.19	0.42
1:A:1268:A:N3	1:A:1326:C:O2'	2.48	0.42
1:A:12:U:H4'	1:A:526:C:O2'	2.20	0.42
1:A:1316:G:H2'	1:A:1317:C:H5"	2.01	0.42
1:A:88:A:H2'	1:A:89:C:O4'	2.19	0.42
5:E:110:LEU:HD13	5:E:118:ILE:HG21	2.01	0.42
8:H:113:SER:HB2	8:H:134:ILE:HD11	2.01	0.42
8:H:10:LEU:HD22	8:H:83:ILE:HD11	2.00	0.42
9:I:8:GLY:HA3	9:I:79:LEU:HB3	2.00	0.42
15:O:4:THR:OG1	15:O:7:GLU:HG3	2.20	0.42
1:A:1003(A):G:H2'	1:A:1004:A:H4'	2.01	0.42
1:A:1014:A:C2	1:A:1219:U:H1'	2.54	0.42
1:A:719:C:O2'	18:R:49:LYS:HB3	2.18	0.42
2:B:82:ARG:O	2:B:86:GLU:HB2	2.19	0.42
3:C:6:HIS:NE2	3:C:8:ILE:HB	2.34	0.42
4:D:25:ARG:NH1	4:D:30:LYS:O	2.53	0.42
6:F:44:GLY:HA2	6:F:59:TYR:CZ	2.53	0.42
8:H:121:ASP:OD1	8:H:121:ASP:N	2.53	0.42
11:K:34:ASP:OD1	11:K:38:ASN:N	2.52	0.42
1:A:1479:C:H2'	1:A:1480:G:H8	1.85	0.42
17:Q:43:LEU:HD23	17:Q:43:LEU:HA	1.81	0.42
1:A:1148:U:H2'	1:A:1149:C:O4'	2.19	0.42
1:A:560:U:H4'	1:A:561:U:H5"	2.01	0.42
9:I:9:ARG:HG2	9:I:14:VAL:HG12	2.02	0.42
12:L:93:LEU:HD23	12:L:93:LEU:HA	1.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:66:LEU:HA	13:M:66:LEU:HD23	1.83	0.42
1:A:1477:C:H2'	1:A:1478:C:H6	1.84	0.42
1:A:1527:C:O2'	1:A:1528:U:H5'	2.20	0.42
1:A:551:U:H2'	1:A:552:U:C6	2.55	0.42
3:C:136:GLN:O	3:C:140:ARG:HG3	2.20	0.42
3:C:70:VAL:HG12	3:C:72:LYS:N	2.35	0.42
5:E:40:ARG:HB3	5:E:66:MET:HE3	2.01	0.42
8:H:39:LEU:HA	8:H:39:LEU:HD13	1.81	0.42
8:H:4:ASP:OD1	8:H:85:ARG:NH1	2.53	0.42
13:M:10:PRO:O	13:M:45:VAL:HG11	2.20	0.42
13:M:115:LYS:HB2	13:M:115:LYS:HE2	1.85	0.42
13:M:25:ILE:HD11	13:M:60:VAL:HG13	2.02	0.42
13:M:62:ASN:O	13:M:62:ASN:ND2	2.53	0.42
13:M:81:LEU:HD22	13:M:88:ARG:HB2	2.02	0.42
15:O:24:SER:O	15:O:28:GLN:HG3	2.20	0.42
1:A:476:G:H2'	1:A:477:G:C8	2.55	0.42
1:A:564:C:O2'	8:H:91:ARG:NH2	2.53	0.42
2:B:88:ALA:HB1	2:B:226:ARG:NH2	2.33	0.42
4:D:100:ARG:HB3	4:D:102:ASP:OD1	2.20	0.42
8:H:9:MET:HG3	8:H:26:VAL:HG11	2.01	0.42
12:L:28:LYS:HZ3	12:L:30:ALA:HB2	1.84	0.42
1:A:539:A:H2'	1:A:540:G:H8	1.84	0.41
1:A:838:G:C2	1:A:840:C:H5'	2.55	0.41
1:A:938:A:N3	1:A:1376:U:O2'	2.49	0.41
2:B:122:PHE:CE2	2:B:139:LYS:HG2	2.55	0.41
4:D:25:ARG:HA	4:D:28:SER:HB2	2.01	0.41
5:E:137:GLU:OE2	5:E:140:ARG:HD2	2.20	0.41
5:E:50:GLU:HG3	5:E:52:PRO:CD	2.50	0.41
6:F:45:LEU:O	6:F:46:ARG:HG2	2.20	0.41
11:K:48:ILE:H	11:K:48:ILE:HG12	1.62	0.41
20:T:74:LYS:HD2	20:T:74:LYS:H	1.84	0.41
1:A:1404:5MC:H1'	1:A:1519:MA6:O2'	2.20	0.41
1:A:262:A:C6	1:A:263:A:C6	3.08	0.41
1:A:474:G:H2'	1:A:475:G:H8	1.85	0.41
2:B:51:LEU:HD22	2:B:55:PHE:HE1	1.85	0.41
4:D:26:CYS:HA	4:D:31:CYS:HB2	2.01	0.41
5:E:145:LYS:O	5:E:149:GLU:HG2	2.20	0.41
10:J:84:GLN:O	10:J:88:LEU:HD12	2.20	0.41
15:O:15:PHE:CE2	15:O:84:LYS:HD2	2.55	0.41
1:A:1229:A:OP2	13:M:114:ARG:HD3	2.20	0.41
1:A:909:A:H8	1:A:909:A:O5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:64:VAL:HB	3:C:99:VAL:HG21	2.02	0.41
8:H:11:THR:OG1	8:H:14:ARG:NH1	2.47	0.41
1:A:1233:G:H2'	1:A:1234:C:C6	2.56	0.41
1:A:1407:5MC:HN42	24:A:1601:PAR:H23	1.85	0.41
1:A:440:A:H3'	1:A:442:C:H6	1.86	0.41
1:A:901:A:C5	1:A:902:G:H1'	2.55	0.41
1:A:973:G:H3'	1:A:974:A:H5"	2.02	0.41
3:C:91:LEU:HD23	3:C:92:ALA:N	2.35	0.41
1:A:939:G:H5"	7:G:102:ARG:CZ	2.50	0.41
1:A:1235:U:H2'	1:A:1236:A:O4'	2.20	0.41
1:A:1331:G:O2'	1:A:1332:A:O5'	2.38	0.41
4:D:174:LEU:HD23	4:D:185:PHE:HA	2.01	0.41
1:A:922:G:H1'	5:E:19:MET:HB3	2.02	0.41
6:F:46:ARG:HB2	6:F:60:PHE:CD2	2.55	0.41
7:G:29:LYS:HD2	7:G:29:LYS:HA	1.78	0.41
13:M:4:ILE:HD11	13:M:56:LEU:HB3	2.01	0.41
1:A:1059:C:O3'	14:N:45:ARG:NH2	2.54	0.41
1:A:186:C:H2'	1:A:187:C:C6	2.56	0.41
1:A:688:G:H5'	11:K:46:GLY:C	2.40	0.41
1:A:973:G:P	10:J:57:LYS:HZ2	2.42	0.41
10:J:26:ALA:HB1	10:J:84:GLN:HB3	2.03	0.41
1:A:1227:A:OP2	13:M:111:LYS:HE3	2.21	0.41
1:A:1298:C:H4'	1:A:1299:A:C4	2.56	0.41
1:A:160:A:H2'	1:A:161:A:O4'	2.21	0.41
1:A:636:U:H2'	1:A:637:G:C8	2.55	0.41
1:A:707:C:H2'	1:A:708:C:H6	1.86	0.41
1:A:857:C:H2'	1:A:858:G:O4'	2.21	0.41
1:A:975:A:H5'	1:A:975:A:C8	2.55	0.41
3:C:154:SER:HG	3:C:197:GLY:H	1.62	0.41
5:E:80:ILE:HD13	5:E:138:ALA:HB1	2.03	0.41
1:A:1128:C:OP1	9:I:66:ARG:NH1	2.54	0.41
1:A:1148:U:O2'	9:I:14:VAL:HG21	2.20	0.41
1:A:19:C:H2'	1:A:20:U:H6	1.86	0.41
1:A:255:G:H2'	1:A:256:U:H6	1.84	0.41
1:A:620:C:N1	4:D:135:LEU:HD13	2.36	0.41
1:A:743:U:H2'	1:A:744:C:H6	1.86	0.41
3:C:108:ASN:ND2	3:C:111:LEU:HG	2.36	0.41
3:C:53:ALA:HB2	3:C:115:LEU:HG	2.03	0.41
4:D:31:CYS:C	4:D:33:MET:H	2.23	0.41
11:K:82:VAL:HG23	11:K:105:VAL:HG13	2.03	0.41
1:A:1057:G:H2'	1:A:1058:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1332:A:H2'	1:A:1333:A:C8	2.56	0.41
2:B:90:MET:HA	2:B:91:PRO:HD3	1.87	0.41
4:D:119:GLN:HB3	4:D:119:GLN:HE21	1.76	0.41
13:M:31:LYS:O	13:M:35:GLU:HB2	2.21	0.41
20:T:59:ALA:O	20:T:63:ILE:HG13	2.20	0.41
1:A:1054:C:C4	22:W:34:G:H1'	2.56	0.41
1:A:1300:G:HO2'	1:A:1301:U:H6	1.69	0.41
1:A:35:G:H2'	1:A:36:C:H6	1.84	0.41
1:A:518:C:H2'	1:A:530:G:N3	2.36	0.41
2:B:28:PHE:CD2	2:B:190:THR:HA	2.56	0.41
1:A:1065:U:C5	1:A:1190:G:H1'	2.55	0.40
1:A:1202:G:H1'	14:N:29:ARG:HD2	2.02	0.40
1:A:474:G:H5"	16:P:81:ARG:NH1	2.37	0.40
1:A:985:C:H2'	1:A:986:A:H8	1.80	0.40
6:F:76:ALA:O	6:F:80:ARG:HG3	2.21	0.40
7:G:20:ASP:OD2	7:G:22:LEU:HB3	2.20	0.40
7:G:18:TYR:OH	7:G:58:PRO:HG2	2.21	0.40
18:R:46:GLU:CD	18:R:46:GLU:H	2.24	0.40
20:T:10:LEU:HD12	20:T:11:SER:N	2.36	0.40
1:A:355:C:C4	1:A:356:A:N7	2.89	0.40
1:A:456:C:H2'	1:A:457:C:C6	2.57	0.40
2:B:101:MET:HA	2:B:108:ILE:HG13	2.02	0.40
10:J:16:LEU:HD12	10:J:68:HIS:HB2	2.03	0.40
11:K:97:ALA:O	11:K:101:SER:HB3	2.21	0.40
12:L:84:LEU:HB2	12:L:105:TYR:CE2	2.56	0.40
12:L:60:LEU:HA	12:L:60:LEU:HD13	1.94	0.40
1:A:127:G:HO2'	17:Q:2:PRO:N	2.19	0.40
17:Q:85:VAL:O	17:Q:89:LEU:HG	2.21	0.40
1:A:190(C):C:H2'	1:A:190(D):U:O4'	2.22	0.40
1:A:488:C:H2'	1:A:489:C:C6	2.56	0.40
1:A:738:C:H6	1:A:738:C:O5'	2.03	0.40
1:A:895:G:H2'	1:A:896:C:C6	2.57	0.40
2:B:97:TRP:HH2	2:B:176:GLU:CD	2.25	0.40
16:P:70:ALA:O	16:P:74:LEU:HG	2.21	0.40
1:A:254:G:O2'	17:Q:16:GLN:O	2.39	0.40
1:A:1372:U:H2'	1:A:1373:G:O4'	2.22	0.40
1:A:731:G:OP1	1:A:766:A:H1'	2.22	0.40
1:A:951:G:O6	13:M:105:THR:HG21	2.20	0.40
3:C:7:PRO:CB	3:C:11:ARG:HH21	2.35	0.40
4:D:188:LEU:HD23	4:D:188:LEU:HA	1.98	0.40
5:E:78:HIS:HD2	8:H:107:LEU:HD12	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:43:ALA:HA	9:I:74:ILE:HD13	2.04	0.40
9:I:51:ARG:HB2	9:I:51:ARG:HE	1.44	0.40
13:M:31:LYS:HE3	13:M:31:LYS:HB2	1.83	0.40
1:A:1200:C:O2'	1:A:1205:U:O4	2.29	0.40
1:A:1418:A:N6	1:A:1482:G:O2'	2.53	0.40
4:D:120:LEU:HD23	4:D:120:LEU:HA	1.97	0.40
9:I:55:ALA:C	9:I:57:GLY:H	2.25	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	B	234/236 (99%)	209 (89%)	20 (8%)	5 (2%)	7 36
3	C	205/207 (99%)	181 (88%)	24 (12%)	0	100 100
4	D	206/208 (99%)	195 (95%)	11 (5%)	0	100 100
5	E	149/151 (99%)	143 (96%)	5 (3%)	1 (1%)	22 60
6	F	99/101 (98%)	98 (99%)	1 (1%)	0	100 100
7	G	153/155 (99%)	144 (94%)	9 (6%)	0	100 100
8	H	136/138 (99%)	128 (94%)	7 (5%)	1 (1%)	22 60
9	I	125/127 (98%)	111 (89%)	12 (10%)	2 (2%)	9 42
10	J	97/99 (98%)	76 (78%)	20 (21%)	1 (1%)	15 52
11	K	115/117 (98%)	105 (91%)	10 (9%)	0	100 100
12	L	122/125 (98%)	115 (94%)	5 (4%)	2 (2%)	9 42
13	M	116/118 (98%)	103 (89%)	13 (11%)	0	100 100
14	N	58/60 (97%)	53 (91%)	5 (9%)	0	100 100
15	O	86/88 (98%)	83 (96%)	3 (4%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	P	82/84 (98%)	81 (99%)	1 (1%)	0	100	100
17	Q	97/99 (98%)	91 (94%)	6 (6%)	0	100	100
18	R	71/73 (97%)	69 (97%)	2 (3%)	0	100	100
19	S	79/81 (98%)	70 (89%)	8 (10%)	1 (1%)	12	46
20	T	97/99 (98%)	87 (90%)	7 (7%)	3 (3%)	4	29
21	U	23/25 (92%)	22 (96%)	0	1 (4%)	2	21
All	All	2350/2391 (98%)	2164 (92%)	169 (7%)	17 (1%)	22	60

