Full wwPDB X-ray Structure Validation Report ⓘ

Aug 11, 2021 – 11:31 am BST

PDB ID	:	7A0S
Title	:	50S Deinococcus radiodurans ribosome bounded with mycinamicin I
Authors	:	Breiner, E.; Eyal, Z.; Matzov, D.; Halfon, Y.; Cimicata, G.; Rozenberg, H.; Zimmerman, E.; Bashan, A.; Yonath, A.
Deposited on	:	2020-08-10
Resolution	:	3.22 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:

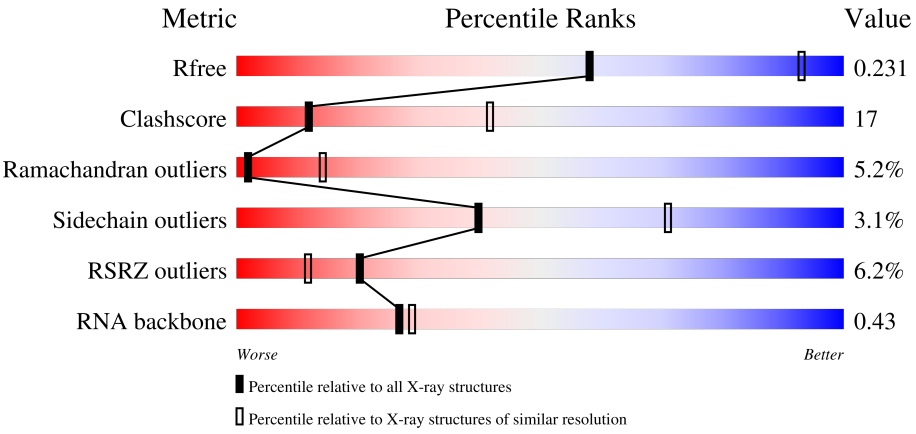
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.23.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.1

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 3.22 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	1335 (3.24-3.20)
Clashscore	141614	1460 (3.24-3.20)
Ramachandran outliers	138981	1437 (3.24-3.20)
Sidechain outliers	138945	1436 (3.24-3.20)
RSRZ outliers	127900	1291 (3.24-3.20)
RNA backbone	3102	1023 (3.54-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	X	2880	32% 37% 20% 6%
2	Y	123	35% 41% 21%
3	A	274	7% 56% 38% 5%
4	B	206	4% 62% 36%

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Mol	Chain	Length	Quality of chain
5	C	205	6% 49% 39% 7%
6	D	177	28% 55% 42%
7	E	171	7% 61% 36%
8	G	143	6% 46% 47%
9	H	134	51% 45%
10	I	137	18% 57% 36% 7%
11	J	136	16% 53% 38% 7%
12	K	116	59% 32% 9%
13	L	104	19% 59% 38%
14	M	166	39% 28% 29%
15	N	117	54% 44%
16	O	98	49% 46%
17	P	134	3% 66% 25%
18	Q	93	13% 60% 37%
19	R	110	9% 42% 47% 9%
20	S	175	18% 58% 39%
21	T	91	15% 52% 27% 19%
22	U	74	14% 51% 42% 5%
23	V	61	10% 59% 26% 11%
24	W	55	40% 60% 40%
25	Z	58	57% 34% 5%
26	1	49	22% 59% 31% 10%
27	2	47	4% 60% 36%
28	3	63	33% 38% 49% 11%

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 crite-

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
30	MG	I	201	-	-	-	X
30	MG	K	201	-	-	-	X
30	MG	X	2924	-	-	-	X
30	MG	X	2953	-	-	-	X
30	MG	X	2975	-	-	-	X
30	MG	X	2978	-	-	-	X
30	MG	X	2983	-	-	-	X
30	MG	X	2985	-	-	-	X
30	MG	X	3002	-	-	-	X
30	MG	X	3023	-	-	-	X
30	MG	X	3051	-	-	-	X
30	MG	X	3057	-	-	-	X
30	MG	X	3065	-	-	-	X
30	MG	X	3072	-	-	-	X
30	MG	X	3083	-	-	-	X
30	MG	X	3086	-	-	-	X
30	MG	X	3087	-	-	-	X
30	MG	X	3107	-	-	-	X
30	MG	X	3110	-	-	-	X
30	MG	X	3115	-	-	-	X
30	MG	X	3117	-	-	-	X
30	MG	X	3120	-	-	-	X
30	MG	X	3130	-	-	-	X
30	MG	X	3134	-	-	-	X
30	MG	X	3143	-	-	-	X
30	MG	X	3146	-	-	-	X
30	MG	X	3155	-	-	-	X
30	MG	X	3176	-	-	-	X
30	MG	X	3183	-	-	-	X
30	MG	X	3190	-	-	-	X
30	MG	X	3196	-	-	-	X
30	MG	X	3207	-	-	-	X
30	MG	X	3209	-	-	-	X
30	MG	X	3210	-	-	-	X
30	MG	X	3211	-	-	-	X
30	MG	X	3214	-	-	-	X
30	MG	X	3224	-	-	-	X
30	MG	X	3227	-	-	-	X
30	MG	X	3232	-	-	-	X
30	MG	Y	205	-	-	-	X
30	MG	Y	210	-	-	-	X
30	MG	Y	213	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
30	MG	Y	214	-	-	-	X
32	MPD	X	3245	-	-	-	X

2 Entry composition

There are 36 unique types of molecules in this entry. The entry contains 84486 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 RNA (2732-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	X	2699	57935	25843	10696	18698	2698	5	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
X	1526	U	C	conflict	GB 1026245073
X	2779	A	C	conflict	GB 1026245073

- Molecule 2 is a RNA chain called RNA (122-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	Y	122	2598	1161	476	840	121	0	0	0

- Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	A	272	2011	1248	396	364	3	0	0	0

- Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	B	206	1544	968	296	272	8	0	0	0

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	C	196	1479	918	284	274	3	0	0	0

- Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	D	177	Total	C	N	O	S	0	0	0
			1375	874	243	251	7			

- Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 8 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	G	142	Total	C	N	O	S	0	0	0
			1110	701	208	198	3			

- Molecule 9 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 10 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	I	137	Total	C	N	O	S	0	0	0
			982	603	194	184	1			

- Molecule 11 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	J	135	Total	C	N	O	S	0	0	0
			1062	676	197	182	7			

- Molecule 12 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	K	115	Total	C	N	O	S	0	0	0
			893	549	182	159	3			

- Molecule 13 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	L	104	Total	C	N	O	0	0	0
			761	462	159	140			

- Molecule 14 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	M	118	Total	C	N	O	0	0	0
			923	578	178	167			

- Molecule 15 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	N	117	Total	C	N	O	S	0	0	0
			955	594	203	157	1			

- Molecule 16 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	O	98	Total	C	N	O	S	0	0	0
			736	459	138	138	1			

- Molecule 17 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	P	129	Total	C	N	O	S	0	0	0
			1014	640	198	174	2			

- Molecule 18 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	Q	92	Total	C	N	O	S	0	0	0
			705	445	131	127	2			

- Molecule 19 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	R	110	Total	C	N	O	S	0	0	0
			771	473	147	150	1			

- Molecule 20 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	S	175	Total	C	N	O	S	0	0	0
			1288	809	224	250	5			

- Molecule 21 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	T	74	Total	C	N	O	S	0	0	0
			537	334	105	97	1			

- Molecule 22 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
22	U	74	Total	C	N	O	0	0	0
			519	319	106	94			

- Molecule 23 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	V	54	Total	C	N	O	S	0	0	0
			438	270	89	78	1			

- Molecule 24 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 25 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Z	57	Total	C	N	O	S	0	0	0
			448	275	92	76	5			

- Molecule 26 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	1	49	Total	C	N	O	0	0	0
			314	199	53	62			

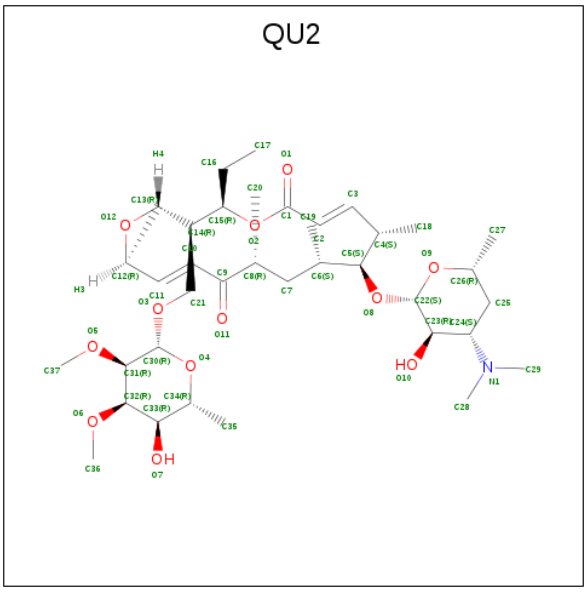
- Molecule 27 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	2	46	Total	C	N	O	S	0	0	0
			383	230	91	60	2			

- Molecule 28 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	3	63	Total	C	N	O	S	0	0	0
			459	288	94	74	3			

- Molecule 29 is mycinamicin I (three-letter code: QU2) (formula: $C_{37}H_{61}NO_{12}$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
29	X	1	Total	C	N	O	0	0
			50	37	1	12		

- Molecule 30 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
30	X	335	Total	Mg	0	0
			335	335		
30	Y	17	Total	Mg	0	0
			17	17		
30	A	3	Total	Mg	0	0
			3	3		
30	B	1	Total	Mg	0	0
			1	1		

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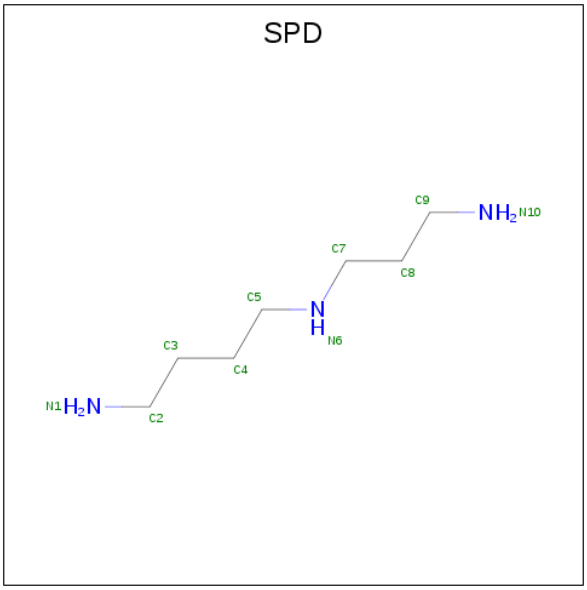
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
30	I	2	Total Mg 2 2	0	0
30	J	1	Total Mg 1 1	0	0
30	K	1	Total Mg 1 1	0	0
30	M	1	Total Mg 1 1	0	0
30	N	3	Total Mg 3 3	0	0
30	2	2	Total Mg 2 2	0	0
30	3	1	Total Mg 1 1	0	0

- Molecule 31 is SPERMIDINE (three-letter code: SPD) (formula: $C_7H_{19}N_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
31	X	1	Total C N 10 7 3	0	0
31	X	1	Total C N 10 7 3	0	0
31	X	1	Total C N 10 7 3	0	0
31	X	1	Total C N 10 7 3	0	0

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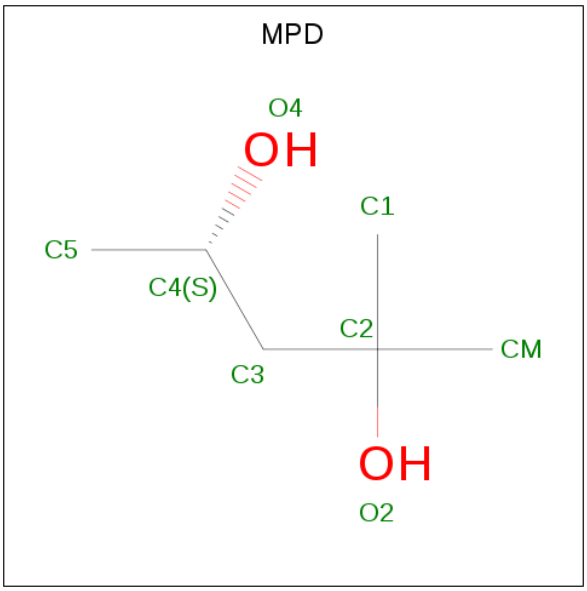
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
31	X	1	Total C N 10 7 3	0	0
31	X	1	Total C N 10 7 3	0	0
31	X	1	Total C N 10 7 3	0	0
31	X	1	Total C N 10 7 3	0	0

- Molecule 32 is (4S)-2-METHYL-2,4-PENTANEDIOL (three-letter code: MPD) (formula: $C_6H_{14}O_2$).

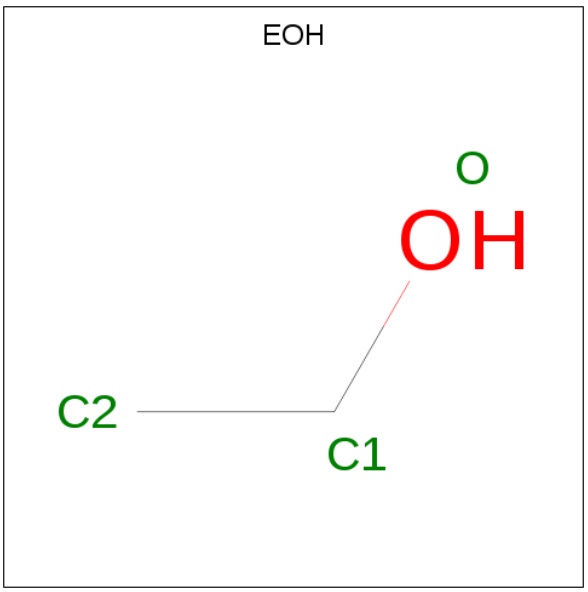


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	X	1	Total C O 8 6 2	0	0
32	X	1	Total C O 8 6 2	0	0
32	X	1	Total C O 8 6 2	0	0
32	X	1	Total C O 8 6 2	0	0

- Molecule 33 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	X	1	Total Na 1 1	0	0

- Molecule 34 is ETHANOL (three-letter code: EOH) (formula: C_2H_6O).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	X	1	Total C O 3 2 1	0	0

- Molecule 35 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	X	5	Total Ca 5 5	0	0

- Molecule 36 is POTASSIUM ION (three-letter code: K) (formula: K).