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	9	GLU
12	L	127	GLU
20	T	73	HIS
20	T	74	LYS
20	T	75	ASN
2	B	88	ALA
2	B	131	PRO
2	B	240	GLN
9	I	56	LEU
21	U	25	LYS
8	H	54	ASP
10	J	55	LYS
19	S	81	ARG
9	I	119	ALA
12	L	126	LYS
2	B	130	ARG
5	E	154	GLY

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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	B	194/204 (95%)	181 (93%)	13 (7%)	16 48
3	C	160/161 (99%)	145 (91%)	15 (9%)	8 33
4	D	180/180 (100%)	169 (94%)	11 (6%)	18 51
5	E	115/116 (99%)	98 (85%)	17 (15%)	3 16
6	F	90/90 (100%)	83 (92%)	7 (8%)	12 41
7	G	126/126 (100%)	119 (94%)	7 (6%)	21 53
8	H	119/119 (100%)	105 (88%)	14 (12%)	5 23
9	I	98/98 (100%)	85 (87%)	13 (13%)	4 19
10	J	87/89 (98%)	74 (85%)	13 (15%)	3 16
11	K	89/89 (100%)	82 (92%)	7 (8%)	12 41
12	L	103/103 (100%)	91 (88%)	12 (12%)	5 24
13	M	94/94 (100%)	84 (89%)	10 (11%)	6 28
14	N	49/49 (100%)	43 (88%)	6 (12%)	5 22
15	O	79/79 (100%)	72 (91%)	7 (9%)	9 36
16	P	72/72 (100%)	67 (93%)	5 (7%)	15 47
17	Q	94/94 (100%)	85 (90%)	9 (10%)	8 32
18	R	64/64 (100%)	58 (91%)	6 (9%)	8 33
19	S	71/71 (100%)	60 (84%)	11 (16%)	2 14
20	T	76/76 (100%)	62 (82%)	14 (18%)	1 7
21	U	19/20 (95%)	18 (95%)	1 (5%)	22 54
All	All	1979/1994 (99%)	1781 (90%)	198 (10%)	7 31

All (198) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	20	GLU
2	B	44	LEU
2	B	69	LEU
2	B	82	ARG
2	B	114	ARG
2	B	117	GLU
2	B	121	LEU
2	B	139	LYS

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Mol	Chain	Res	Type
2	B	144	ARG
2	B	187	LEU
2	B	206	ASP
2	B	221	LEU
2	B	236	TYR
3	C	3	ASN
3	C	21	ARG
3	C	27	LYS
3	C	36	ASP
3	C	43	LEU
3	C	52	LEU
3	C	56	ASP
3	C	79	ARG
3	C	91	LEU
3	C	127	ARG
3	C	143	GLU
3	C	166	GLU
3	C	192	THR
3	C	193	TYR
3	C	204	LEU
4	D	3	ARG
4	D	8	VAL
4	D	10	ARG
4	D	15	GLU
4	D	64	LEU
4	D	70	ILE
4	D	91	SER
4	D	122	ARG
4	D	127	THR
4	D	135	LEU
4	D	175	SER
5	E	12	LEU
5	E	19	MET
5	E	25	ARG
5	E	31	LEU
5	E	41	VAL
5	E	43	LEU
5	E	53	LEU
5	E	64	ARG
5	E	76	ILE
5	E	79	GLU
5	E	80	ILE

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Mol	Chain	Res	Type
5	E	89	ILE
5	E	117	ASP
5	E	118	ILE
5	E	120	THR
5	E	125	SER
5	E	150	ARG
6	F	10	LEU
6	F	19	LEU
6	F	46	ARG
6	F	69	GLU
6	F	73	ASN
6	F	86	ARG
6	F	100	ASN
7	G	8	GLU
7	G	45	ASP
7	G	97	GLN
7	G	114	ARG
7	G	124	LEU
7	G	149	ARG
7	G	156	TRP
8	H	3	THR
8	H	18	ARG
8	H	21	LYS
8	H	25	ASP
8	H	29	SER
8	H	54	ASP
8	H	63	LEU
8	H	83	ILE
8	H	85	ARG
8	H	91	ARG
8	H	92	ARG
8	H	102	ARG
8	H	105	ARG
8	H	133	LEU
9	I	2	GLU
9	I	12	GLU
9	I	20	ARG
9	I	35	GLU
9	I	51	ARG
9	I	58	HIS
9	I	65	VAL
9	I	79	LEU

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Mol	Chain	Res	Type
9	I	96	LEU
9	I	102	LEU
9	I	108	VAL
9	I	118	LYS
9	I	121	ARG
10	J	17	ASP
10	J	23	ILE
10	J	35	SER
10	J	40	LEU
10	J	49	VAL
10	J	55	LYS
10	J	62	HIS
10	J	71	LEU
10	J	73	ASP
10	J	74	ILE
10	J	80	LYS
10	J	83	GLU
10	J	86	MET
11	K	11	LYS
11	K	28	THR
11	K	29	ILE
11	K	43	SER
11	K	48	ILE
11	K	91	ARG
11	K	120	ARG
12	L	6	THR
12	L	15	ARG
12	L	20	LYS
12	L	33	ARG
12	L	93	LEU
12	L	96	VAL
12	L	97	ARG
12	L	99	HIS
12	L	100	ILE
12	L	111	LYS
12	L	113	ARG
12	L	127	GLU
13	M	44	ARG
13	M	56	LEU
13	M	58	GLU
13	M	64	TRP
13	M	86	CYS

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Mol	Chain	Res	Type
13	M	90	LEU
13	M	102	ARG
13	M	106	ASN
13	M	109	THR
13	M	110	ARG
14	N	9	LYS
14	N	11	LYS
14	N	12	ARG
14	N	18	VAL
14	N	22	THR
14	N	33	VAL
15	O	5	LYS
15	O	31	LEU
15	O	34	LEU
15	O	39	LEU
15	O	45	VAL
15	O	66	LEU
15	O	81	LEU
16	P	1	MET
16	P	2	VAL
16	P	20	VAL
16	P	55	ARG
16	P	67	THR
17	Q	6	LEU
17	Q	38	ARG
17	Q	52	LYS
17	Q	60	ILE
17	Q	74	LEU
17	Q	78	GLU
17	Q	91	ARG
17	Q	98	LEU
17	Q	100	LYS
18	R	25	THR
18	R	26	LEU
18	R	42	ARG
18	R	47	THR
18	R	54	ARG
18	R	66	LEU
19	S	3	ARG
19	S	7	LYS
19	S	12	ASP
19	S	15	LEU

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Mol	Chain	Res	Type
19	S	18	LYS
19	S	27	GLU
19	S	31	ILE
19	S	36	ARG
19	S	43	GLU
19	S	62	ILE
19	S	81	ARG
20	T	8	ARG
20	T	9	ASN
20	T	19	SER
20	T	48	LYS
20	T	56	MET
20	T	57	ARG
20	T	62	LEU
20	T	72	LEU
20	T	73	HIS
20	T	74	LYS
20	T	75	ASN
20	T	84	LEU
20	T	100	ILE
20	T	105	SER
21	U	9	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	6	HIS
5	E	78	HIS
7	G	148	ASN
9	I	73	GLN
10	J	84	GLN
13	M	106	ASN
16	P	82	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1507/1522 (99%)	226 (14%)	41 (2%)
22	W	14/15 (93%)	3 (21%)	0
23	Y	5/6 (83%)	2 (40%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
All	All	1526/1543 (98%)	231 (15%)	41 (2%)

All (231) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	G
1	A	32	A
1	A	39	G
1	A	47	C
1	A	48	C
1	A	51	A
1	A	59	A
1	A	60	A
1	A	61	G
1	A	101	A
1	A	108	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	163	C
1	A	182	U
1	A	190(F)	G
1	A	195	A
1	A	197	A
1	A	201	C
1	A	202	U
1	A	204	U
1	A	220	G
1	A	244	U
1	A	247	G
1	A	251	G
1	A	267	C
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

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Mol	Chain	Res	Type
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	412	A
1	A	413	G
1	A	414	A
1	A	419	C
1	A	421	U
1	A	429	U
1	A	430	A
1	A	433	C
1	A	439	A
1	A	440	A
1	A	442	C
1	A	452	A
1	A	461	C
1	A	485	G
1	A	497	A
1	A	498	U
1	A	509	A
1	A	510	A
1	A	511	C
1	A	518	C
1	A	531	U
1	A	532	A
1	A	533	A
1	A	545	C
1	A	547	A
1	A	559	A
1	A	560	U
1	A	562	C
1	A	564	C
1	A	572	A
1	A	573	A

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Mol	Chain	Res	Type
1	A	576	G
1	A	577	G
1	A	579	G
1	A	588	G
1	A	596	C
1	A	618	C
1	A	630	G
1	A	631	G
1	A	632	A
1	A	653	A
1	A	665	A
1	A	687	A
1	A	688	G
1	A	702	A
1	A	703	G
1	A	721	G
1	A	722	A
1	A	731	G
1	A	748	C
1	A	749	C
1	A	755	G
1	A	774	G
1	A	777	A
1	A	781	A
1	A	782	A
1	A	785	G
1	A	793	U
1	A	794	A
1	A	813	U
1	A	817	C
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	859	A
1	A	876	G
1	A	902	G
1	A	914	A
1	A	926	G
1	A	927	G

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Mol	Chain	Res	Type
1	A	934	C
1	A	935	A
1	A	960	U
1	A	961	U
1	A	966	M2G
1	A	967	5MC
1	A	968	A
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	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1003(A)	G
1	A	1005	A
1	A	1025	U
1	A	1026	G
1	A	1027	C
1	A	1050	G
1	A	1054	C
1	A	1055	A
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	1108	G
1	A	1117	G
1	A	1125	U
1	A	1126	U
1	A	1127	G
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1137	C
1	A	1138	G

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Mol	Chain	Res	Type
1	A	1139	G
1	A	1145	C
1	A	1158	C
1	A	1159	U
1	A	1171	G
1	A	1180	A
1	A	1181	G
1	A	1183	A
1	A	1184	G
1	A	1189	C
1	A	1190	G
1	A	1196	U
1	A	1197	G
1	A	1201	A
1	A	1202	G
1	A	1212	U
1	A	1213	A
1	A	1225	A
1	A	1227	A
1	A	1238	A
1	A	1250	A
1	A	1257	U
1	A	1258	G
1	A	1270	C
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1286	A
1	A	1287	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1317	C
1	A	1320	C
1	A	1332	A
1	A	1338	G
1	A	1348	U
1	A	1353	G
1	A	1359	C
1	A	1362	C
1	A	1363	A
1	A	1370	G

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Mol	Chain	Res	Type
1	A	1379	G
1	A	1398	A
1	A	1405	G
1	A	1421	G
1	A	1442	G
1	A	1443	G
1	A	1446	A
1	A	1487	G
1	A	1492	A
1	A	1497	G
1	A	1499	A
1	A	1502	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1517	G
1	A	1520	G
1	A	1529	G
1	A	1530	G
1	A	1531	A
22	W	30	G
22	W	33	U
22	W	34	G
23	Y	5	U
23	Y	6	U

All (41) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	60	A
1	A	115	G
1	A	129(A)	G
1	A	181	G
1	A	250	A
1	A	266	G
1	A	328	C
1	A	372	C
1	A	428	G
1	A	429	U
1	A	432	A
1	A	484	G

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Mol	Chain	Res	Type
1	A	496	A
1	A	509	A
1	A	532	A
1	A	559	A
1	A	687	A
1	A	701	C
1	A	748	C
1	A	793	U
1	A	812	C
1	A	913	A
1	A	965	A
1	A	1049	U
1	A	1065	U
1	A	1067	A
1	A	1129	C
1	A	1179	A
1	A	1182	G
1	A	1201	A
1	A	1256	A
1	A	1257	U
1	A	1281	U
1	A	1285	A
1	A	1300	G
1	A	1301	U
1	A	1331	G
1	A	1347	G
1	A	1443	G
1	A	1505	G
1	A	1528	U

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	MA6	A	1519	1	19,26,27	1.19	2 (10%)	18,38,41	0.81	0
1	5MC	A	1407	1	15,22,23	0.99	1 (6%)	19,32,35	1.18	2 (10%)
12	0TD	L	92	12	4,9,10	1.10	0	3,11,13	1.85	1 (33%)
1	PSU	A	516	1,26	17,21,22	0.97	1 (5%)	20,30,33	3.11	5 (25%)
1	MA6	A	1518	1	19,26,27	0.92	1 (5%)	18,38,41	0.73	0
1	5MC	A	1400	1	15,22,23	0.95	1 (6%)	19,32,35	1.02	1 (5%)
1	4OC	A	1402	1	16,23,24	0.84	0	17,32,35	0.74	0
1	G7M	A	527	1	20,26,27	1.92	5 (25%)	20,39,42	2.07	6 (30%)
1	2MG	A	1207	1	19,26,27	2.36	4 (21%)	21,38,41	1.97	2 (9%)
1	5MC	A	967	1	15,22,23	0.84	0	19,32,35	1.11	2 (10%)
1	5MC	A	1404	1	15,22,23	0.89	0	19,32,35	1.02	2 (10%)
1	M2G	A	966	1	20,27,28	1.72	4 (20%)	22,40,43	2.43	3 (13%)
1	PSU	A	1540	1	17,21,22	1.00	1 (5%)	20,30,33	3.21	7 (35%)
1	UR3	A	1498	1	14,22,23	0.86	1 (7%)	15,32,35	1.24	1 (6%)
1	PSU	A	1541	1	17,21,22	1.05	1 (5%)	20,30,33	3.12	6 (30%)