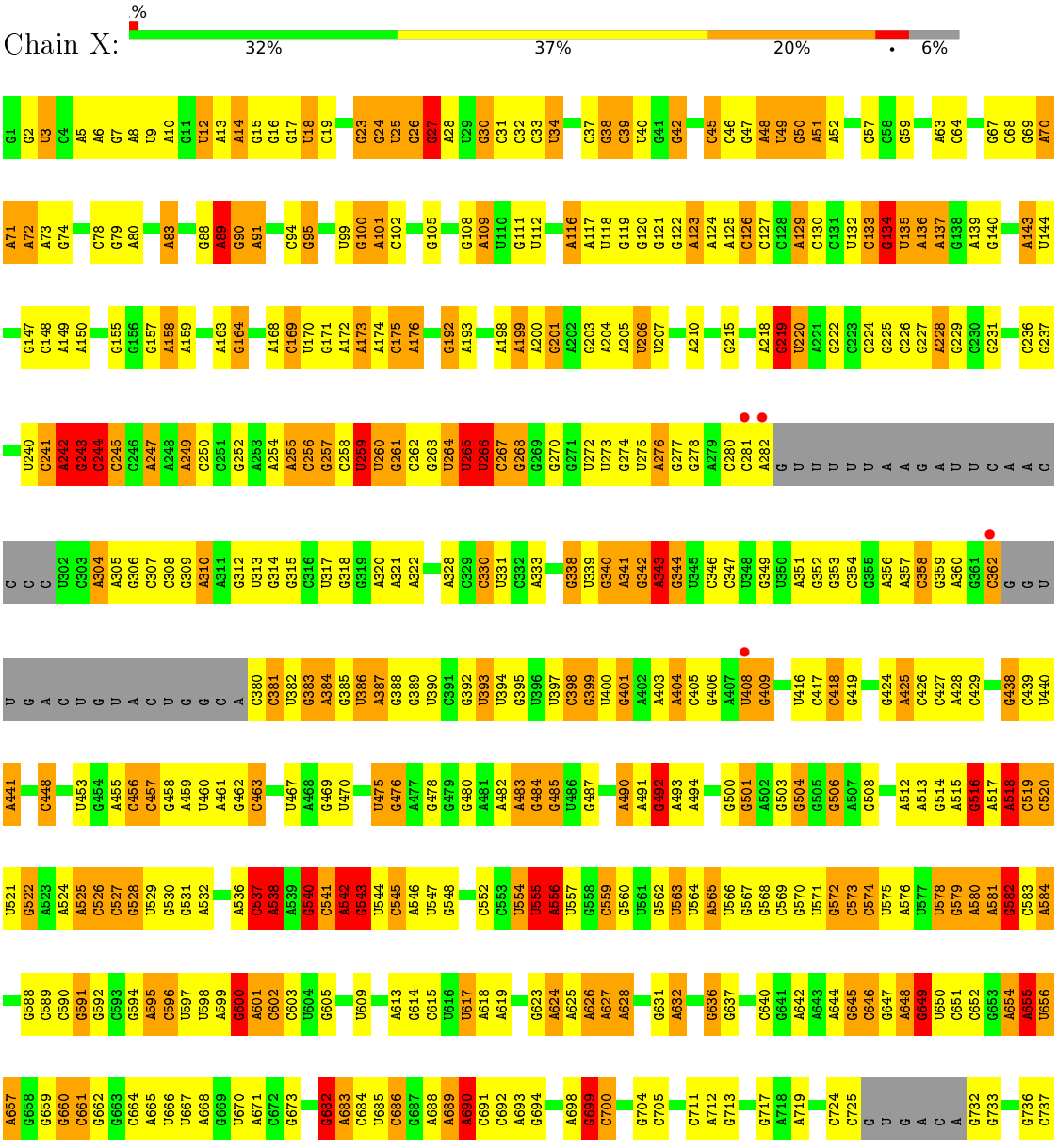
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	X	1	Total K 1 1	0	0

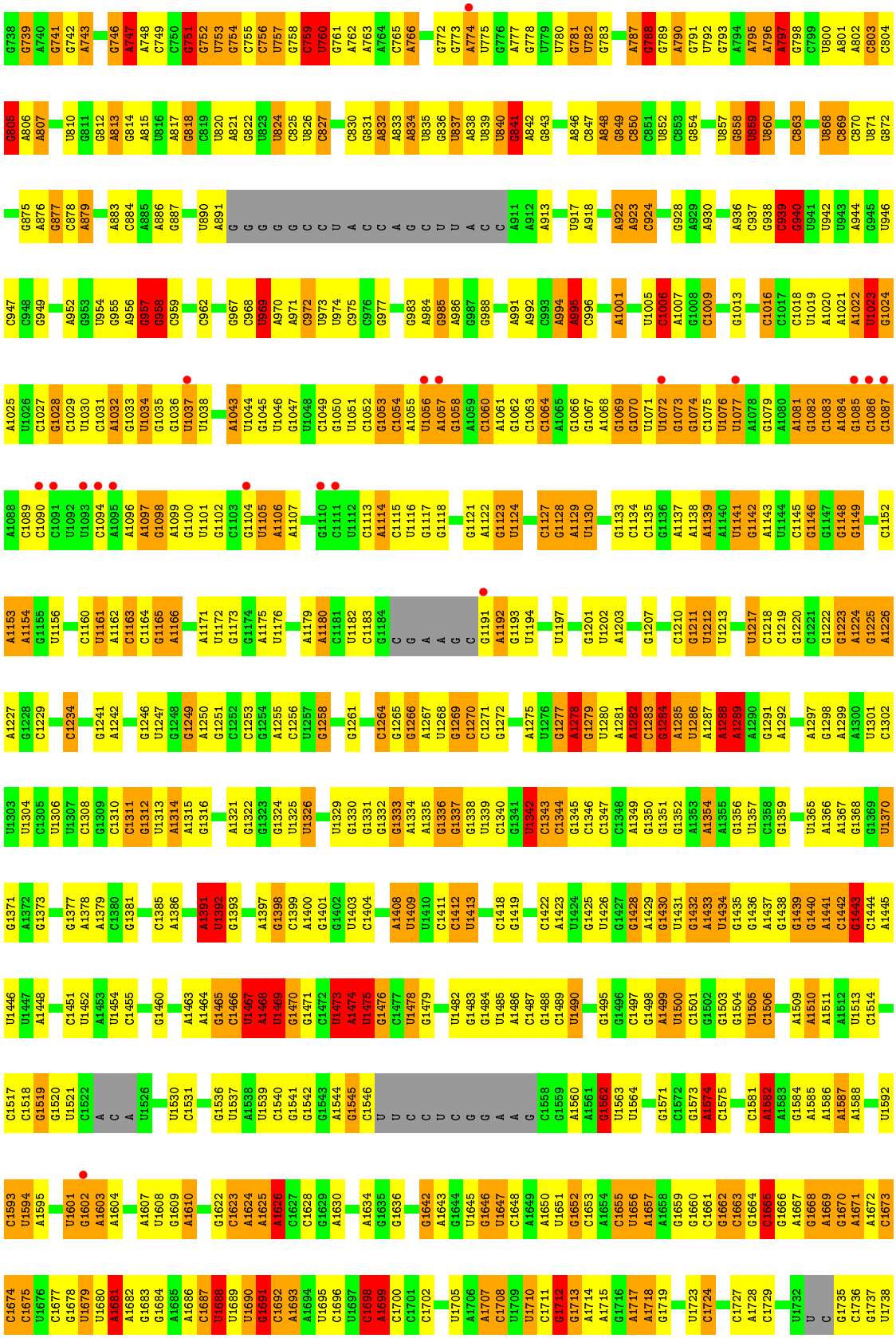
3 Residue-property plots (i)

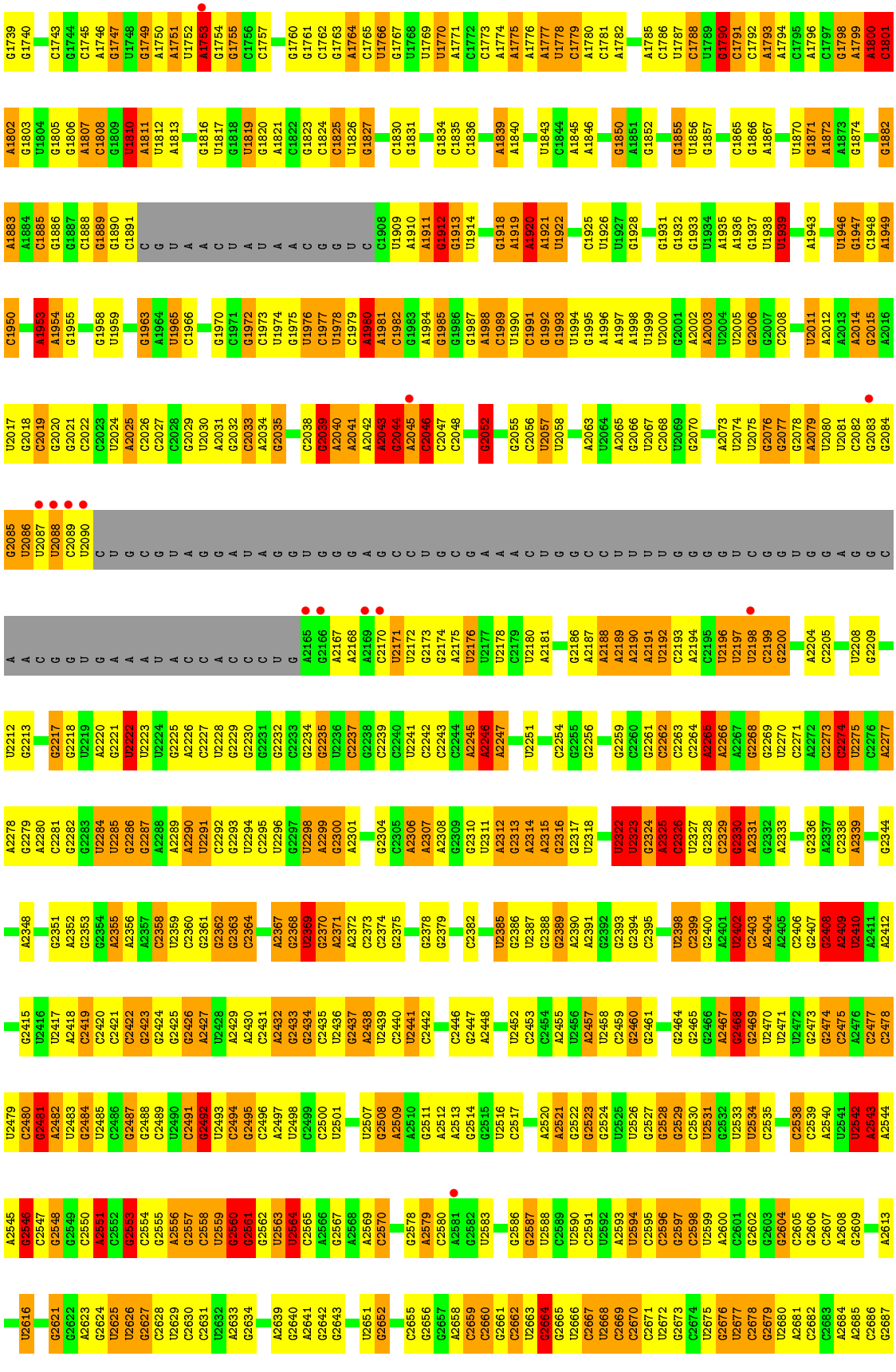
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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.

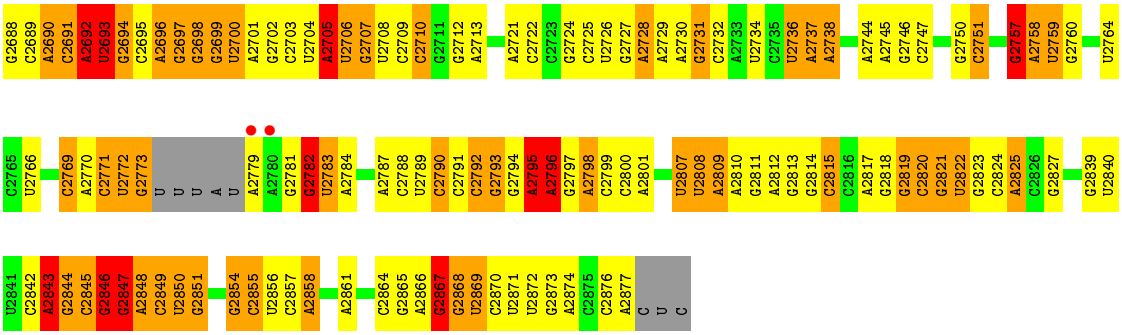
- Molecule 1: RNA (2732-MER)

Chain X:

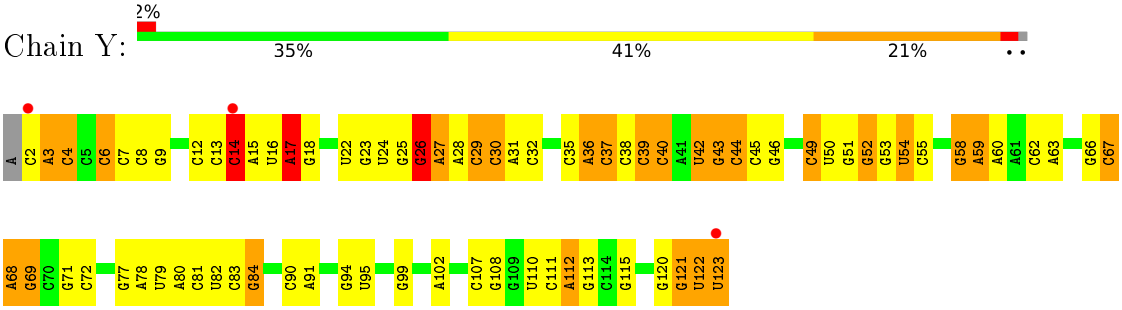




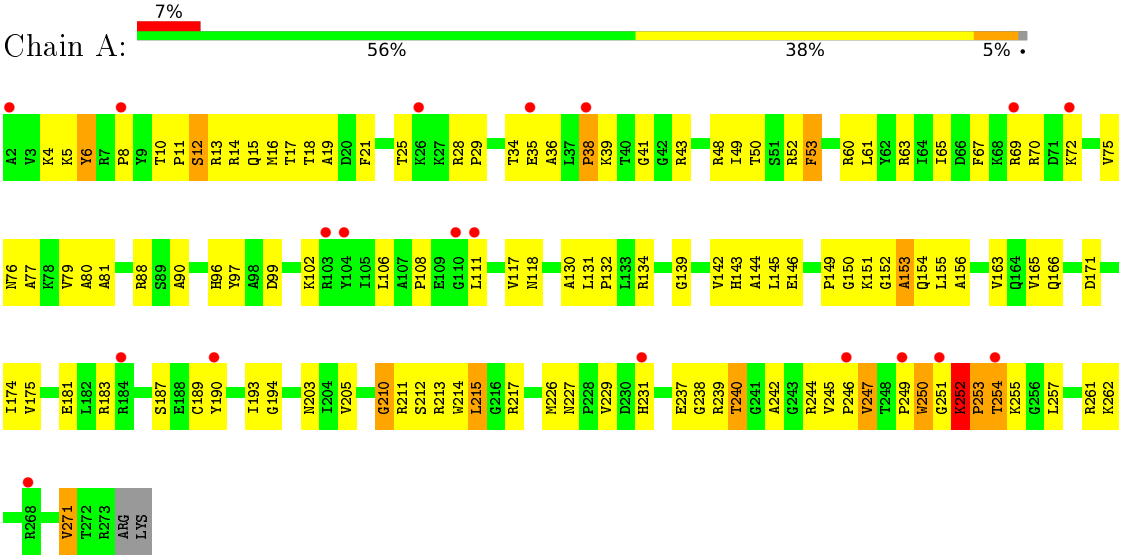




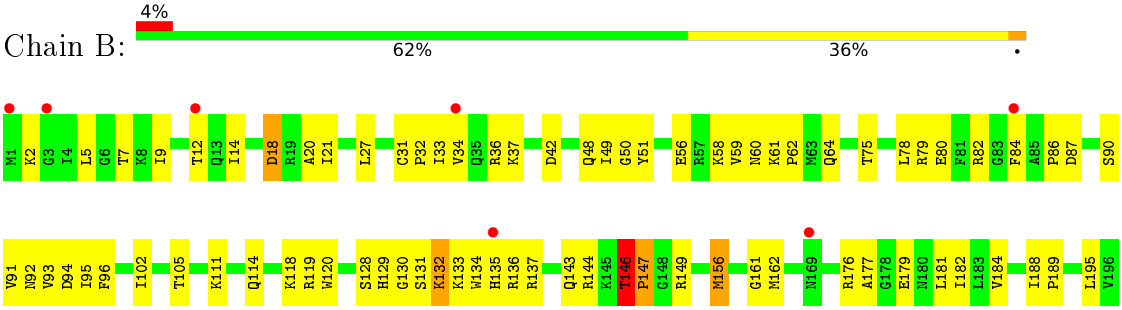
• Molecule 2: RNA (122-MER)

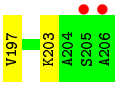


• Molecule 3: 50S ribosomal protein L2



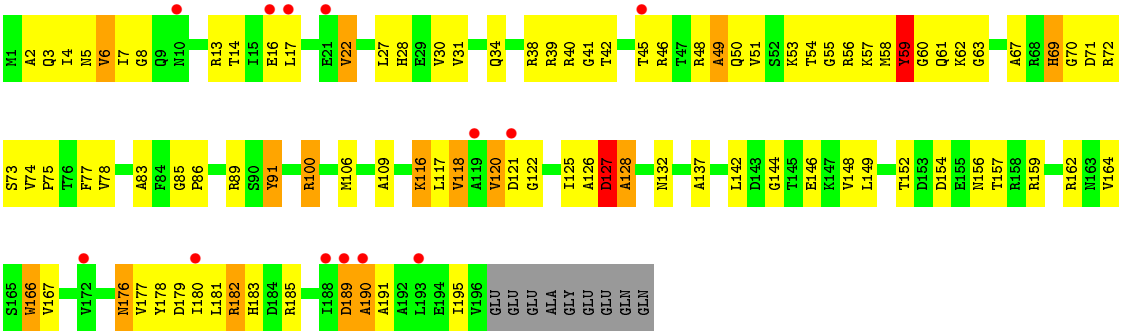
• Molecule 4: 50S ribosomal protein L3





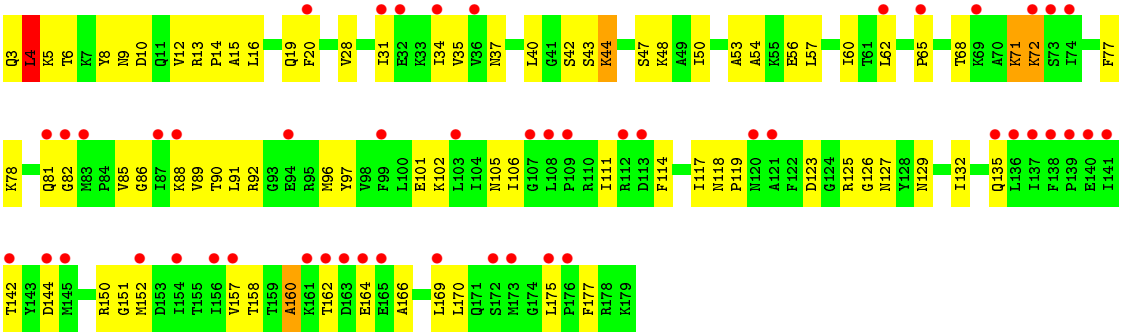
• Molecule 5: 50S ribosomal protein L4

Chain C:



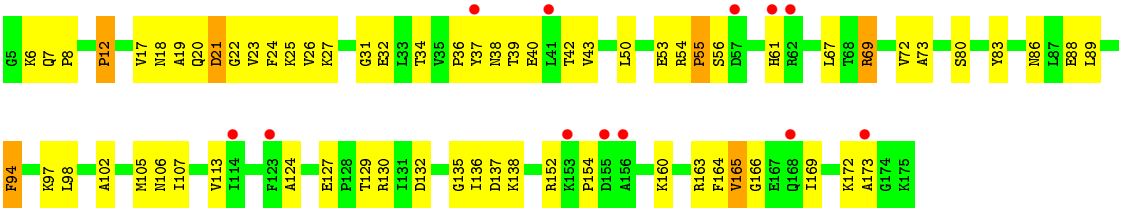
• Molecule 6: 50S ribosomal protein L5

Chain D:



• Molecule 7: 50S ribosomal protein L6

Chain E:

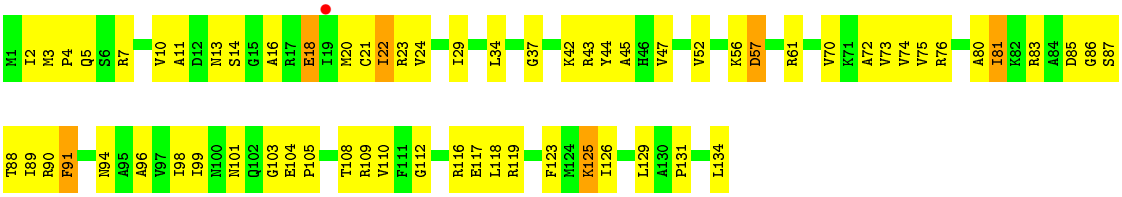


• Molecule 8: 50S ribosomal protein L13

Chain G:

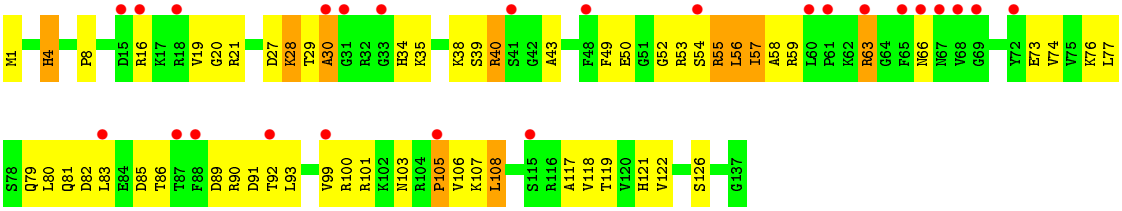
• Molecule 9: 50S ribosomal protein L14

Chain H:



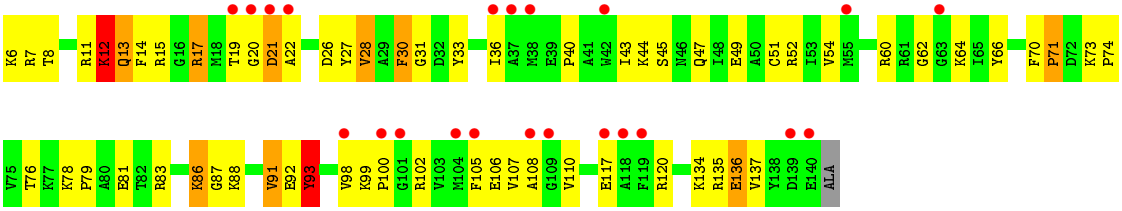
• Molecule 10: 50S ribosomal protein L15

Chain I:



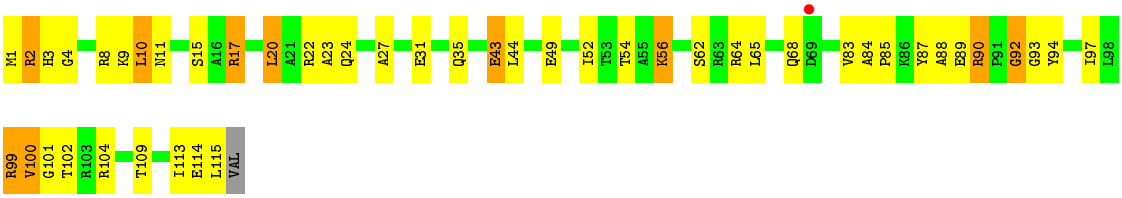
• Molecule 11: 50S ribosomal protein L16

Chain J:



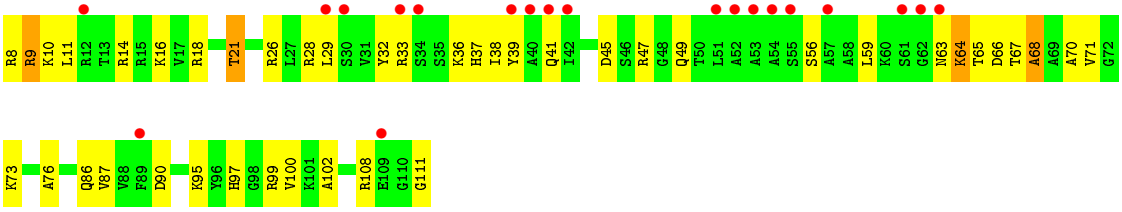
• Molecule 12: 50S ribosomal protein L17

Chain K:

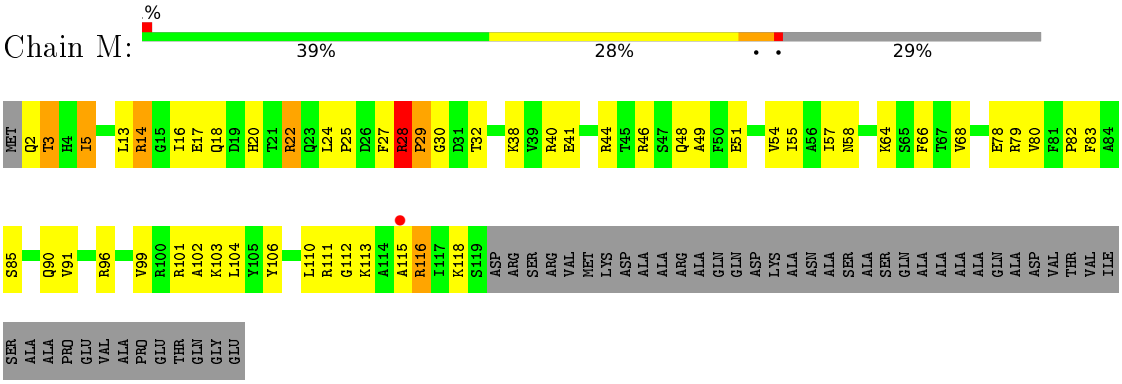


• Molecule 13: 50S ribosomal protein L18

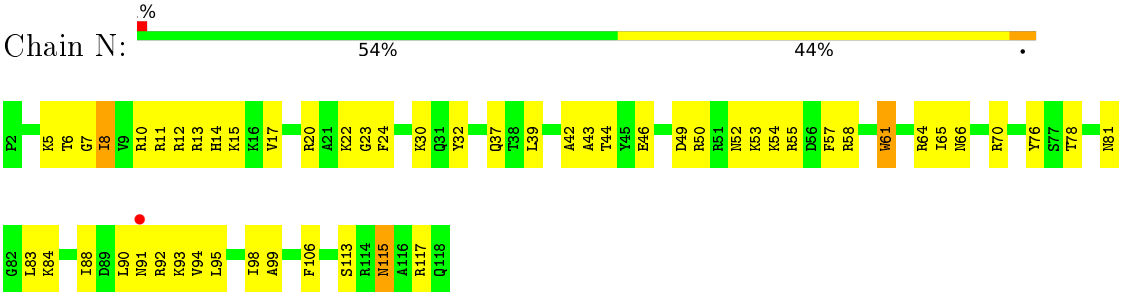
Chain L:



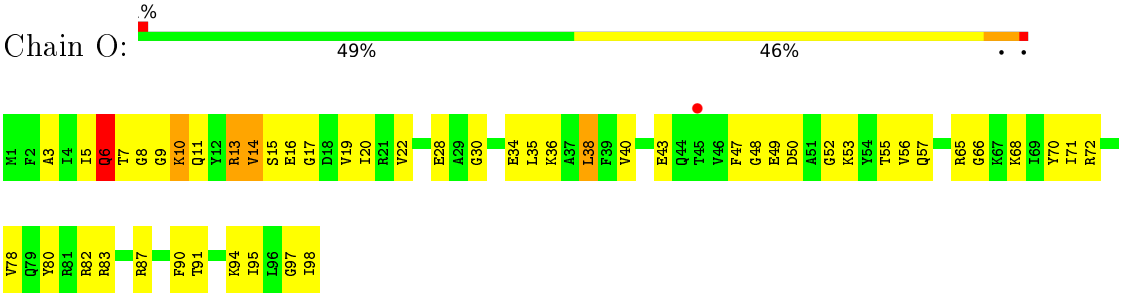
• Molecule 14: 50S ribosomal protein L19