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	MA6	A	1519	1	-	2/7/29/30	0/3/3/3
1	5MC	A	1407	1	-	0/5/25/26	0/2/2/2
12	0TD	L	92	12	-	1/3/12/14	-
1	PSU	A	516	1,26	-	0/7/25/26	0/2/2/2
1	MA6	A	1518	1	-	2/7/29/30	0/3/3/3
1	5MC	A	1400	1	-	2/5/25/26	0/2/2/2
1	4OC	A	1402	1	-	2/9/29/30	0/2/2/2
1	G7M	A	527	1	-	1/3/25/26	0/3/3/3
1	2MG	A	1207	1	-	0/5/27/28	0/3/3/3
1	5MC	A	967	1	-	4/5/25/26	0/2/2/2
1	5MC	A	1404	1	-	2/5/25/26	0/2/2/2
1	M2G	A	966	1	-	7/7/29/30	0/3/3/3
1	PSU	A	1540	1	-	0/7/25/26	0/2/2/2
1	UR3	A	1498	1	-	0/5/25/26	0/2/2/2
1	PSU	A	1541	1	-	1/7/25/26	0/2/2/2

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1207	2MG	C2-N2	7.46	1.40	1.34
1	A	1207	2MG	C6-N1	5.89	1.43	1.33
1	A	966	M2G	C6-N1	5.75	1.43	1.33
1	A	527	G7M	C2-N2	5.50	1.44	1.33
1	A	527	G7M	C4-N3	3.94	1.41	1.35
1	A	527	G7M	C6-N1	3.27	1.38	1.33
1	A	966	M2G	C2-N1	3.23	1.40	1.34
1	A	1541	PSU	C4-N3	3.13	1.38	1.33
1	A	1540	PSU	C4-N3	2.97	1.38	1.33
1	A	516	PSU	C4-N3	2.94	1.38	1.33
1	A	1519	MA6	C6-N1	2.91	1.37	1.33
1	A	527	G7M	C5-C4	-2.55	1.36	1.39
1	A	966	M2G	C2-N2	2.54	1.39	1.34
1	A	966	M2G	C4-N3	2.49	1.39	1.35
1	A	1207	2MG	C2-N1	2.44	1.42	1.34
1	A	1518	MA6	C6-N1	2.31	1.36	1.33
1	A	1407	5MC	C4-N3	-2.30	1.31	1.35
1	A	1207	2MG	C4-N3	2.22	1.39	1.35
1	A	527	G7M	C6-C5	2.17	1.45	1.41
1	A	1400	5MC	C5-C4	2.09	1.44	1.41
1	A	1498	UR3	C4-N3	2.06	1.41	1.38
1	A	1519	MA6	C4-N3	2.05	1.38	1.35

All (38) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	516	PSU	N1-C2-N3	-10.73	119.90	128.43
1	A	1541	PSU	N1-C2-N3	-10.56	120.03	128.43
1	A	1540	PSU	N1-C2-N3	-10.44	120.13	128.43
1	A	966	M2G	C5-C6-N1	-8.46	111.87	123.43
1	A	1207	2MG	C5-C6-N1	-7.55	113.10	123.43
1	A	516	PSU	C4-N3-C2	6.19	120.36	115.14
1	A	966	M2G	C6-N1-C2	5.81	123.10	116.18
1	A	1541	PSU	C4-N3-C2	5.40	119.70	115.14
1	A	1540	PSU	C4-N3-C2	5.38	119.68	115.14
1	A	527	G7M	C2-N3-C4	4.75	120.78	115.36
1	A	527	G7M	N3-C2-N1	-4.36	121.41	127.22
1	A	516	PSU	C5-C4-N3	-4.19	119.96	125.36
1	A	1540	PSU	C5-C4-N3	-4.17	119.98	125.36
1	A	1541	PSU	C5-C4-N3	-4.12	120.06	125.36
1	A	527	G7M	C6-C5-C4	-3.80	117.17	120.80
1	A	1540	PSU	C5-C1'-C2'	-3.73	108.66	115.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1207	2MG	C6-N1-C2	3.64	121.70	115.18
1	A	1540	PSU	C5-C6-N1	-3.42	120.24	124.44
1	A	1541	PSU	C5-C6-N1	-3.27	120.42	124.44
1	A	1541	PSU	C6-N1-C2	3.18	120.60	115.36
1	A	1540	PSU	C6-N1-C2	3.17	120.59	115.36
1	A	527	G7M	C1'-N9-C4	-3.03	121.32	126.64
1	A	516	PSU	C6-N1-C2	2.87	120.09	115.36
12	L	92	0TD	CSB-SB-CB	-2.79	96.38	101.85
1	A	1407	5MC	N4-C4-N3	-2.76	113.13	117.03
1	A	516	PSU	C5-C6-N1	-2.57	121.27	124.44
1	A	527	G7M	C6-N1-C2	2.55	119.98	115.93
1	A	1498	UR3	C3'-C2'-C1'	2.49	104.73	100.98
1	A	1541	PSU	C5-C1'-C2'	-2.38	111.07	115.32
1	A	527	G7M	C5-C6-N1	-2.38	120.18	123.43
1	A	966	M2G	C2-N3-C4	-2.30	112.67	115.28
1	A	1540	PSU	O4'-C1'-C5	2.22	113.37	109.93
1	A	1404	5MC	C2-N3-C4	2.16	118.62	116.02
1	A	1407	5MC	C5-C4-N3	2.10	124.57	121.26
1	A	967	5MC	CM5-C5-C6	2.09	123.09	118.68
1	A	1400	5MC	C2-N3-C4	2.04	118.48	116.02
1	A	967	5MC	C2-N3-C4	2.01	118.45	116.02
1	A	1404	5MC	N4-C4-N3	-2.01	114.19	117.03

There are no chirality outliers.

All (24) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1519	MA6	C3'-C4'-C5'-O5'
12	L	92	0TD	CG-CB-SB-CSB
1	A	967	5MC	O4'-C4'-C5'-O5'
1	A	967	5MC	C3'-C4'-C5'-O5'
1	A	967	5MC	O4'-C1'-N1-C6
1	A	967	5MC	C2'-C1'-N1-C6
1	A	1519	MA6	O4'-C4'-C5'-O5'
1	A	1402	4OC	O4'-C4'-C5'-O5'
1	A	966	M2G	C4'-C5'-O5'-P
1	A	1400	5MC	O4'-C4'-C5'-O5'
1	A	1402	4OC	C3'-C4'-C5'-O5'
1	A	1518	MA6	O4'-C4'-C5'-O5'
1	A	1400	5MC	C3'-C4'-C5'-O5'
1	A	1518	MA6	C3'-C4'-C5'-O5'
1	A	1404	5MC	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
1	A	966	M2G	O4'-C4'-C5'-O5'
1	A	1404	5MC	C3'-C4'-C5'-O5'
1	A	966	M2G	N1-C2-N2-CM1
1	A	966	M2G	C3'-C4'-C5'-O5'
1	A	966	M2G	N3-C2-N2-CM1
1	A	527	G7M	C3'-C4'-C5'-O5'
1	A	1541	PSU	O4'-C1'-C5-C4
1	A	966	M2G	N1-C2-N2-CM2
1	A	966	M2G	N3-C2-N2-CM2

There are no ring outliers.

9 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	A	1519	MA6	2	0
1	A	1407	5MC	1	0
12	L	92	0TD	3	0
1	A	1518	MA6	1	0
1	A	1400	5MC	1	0
1	A	1402	4OC	1	0
1	A	967	5MC	1	0
1	A	1404	5MC	1	0
1	A	1498	UR3	3	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 348 ligands modelled in this entry, 342 are monoatomic - leaving 6 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	$\#\|Z\|>2$
24	PAR	A	1601	1	45,45,45	1.49	8 (17%)	64,67,67	1.63	11 (17%)
24	PAR	A	1605	-	45,45,45	1.39	8 (17%)	64,67,67	1.61	13 (20%)
24	PAR	A	1602	-	45,45,45	1.45	9 (20%)	64,67,67	1.68	12 (18%)
24	PAR	A	1603	-	45,45,45	1.49	7 (15%)	64,67,67	1.66	13 (20%)
24	PAR	A	1606	-	45,45,45	1.40	6 (13%)	64,67,67	1.65	13 (20%)
24	PAR	A	1604	-	45,45,45	1.32	7 (15%)	64,67,67	1.67	13 (20%)

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
24	PAR	A	1601	1	-	1/18/94/94	0/4/4/4
24	PAR	A	1605	-	-	6/18/94/94	1/4/4/4
24	PAR	A	1602	-	-	7/18/94/94	0/4/4/4
24	PAR	A	1603	-	-	7/18/94/94	0/4/4/4
24	PAR	A	1606	-	-	8/18/94/94	1/4/4/4
24	PAR	A	1604	-	-	4/18/94/94	1/4/4/4

All (45) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	A	1603	PAR	C13-C23	4.77	1.59	1.52
24	A	1601	PAR	C34-C24	4.05	1.58	1.53
24	A	1601	PAR	C52-C42	3.79	1.60	1.52
24	A	1603	PAR	C52-C42	3.63	1.59	1.52
24	A	1606	PAR	C13-C23	3.44	1.57	1.52
24	A	1602	PAR	C13-C23	3.40	1.57	1.52
24	A	1603	PAR	C34-C24	3.38	1.57	1.53
24	A	1606	PAR	C34-C24	3.29	1.57	1.53
24	A	1602	PAR	C34-C24	3.13	1.57	1.53
24	A	1604	PAR	C64-C54	3.11	1.56	1.52
24	A	1605	PAR	C52-C42	3.05	1.58	1.52
24	A	1605	PAR	C13-C23	3.04	1.56	1.52
24	A	1606	PAR	C52-C42	3.01	1.58	1.52
24	A	1604	PAR	C34-C24	3.00	1.57	1.53
24	A	1604	PAR	C52-C42	3.00	1.58	1.52
24	A	1605	PAR	C34-C24	2.99	1.57	1.53
24	A	1601	PAR	C24-N24	2.99	1.51	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	A	1606	PAR	C64-C54	2.96	1.56	1.52
24	A	1603	PAR	O43-C13	2.95	1.47	1.41
24	A	1601	PAR	C14-C24	2.95	1.58	1.52
24	A	1602	PAR	C31-C21	2.92	1.57	1.53
24	A	1604	PAR	C13-C23	2.81	1.56	1.52
24	A	1605	PAR	C64-C54	2.74	1.55	1.52
24	A	1606	PAR	C31-C21	2.64	1.56	1.53
24	A	1601	PAR	C64-C54	2.59	1.55	1.52
24	A	1602	PAR	C14-C24	2.58	1.57	1.52
24	A	1602	PAR	C33-C43	2.56	1.59	1.52
24	A	1602	PAR	C11-C21	2.52	1.57	1.52
24	A	1601	PAR	C33-C43	2.52	1.59	1.52
24	A	1605	PAR	C14-C24	2.46	1.57	1.52
24	A	1601	PAR	C62-C52	2.43	1.58	1.52
24	A	1605	PAR	C33-C43	2.43	1.59	1.52
24	A	1603	PAR	C64-C54	2.38	1.55	1.52
24	A	1602	PAR	C64-C54	2.25	1.55	1.52
24	A	1604	PAR	C33-C43	2.18	1.58	1.52
24	A	1601	PAR	C13-C23	2.16	1.55	1.52
24	A	1605	PAR	O52-C52	2.16	1.49	1.43
24	A	1602	PAR	O33-C14	2.14	1.47	1.41
24	A	1603	PAR	C14-C24	2.12	1.56	1.52
24	A	1604	PAR	C31-C21	2.11	1.56	1.53
24	A	1606	PAR	O43-C13	2.09	1.45	1.41
24	A	1605	PAR	O43-C13	2.07	1.45	1.41
24	A	1604	PAR	O43-C13	2.06	1.45	1.41
24	A	1603	PAR	C42-C32	2.05	1.57	1.53
24	A	1602	PAR	O52-C52	2.04	1.49	1.43

All (75) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	A	1604	PAR	O33-C14-C24	6.30	119.07	108.22
24	A	1602	PAR	O33-C14-C24	6.27	119.02	108.22
24	A	1601	PAR	O33-C14-C24	6.21	118.91	108.22
24	A	1603	PAR	O33-C14-C24	6.19	118.88	108.22
24	A	1606	PAR	O33-C14-C24	6.05	118.64	108.22
24	A	1605	PAR	O33-C14-C24	5.99	118.53	108.22
24	A	1602	PAR	O52-C13-C23	3.81	115.86	107.96
24	A	1603	PAR	C13-C23-C33	3.78	106.65	102.10
24	A	1601	PAR	O52-C13-C23	3.78	115.79	107.96
24	A	1606	PAR	C13-C23-C33	3.67	106.52	102.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	A	1604	PAR	O52-C13-C23	3.62	115.46	107.96
24	A	1605	PAR	O52-C13-C23	3.54	115.30	107.96
24	A	1606	PAR	O52-C13-C23	3.34	114.89	107.96
24	A	1603	PAR	O52-C13-C23	3.28	114.77	107.96
24	A	1605	PAR	C34-C24-N24	-3.15	104.59	111.05
24	A	1602	PAR	O34-C34-C44	-3.10	103.17	110.35
24	A	1602	PAR	C22-C12-C62	3.04	114.62	110.04
24	A	1604	PAR	C14-O33-C33	-3.02	110.49	117.96
24	A	1604	PAR	C13-C23-C33	3.01	105.72	102.10
24	A	1602	PAR	C34-C24-N24	-3.00	104.91	111.05
24	A	1604	PAR	O34-C34-C44	-2.98	103.46	110.35
24	A	1601	PAR	O34-C34-C44	-2.97	103.48	110.35
24	A	1603	PAR	C34-C24-N24	-2.95	105.00	111.05
24	A	1606	PAR	C34-C24-N24	-2.95	105.01	111.05
24	A	1602	PAR	O11-C11-O51	2.95	118.90	110.67
24	A	1604	PAR	C13-O52-C52	-2.94	110.68	117.96
24	A	1604	PAR	C34-C24-N24	-2.93	105.05	111.05
24	A	1603	PAR	O34-C34-C44	-2.92	103.60	110.35
24	A	1606	PAR	O34-C34-C44	-2.92	103.61	110.35
24	A	1605	PAR	O34-C34-C44	-2.90	103.64	110.35
24	A	1603	PAR	C14-O33-C33	-2.85	110.91	117.96
24	A	1604	PAR	O52-C13-O43	-2.84	108.36	111.43
24	A	1606	PAR	C14-O33-C33	-2.83	110.96	117.96
24	A	1603	PAR	O11-C11-O51	2.81	118.53	110.67
24	A	1604	PAR	O11-C11-O51	2.77	118.42	110.67
24	A	1601	PAR	O11-C11-O51	2.75	118.36	110.67
24	A	1605	PAR	O11-C11-O51	2.74	118.32	110.67
24	A	1601	PAR	C14-O33-C33	-2.69	111.30	117.96
24	A	1601	PAR	C13-O52-C52	-2.66	111.39	117.96
24	A	1602	PAR	C13-C23-C33	2.65	105.29	102.10
24	A	1606	PAR	O11-C11-O51	2.58	117.89	110.67
24	A	1606	PAR	C13-O52-C52	-2.56	111.62	117.96
24	A	1605	PAR	C14-O33-C33	-2.55	111.64	117.96
24	A	1601	PAR	C34-C24-N24	-2.46	106.00	111.05
24	A	1606	PAR	O52-C13-O43	-2.46	108.77	111.43
24	A	1605	PAR	C13-C23-C33	2.45	105.04	102.10
24	A	1602	PAR	C14-O33-C33	-2.41	111.99	117.96
24	A	1603	PAR	C13-O52-C52	-2.40	112.03	117.96
24	A	1605	PAR	C13-O52-C52	-2.39	112.05	117.96
24	A	1601	PAR	O43-C13-C23	-2.38	101.91	104.98
24	A	1602	PAR	O51-C51-C61	2.36	112.31	106.44
24	A	1603	PAR	O51-C51-C61	2.35	112.27	106.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	A	1605	PAR	O51-C51-C61	2.34	112.27	106.44
24	A	1602	PAR	C11-O51-C51	2.30	118.21	113.69
24	A	1603	PAR	O52-C13-O43	-2.26	108.99	111.43
24	A	1606	PAR	O51-C51-C61	2.26	112.04	106.44
24	A	1601	PAR	O51-C51-C61	2.23	111.98	106.44
24	A	1604	PAR	O51-C51-C61	2.19	111.87	106.44
24	A	1605	PAR	O54-C54-C44	2.15	113.59	109.69
24	A	1602	PAR	C13-O52-C52	-2.14	112.67	117.96
24	A	1603	PAR	C22-C32-C42	2.14	114.93	109.53
24	A	1604	PAR	O52-C52-C42	2.12	112.88	107.48
24	A	1603	PAR	O54-C54-C44	2.12	113.54	109.69
24	A	1605	PAR	O52-C13-O43	-2.10	109.15	111.43
24	A	1606	PAR	O54-C54-C44	2.10	113.51	109.69
24	A	1603	PAR	C11-O51-C51	2.10	117.81	113.69
24	A	1601	PAR	O52-C13-O43	-2.10	109.16	111.43
24	A	1604	PAR	C22-C12-C62	2.10	113.20	110.04
24	A	1604	PAR	O54-C54-C44	2.09	113.50	109.69
24	A	1601	PAR	C11-O51-C51	2.09	117.79	113.69
24	A	1606	PAR	C22-C12-C62	2.09	113.19	110.04
24	A	1602	PAR	O43-C13-C23	-2.08	102.30	104.98
24	A	1605	PAR	O43-C13-C23	-2.06	102.33	104.98
24	A	1605	PAR	O52-C52-C42	2.01	112.59	107.48
24	A	1606	PAR	O52-C52-C42	2.01	112.58	107.48

There are no chirality outliers.

All (33) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	A	1604	PAR	C21-C11-O11-C42
24	A	1606	PAR	O51-C11-O11-C42
24	A	1606	PAR	C23-C13-O52-C52
24	A	1606	PAR	O54-C54-C64-N64
24	A	1601	PAR	O54-C54-C64-N64
24	A	1602	PAR	C23-C13-O52-C52
24	A	1602	PAR	O43-C13-O52-C52
24	A	1605	PAR	C21-C11-O11-C42
24	A	1605	PAR	C44-C54-C64-N64
24	A	1605	PAR	O54-C54-C64-N64
24	A	1606	PAR	O54-C14-O33-C33
24	A	1605	PAR	O51-C11-O11-C42
24	A	1602	PAR	O54-C14-O33-C33
24	A	1603	PAR	O43-C43-C53-O53

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Mol	Chain	Res	Type	Atoms
24	A	1603	PAR	O51-C11-O11-C42
24	A	1603	PAR	C41-C51-C61-O61
24	A	1604	PAR	O54-C14-O33-C33
24	A	1603	PAR	C33-C43-C53-O53
24	A	1602	PAR	C41-C51-C61-O61
24	A	1603	PAR	O51-C51-C61-O61
24	A	1604	PAR	O43-C13-O52-C52
24	A	1602	PAR	O43-C43-C53-O53
24	A	1605	PAR	O51-C51-C61-O61
24	A	1603	PAR	O54-C54-C64-N64
24	A	1606	PAR	O43-C43-C53-O53
24	A	1606	PAR	O43-C13-O52-C52
24	A	1602	PAR	O51-C51-C61-O61
24	A	1605	PAR	C62-C52-O52-C13
24	A	1604	PAR	C43-C33-O33-C14
24	A	1606	PAR	C43-C33-O33-C14
24	A	1603	PAR	C23-C33-O33-C14
24	A	1602	PAR	C43-C33-O33-C14
24	A	1606	PAR	C21-C11-O11-C42

All (3) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	A	1605	PAR	C12-C22-C32-C42-C52-C62
24	A	1606	PAR	C12-C22-C32-C42-C52-C62
24	A	1604	PAR	C12-C22-C32-C42-C52-C62

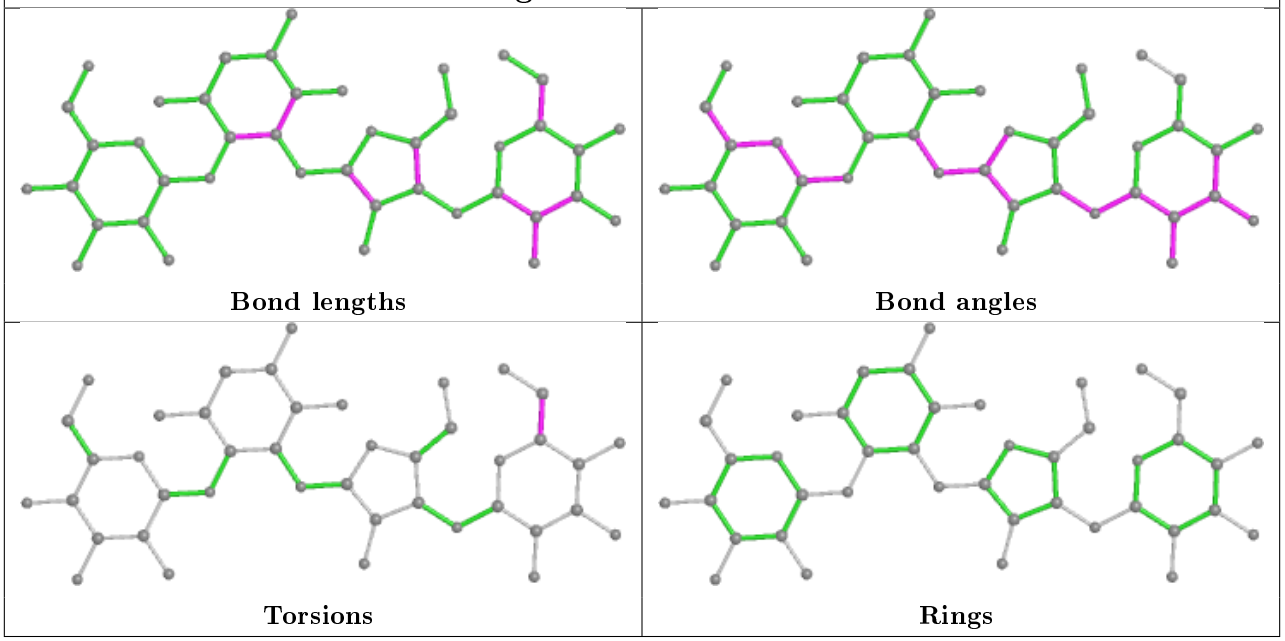
6 monomers are involved in 14 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	A	1601	PAR	2	0
24	A	1605	PAR	1	0
24	A	1602	PAR	3	0
24	A	1603	PAR	3	0
24	A	1606	PAR	3	0
24	A	1604	PAR	2	0

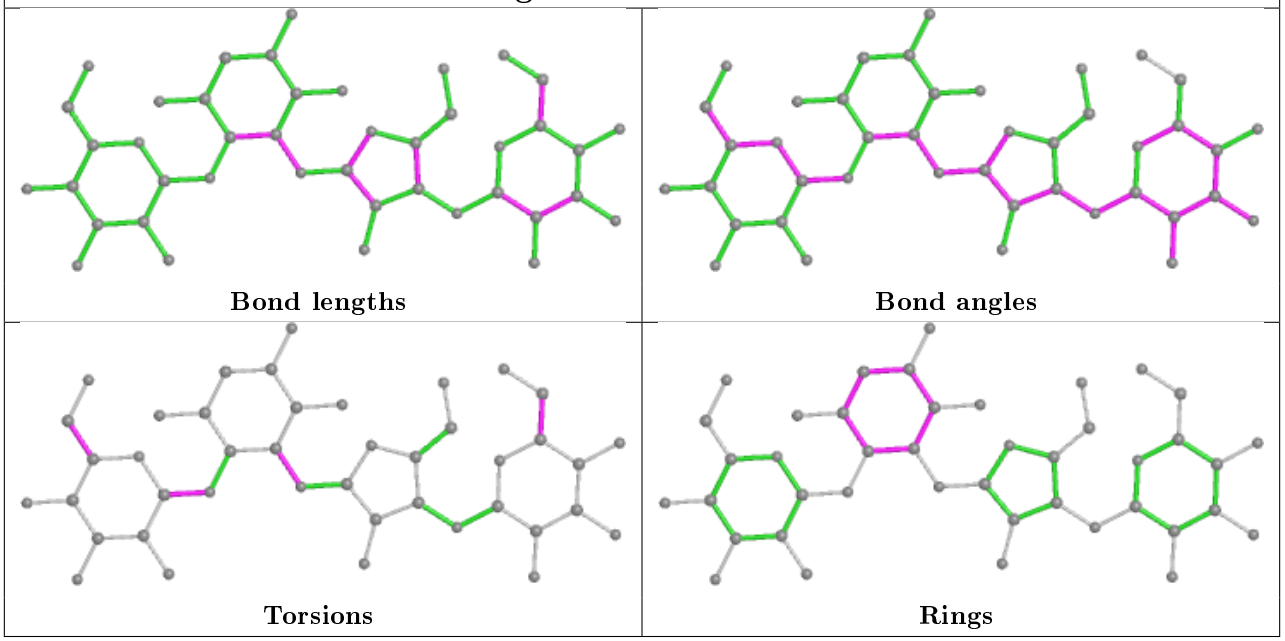
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 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.