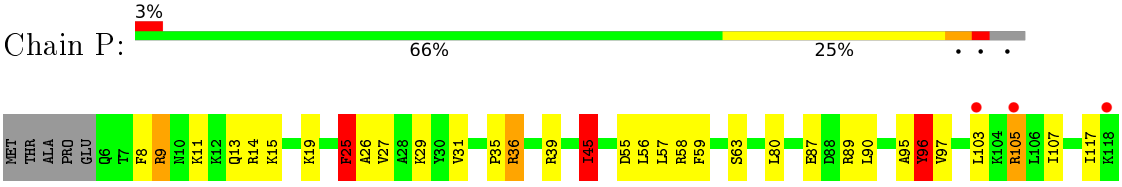
• Molecule 15: 50S ribosomal protein L20

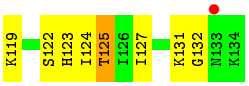


• Molecule 16: 50S ribosomal protein L21



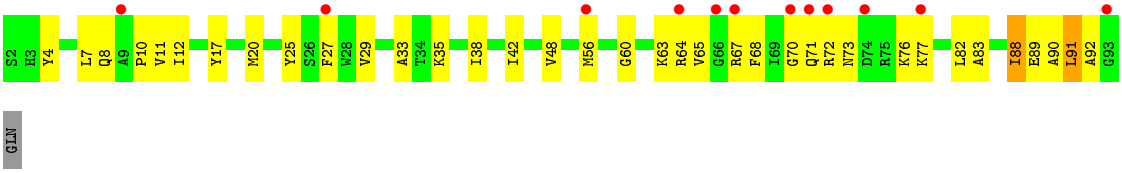
• Molecule 17: 50S ribosomal protein L22





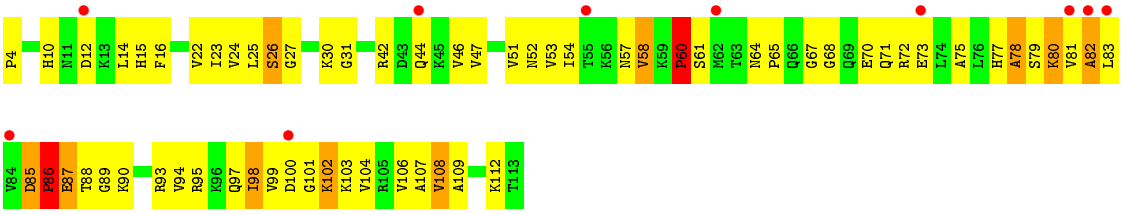
- Molecule 18: 50S ribosomal protein L23

Chain Q:



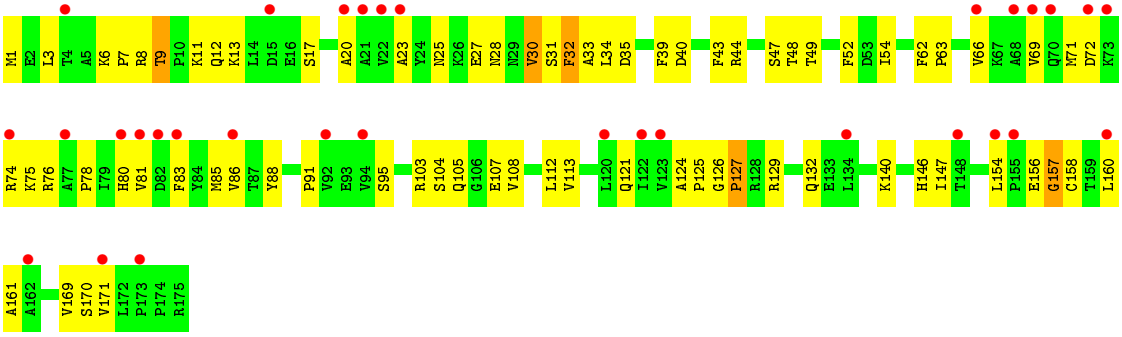
- Molecule 19: 50S ribosomal protein L24

Chain R:



- Molecule 20: 50S ribosomal protein L25

Chain S:

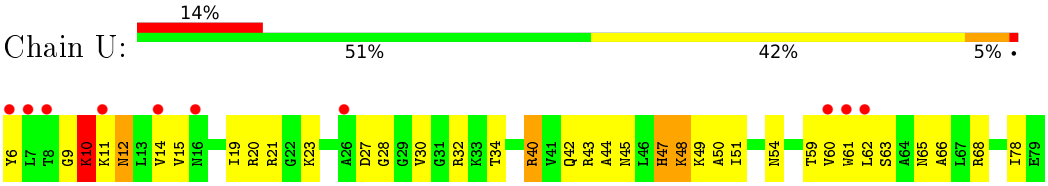


- Molecule 21: 50S ribosomal protein L27

Chain T:

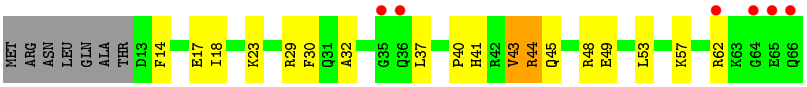
- Molecule 22: 50S ribosomal protein L28

Chain U:



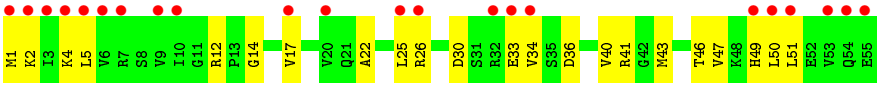
• Molecule 23: 50S ribosomal protein L29

Chain V:



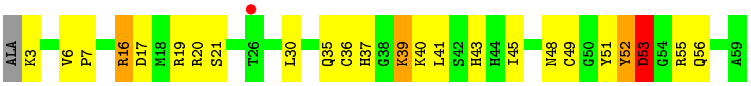
• Molecule 24: 50S ribosomal protein L30

Chain W:



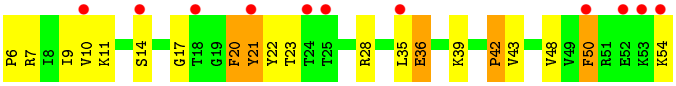
• Molecule 25: 50S ribosomal protein L32

Chain Z:



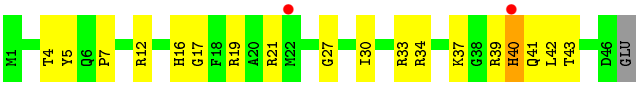
• Molecule 26: 50S ribosomal protein L33

Chain 1:



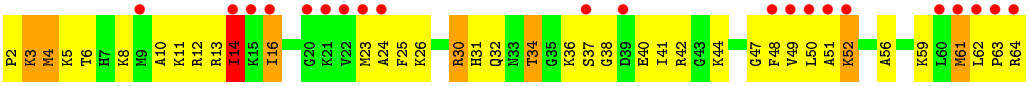
• Molecule 27: 50S ribosomal protein L34

Chain 2:



• Molecule 28: 50S ribosomal protein L35

Chain 3:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	170.00Å 410.74Å 697.78Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.67 – 3.22 49.67 – 3.22	Depositor EDS
% Data completeness (in resolution range)	99.1 (49.67-3.22) 99.2 (49.67-3.22)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.14 (at 3.19Å)	Xtriage
Refinement program	PHENIX 1.18_3845	Depositor
R, R_{free}	0.224 , 0.253 0.225 , 0.231	Depositor DCC
R_{free} test set	19448 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	93.5	Xtriage
Anisotropy	0.672	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.17 , 30.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	84486	wwPDB-VP
Average B, all atoms (Å^2)	134.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.30% 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: MG, EOH, K, CA, NA, MPD, SPD, QU2

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	X	0.85	58/64872 (0.1%)	1.51	1153/101178 (1.1%)
2	Y	0.61	1/2904 (0.0%)	1.25	15/4525 (0.3%)
3	A	0.42	0/2050	0.70	1/2772 (0.0%)
4	B	0.66	0/1572	0.88	1/2112 (0.0%)
5	C	0.57	0/1502	0.84	1/2035 (0.0%)
6	D	0.36	0/1393	0.62	0/1873
7	E	0.36	0/1308	0.59	0/1771
8	G	0.59	1/1134 (0.1%)	0.77	0/1535
9	H	0.75	0/1007	0.96	1/1352 (0.1%)
10	I	0.54	0/994	0.92	3/1338 (0.2%)
11	J	0.59	0/1085	0.84	1/1451 (0.1%)
12	K	0.79	2/901 (0.2%)	1.07	5/1208 (0.4%)
13	L	0.40	0/767	0.69	0/1027
14	M	0.74	0/936	0.93	1/1257 (0.1%)
15	N	0.63	0/971	0.95	3/1296 (0.2%)
16	O	0.52	0/743	0.83	1/995 (0.1%)
17	P	0.70	1/1027 (0.1%)	0.94	5/1375 (0.4%)
18	Q	0.52	0/716	0.76	1/963 (0.1%)
19	R	0.51	0/781	0.74	0/1062
20	S	0.34	0/1313	0.59	0/1796
21	T	0.52	0/543	0.76	0/722
22	U	0.43	0/524	0.71	0/707
23	V	0.44	0/441	0.59	0/586
24	W	0.44	0/426	0.75	0/568
25	Z	0.72	0/460	1.12	1/618 (0.2%)
26	1	0.46	0/317	0.70	0/434
27	2	0.46	0/387	0.81	0/509
28	3	0.50	0/464	0.83	0/611
All	All	0.77	63/91538 (0.1%)	1.37	1193/137676 (0.9%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	A	0	2
4	B	0	2
5	C	0	2
8	G	0	3
10	I	0	4
11	J	0	6
12	K	0	1
14	M	0	1
16	O	0	1
17	P	0	2
19	R	0	3
20	S	0	1
21	T	0	1
22	U	0	1
25	Z	0	2
28	3	0	4
All	All	0	36

All (63) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1278	A	N3-C4	-7.98	1.30	1.34
1	X	827	C	N1-C6	-7.37	1.32	1.37
1	X	2795	A	C6-N1	6.95	1.40	1.35
1	X	537	C	N1-C2	6.69	1.46	1.40
1	X	1283	C	N3-C4	-6.59	1.29	1.33
1	X	1288	A	C5-C6	-6.47	1.35	1.41
1	X	1468	A	C8-N7	-6.38	1.27	1.31
1	X	699	G	N9-C4	-6.37	1.32	1.38
1	X	540	G	C2-N3	6.36	1.37	1.32
1	X	1669	A	N9-C4	-6.13	1.34	1.37
1	X	1655	C	N1-C6	-6.08	1.33	1.37
1	X	2598	C	N3-C4	-6.05	1.29	1.33
1	X	540	G	C5-C6	-6.04	1.36	1.42
1	X	2564	U	C2-N3	5.99	1.42	1.37
1	X	1333	G	N9-C8	5.93	1.42	1.37
1	X	1666	G	C5-C4	-5.92	1.34	1.38
1	X	2660	C	N1-C6	-5.91	1.33	1.37
1	X	1688	U	C4-O4	5.89	1.28	1.23
2	Y	14	C	N1-C6	5.84	1.40	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	2480	C	N1-C6	5.84	1.40	1.37
1	X	2823	G	N9-C8	-5.82	1.33	1.37
1	X	759	C	N3-C4	5.79	1.38	1.33
1	X	1753	A	N9-C4	5.76	1.41	1.37
1	X	1278	A	N9-C4	-5.71	1.34	1.37
1	X	90	G	N9-C4	5.69	1.42	1.38
1	X	2795	A	C5-C4	5.67	1.42	1.38
1	X	1992	G	C5-C4	-5.66	1.34	1.38
1	X	2530	C	N1-C6	-5.66	1.33	1.37
1	X	756	C	N3-C4	-5.66	1.29	1.33
1	X	2567	G	N7-C5	-5.65	1.35	1.39
1	X	787	A	N9-C4	-5.62	1.34	1.37
1	X	1468	A	N7-C5	-5.61	1.35	1.39
12	K	43	GLU	CG-CD	5.58	1.60	1.51
1	X	2003	A	N9-C4	5.57	1.41	1.37
1	X	928	G	N7-C5	-5.54	1.35	1.39
1	X	756	C	N1-C6	-5.53	1.33	1.37
1	X	1333	G	C5-C4	5.53	1.42	1.38
1	X	1666	G	N1-C2	-5.49	1.33	1.37
1	X	1667	A	C5-C6	-5.48	1.36	1.41
1	X	1278	A	N7-C5	-5.40	1.36	1.39
1	X	2488	G	N1-C2	-5.40	1.33	1.37
1	X	1665	C	N3-C4	-5.39	1.30	1.33
1	X	1991	C	N3-C4	-5.39	1.30	1.33
1	X	1743	C	N1-C6	-5.38	1.33	1.37
1	X	2686	C	N1-C6	-5.32	1.33	1.37
1	X	841	G	N9-C4	-5.31	1.33	1.38
1	X	2685	A	N7-C5	5.30	1.42	1.39
1	X	1677	C	N3-C4	-5.29	1.30	1.33
1	X	1468	A	N9-C4	5.29	1.41	1.37
12	K	114	GLU	CG-CD	5.28	1.59	1.51
1	X	540	G	N7-C5	-5.28	1.36	1.39
8	G	140	GLN	CG-CD	-5.26	1.39	1.51
1	X	1682	A	N7-C5	-5.25	1.36	1.39
1	X	173	A	N3-C4	-5.21	1.31	1.34
1	X	759	C	C4-C5	5.16	1.47	1.43
1	X	2014	A	N9-C4	5.15	1.41	1.37
17	P	55	ASP	CB-CG	5.10	1.62	1.51
1	X	1981	A	N7-C5	-5.08	1.36	1.39
1	X	542	A	N9-C4	-5.07	1.34	1.37
1	X	1981	A	N9-C4	-5.07	1.34	1.37
1	X	1282	A	P-OP2	5.03	1.57	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	2530	C	N3-C4	-5.02	1.30	1.33
1	X	1976	U	C2-N3	-5.01	1.34	1.37