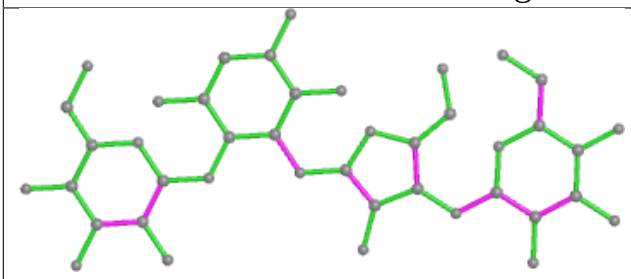
Ligand PAR A 1601



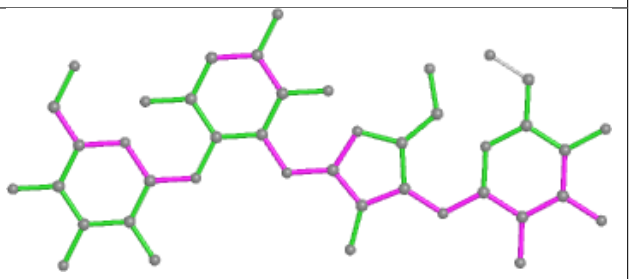
Ligand PAR A 1605



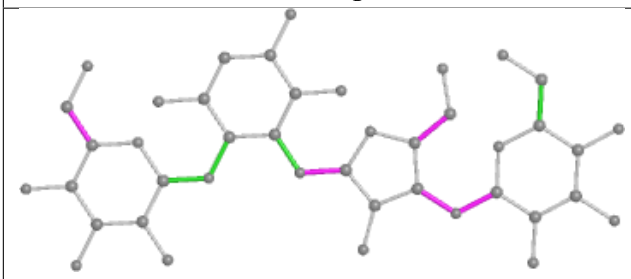
Ligand PAR A 1602



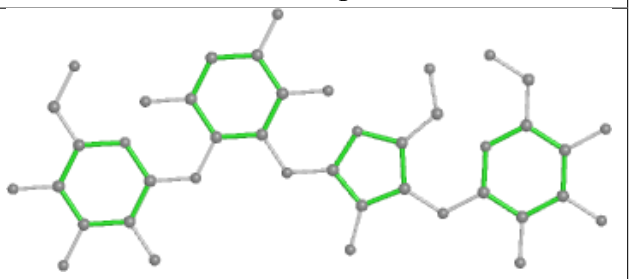
Bond lengths



Bond angles

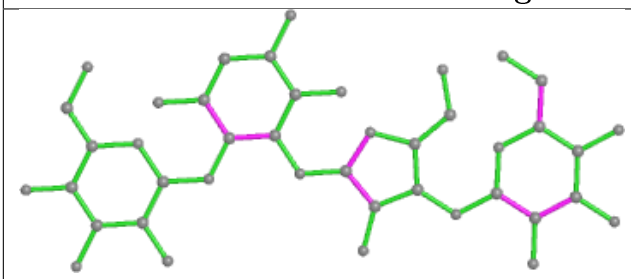


Torsions

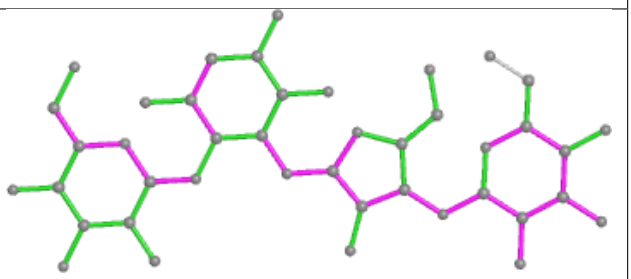


Rings

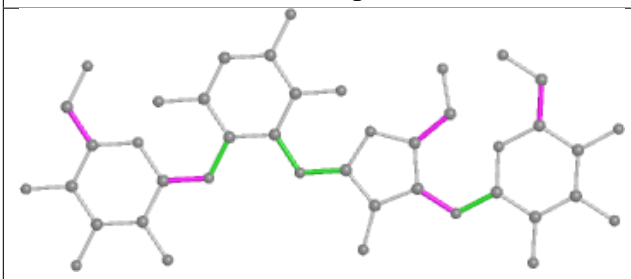
Ligand PAR A 1603



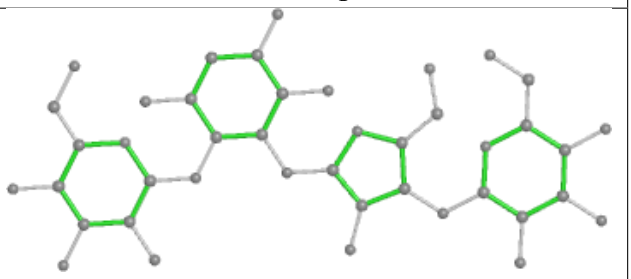
Bond lengths



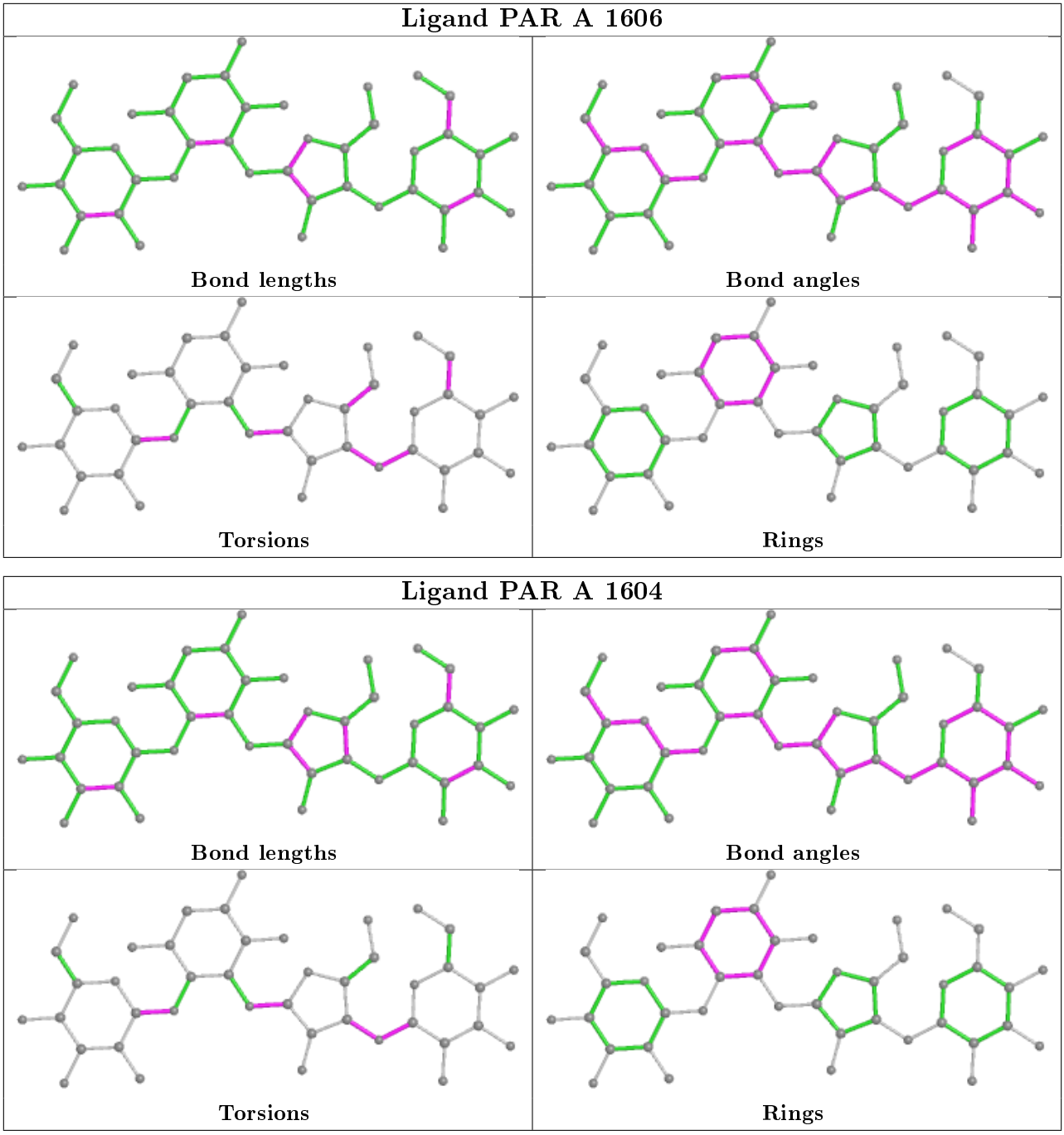
Bond angles



Torsions



Rings



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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%)	0.14	31 (2%) 63 61	43, 75, 152, 281	0
2	B	236/236 (100%)	-0.02	10 (4%) 36 35	50, 105, 192, 246	0
3	C	207/207 (100%)	-0.10	1 (0%) 91 89	17, 107, 144, 195	0
4	D	208/208 (100%)	-0.24	4 (1%) 66 64	47, 83, 143, 184	0
5	E	151/151 (100%)	-0.30	0 100 100	39, 64, 97, 161	0
6	F	101/101 (100%)	-0.18	0 100 100	58, 97, 135, 153	0
7	G	155/155 (100%)	-0.20	2 (1%) 77 73	57, 86, 177, 234	0
8	H	138/138 (100%)	-0.46	0 100 100	34, 59, 92, 120	0
9	I	127/127 (100%)	-0.09	1 (0%) 86 82	60, 101, 144, 163	0
10	J	99/99 (100%)	0.37	6 (6%) 21 22	38, 134, 197, 259	0
11	K	117/117 (100%)	-0.12	1 (0%) 84 81	45, 79, 113, 164	0
12	L	124/125 (99%)	-0.26	1 (0%) 86 82	36, 71, 111, 250	0
13	M	118/118 (100%)	-0.15	1 (0%) 86 82	66, 92, 136, 206	0
14	N	60/60 (100%)	-0.20	2 (3%) 46 44	63, 85, 150, 255	0
15	O	88/88 (100%)	-0.30	0 100 100	37, 74, 120, 150	0
16	P	84/84 (100%)	-0.42	0 100 100	40, 68, 97, 201	0
17	Q	99/99 (100%)	-0.31	0 100 100	34, 63, 104, 122	0
18	R	73/73 (100%)	-0.11	2 (2%) 54 52	53, 82, 145, 173	0
19	S	81/81 (100%)	0.20	2 (2%) 57 54	32, 113, 164, 209	0
20	T	99/99 (100%)	-0.27	2 (2%) 65 63	55, 71, 121, 157	0
21	U	25/25 (100%)	0.07	0 100 100	35, 105, 164, 172	0
22	W	15/15 (100%)	1.26	3 (20%) 1 1	80, 124, 197, 203	0
23	Y	6/6 (100%)	1.21	1 (16%) 1 2	92, 100, 173, 203	0
All	All	3909/3934 (99%)	-0.04	70 (1%) 68 65	17, 82, 152, 281	0

All (70) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1129	C	8.8
1	A	1533	C	5.1
18	R	17	SER	4.6
10	J	34	VAL	4.5
4	D	37	PRO	4.1
18	R	16	PRO	4.0
1	A	1539	C	3.8
2	B	130	ARG	3.5
1	A	1036	G	3.4
10	J	32	ALA	3.3
4	D	23	GLY	3.2
10	J	33	GLN	3.1
1	A	1024	G	3.1
1	A	1003(A)	G	3.0
20	T	100	ILE	3.0
14	N	13	THR	3.0
1	A	1002	G	3.0
22	W	40	C	2.9
11	K	13	GLN	2.9
1	A	1027	C	2.8
23	Y	6	U	2.8
1	A	1029	C	2.8
20	T	103	GLY	2.8
1	A	1531	A	2.8
3	C	78	GLY	2.8
12	L	128	ALA	2.8
7	G	156	TRP	2.7
1	A	1532	U	2.7
1	A	1037	C	2.7
1	A	1003	G	2.6
1	A	1443	G	2.6
13	M	7	VAL	2.5
14	N	12	ARG	2.5
19	S	27	GLU	2.5
2	B	48	MET	2.4
1	A	1419	G	2.4
2	B	131	PRO	2.4
1	A	992	U	2.4
1	A	1006	C	2.3
22	W	42	C	2.3
1	A	1446	A	2.3
4	D	32	ALA	2.3