All (1193) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	540	G	C6-C5-N7	-20.38	118.17	130.40
1	X	1468	A	C8-N9-C4	-19.09	98.16	105.80
1	X	540	G	C4-C5-N7	17.19	117.68	110.80
1	X	540	G	N1-C6-O6	17.00	130.10	119.90
1	X	540	G	C5-C6-O6	-16.48	118.71	128.60
1	X	1467	U	C6-N1-C2	16.05	130.63	121.00
1	X	537	C	N1-C2-O2	14.55	127.63	118.90
1	X	537	C	N3-C2-O2	-14.27	111.91	121.90
1	X	1467	U	N1-C2-N3	-14.22	106.37	114.90
1	X	2580	C	C6-N1-C2	-14.07	114.67	120.30
1	X	1333	G	N3-C4-N9	-13.51	117.90	126.00
1	X	1468	A	N7-C8-N9	12.96	120.28	113.80
1	X	2478	C	C6-N1-C2	-12.88	115.15	120.30
1	X	1675	C	O5'-P-OP1	-12.38	94.56	105.70
1	X	1278	A	N1-C2-N3	12.06	135.33	129.30
1	X	1746	A	O5'-P-OP1	-11.90	94.99	105.70
1	X	1278	A	C2-N3-C4	-11.62	104.79	110.60
1	X	2491	C	C6-N1-C2	-11.61	115.66	120.30
1	X	1973	C	C6-N1-C2	-11.57	115.67	120.30
1	X	2692	A	O5'-P-OP2	-11.56	95.30	105.70
1	X	343	A	O4'-C1'-N9	11.45	117.36	108.20
1	X	540	G	C5-N7-C8	-11.40	98.60	104.30
1	X	2423	G	O5'-P-OP2	-11.19	95.63	105.70
1	X	540	G	N3-C4-N9	11.17	132.70	126.00
1	X	2025	A	N1-C6-N6	11.11	125.26	118.60
1	X	2408	G	O5'-P-OP1	-11.03	95.78	105.70
1	X	1333	G	C2-N3-C4	-10.90	106.45	111.90
1	X	1665	C	O5'-P-OP1	-10.87	95.92	105.70
1	X	699	G	C5-N7-C8	-10.86	98.87	104.30
1	X	540	G	N9-C4-C5	-10.80	101.08	105.40
1	X	699	G	C4-C5-N7	10.77	115.11	110.80
1	X	2845	C	C6-N1-C2	-10.72	116.01	120.30
1	X	542	A	N1-C2-N3	10.68	134.64	129.30
1	X	1989	C	O5'-P-OP2	10.59	123.41	110.70
1	X	1989	C	O5'-P-OP1	-10.53	96.22	105.70
1	X	1333	G	N3-C4-C5	10.49	133.85	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1278	A	N7-C8-N9	10.49	119.04	113.80
1	X	2795	A	N1-C6-N6	10.42	124.85	118.60
1	X	2478	C	C5-C6-N1	10.37	126.19	121.00
1	X	1288	A	N1-C6-N6	10.36	124.82	118.60
1	X	1770	U	C5-C6-N1	-10.12	117.64	122.70
1	X	1288	A	O4'-C1'-N9	10.11	116.28	108.20
1	X	1288	A	C4-C5-N7	10.10	115.75	110.70
1	X	542	A	C2-N3-C4	-10.02	105.59	110.60
1	X	928	G	N1-C6-O6	10.02	125.91	119.90
1	X	760	U	O5'-P-OP2	-10.00	96.70	105.70
1	X	1278	A	C8-N9-C4	-9.95	101.82	105.80
1	X	1682	A	C8-N9-C4	-9.88	101.85	105.80
1	X	2484	G	O5'-P-OP1	-9.79	96.89	105.70
1	X	954	U	O5'-P-OP1	-9.77	96.91	105.70
1	X	243	G	C8-N9-C4	-9.74	102.50	106.40
1	X	689	A	C2-N3-C4	-9.68	105.76	110.60
1	X	699	G	N3-C4-C5	9.64	133.42	128.60
1	X	243	G	C5-C6-O6	-9.63	122.82	128.60
1	X	343	A	N7-C8-N9	9.59	118.60	113.80
1	X	243	G	N1-C6-O6	9.58	125.65	119.90
1	X	2668	U	N1-C2-N3	9.55	120.63	114.90
1	X	1988	A	C8-N9-C4	9.47	109.59	105.80
1	X	2494	C	N3-C4-C5	-9.41	118.14	121.90
1	X	1652	G	C4-C5-N7	9.37	114.55	110.80
1	X	1966	C	O5'-P-OP1	-9.36	97.28	105.70
1	X	1663	C	N1-C2-O2	9.33	124.50	118.90
10	I	56	LEU	CA-CB-CG	9.29	136.68	115.30
1	X	1467	U	C4-C5-C6	-9.28	114.13	119.70
1	X	1679	U	C5-C6-N1	-9.24	118.08	122.70
1	X	2667	C	N3-C4-C5	9.23	125.59	121.90
1	X	2662	C	N1-C2-O2	9.21	124.43	118.90
1	X	928	G	C6-C5-N7	-9.18	124.89	130.40
1	X	343	A	N1-C2-N3	9.18	133.89	129.30
1	X	1288	A	C5-N7-C8	-9.13	99.34	103.90
1	X	1278	A	C6-C5-N7	-9.08	125.95	132.30
1	X	661	C	C6-N1-C2	-9.07	116.67	120.30
1	X	343	A	C8-N9-C4	-9.07	102.17	105.80
1	X	2624	G	C4-C5-N7	9.03	114.41	110.80
1	X	1278	A	C5-N7-C8	-9.02	99.39	103.90
1	X	1288	A	C6-C5-N7	-9.02	125.99	132.30
1	X	928	G	C5-C6-O6	-9.02	123.19	128.60
1	X	699	G	C2-N3-C4	-8.98	107.41	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	343	A	C2-N3-C4	-8.94	106.13	110.60
1	X	1278	A	O4'-C1'-N9	8.93	115.35	108.20
1	X	1989	C	C5-C6-N1	8.92	125.46	121.00
1	X	540	G	C4-C5-C6	8.92	124.15	118.80
1	X	2550	C	C6-N1-C2	-8.87	116.75	120.30
15	N	50	ARG	CB-CG-CD	-8.88	88.53	111.60
1	X	689	A	N7-C8-N9	8.86	118.23	113.80
1	X	689	A	C5-N7-C8	-8.85	99.47	103.90
1	X	2025	A	C5-C6-N6	-8.83	116.64	123.70
1	X	841	G	C5-N7-C8	-8.82	99.89	104.30
1	X	1667	A	C5-C6-N6	-8.79	116.67	123.70
1	X	2782	G	C6-C5-N7	-8.74	125.15	130.40
1	X	2867	G	N1-C6-O6	8.74	125.14	119.90
1	X	540	G	N7-C8-N9	8.73	117.47	113.10
1	X	26	G	C8-N9-C4	-8.71	102.91	106.40
1	X	522	G	N1-C6-O6	8.69	125.11	119.90
1	X	2408	G	C8-N9-C4	-8.68	102.93	106.40
1	X	803	C	N1-C2-O2	8.67	124.10	118.90
1	X	2670	C	C6-N1-C2	-8.65	116.84	120.30
1	X	661	C	C5-C6-N1	8.61	125.31	121.00
1	X	774	A	C4-C5-C6	-8.61	112.69	117.00
1	X	30	G	C8-N9-C4	-8.60	102.96	106.40
1	X	833	A	N1-C6-N6	8.58	123.75	118.60
1	X	2795	A	N9-C4-C5	-8.58	102.37	105.80
1	X	1976	U	N3-C2-O2	-8.54	116.22	122.20
1	X	1468	A	N1-C6-N6	-8.48	113.51	118.60
1	X	537	C	C2-N1-C1'	8.47	128.12	118.80
1	X	2691	C	O4'-C1'-N1	8.43	114.94	108.20
1	X	957	G	N1-C6-O6	-8.42	114.85	119.90
1	X	1333	G	C5-C6-N1	-8.39	107.30	111.50
1	X	841	G	C2-N3-C4	-8.36	107.72	111.90
1	X	2481	G	C4-C5-N7	8.36	114.14	110.80
1	X	1696	C	N3-C2-O2	-8.34	116.06	121.90
1	X	2044	G	N3-C4-C5	-8.34	124.43	128.60
1	X	2782	G	N1-C6-O6	8.33	124.90	119.90
1	X	1468	A	N9-C4-C5	8.32	109.13	105.80
1	X	2668	U	C2-N3-C4	-8.32	122.01	127.00
1	X	1989	C	C6-N1-C2	-8.30	116.98	120.30
1	X	2534	U	C5-C4-O4	-8.28	120.93	125.90
1	X	537	C	C6-N1-C1'	-8.27	110.87	120.80
1	X	1681	A	C2-N3-C4	-8.27	106.47	110.60
2	Y	39	C	C2-N1-C1'	8.25	127.88	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1770	U	O4'-C1'-N1	8.24	114.80	108.20
1	X	543	G	O5'-P-OP1	-8.23	98.30	105.70
1	X	1391	A	P-O3'-C3'	8.22	129.56	119.70
1	X	649	G	N3-C4-N9	-8.20	121.08	126.00
1	X	1278	A	C4-C5-C6	8.19	121.09	117.00
1	X	2553	G	C4-C5-N7	8.17	114.07	110.80
1	X	841	G	N3-C4-C5	8.16	132.68	128.60
1	X	2567	G	C8-N9-C4	-8.15	103.14	106.40
1	X	1474	A	N1-C6-N6	-8.14	113.72	118.60
1	X	977	G	C8-N9-C4	8.12	109.65	106.40
1	X	2044	G	C8-N9-C4	-8.12	103.15	106.40
1	X	955	G	N9-C4-C5	-8.09	102.16	105.40
1	X	134	G	N3-C4-C5	-8.09	124.56	128.60
1	X	1626	A	N1-C6-N6	8.06	123.44	118.60
1	X	661	C	N1-C2-O2	8.02	123.71	118.90
1	X	2667	C	C2-N3-C4	-8.01	115.90	119.90
1	X	541	C	C6-N1-C2	7.95	123.48	120.30
1	X	2371	A	C8-N9-C4	-7.93	102.63	105.80
1	X	2854	G	N7-C8-N9	7.90	117.05	113.10
1	X	822	G	N3-C4-C5	-7.90	124.65	128.60
1	X	1468	A	C2-N3-C4	7.90	114.55	110.60
1	X	559	C	C2-N1-C1'	7.89	127.48	118.80
1	X	2035	G	O5'-P-OP1	-7.88	98.61	105.70
2	Y	14	C	C6-N1-C2	-7.85	117.16	120.30
1	X	2843	A	N1-C6-N6	-7.84	113.90	118.60
1	X	343	A	C6-C5-N7	-7.82	126.83	132.30
1	X	1691	G	C4-C5-N7	7.80	113.92	110.80
1	X	1696	C	C6-N1-C2	-7.80	117.18	120.30
1	X	2274	C	C2-N1-C1'	7.79	127.36	118.80
1	X	1283	C	N3-C4-C5	-7.77	118.79	121.90
1	X	1647	U	C6-N1-C2	-7.77	116.34	121.00
1	X	646	C	C6-N1-C2	-7.73	117.21	120.30
1	X	1343	C	N3-C4-C5	7.73	124.99	121.90
1	X	1392	U	C5-C6-N1	7.73	126.56	122.70
1	X	1678	G	C8-N9-C4	7.72	109.49	106.40
1	X	2782	G	O4'-C1'-N9	7.72	114.37	108.20
1	X	2854	G	C5-N7-C8	-7.71	100.44	104.30
1	X	928	G	C4-C5-N7	7.70	113.88	110.80
1	X	1282	A	N1-C6-N6	7.70	123.22	118.60
1	X	2469	G	C8-N9-C4	-7.69	103.32	106.40
1	X	2668	U	N3-C2-O2	-7.69	116.82	122.20
1	X	2857	C	C6-N1-C2	-7.68	117.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2624	G	C6-C5-N7	-7.67	125.80	130.40
1	X	2564	U	C5-C6-N1	7.67	126.53	122.70
1	X	343	A	C5-C6-N1	-7.67	113.87	117.70
1	X	1692	C	N3-C4-C5	-7.66	118.84	121.90
10	I	93	LEU	CA-CB-CG	7.64	132.88	115.30
1	X	2867	G	C4-C5-N7	7.64	113.86	110.80
1	X	2544	A	C2-N3-C4	7.63	114.41	110.60
1	X	2700	U	O5'-P-OP1	-7.63	98.84	105.70
1	X	824	U	N1-C2-N3	7.62	119.47	114.90
1	X	1468	A	C5-C6-N1	7.62	121.51	117.70
1	X	2698	G	N3-C4-C5	-7.61	124.79	128.60
1	X	833	A	C4-C5-N7	7.60	114.50	110.70
1	X	134	G	N3-C4-N9	7.60	130.56	126.00
1	X	2478	C	N3-C4-N4	7.58	123.31	118.00
1	X	1920	A	P-O3'-C3'	7.58	128.80	119.70
1	X	968	C	N1-C2-O2	7.57	123.44	118.90
1	X	134	G	C4-N9-C1'	7.56	136.33	126.50
1	X	343	A	C4-C5-C6	7.55	120.78	117.00
1	X	456	C	N1-C2-O2	-7.55	114.37	118.90
1	X	1643	A	N9-C4-C5	-7.54	102.78	105.80
1	X	542	A	C8-N9-C4	-7.52	102.79	105.80
1	X	1333	G	C8-N9-C4	-7.51	103.39	106.40
1	X	244	C	N3-C4-N4	7.50	123.25	118.00
1	X	1336	G	C4-C5-N7	7.50	113.80	110.80
1	X	833	A	C5-C6-N6	-7.49	117.71	123.70
1	X	2558	C	O5'-P-OP2	-7.49	98.96	105.70
1	X	796	A	C2-N3-C4	-7.48	106.86	110.60
1	X	1282	A	N9-C4-C5	-7.47	102.81	105.80
1	X	1671	A	O5'-P-OP2	-7.47	98.97	105.70
1	X	1674	C	OP1-P-O3'	7.47	121.63	105.20
1	X	90	G	N3-C4-C5	-7.46	124.87	128.60
1	X	2590	U	C6-N1-C2	-7.45	116.53	121.00
1	X	2590	U	N3-C2-O2	-7.44	116.99	122.20
1	X	2561	G	N1-C6-O6	-7.43	115.44	119.90