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Mol	Chain	Res	Type	RSRZ
7	G	154	TYR	2.3
1	A	1034	G	2.3
9	I	126	SER	2.3
1	A	1038	C	2.3
2	B	124	SER	2.3
22	W	41	C	2.3
10	J	87	THR	2.3
1	A	1025	U	2.2
1	A	1137	C	2.2
1	A	1023	G	2.2
1	A	412	A	2.2
2	B	18	GLY	2.2
1	A	1131	G	2.2
1	A	630	G	2.2
1	A	1026	G	2.2
2	B	237	ALA	2.2
2	B	238	LEU	2.2
10	J	75	ILE	2.1
1	A	1033	G	2.1
10	J	29	ARG	2.1
2	B	240	GLN	2.1
2	B	227	GLY	2.1
19	S	3	ARG	2.1
2	B	127	ILE	2.1
1	A	1032	G	2.0
1	A	723	U	2.0
1	A	1030(D)	A	2.0
4	D	35	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, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	PSU	A	1540	20/21	0.79	0.45	248,254,267,267	0
1	PSU	A	1541	20/21	0.88	0.36	195,209,242,243	0
1	2MG	A	1207	24/25	0.95	0.16	88,93,104,109	0
1	M2G	A	966	25/26	0.95	0.21	65,71,79,86	0
1	5MC	A	1407	21/22	0.96	0.21	58,60,67,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	5MC	A	1404	21/22	0.96	0.16	53,54,56,58	0
1	PSU	A	516	20/21	0.96	0.19	70,77,82,83	0
1	5MC	A	1400	21/22	0.96	0.17	55,58,66,76	0
1	G7M	A	527	24/25	0.96	0.17	56,60,64,67	0
1	4OC	A	1402	22/23	0.97	0.20	54,61,67,69	0
1	MA6	A	1518	24/25	0.97	0.20	55,59,65,72	0
1	MA6	A	1519	24/25	0.97	0.23	53,56,63,69	0
1	UR3	A	1498	21/22	0.97	0.22	55,57,58,65	0
1	5MC	A	967	21/22	0.97	0.16	62,71,77,80	0
12	0TD	L	92	10/11	0.98	0.18	71,76,88,91	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, 95^{th} 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
26	MG	A	1656	1/1	0.34	0.49	175,175,175,175	0
26	MG	A	1725	1/1	0.47	0.34	64,64,64,64	0
26	MG	A	1888	1/1	0.57	0.29	69,69,69,69	0
26	MG	A	1764	1/1	0.62	0.54	61,61,61,61	0
26	MG	A	1857	1/1	0.64	0.48	62,62,62,62	0
26	MG	A	1834	1/1	0.67	0.30	188,188,188,188	0
26	MG	A	1753	1/1	0.67	0.43	56,56,56,56	0
26	MG	A	1828	1/1	0.68	0.42	51,51,51,51	0
26	MG	A	1774	1/1	0.68	0.37	65,65,65,65	0
26	MG	A	1801	1/1	0.68	0.39	59,59,59,59	0
26	MG	A	1867	1/1	0.68	0.37	35,35,35,35	0
26	MG	A	1871	1/1	0.69	0.34	72,72,72,72	0
26	MG	A	1894	1/1	0.70	0.35	51,51,51,51	0
26	MG	A	1910	1/1	0.71	0.27	38,38,38,38	0
25	K	A	1631	1/1	0.71	0.58	102,102,102,102	0
26	MG	A	1738	1/1	0.71	0.30	190,190,190,190	0
26	MG	A	1778	1/1	0.72	0.41	66,66,66,66	0
26	MG	A	1846	1/1	0.72	0.34	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1718	1/1	0.72	0.36	62,62,62,62	0
26	MG	P	103	1/1	0.73	0.25	60,60,60,60	0
26	MG	A	1773	1/1	0.73	0.26	55,55,55,55	0
26	MG	A	1734	1/1	0.74	0.92	47,47,47,47	0
26	MG	A	1868	1/1	0.75	0.38	75,75,75,75	0
26	MG	A	1884	1/1	0.75	0.40	82,82,82,82	0
25	K	A	1619	1/1	0.75	0.43	121,121,121,121	0
26	MG	A	1862	1/1	0.75	0.37	49,49,49,49	0
26	MG	C	301	1/1	0.76	0.42	57,57,57,57	0
26	MG	A	1849	1/1	0.76	0.36	66,66,66,66	0
26	MG	A	1905	1/1	0.76	0.49	65,65,65,65	0
26	MG	A	1684	1/1	0.76	0.54	365,365,365,365	0
26	MG	A	1889	1/1	0.77	0.12	103,103,103,103	0
26	MG	A	1886	1/1	0.77	0.49	51,51,51,51	0
26	MG	A	1866	1/1	0.77	0.48	39,39,39,39	0
26	MG	A	1830	1/1	0.78	0.17	50,50,50,50	0
26	MG	P	102	1/1	0.78	0.26	53,53,53,53	0
26	MG	A	1673	1/1	0.78	0.44	135,135,135,135	0
26	MG	A	1819	1/1	0.78	0.26	136,136,136,136	0
26	MG	A	1757	1/1	0.79	0.27	74,74,74,74	0
26	MG	A	1704	1/1	0.80	0.72	54,54,54,54	0
26	MG	A	1759	1/1	0.80	0.23	61,61,61,61	0
26	MG	A	1903	1/1	0.80	0.22	83,83,83,83	0
26	MG	A	1908	1/1	0.81	0.32	87,87,87,87	0
26	MG	A	1686	1/1	0.81	0.36	111,111,111,111	0
26	MG	A	1735	1/1	0.82	0.24	106,106,106,106	0
26	MG	A	1652	1/1	0.82	0.41	377,377,377,377	0
26	MG	A	1746	1/1	0.82	0.55	238,238,238,238	0
26	MG	A	1878	1/1	0.82	0.27	38,38,38,38	0
26	MG	A	1762	1/1	0.82	0.22	41,41,41,41	0
26	MG	A	1902	1/1	0.82	0.44	52,52,52,52	0
26	MG	A	1877	1/1	0.83	0.30	48,48,48,48	0
26	MG	A	1790	1/1	0.83	0.27	39,39,39,39	0
26	MG	A	1874	1/1	0.83	0.50	53,53,53,53	0
26	MG	A	1766	1/1	0.83	0.16	29,29,29,29	0
26	MG	A	1795	1/1	0.83	0.50	51,51,51,51	0
26	MG	A	1913	1/1	0.83	0.21	55,55,55,55	0
26	MG	A	1823	1/1	0.83	0.50	50,50,50,50	0
26	MG	A	1712	1/1	0.83	0.27	44,44,44,44	0
24	PAR	A	1605	42/42	0.84	0.37	120,149,155,158	0
26	MG	A	1747	1/1	0.84	0.32	165,165,165,165	0
26	MG	A	1760	1/1	0.84	0.27	28,28,28,28	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1786	1/1	0.84	0.24	57,57,57,57	0
26	MG	A	1881	1/1	0.84	0.43	48,48,48,48	0
26	MG	A	1906	1/1	0.84	0.32	42,42,42,42	0
25	K	A	1616	1/1	0.84	0.38	117,117,117,117	0
26	MG	A	1850	1/1	0.84	0.42	59,59,59,59	0
26	MG	A	1836	1/1	0.84	0.21	54,54,54,54	0
26	MG	A	1872	1/1	0.84	0.12	35,35,35,35	0
26	MG	A	1848	1/1	0.84	0.33	34,34,34,34	0
26	MG	A	1724	1/1	0.84	0.26	64,64,64,64	0
25	K	A	1618	1/1	0.84	0.23	109,109,109,109	0
26	MG	A	1740	1/1	0.85	0.29	173,173,173,173	0
26	MG	A	1798	1/1	0.85	0.23	44,44,44,44	0
26	MG	L	201	1/1	0.85	0.11	69,69,69,69	0
25	K	A	1610	1/1	0.85	0.29	110,110,110,110	0
26	MG	A	1835	1/1	0.85	0.19	62,62,62,62	0
26	MG	A	1826	1/1	0.85	0.88	222,222,222,222	0
26	MG	A	1776	1/1	0.86	0.18	51,51,51,51	0
26	MG	A	1705	1/1	0.86	0.14	49,49,49,49	0
26	MG	G	201	1/1	0.86	0.18	41,41,41,41	0
26	MG	A	1713	1/1	0.86	0.25	47,47,47,47	0
26	MG	A	1900	1/1	0.86	0.20	41,41,41,41	0
26	MG	A	1843	1/1	0.86	0.40	35,35,35,35	0
24	PAR	A	1602	42/42	0.86	0.31	60,95,137,138	0
25	K	A	1629	1/1	0.86	0.74	144,144,144,144	0
26	MG	A	1912	1/1	0.86	0.19	37,37,37,37	0
26	MG	A	1737	1/1	0.86	0.25	59,59,59,59	0
26	MG	D	302	1/1	0.86	0.08	94,94,94,94	0
26	MG	A	1887	1/1	0.86	0.20	47,47,47,47	0
26	MG	A	1772	1/1	0.86	0.31	43,43,43,43	0
26	MG	A	1714	1/1	0.87	0.47	206,206,206,206	0
25	K	A	1632	1/1	0.87	0.52	121,121,121,121	0
26	MG	A	1651	1/1	0.87	0.28	30,30,30,30	0
26	MG	A	1911	1/1	0.87	0.31	67,67,67,67	0
26	MG	A	1897	1/1	0.87	0.13	38,38,38,38	0
26	MG	A	1915	1/1	0.87	0.23	66,66,66,66	0
26	MG	A	1775	1/1	0.87	0.29	70,70,70,70	0
26	MG	A	1844	1/1	0.87	0.53	63,63,63,63	0
25	K	A	1609	1/1	0.87	0.66	99,99,99,99	0
26	MG	A	1821	1/1	0.87	0.28	39,39,39,39	0
26	MG	A	1800	1/1	0.87	0.19	41,41,41,41	0
25	K	A	1621	1/1	0.87	0.27	119,119,119,119	0
26	MG	A	1899	1/1	0.88	0.24	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1758	1/1	0.88	0.49	59,59,59,59	0
26	MG	A	1880	1/1	0.88	0.45	59,59,59,59	0
26	MG	A	1861	1/1	0.88	0.27	42,42,42,42	0
26	MG	A	1841	1/1	0.88	0.21	26,26,26,26	0
26	MG	A	1663	1/1	0.88	0.24	57,57,57,57	0
26	MG	A	1700	1/1	0.88	0.57	57,57,57,57	0
26	MG	A	1706	1/1	0.88	0.27	48,48,48,48	0
26	MG	A	1813	1/1	0.88	0.17	35,35,35,35	0
26	MG	A	1909	1/1	0.88	0.47	60,60,60,60	0
26	MG	A	1672	1/1	0.88	0.68	48,48,48,48	0
25	K	A	1628	1/1	0.88	0.27	99,99,99,99	0
26	MG	A	1885	1/1	0.89	0.24	58,58,58,58	0
26	MG	S	103	1/1	0.89	0.30	97,97,97,97	0
26	MG	A	1720	1/1	0.89	0.26	57,57,57,57	0
26	MG	A	1827	1/1	0.89	0.31	77,77,77,77	0
26	MG	A	1689	1/1	0.89	0.30	97,97,97,97	0
26	MG	A	1771	1/1	0.89	0.37	44,44,44,44	0
25	K	A	1607	1/1	0.89	0.26	113,113,113,113	0
25	K	A	1641	1/1	0.89	0.49	108,108,108,108	0
26	MG	A	1729	1/1	0.89	0.40	577,577,577,577	0
25	K	A	1633	1/1	0.89	0.10	102,102,102,102	0
26	MG	A	1822	1/1	0.89	0.45	71,71,71,71	0
26	MG	A	1914	1/1	0.89	0.19	60,60,60,60	0
26	MG	A	1678	1/1	0.89	0.30	120,120,120,120	0
26	MG	A	1820	1/1	0.89	0.18	85,85,85,85	0
26	MG	L	202	1/1	0.89	0.16	58,58,58,58	0
26	MG	A	1715	1/1	0.90	0.18	38,38,38,38	0
26	MG	A	1708	1/1	0.90	0.17	80,80,80,80	0
26	MG	A	1767	1/1	0.90	0.15	17,17,17,17	0
26	MG	A	1863	1/1	0.90	0.22	43,43,43,43	0
26	MG	A	1832	1/1	0.90	0.42	49,49,49,49	0
26	MG	A	1845	1/1	0.90	0.33	41,41,41,41	0
26	MG	A	1816	1/1	0.90	0.18	64,64,64,64	0
25	K	A	1611	1/1	0.90	0.16	101,101,101,101	0
26	MG	A	1855	1/1	0.90	0.27	54,54,54,54	0
25	K	A	1608	1/1	0.90	0.23	107,107,107,107	0
26	MG	A	1784	1/1	0.90	0.30	45,45,45,45	0
26	MG	A	1879	1/1	0.90	0.22	49,49,49,49	0
26	MG	A	1670	1/1	0.90	0.27	54,54,54,54	0
26	MG	A	1750	1/1	0.90	0.19	61,61,61,61	0
26	MG	A	1739	1/1	0.90	0.18	45,45,45,45	0
26	MG	A	1787	1/1	0.91	0.45	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1761	1/1	0.91	0.20	31,31,31,31	0
26	MG	A	1658	1/1	0.91	0.15	51,51,51,51	0
26	MG	A	1876	1/1	0.91	0.17	55,55,55,55	0
26	MG	A	1662	1/1	0.91	0.29	92,92,92,92	0
26	MG	H	202	1/1	0.91	0.27	27,27,27,27	0
26	MG	A	1859	1/1	0.91	0.17	41,41,41,41	0
26	MG	A	1896	1/1	0.91	0.24	56,56,56,56	0
26	MG	A	1769	1/1	0.91	0.22	73,73,73,73	0
26	MG	A	1815	1/1	0.91	0.31	35,35,35,35	0
26	MG	A	1699	1/1	0.91	0.17	60,60,60,60	0
26	MG	A	1642	1/1	0.91	0.18	50,50,50,50	0
26	MG	S	102	1/1	0.91	0.13	61,61,61,61	0
26	MG	A	1873	1/1	0.91	0.25	38,38,38,38	0
26	MG	A	1730	1/1	0.91	0.25	61,61,61,61	0
26	MG	A	1920	1/1	0.91	0.19	56,56,56,56	0
26	MG	A	1646	1/1	0.91	0.35	27,27,27,27	0
26	MG	Q	202	1/1	0.91	0.33	38,38,38,38	0
26	MG	A	1805	1/1	0.91	0.53	52,52,52,52	0
26	MG	A	1883	1/1	0.91	0.24	36,36,36,36	0
26	MG	A	1895	1/1	0.91	0.20	65,65,65,65	0
26	MG	A	1741	1/1	0.92	0.13	45,45,45,45	0
26	MG	A	1904	1/1	0.92	0.26	34,34,34,34	0
26	MG	A	1839	1/1	0.92	0.12	19,19,19,19	0
26	MG	A	1788	1/1	0.92	0.23	39,39,39,39	0
26	MG	A	1858	1/1	0.92	0.19	26,26,26,26	0
25	K	A	1622	1/1	0.92	0.16	97,97,97,97	0
26	MG	A	1726	1/1	0.92	0.20	46,46,46,46	0
26	MG	A	1907	1/1	0.92	0.16	49,49,49,49	0
26	MG	A	1882	1/1	0.92	0.56	46,46,46,46	0
24	PAR	A	1604	42/42	0.92	0.21	61,89,102,111	0
25	K	A	1640	1/1	0.92	0.44	113,113,113,113	0
26	MG	A	1681	1/1	0.92	0.27	41,41,41,41	0
25	K	A	1639	1/1	0.92	0.27	89,89,89,89	0
26	MG	A	1842	1/1	0.92	0.30	28,28,28,28	0
26	MG	A	1838	1/1	0.92	0.11	38,38,38,38	0
25	K	A	1613	1/1	0.92	0.17	100,100,100,100	0
26	MG	A	1644	1/1	0.92	0.10	59,59,59,59	0
26	MG	A	1649	1/1	0.92	0.13	128,128,128,128	0
26	MG	A	1645	1/1	0.92	0.14	90,90,90,90	0
26	MG	A	1755	1/1	0.92	0.26	36,36,36,36	0
26	MG	A	1765	1/1	0.93	0.14	47,47,47,47	0
26	MG	A	1721	1/1	0.93	0.08	75,75,75,75	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1748	1/1	0.93	0.43	41,41,41,41	0
26	MG	A	1732	1/1	0.93	0.18	23,23,23,23	0
26	MG	A	1892	1/1	0.93	0.17	33,33,33,33	0
26	MG	A	1667	1/1	0.93	0.33	38,38,38,38	0
26	MG	D	303	1/1	0.93	0.10	50,50,50,50	0
25	K	A	1617	1/1	0.93	0.63	112,112,112,112	0
24	PAR	A	1601	42/42	0.93	0.22	35,58,77,81	0
26	MG	A	1770	1/1	0.93	0.18	31,31,31,31	0
24	PAR	A	1606	42/42	0.93	0.29	87,95,101,105	0
26	MG	A	1806	1/1	0.93	0.18	62,62,62,62	0
25	K	A	1623	1/1	0.93	0.23	85,85,85,85	0
26	MG	A	1854	1/1	0.93	0.44	50,50,50,50	0
26	MG	A	1731	1/1	0.93	0.58	128,128,128,128	0
26	MG	A	1869	1/1	0.93	0.17	17,17,17,17	0
26	MG	A	1675	1/1	0.93	0.31	125,125,125,125	0
26	MG	A	1785	1/1	0.93	0.26	59,59,59,59	0
26	MG	A	1736	1/1	0.93	0.28	108,108,108,108	0
26	MG	P	101	1/1	0.93	0.50	33,33,33,33	0
26	MG	A	1696	1/1	0.93	0.21	61,61,61,61	0
26	MG	A	1751	1/1	0.93	0.29	45,45,45,45	0
26	MG	A	1898	1/1	0.93	0.18	63,63,63,63	0
26	MG	A	1793	1/1	0.94	0.58	48,48,48,48	0
26	MG	A	1707	1/1	0.94	0.25	99,99,99,99	0
26	MG	A	1697	1/1	0.94	0.15	53,53,53,53	0
26	MG	A	1901	1/1	0.94	0.19	32,32,32,32	0
24	PAR	A	1603	42/42	0.94	0.24	34,78,97,101	0
26	MG	A	1745	1/1	0.94	0.26	18,18,18,18	0
26	MG	A	1860	1/1	0.94	0.80	44,44,44,44	0
26	MG	A	1666	1/1	0.94	0.26	9,9,9,9	0
26	MG	A	1671	1/1	0.94	0.23	135,135,135,135	0
26	MG	E	204	1/1	0.94	0.14	47,47,47,47	0
26	MG	A	1891	1/1	0.94	0.59	57,57,57,57	0
26	MG	A	1768	1/1	0.94	0.09	49,49,49,49	0
26	MG	A	1779	1/1	0.94	0.17	26,26,26,26	0
26	MG	A	1679	1/1	0.94	0.17	80,80,80,80	0
25	K	A	1614	1/1	0.94	0.29	92,92,92,92	0
25	K	A	1624	1/1	0.94	0.41	97,97,97,97	0
26	MG	A	1840	1/1	0.94	0.37	27,27,27,27	0
25	K	A	1612	1/1	0.94	0.21	96,96,96,96	0
26	MG	A	1856	1/1	0.94	0.36	43,43,43,43	0
26	MG	A	1677	1/1	0.94	0.20	28,28,28,28	0
26	MG	A	1648	1/1	0.94	0.21	58,58,58,58	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1918	1/1	0.94	0.10	53,53,53,53	0
26	MG	F	201	1/1	0.94	0.11	52,52,52,52	0
26	MG	A	1818	1/1	0.94	0.16	106,106,106,106	0
26	MG	A	1657	1/1	0.94	0.28	91,91,91,91	0
26	MG	A	1669	1/1	0.94	0.20	22,22,22,22	0
26	MG	A	1692	1/1	0.95	0.25	120,120,120,120	0
26	MG	A	1824	1/1	0.95	0.13	72,72,72,72	0
26	MG	A	1791	1/1	0.95	0.07	43,43,43,43	0
26	MG	A	1717	1/1	0.95	0.09	61,61,61,61	0
25	K	E	201	1/1	0.95	0.19	84,84,84,84	0
26	MG	A	1694	1/1	0.95	0.12	35,35,35,35	0
26	MG	A	1654	1/1	0.95	0.25	158,158,158,158	0
26	MG	A	1719	1/1	0.95	0.19	32,32,32,32	0
26	MG	A	1799	1/1	0.95	0.14	46,46,46,46	0
26	MG	A	1763	1/1	0.95	0.42	40,40,40,40	0
25	K	E	202	1/1	0.95	0.14	82,82,82,82	0
26	MG	A	1695	1/1	0.95	0.32	107,107,107,107	0
26	MG	A	1829	1/1	0.95	0.36	41,41,41,41	0
26	MG	A	1865	1/1	0.95	0.41	27,27,27,27	0
26	MG	A	1875	1/1	0.95	0.20	40,40,40,40	0
26	MG	A	1837	1/1	0.95	0.13	31,31,31,31	0
26	MG	A	1810	1/1	0.95	0.25	54,54,54,54	0
26	MG	A	1847	1/1	0.95	0.21	73,73,73,73	0
25	K	A	1638	1/1	0.95	0.24	78,78,78,78	0
26	MG	A	1754	1/1	0.95	0.22	61,61,61,61	0
26	MG	A	1864	1/1	0.95	0.19	26,26,26,26	0
26	MG	A	1653	1/1	0.95	0.14	112,112,112,112	0
26	MG	A	1659	1/1	0.95	0.34	70,70,70,70	0
26	MG	E	203	1/1	0.95	0.17	96,96,96,96	0
25	K	A	1637	1/1	0.95	0.17	123,123,123,123	0
25	K	A	1635	1/1	0.95	0.29	67,67,67,67	0
26	MG	A	1703	1/1	0.95	0.13	26,26,26,26	0
26	MG	H	201	1/1	0.95	0.14	55,55,55,55	0
26	MG	A	1789	1/1	0.95	0.13	24,24,24,24	0
25	K	A	1634	1/1	0.96	0.25	108,108,108,108	0
26	MG	A	1664	1/1	0.96	0.18	7,7,7,7	0
26	MG	A	1674	1/1	0.96	0.10	9,9,9,9	0
26	MG	A	1733	1/1	0.96	0.11	4,4,4,4	0
26	MG	A	1808	1/1	0.96	0.26	18,18,18,18	0
26	MG	A	1676	1/1	0.96	0.15	56,56,56,56	0
26	MG	A	1817	1/1	0.96	0.11	74,74,74,74	0
25	K	A	1630	1/1	0.96	0.13	84,84,84,84	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1812	1/1	0.96	0.20	48,48,48,48	0
26	MG	A	1804	1/1	0.96	0.39	23,23,23,23	0
26	MG	A	1647	1/1	0.96	0.12	68,68,68,68	0
26	MG	A	1711	1/1	0.96	0.15	68,68,68,68	0
26	MG	A	1794	1/1	0.96	0.11	33,33,33,33	0
26	MG	A	1802	1/1	0.96	0.14	26,26,26,26	0
26	MG	A	1701	1/1	0.96	0.52	18,18,18,18	0
26	MG	A	1796	1/1	0.96	0.41	27,27,27,27	0
26	MG	A	1780	1/1	0.96	0.23	46,46,46,46	0
26	MG	A	1728	1/1	0.96	0.27	23,23,23,23	0
25	K	A	1620	1/1	0.96	0.18	65,65,65,65	0
26	MG	A	1916	1/1	0.96	0.22	52,52,52,52	0
26	MG	A	1749	1/1	0.96	0.34	45,45,45,45	0
26	MG	A	1722	1/1	0.96	0.14	95,95,95,95	0
26	MG	A	1807	1/1	0.96	0.11	57,57,57,57	0
25	K	A	1636	1/1	0.96	0.12	101,101,101,101	0
26	MG	A	1742	1/1	0.96	0.29	172,172,172,172	0
26	MG	A	1792	1/1	0.96	0.16	25,25,25,25	0
26	MG	A	1665	1/1	0.97	0.13	53,53,53,53	0
26	MG	A	1655	1/1	0.97	0.13	55,55,55,55	0
25	K	A	1615	1/1	0.97	0.13	77,77,77,77	0
26	MG	A	1811	1/1	0.97	0.70	40,40,40,40	0
26	MG	A	1668	1/1	0.97	0.38	30,30,30,30	0
26	MG	A	1687	1/1	0.97	0.25	76,76,76,76	0
26	MG	Q	204	1/1	0.97	0.09	46,46,46,46	0
26	MG	A	1893	1/1	0.97	0.31	33,33,33,33	0
26	MG	A	1831	1/1	0.97	0.12	44,44,44,44	0
26	MG	A	1743	1/1	0.97	0.22	77,77,77,77	0
26	MG	A	1783	1/1	0.97	0.18	32,32,32,32	0
25	K	A	1627	1/1	0.97	0.28	93,93,93,93	0
26	MG	A	1691	1/1	0.97	0.12	27,27,27,27	0
27	ZN	N	101	1/1	0.97	0.14	101,101,101,101	0
26	MG	A	1650	1/1	0.97	0.13	49,49,49,49	0
25	K	A	1625	1/1	0.97	0.07	68,68,68,68	0
26	MG	A	1752	1/1	0.97	0.15	57,57,57,57	0
26	MG	A	1825	1/1	0.97	0.20	40,40,40,40	0
26	MG	A	1643	1/1	0.97	0.19	50,50,50,50	0
26	MG	A	1744	1/1	0.97	0.26	60,60,60,60	0
26	MG	A	1917	1/1	0.97	0.16	24,24,24,24	0
25	K	A	1626	1/1	0.97	0.14	90,90,90,90	0
26	MG	A	1702	1/1	0.97	0.27	74,74,74,74	0
26	MG	A	1803	1/1	0.97	0.27	18,18,18,18	0

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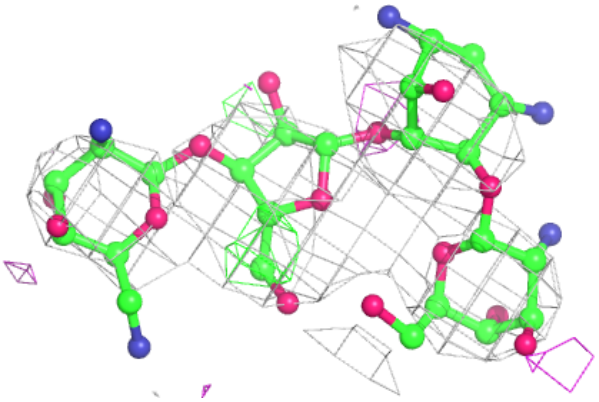
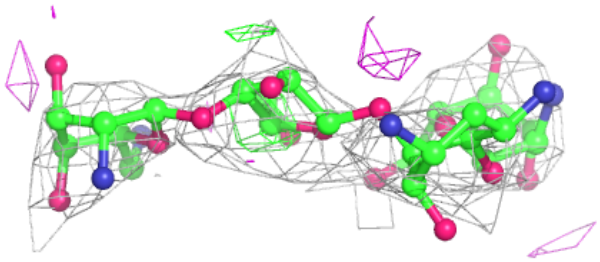
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
26	MG	A	1710	1/1	0.97	0.22	50,50,50,50	0
26	MG	A	1727	1/1	0.97	0.29	105,105,105,105	0
26	MG	A	1777	1/1	0.97	0.15	64,64,64,64	0
26	MG	A	1781	1/1	0.97	0.19	41,41,41,41	0
26	MG	A	1756	1/1	0.97	0.18	35,35,35,35	0
26	MG	A	1890	1/1	0.97	0.13	53,53,53,53	0
26	MG	Q	203	1/1	0.97	0.06	44,44,44,44	0
26	MG	A	1688	1/1	0.98	0.12	43,43,43,43	0
26	MG	A	1685	1/1	0.98	0.42	53,53,53,53	0
26	MG	A	1680	1/1	0.98	0.15	37,37,37,37	0
26	MG	A	1693	1/1	0.98	0.13	14,14,14,14	0
26	MG	M	201	1/1	0.98	0.05	32,32,32,32	0
26	MG	A	1852	1/1	0.98	0.17	44,44,44,44	0
26	MG	T	201	1/1	0.98	0.18	33,33,33,33	0
26	MG	A	1853	1/1	0.98	0.13	25,25,25,25	0
26	MG	A	1919	1/1	0.98	0.12	45,45,45,45	0
26	MG	A	1797	1/1	0.98	0.23	26,26,26,26	0
26	MG	A	1814	1/1	0.98	0.22	11,11,11,11	0
26	MG	A	1809	1/1	0.98	0.11	28,28,28,28	0
26	MG	A	1682	1/1	0.98	0.15	43,43,43,43	0
26	MG	Q	201	1/1	0.98	0.10	51,51,51,51	0
26	MG	A	1683	1/1	0.98	0.21	30,30,30,30	0
26	MG	A	1870	1/1	0.98	0.20	32,32,32,32	0
26	MG	A	1661	1/1	0.98	0.15	54,54,54,54	0
26	MG	A	1851	1/1	0.98	0.16	46,46,46,46	0
26	MG	A	1833	1/1	0.98	0.18	146,146,146,146	0
26	MG	Y	101	1/1	0.98	0.20	74,74,74,74	0
26	MG	A	1698	1/1	0.98	0.07	39,39,39,39	0
26	MG	A	1709	1/1	0.99	0.13	28,28,28,28	0
26	MG	S	101	1/1	0.99	0.14	15,15,15,15	0
26	MG	A	1716	1/1	0.99	0.14	64,64,64,64	0
26	MG	A	1660	1/1	0.99	0.09	38,38,38,38	0
26	MG	A	1690	1/1	0.99	0.07	0,0,0,0	0
26	MG	A	1723	1/1	0.99	0.25	49,49,49,49	0
26	MG	A	1782	1/1	0.99	0.12	23,23,23,23	0
27	ZN	D	301	1/1	0.99	0.19	69,69,69,69	0

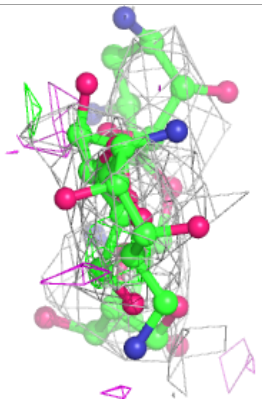
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around PAR A 1605:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