1	X	537	C	C2-N3-C4	-7.42	116.19	119.90
1	X	822	G	C8-N9-C4	-7.41	103.44	106.40
1	X	1333	G	C5-C6-O6	7.41	133.05	128.60
1	X	1683	G	N3-C4-N9	-7.41	121.56	126.00
1	X	1976	U	N1-C2-N3	7.38	119.33	114.90
1	X	849	G	C8-N9-C4	-7.38	103.45	106.40
1	X	2481	G	C5-N7-C8	-7.37	100.61	104.30
1	X	1972	G	C8-N9-C4	-7.37	103.45	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1211	G	O5'-P-OP2	-7.37	99.07	105.70
1	X	2408	G	N3-C4-C5	-7.37	124.92	128.60
1	X	1288	A	N9-C4-C5	-7.36	102.85	105.80
1	X	1344	C	N1-C2-O2	7.36	123.32	118.90
1	X	1288	A	C4-N9-C1'	7.36	139.54	126.30
1	X	841	G	N3-C4-N9	-7.35	121.59	126.00
1	X	1628	C	O5'-P-OP2	-7.34	99.09	105.70
1	X	330	C	C6-N1-C2	-7.34	117.36	120.30
1	X	1283	C	C4-C5-C6	7.34	121.07	117.40
1	X	30	G	N3-C4-C5	-7.34	124.93	128.60
1	X	522	G	C6-C5-N7	-7.34	126.00	130.40
1	X	1280	U	N3-C2-O2	-7.33	117.07	122.20
1	X	2521	A	N1-C6-N6	-7.33	114.20	118.60
1	X	788	G	P-O3'-C3'	7.31	128.47	119.70
1	X	1765	C	N1-C2-O2	7.29	123.28	118.90
1	X	1683	G	N9-C4-C5	7.29	108.32	105.40
1	X	583	C	N3-C2-O2	7.28	127.00	121.90
1	X	983	G	C8-N9-C4	-7.27	103.49	106.40
1	X	1982	C	C5-C6-N1	-7.26	117.37	121.00
1	X	501	G	N3-C4-N9	-7.26	121.64	126.00
1	X	2478	C	C2-N1-C1'	7.25	126.78	118.80
1	X	2018	G	O5'-P-OP2	-7.25	99.18	105.70
1	X	2782	G	C8-N9-C1'	-7.24	117.58	127.00
1	X	1777	A	N1-C6-N6	7.23	122.94	118.60
1	X	2815	C	C6-N1-C2	7.23	123.19	120.30
1	X	1683	G	C6-C5-N7	7.23	134.74	130.40
1	X	501	G	N3-C2-N2	-7.23	114.84	119.90
1	X	519	C	C6-N1-C2	-7.22	117.41	120.30
1	X	2561	G	C5-C6-N1	7.21	115.11	111.50
1	X	1683	G	C4-C5-N7	-7.21	107.92	110.80
1	X	2815	C	C5-C6-N1	-7.21	117.40	121.00
1	X	2043	A	N1-C6-N6	7.20	122.92	118.60
1	X	2876	C	C2-N3-C4	-7.18	116.31	119.90
1	X	1770	U	C4-C5-C6	7.17	124.00	119.70
1	X	1977	C	N1-C2-O2	7.16	123.20	118.90
1	X	2624	G	C5-N7-C8	-7.15	100.72	104.30
1	X	563	U	C6-N1-C2	7.15	125.29	121.00
17	P	25	PHE	CB-CG-CD1	7.13	125.79	120.80
1	X	700	C	C6-N1-C2	-7.13	117.45	120.30
1	X	1288	A	N9-C1'-C2'	7.13	123.26	114.00
1	X	2538	C	C6-N1-C2	-7.12	117.45	120.30
1	X	1333	G	N9-C4-C5	7.11	108.24	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1468	A	N3-C4-C5	-7.10	121.83	126.80
1	X	2624	G	N1-C6-O6	7.10	124.16	119.90
1	X	797	A	P-O3'-C3'	7.09	128.21	119.70
1	X	1288	A	C1'-O4'-C4'	-7.07	104.24	109.90
1	X	689	A	N1-C6-N6	7.07	122.84	118.60
1	X	540	G	N1-C2-N2	-7.07	109.84	116.20
1	X	1992	G	N7-C8-N9	-7.06	109.57	113.10
1	X	579	G	C5-C6-O6	7.04	132.83	128.60
1	X	2273	C	C6-N1-C2	-7.04	117.48	120.30
1	X	2491	C	C5-C6-N1	7.03	124.52	121.00
2	Y	39	C	N1-C2-O2	7.03	123.12	118.90
1	X	2371	A	N7-C8-N9	7.03	117.31	113.80
1	X	1919	A	N1-C6-N6	7.01	122.81	118.60
1	X	1712	G	N3-C4-N9	7.01	130.20	126.00
1	X	955	G	N3-C4-N9	7.00	130.20	126.00
1	X	2671	C	C6-N1-C2	-7.00	117.50	120.30
1	X	2530	C	N3-C4-C5	-7.00	119.10	121.90
1	X	1284	G	N3-C2-N2	7.00	124.80	119.90
1	X	2487	G	C5-C6-N1	6.99	114.99	111.50
1	X	136	A	N7-C8-N9	6.98	117.29	113.80
1	X	2699	G	C5-C6-N1	-6.97	108.02	111.50
1	X	1698	C	N1-C2-O2	-6.96	114.72	118.90
1	X	175	C	C5-C6-N1	6.96	124.48	121.00
1	X	2018	G	O4'-C1'-N9	6.95	113.76	108.20
1	X	2550	C	C5-C6-N1	6.95	124.47	121.00
1	X	2314	A	N1-C6-N6	-6.94	114.44	118.60
1	X	824	U	O5'-P-OP1	-6.93	99.46	105.70
1	X	243	G	N7-C8-N9	6.93	116.57	113.10
1	X	2043	A	C8-N9-C4	-6.93	103.03	105.80
1	X	1819	U	C6-N1-C2	-6.92	116.85	121.00
1	X	1142	G	C8-N9-C4	6.92	109.17	106.40
1	X	2697	G	C2-N3-C4	6.91	115.36	111.90
1	X	1288	A	C8-N9-C1'	-6.91	115.27	127.70
1	X	2688	G	C8-N9-C4	6.91	109.16	106.40
1	X	236	C	N1-C2-O2	6.90	123.04	118.90
1	X	1885	C	N1-C2-O2	6.88	123.03	118.90
1	X	2479	U	N1-C2-O2	6.88	127.61	122.80
1	X	841	G	N7-C8-N9	6.87	116.54	113.10
1	X	1775	A	C5-N7-C8	6.87	107.34	103.90
1	X	2700	U	C6-N1-C2	-6.87	116.88	121.00
1	X	660	G	N3-C2-N2	-6.87	115.09	119.90
1	X	2032	G	C8-N9-C4	6.87	109.15	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2558	C	OP1-P-O3'	6.86	120.30	105.20
1	X	2662	C	C2-N3-C4	6.86	123.33	119.90
1	X	660	G	N3-C4-N9	-6.86	121.89	126.00
1	X	243	G	C2-N3-C4	6.86	115.33	111.90
1	X	2492	G	N3-C4-C5	-6.86	125.17	128.60
1	X	2043	A	N7-C8-N9	6.85	117.23	113.80
1	X	1678	G	N7-C8-N9	-6.84	109.68	113.10
1	X	501	G	N9-C4-C5	6.84	108.14	105.40
1	X	2867	G	C5-N7-C8	-6.83	100.89	104.30
1	X	2782	G	C4-N9-C1'	6.82	135.37	126.50
1	X	2854	G	C4-C5-N7	6.82	113.53	110.80
1	X	649	G	N3-C4-C5	6.81	132.00	128.60
1	X	661	C	C2-N1-C1'	6.80	126.28	118.80
1	X	2256	G	C8-N9-C4	-6.80	103.68	106.40
1	X	243	G	N3-C4-C5	-6.79	125.20	128.60
1	X	2467	A	N1-C6-N6	-6.79	114.52	118.60
1	X	2827	G	N3-C4-N9	6.79	130.08	126.00
1	X	1667	A	N1-C6-N6	6.79	122.67	118.60
1	X	1800	A	OP1-P-O3'	6.79	120.14	105.20
1	X	968	C	C2-N1-C1'	6.79	126.27	118.80
1	X	2543	A	C8-N9-C4	-6.77	103.09	105.80
1	X	2553	G	C5-N7-C8	-6.76	100.92	104.30
1	X	1473	U	C6-N1-C2	-6.75	116.95	121.00
1	X	797	A	N1-C6-N6	-6.74	114.55	118.60
1	X	875	G	N3-C4-C5	-6.74	125.23	128.60
1	X	2017	U	C2-N1-C1'	6.73	125.78	117.70
1	X	2580	C	N3-C2-O2	-6.73	117.19	121.90
1	X	343	A	C5-N7-C8	-6.73	100.53	103.90
1	X	25	U	C6-N1-C2	-6.72	116.97	121.00
1	X	1686	A	C8-N9-C4	-6.72	103.11	105.80
1	X	2698	G	C2-N3-C4	6.72	115.26	111.90
1	X	649	G	N3-C2-N2	-6.72	115.20	119.90
1	X	2481	G	N3-C2-N2	6.70	124.59	119.90
1	X	343	A	C4-N9-C1'	6.70	138.35	126.30
1	X	824	U	N1-C2-O2	-6.70	118.11	122.80
1	X	1991	C	OP2-P-O3'	6.69	119.92	105.20
1	X	1665	C	C6-N1-C2	6.69	122.98	120.30
1	X	2524	G	C5-C6-N1	6.69	114.84	111.50
1	X	1665	C	C5-C6-N1	-6.69	117.66	121.00
1	X	1778	U	N3-C2-O2	-6.68	117.52	122.20
1	X	2844	G	OP1-P-OP2	-6.68	109.58	119.60
1	X	1324	G	O4'-C1'-N9	6.68	113.54	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	542	A	N7-C8-N9	6.67	117.14	113.80
1	X	699	G	N1-C6-O6	6.67	123.90	119.90
1	X	1037	U	N1-C2-O2	6.67	127.47	122.80
1	X	1684	G	C5-C6-O6	-6.67	124.60	128.60
1	X	1222	G	N3-C4-C5	-6.67	125.27	128.60
1	X	2484	G	N1-C6-O6	-6.67	115.90	119.90
1	X	796	A	C5-C6-N1	-6.66	114.37	117.70
1	X	2857	C	N3-C4-C5	-6.66	119.24	121.90
1	X	2019	C	O5'-P-OP2	-6.65	99.71	105.70
1	X	580	A	N1-C6-N6	6.65	122.59	118.60
1	X	1992	G	C8-N9-C4	6.65	109.06	106.40
1	X	754	G	C8-N9-C4	-6.64	103.74	106.40
1	X	2700	U	OP2-P-O3'	6.64	119.81	105.20
1	X	689	A	N1-C2-N3	6.64	132.62	129.30
1	X	2032	G	N7-C8-N9	-6.63	109.78	113.10
1	X	1308	C	C6-N1-C2	-6.63	117.65	120.30
1	X	1297	A	C2-N3-C4	-6.62	107.29	110.60
1	X	236	C	N3-C2-O2	-6.62	117.27	121.90
1	X	1466	C	C6-N1-C2	-6.62	117.65	120.30
1	X	2230	G	N3-C2-N2	-6.61	115.27	119.90
1	X	90	G	N3-C4-N9	6.61	129.97	126.00
1	X	2580	C	C5-C4-N4	6.60	124.82	120.20
1	X	338	G	C8-N9-C4	-6.60	103.76	106.40
1	X	751	G	O5'-P-OP2	-6.60	99.76	105.70
1	X	1666	G	N7-C8-N9	-6.60	109.80	113.10
1	X	1686	A	N7-C8-N9	6.60	117.10	113.80
1	X	2480	C	N3-C4-N4	-6.60	113.38	118.00
1	X	2694	G	OP2-P-O3'	6.59	119.71	105.20
1	X	2849	C	O5'-P-OP1	-6.59	99.77	105.70
1	X	1682	A	N9-C4-C5	6.59	108.43	105.80
1	X	2664	G	N3-C2-N2	-6.58	115.29	119.90
1	X	362	C	N1-C2-O2	6.58	122.85	118.90
1	X	42	G	C8-N9-C4	-6.57	103.77	106.40
1	X	756	C	C6-N1-C2	-6.57	117.67	120.30
1	X	2025	A	C6-C5-N7	-6.57	127.70	132.30
1	X	1278	A	C4-N9-C1'	6.56	138.10	126.30
1	X	2043	A	OP2-P-O3'	6.56	119.62	105.20
1	X	2417	U	N3-C2-O2	-6.56	117.61	122.20
1	X	1574	A	O4'-C1'-N9	6.55	113.44	108.20
1	X	1006	C	N3-C2-O2	-6.55	117.31	121.90
1	X	516	G	C4-C5-N7	6.54	113.42	110.80
12	K	92	GLY	C-N-CA	-6.54	108.57	122.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1280	U	N1-C2-O2	6.54	127.38	122.80
1	X	1289	A	N1-C6-N6	6.53	122.52	118.60
1	X	2795	A	C5-C6-N6	-6.53	118.47	123.70
1	X	1932	G	O5'-P-OP1	-6.53	99.83	105.70
1	X	2564	U	C2-N1-C1'	6.52	125.53	117.70
1	X	689	A	C5-C6-N1	-6.52	114.44	117.70
1	X	344	G	C8-N9-C4	-6.51	103.80	106.40
1	X	1980	A	OP1-P-OP2	6.51	129.37	119.60
1	X	2656	G	O5'-P-OP1	6.51	118.51	110.70
1	X	2667	C	OP1-P-O3'	6.51	119.52	105.20
1	X	525	A	C2-N3-C4	6.50	113.85	110.60
1	X	660	G	C8-N9-C4	-6.50	103.80	106.40
1	X	869	C	C5-C6-N1	6.50	124.25	121.00
1	X	343	A	N9-C1'-C2'	6.50	122.45	114.00
1	X	589	C	N3-C4-C5	-6.49	119.30	121.90
1	X	1626	A	C5-C6-N6	-6.49	118.51	123.70
1	X	646	C	C2-N1-C1'	6.49	125.93	118.80
12	K	64	ARG	CG-CD-NE	6.48	125.41	111.80
1	X	483	A	P-O3'-C3'	6.48	127.48	119.70
1	X	25	U	C2-N1-C1'	6.48	125.47	117.70
1	X	985	G	C4-C5-N7	6.48	113.39	110.80
1	X	2700	U	O5'-P-OP2	6.47	118.47	110.70
1	X	2385	U	O4'-C1'-N1	6.47	113.38	108.20
1	X	469	G	O4'-C1'-N9	6.47	113.37	108.20
1	X	689	A	C6-C5-N7	-6.46	127.78	132.30
1	X	27	G	O4'-C1'-N9	6.46	113.37	108.20
1	X	556	A	N1-C6-N6	6.46	122.47	118.60
1	X	869	C	C6-N1-C2	-6.45	117.72	120.30
1	X	1466	C	N3-C2-O2	-6.45	117.38	121.90
1	X	2371	A	C6-C5-N7	-6.45	127.78	132.30
1	X	2867	G	C5-C6-O6	-6.45	124.73	128.60
1	X	2487	G	C6-C5-N7	6.44	134.27	130.40
1	X	526	C	C6-N1-C2	-6.44	117.72	120.30
1	X	1713	G	N1-C6-O6	-6.44	116.04	119.90
1	X	2546	G	N3-C4-C5	-6.44	125.38	128.60
1	X	2854	G	C5-C6-O6	-6.44	124.74	128.60
1	X	2555	G	C8-N9-C4	6.43	108.97	106.40
1	X	438	G	N1-C6-O6	6.42	123.75	119.90
1	X	1475	U	N3-C2-O2	-6.42	117.70	122.20
1	X	689	A	O4'-C1'-N9	6.42	113.33	108.20
1	X	2495	G	C5-C6-N1	6.41	114.71	111.50
1	X	684	C	C6-N1-C2	-6.40	117.74	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	757	U	C5-C6-N1	-6.40	119.50	122.70
1	X	1467	U	N3-C4-C5	6.40	118.44	114.60
1	X	1801	C	O5'-P-OP1	-6.39	99.94	105.70
1	X	699	G	N7-C8-N9	6.39	116.30	113.10
1	X	484	G	C8-N9-C4	-6.39	103.84	106.40
1	X	774	A	N1-C6-N6	-6.39	114.77	118.60
1	X	2465	G	C8-N9-C4	-6.38	103.85	106.40
1	X	2488	G	C5-C6-N1	6.38	114.69	111.50
1	X	2823	G	C4-C5-N7	-6.38	108.25	110.80
1	X	2025	A	C4-C5-N7	6.38	113.89	110.70
1	X	2543	A	N9-C4-C5	6.38	108.35	105.80
1	X	954	U	N1-C2-O2	-6.37	118.34	122.80
1	X	765	C	N3-C4-C5	6.37	124.45	121.90
1	X	928	G	N9-C4-C5	-6.37	102.85	105.40
1	X	962	C	N3-C2-O2	-6.37	117.44	121.90
1	X	259	U	P-O3'-C3'	6.37	127.34	119.70
1	X	2693	U	N3-C2-O2	-6.36	117.75	122.20
1	X	1474	A	C5-C6-N6	6.36	128.79	123.70
1	X	1652	G	C5-N7-C8	-6.35	101.12	104.30
1	X	518	A	N1-C6-N6	6.34	122.41	118.60
1	X	2696	A	C5-C6-N1	6.34	120.87	117.70
1	X	1647	U	N3-C4-C5	-6.34	110.80	114.60
1	X	1984	A	O5'-P-OP2	-6.33	100.00	105.70
15	N	50	ARG	CA-CB-CG	6.31	127.29	113.40
1	X	1467	U	N3-C2-O2	6.31	126.61	122.20
1	X	2045	A	N1-C6-N6	-6.31	114.82	118.60
1	X	600	G	P-O3'-C3'	6.30	127.26	119.70
1	X	834	A	C8-N9-C4	-6.30	103.28	105.80
1	X	1652	G	C6-C5-N7	-6.30	126.62	130.40
1	X	654	A	N1-C6-N6	-6.30	114.82	118.60
1	X	1993	G	N1-C6-O6	6.30	123.68	119.90
1	X	2546	G	N3-C4-N9	6.29	129.78	126.00
2	Y	83	C	N1-C2-O2	6.29	122.68	118.90
1	X	1662	G	N3-C4-N9	6.29	129.78	126.00
1	X	1475	U	P-O3'-C3'	6.29	127.24	119.70
1	X	2817	A	C2-N3-C4	-6.28	107.46	110.60
1	X	492	G	O4'-C1'-N9	6.28	113.22	108.20
1	X	1287	A	OP1-P-O3'	6.26	118.98	105.20
1	X	2560	G	C8-N9-C4	-6.26	103.89	106.40
1	X	2825	A	N1-C6-N6	6.26	122.36	118.60
1	X	1338	G	C8-N9-C4	-6.26	103.90	106.40
1	X	686	C	N1-C2-O2	-6.25	115.15	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2043	A	C6-C5-N7	-6.25	127.93	132.30
1	X	2678	C	C2-N3-C4	-6.25	116.78	119.90
1	X	525	A	C8-N9-C4	-6.24	103.30	105.80
1	X	540	G	C4-N9-C1'	6.24	134.62	126.50
1	X	2330	G	P-O3'-C3'	6.24	127.19	119.70
1	X	2704	U	N3-C4-O4	6.24	123.77	119.40
1	X	2316	G	C4-C5-N7	6.24	113.30	110.80
1	X	2700	U	N3-C4-O4	6.23	123.76	119.40
1	X	134	G	C8-N9-C1'	-6.23	118.90	127.00
1	X	2322	U	P-O3'-C3'	6.23	127.18	119.70
1	X	2823	G	C5-C6-O6	6.23	132.34	128.60
1	X	563	U	C5-C6-N1	-6.23	119.59	122.70
1	X	699	G	C6-C5-N7	-6.23	126.66	130.40
1	X	456	C	O5'-P-OP2	-6.22	100.10	105.70
2	Y	84	G	C8-N9-C4	6.22	108.89	106.40
1	X	1660	G	C4-C5-N7	-6.22	108.31	110.80
1	X	14	A	C8-N9-C4	-6.21	103.31	105.80
1	X	1775	A	O5'-P-OP1	-6.21	100.11	105.70
1	X	849	G	N7-C8-N9	6.21	116.20	113.10
1	X	2432	A	C8-N9-C4	-6.21	103.32	105.80
1	X	765	C	N1-C2-O2	6.20	122.62	118.90
1	X	2534	U	N3-C4-O4	6.20	123.74	119.40
2	Y	14	C	C5-C6-N1	6.20	124.10	121.00
1	X	89	A	C8-N9-C4	-6.20	103.32	105.80
1	X	1684	G	N1-C6-O6	6.20	123.62	119.90
2	Y	39	C	C6-N1-C1'	-6.20	113.36	120.80
1	X	579	G	C4-C5-N7	-6.20	108.32	110.80
1	X	542	A	C5-N7-C8	-6.19	100.81	103.90
1	X	2795	A	P-O3'-C3'	6.18	127.12	119.70
1	X	2597	G	N3-C4-C5	-6.18	125.51	128.60
1	X	833	A	C5-N7-C8	-6.18	100.81	103.90
1	X	2590	U	C2-N1-C1'	6.18	125.11	117.70
1	X	686	C	C2-N1-C1'	-6.16	112.02	118.80
1	X	1970	G	N3-C4-C5	-6.16	125.52	128.60
1	X	2813	G	C8-N9-C4	6.16	108.86	106.40
1	X	2876	C	N1-C2-O2	-6.16	115.20	118.90
1	X	1278	A	O5'-P-OP2	-6.16	100.16	105.70
1	X	581	A	N1-C6-N6	-6.15	114.91	118.60
1	X	1356	G	C4-N9-C1'	6.15	134.49	126.50
1	X	522	G	N9-C4-C5	-6.15	102.94	105.40
1	X	2782	G	C4-C5-N7	6.15	113.26	110.80
1	X	174	A	C6-N1-C2	-6.15	114.91	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	460	U	N1-C2-N3	6.14	118.58	114.90
1	X	524	A	O5'-P-OP2	-6.14	100.17	105.70
1	X	1278	A	C5-C6-N1	-6.14	114.63	117.70
1	X	1326	U	C2-N1-C1'	6.14	125.06	117.70
1	X	1288	A	C5-C6-N6	-6.13	118.79	123.70
1	X	1304	U	C5-C6-N1	-6.13	119.63	122.70
1	X	649	G	N1-C2-N2	6.13	121.71	116.20
5	C	127	ASP	CB-CG-OD1	6.13	123.81	118.30
1	X	1919	A	C2-N3-C4	-6.12	107.54	110.60
1	X	2473	G	N3-C4-C5	-6.12	125.54	128.60
1	X	2480	C	N3-C4-C5	6.12	124.35	121.90
1	X	2867	G	C2-N3-C4	-6.12	108.84	111.90
1	X	1288	A	N7-C8-N9	6.12	116.86	113.80
1	X	2554	C	C5-C6-N1	6.12	124.06	121.00
1	X	689	A	C8-N9-C4	-6.11	103.36	105.80
1	X	2705	A	P-O3'-C3'	6.11	127.04	119.70
1	X	1163	C	C6-N1-C2	-6.11	117.86	120.30
1	X	1712	G	N3-C4-C5	-6.11	125.55	128.60
1	X	1970	G	C2-N3-C4	6.11	114.95	111.90
1	X	2820	C	C6-N1-C2	6.11	122.74	120.30
1	X	1304	U	C6-N1-C2	6.09	124.65	121.00
1	X	1333	G	N7-C8-N9	6.09	116.14	113.10
1	X	2230	G	N1-C6-O6	6.09	123.55	119.90
1	X	2326	C	O5'-P-OP2	-6.09	100.22	105.70
1	X	540	G	N3-C2-N2	6.08	124.16	119.90
1	X	2057	U	C6-N1-C2	-6.08	117.35	121.00
1	X	762	A	C4-C5-N7	6.08	113.74	110.70
1	X	1203	A	N1-C6-N6	6.08	122.25	118.60
1	X	2025	A	N9-C4-C5	-6.08	103.37	105.80
1	X	2666	U	N3-C4-C5	-6.08	110.95	114.60
1	X	2766	U	C5-C6-N1	-6.08	119.66	122.70
1	X	2593	A	OP1-P-O3'	6.08	118.58	105.20
1	X	1687	C	C4-C5-C6	6.07	120.44	117.40
1	X	1939	U	N3-C2-O2	-6.07	117.95	122.20
1	X	1692	C	C4-C5-C6	6.07	120.43	117.40
1	X	2524	G	N3-C4-C5	-6.06	125.57	128.60
1	X	1690	U	N3-C4-C5	6.06	118.24	114.60
1	X	2441	U	N3-C2-O2	-6.05	117.96	122.20
1	X	1751	A	C5-C6-N1	6.05	120.72	117.70
1	X	2685	A	N1-C6-N6	-6.04	114.97	118.60
1	X	1009	C	C6-N1-C1'	-6.04	113.55	120.80
1	X	1691	G	N9-C4-C5	-6.04	102.98	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	796	A	N7-C8-N9	6.04	116.82	113.80
1	X	2627	G	C8-N9-C4	-6.04	103.98	106.40
16	O	38	LEU	CA-CB-CG	6.04	129.19	115.30
1	X	2668	U	C5-C6-N1	-6.04	119.68	122.70
1	X	2530	C	C4-C5-C6	6.03	120.42	117.40
1	X	1037	U	N3-C2-O2	-6.03	117.98	122.20
1	X	1749	G	O4'-C1'-N9	6.03	113.03	108.20
1	X	2858	A	N3-C4-C5	-6.03	122.58	126.80
1	X	957	G	C2-N3-C4	6.02	114.91	111.90
1	X	2798	A	N1-C6-N6	6.02	122.21	118.60
1	X	1032	A	C2-N3-C4	-6.02	107.59	110.60
1	X	1683	G	C8-N9-C1'	6.02	134.82	127.00
1	X	2559	U	C5-C4-O4	-6.02	122.29	125.90
1	X	1669	A	N1-C6-N6	6.01	122.21	118.60
1	X	2858	A	C2-N3-C4	6.01	113.61	110.60
1	X	1338	G	N3-C4-C5	-6.01	125.59	128.60
1	X	2484	G	C5-C6-O6	6.01	132.21	128.60
1	X	2790	C	O5'-P-OP2	-6.00	100.30	105.70
1	X	2850	U	O5'-P-OP1	-6.00	100.30	105.70
1	X	2027	C	C2-N1-C1'	6.00	125.40	118.80
1	X	2820	C	N3-C4-C5	6.00	124.30	121.90
1	X	1342	U	C5-C4-O4	5.99	129.50	125.90
1	X	1467	U	N1-C2-O2	5.99	127.00	122.80
1	X	2045	A	C4-C5-C6	-5.99	114.00	117.00
2	Y	17	A	O4'-C1'-N9	5.99	112.99	108.20
1	X	1020	A	C2-N3-C4	5.99	113.59	110.60
1	X	2854	G	N1-C6-O6	5.99	123.49	119.90
1	X	858	G	P-O3'-C3'	5.98	126.88	119.70
1	X	1974	U	C6-N1-C2	-5.98	117.41	121.00
1	X	518	A	C5-C6-N6	-5.98	118.91	123.70
1	X	1338	G	C2-N3-C4	5.98	114.89	111.90
1	X	2521	A	C2-N3-C4	5.98	113.59	110.60
1	X	1288	A	C5'-C4'-C3'	5.98	125.56	116.00
1	X	136	A	C8-N9-C4	-5.97	103.41	105.80
1	X	1356	G	C8-N9-C1'	-5.97	119.24	127.00
1	X	1757	C	N3-C4-C5	5.97	124.29	121.90
1	X	2041	A	N1-C6-N6	5.97	122.18	118.60
1	X	2570	C	C6-N1-C2	-5.96	117.92	120.30
1	X	2682	C	C2-N1-C1'	5.96	125.36	118.80
1	X	1337	G	C5-C6-N1	5.96	114.48	111.50
1	X	1345	G	C6-C5-N7	-5.96	126.83	130.40
1	X	1984	A	C8-N9-C4	5.96	108.18	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	596	C	N3-C4-C5	-5.95	119.52	121.90
1	X	746	G	N1-C6-O6	5.95	123.47	119.90
1	X	1707	A	O5'-P-OP1	-5.95	100.34	105.70
1	X	1775	A	N7-C8-N9	-5.95	110.83	113.80
1	X	2017	U	C6-N1-C2	-5.95	117.43	121.00
1	X	2480	C	O4'-C1'-N1	5.95	112.96	108.20
1	X	1765	C	N3-C2-O2	-5.95	117.74	121.90