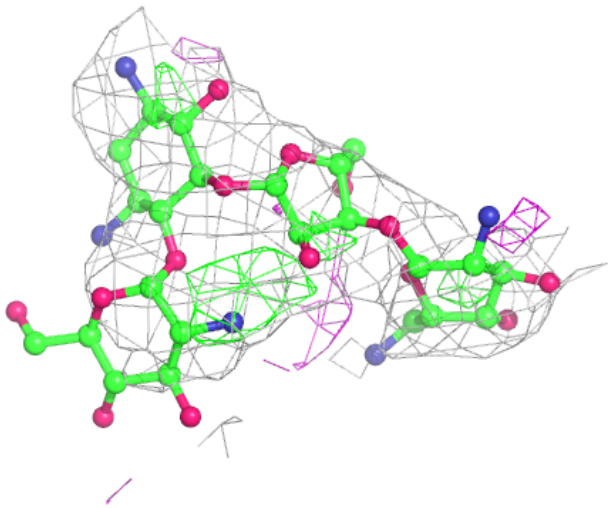


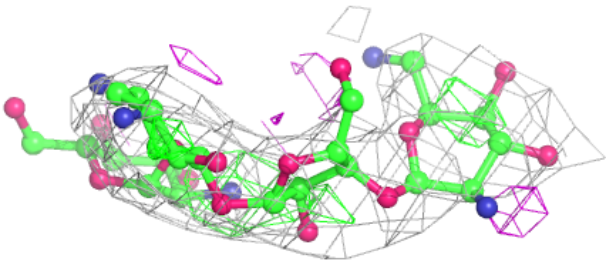




Electron density around PAR A 1602:

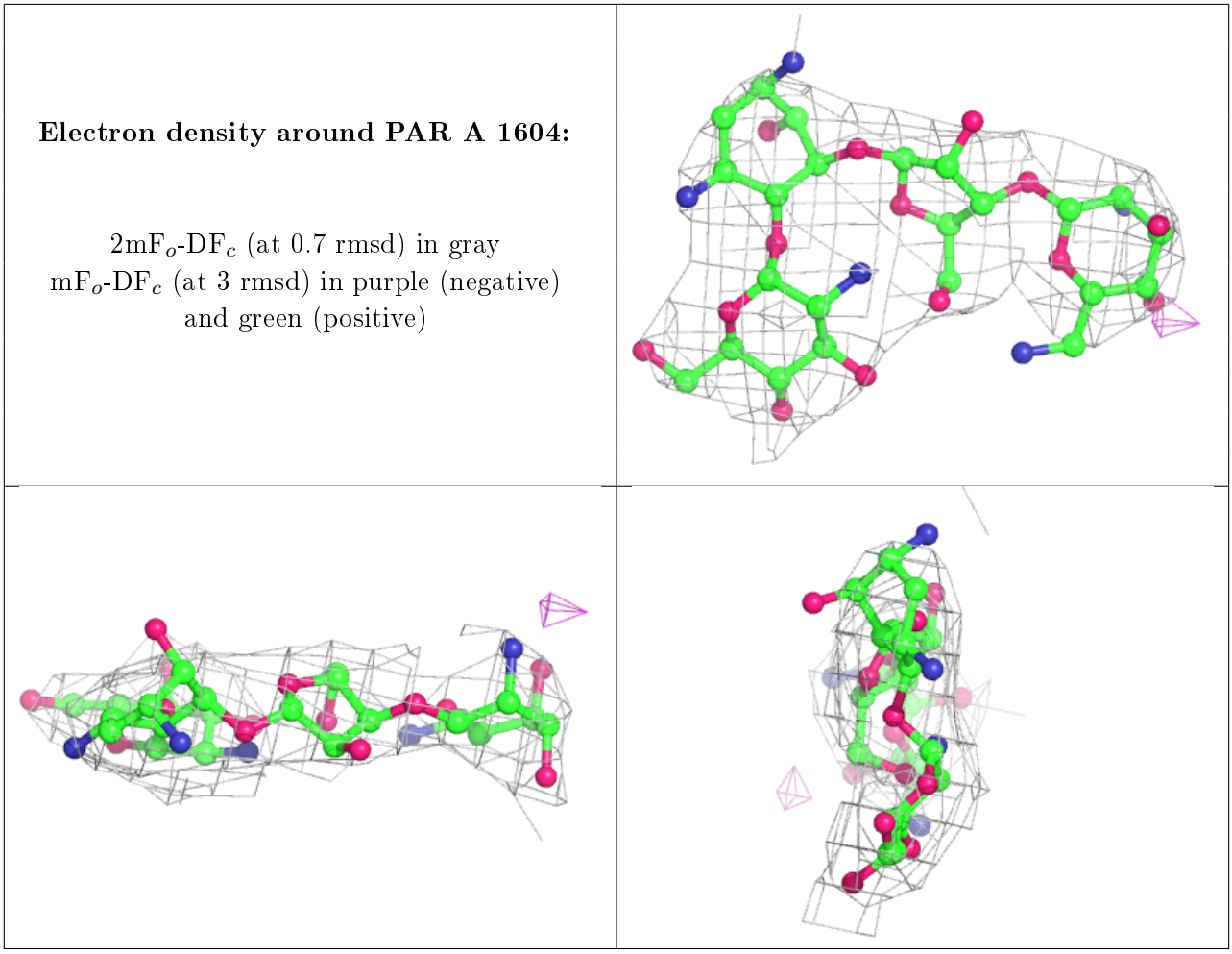
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)





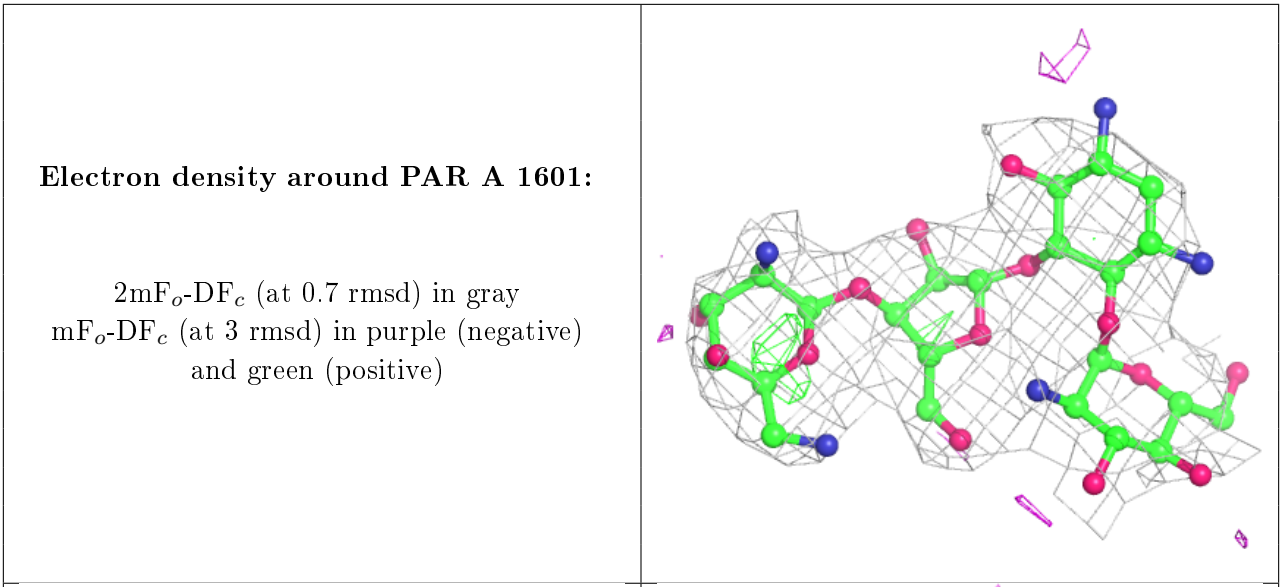
Electron density around PAR A 1604:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



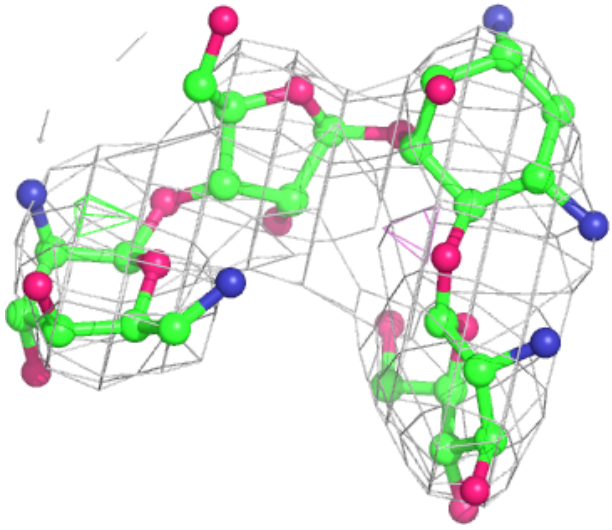
Electron density around PAR A 1601:

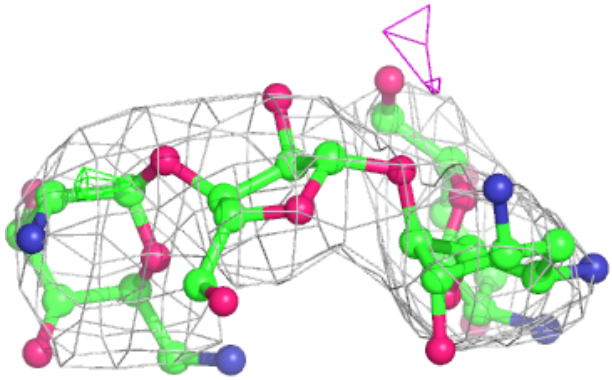
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

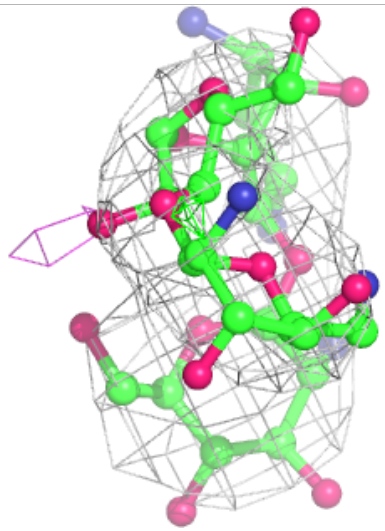


Electron density around PAR A 1606:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

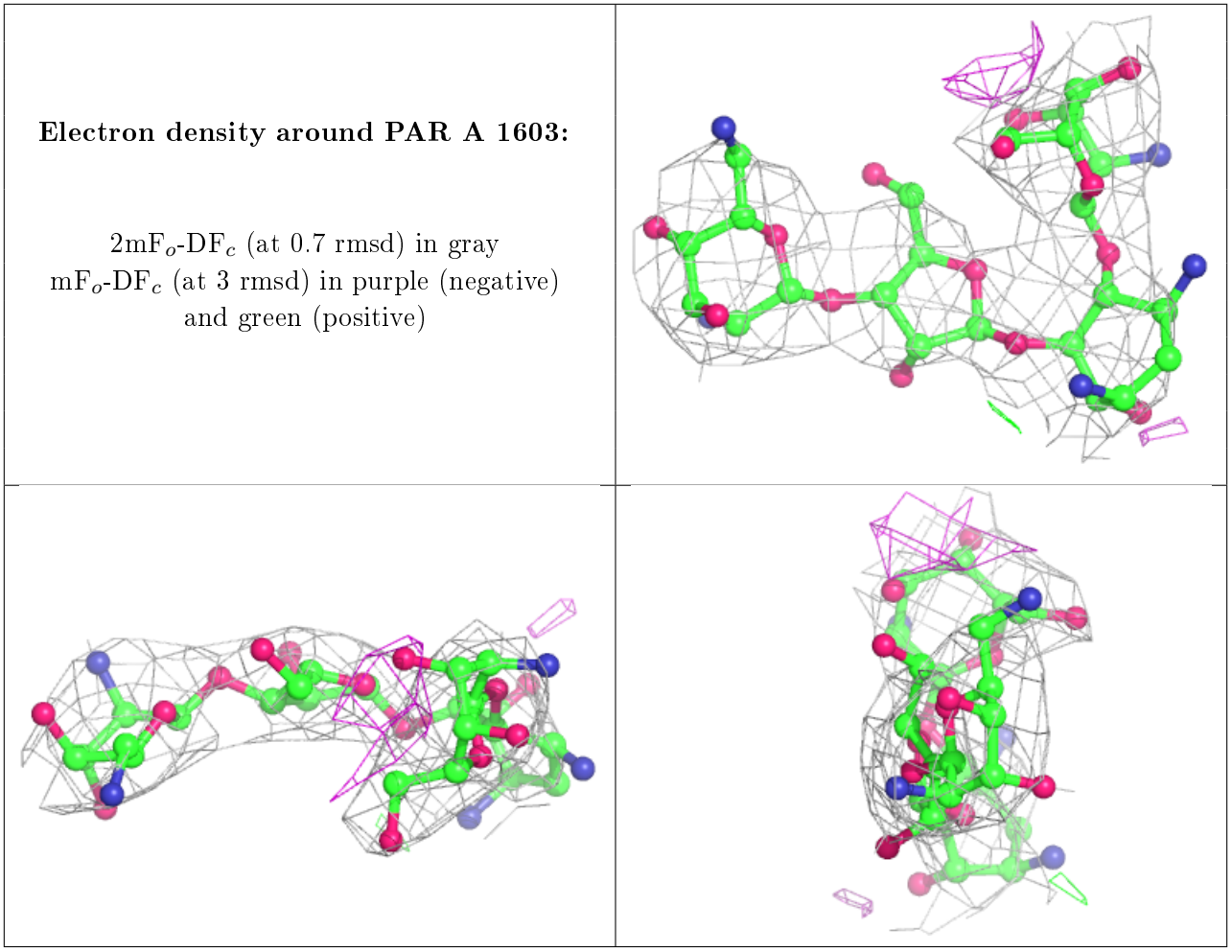






Electron density around PAR A 1603:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers

There are no such residues in this entry.