1	X	2523	G	C8-N9-C4	-5.95	104.02	106.40
1	X	527	C	C2-N1-C1'	5.95	125.34	118.80
1	X	974	U	N3-C4-O4	5.94	123.56	119.40
1	X	958	G	C5-C6-N1	5.94	114.47	111.50
1	X	1269	G	C4-C5-N7	5.94	113.17	110.80
1	X	1469	U	N1-C2-N3	5.94	118.46	114.90
12	K	90	ARG	NE-CZ-NH1	-5.94	117.33	120.30
1	X	1469	U	N3-C2-O2	-5.93	118.05	122.20
1	X	2854	G	C8-N9-C4	-5.93	104.03	106.40
1	X	683	A	O4'-C1'-N9	-5.93	103.45	108.20
1	X	1468	A	C6-N1-C2	-5.93	115.04	118.60
1	X	1661	C	N3-C4-C5	5.93	124.27	121.90
1	X	1919	A	C4-C5-N7	5.93	113.67	110.70
1	X	2855	C	C5-C6-N1	5.92	123.96	121.00
1	X	559	C	C6-N1-C1'	-5.92	113.69	120.80
1	X	1312	G	C2-N3-C4	-5.92	108.94	111.90
1	X	1312	G	C6-C5-N7	-5.92	126.85	130.40
1	X	1582	A	N1-C6-N6	-5.92	115.05	118.60
1	X	1687	C	N1-C2-N3	5.92	123.34	119.20
1	X	1790	G	P-O3'-C3'	5.92	126.80	119.70
1	X	1667	A	C5-C6-N1	5.91	120.66	117.70
1	X	2246	A	N1-C6-N6	-5.91	115.05	118.60
1	X	2371	A	C5-N7-C8	-5.91	100.94	103.90
1	X	2586	G	C6-C5-N7	-5.91	126.85	130.40
1	X	1562	G	N3-C4-N9	-5.91	122.46	126.00
1	X	2559	U	C2-N1-C1'	5.91	124.79	117.70
1	X	2698	G	N3-C4-N9	5.90	129.54	126.00
1	X	2524	G	C6-N1-C2	-5.90	121.56	125.10
1	X	1282	A	C8-N9-C4	5.90	108.16	105.80
1	X	1987	G	C8-N9-C4	-5.89	104.04	106.40
1	X	2669	C	N3-C4-C5	-5.89	119.54	121.90
1	X	1009	C	N1-C2-O2	5.88	122.43	118.90
1	X	2017	U	O5'-P-OP1	-5.88	100.41	105.70
9	H	57	ASP	CB-CG-OD2	-5.87	113.02	118.30
1	X	537	C	N3-C4-C5	5.87	124.25	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	136	A	O5'-P-OP1	-5.86	100.42	105.70
1	X	969	U	OP2-P-O3'	5.86	118.10	105.20
1	X	1684	G	N9-C4-C5	-5.85	103.06	105.40
1	X	2691	C	C2-N3-C4	-5.85	116.97	119.90
1	X	462	G	C5-C6-N1	-5.85	108.58	111.50
1	X	850	C	C2-N1-C1'	5.85	125.23	118.80
1	X	854	G	N3-C4-N9	-5.85	122.49	126.00
1	X	2535	C	C6-N1-C2	5.85	122.64	120.30
1	X	1009	C	C2-N1-C1'	5.85	125.23	118.80
1	X	1626	A	C4-C5-N7	5.85	113.62	110.70
1	X	2495	G	N3-C4-C5	-5.84	125.68	128.60
1	X	26	G	N3-C4-C5	-5.84	125.68	128.60
1	X	2045	A	C5-C6-N1	5.84	120.62	117.70
1	X	655	A	C4-C5-C6	-5.84	114.08	117.00
1	X	2688	G	O5'-P-OP1	5.84	117.70	110.70
1	X	380	C	N1-C2-O2	5.83	122.40	118.90
1	X	841	G	C4-C5-N7	5.82	113.13	110.80
1	X	2434	G	N3-C4-C5	-5.82	125.69	128.60
1	X	1713	G	N3-C4-C5	-5.82	125.69	128.60
1	X	2222	U	N3-C2-O2	-5.82	118.13	122.20
1	X	2325	A	N1-C6-N6	5.82	122.09	118.60
1	X	2751	C	N3-C4-C5	5.81	124.23	121.90
1	X	1981	A	N1-C6-N6	5.81	122.09	118.60
1	X	522	G	C4-C5-N7	5.81	113.12	110.80
1	X	1662	G	C5-C6-N1	5.81	114.41	111.50
1	X	2409	A	C5-C6-N6	-5.81	119.05	123.70
1	X	1037	U	C2-N1-C1'	5.81	124.67	117.70
1	X	2858	A	N9-C4-C5	5.80	108.12	105.80
1	X	2254	C	N1-C2-O2	-5.80	115.42	118.90
1	X	2579	A	C8-N9-C4	5.80	108.12	105.80
1	X	673	G	C8-N9-C4	5.80	108.72	106.40
1	X	2481	G	N7-C8-N9	5.80	116.00	113.10
1	X	2858	A	N1-C6-N6	-5.80	115.12	118.60
1	X	2867	G	N3-C4-C5	5.80	131.50	128.60
1	X	1662	G	N3-C4-C5	-5.79	125.70	128.60
1	X	2607	C	N1-C2-O2	5.79	122.38	118.90
1	X	2677	U	C5-C4-O4	5.79	129.38	125.90
1	X	2819	G	N3-C4-N9	5.79	129.48	126.00
1	X	2868	G	C8-N9-C4	-5.79	104.08	106.40
1	X	968	C	C5-C6-N1	5.79	123.89	121.00
1	X	1279	G	N3-C2-N2	5.79	123.95	119.90
1	X	2468	G	N1-C6-O6	-5.79	116.43	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1270	C	N3-C4-C5	-5.79	119.59	121.90
1	X	1283	C	N1-C2-O2	-5.79	115.43	118.90
1	X	1712	G	C4-N9-C1'	5.79	134.02	126.50
1	X	527	C	N1-C2-O2	5.78	122.37	118.90
1	X	2421	C	C6-N1-C2	-5.78	117.99	120.30
1	X	1766	U	C5-C4-O4	-5.78	122.43	125.90
1	X	344	G	N7-C8-N9	5.78	115.99	113.10
1	X	2487	G	N1-C6-O6	-5.77	116.44	119.90
1	X	1724	C	C6-N1-C2	5.77	122.61	120.30
1	X	1687	C	C2-N3-C4	-5.76	117.02	119.90
1	X	1688	U	N3-C4-C5	-5.76	111.14	114.60
1	X	2410	U	C5-C6-N1	5.76	125.58	122.70
1	X	1541	G	N1-C6-O6	-5.76	116.44	119.90
1	X	2432	A	N7-C8-N9	5.76	116.68	113.80
1	X	2593	A	N7-C8-N9	5.76	116.68	113.80
1	X	2876	C	N1-C2-N3	5.76	123.23	119.20
1	X	617	U	N3-C2-O2	-5.75	118.17	122.20
1	X	833	A	N9-C4-C5	-5.75	103.50	105.80
1	X	746	G	C6-C5-N7	-5.75	126.95	130.40
1	X	2243	C	C2-N1-C1'	5.75	125.12	118.80
1	X	1810	U	P-O3'-C3'	5.74	126.59	119.70
1	X	460	U	C6-N1-C2	-5.73	117.56	121.00
1	X	746	G	N3-C4-N9	5.73	129.44	126.00
1	X	170	U	C5-C4-O4	5.72	129.34	125.90
1	X	1675	C	O5'-P-OP2	5.72	117.56	110.70
1	X	2432	A	C6-N1-C2	5.72	122.03	118.60
1	X	2492	G	O5'-P-OP2	-5.72	100.55	105.70
1	X	438	G	C4-C5-N7	5.72	113.09	110.80
1	X	1777	A	O5'-P-OP2	-5.72	100.55	105.70
1	X	2032	G	C5-C6-N1	5.72	114.36	111.50
1	X	2482	A	OP1-P-OP2	-5.72	111.03	119.60
1	X	2604	G	C4-C5-N7	-5.72	108.51	110.80
1	X	955	G	C8-N9-C1'	-5.71	119.57	127.00
1	X	1666	G	C8-N9-C4	5.71	108.69	106.40
1	X	1988	A	N7-C8-N9	-5.71	110.94	113.80
1	X	1286	U	N3-C2-O2	-5.70	118.21	122.20
1	X	2625	U	C5-C4-O4	-5.70	122.48	125.90
1	X	2868	G	N9-C4-C5	5.70	107.68	105.40
1	X	1679	U	C2-N3-C4	-5.70	123.58	127.00
1	X	219	G	P-O3'-C3'	5.70	126.54	119.70
1	X	1647	U	N1-C2-N3	5.70	118.32	114.90
1	X	957	G	N3-C4-C5	-5.70	125.75	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1688	U	N3-C4-O4	5.70	123.39	119.40
1	X	2664	G	OP1-P-O3'	5.70	117.73	105.20
1	X	2559	U	N1-C2-N3	-5.69	111.48	114.90
1	X	484	G	N7-C8-N9	5.69	115.95	113.10
1	X	940	G	C4-N9-C1'	-5.69	119.10	126.50
1	X	2468	G	OP2-P-O3'	5.69	117.72	105.20
1	X	2846	G	O4'-C1'-N9	5.69	112.75	108.20
1	X	1919	A	C5-N7-C8	-5.69	101.06	103.90
1	X	2530	C	C6-N1-C2	-5.69	118.03	120.30
1	X	1345	G	C4-C5-N7	5.68	113.07	110.80
1	X	1630	A	O5'-P-OP1	5.68	117.52	110.70
1	X	1819	U	N3-C4-C5	-5.68	111.19	114.60
1	X	2228	U	N3-C4-O4	5.68	123.38	119.40
1	X	822	G	N9-C4-C5	5.68	107.67	105.40
1	X	1212	U	O5'-P-OP2	-5.68	100.59	105.70
1	X	2586	G	N3-C4-N9	5.67	129.40	126.00
1	X	1652	G	N1-C6-O6	5.67	123.30	119.90
1	X	1757	C	C2-N3-C4	-5.67	117.06	119.90
1	X	2423	G	C5-C6-N1	5.67	114.33	111.50
1	X	2687	G	C8-N9-C4	5.67	108.67	106.40
1	X	501	G	C2-N3-C4	-5.67	109.07	111.90
1	X	686	C	O5'-P-OP1	-5.67	100.60	105.70
1	X	2757	G	C8-N9-C4	5.66	108.67	106.40
1	X	1312	G	N1-C6-O6	5.66	123.30	119.90
1	X	1683	G	C5-C6-O6	5.66	131.99	128.60
1	X	1340	C	N1-C2-O2	-5.65	115.51	118.90
1	X	2434	G	C4-N9-C1'	5.65	133.85	126.50
1	X	2251	U	N3-C4-C5	5.65	117.99	114.60
1	X	2410	U	C6-N1-C2	-5.65	117.61	121.00
1	X	112	U	C2-N1-C1'	5.65	124.48	117.70
1	X	2818	G	O5'-P-OP2	-5.65	100.62	105.70
1	X	2580	C	N1-C2-N3	5.64	123.15	119.20
1	X	2559	U	C6-N1-C1'	-5.64	113.30	121.20
1	X	957	G	C5-C6-N1	5.64	114.32	111.50
1	X	1269	G	C6-C5-N7	-5.64	127.02	130.40
1	X	1340	C	OP1-P-OP2	-5.64	111.14	119.60
1	X	2274	C	C6-N1-C1'	-5.63	114.04	120.80
1	X	2827	G	N3-C2-N2	5.63	123.84	119.90
1	X	484	G	C6-C5-N7	-5.63	127.02	130.40
1	X	957	G	C4-C5-N7	-5.63	108.55	110.80
1	X	803	C	C2-N1-C1'	5.63	124.99	118.80
1	X	2554	C	O5'-P-OP1	-5.63	100.64	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1702	C	C6-N1-C2	5.63	122.55	120.30
1	X	1933	G	C2-N3-C4	5.63	114.71	111.90
1	X	1667	A	C4-C5-N7	5.62	113.51	110.70
1	X	2766	U	C6-N1-C2	5.62	124.37	121.00
1	X	1982	C	C2-N3-C4	-5.62	117.09	119.90
1	X	2580	C	N3-C4-C5	-5.62	119.65	121.90
1	X	2423	G	N1-C6-O6	-5.61	116.53	119.90
1	X	995	A	O5'-P-OP2	-5.61	100.65	105.70
1	X	2747	C	C6-N1-C2	5.61	122.55	120.30
1	X	2843	A	C2-N3-C4	5.61	113.41	110.60
1	X	2052	G	C4-N9-C1'	5.61	133.79	126.50
1	X	173	A	N1-C2-N3	5.61	132.10	129.30
1	X	1679	U	C6-N1-C2	5.61	124.36	121.00
1	X	527	C	C5-C6-N1	5.60	123.80	121.00
1	X	1277	G	C8-N9-C4	5.60	108.64	106.40
1	X	1699	A	C5-C6-N1	-5.60	114.90	117.70
1	X	2867	G	C6-C5-N7	-5.60	127.04	130.40
1	X	1336	G	N9-C4-C5	-5.60	103.16	105.40
1	X	2408	G	N7-C8-N9	5.60	115.90	113.10
1	X	519	C	C5-C6-N1	5.59	123.80	121.00
1	X	2544	A	N1-C2-N3	-5.59	126.50	129.30
1	X	2796	A	C5-C6-N1	5.59	120.50	117.70
1	X	1963	G	N3-C4-C5	-5.59	125.81	128.60
1	X	124	A	C8-N9-C4	-5.59	103.56	105.80
1	X	2426	G	C4-C5-N7	5.59	113.03	110.80
1	X	2479	U	O4'-C1'-N1	5.59	112.67	108.20
1	X	1277	G	N1-C6-O6	-5.58	116.55	119.90
1	X	2432	A	N1-C2-N3	-5.58	126.51	129.30
1	X	2700	U	N3-C4-C5	-5.57	111.26	114.60
1	X	50	G	C4-N9-C1'	5.57	133.74	126.50
1	X	2022	C	C6-N1-C2	-5.57	118.07	120.30
1	X	1287	A	N1-C6-N6	-5.57	115.26	118.60
1	X	2338	C	C6-N1-C2	-5.57	118.07	120.30
1	X	266	U	C5-C6-N1	5.57	125.48	122.70
1	X	438	G	N9-C4-C5	-5.56	103.17	105.40
1	X	1624	A	O5'-P-OP2	-5.56	100.70	105.70
17	P	96	TYR	CB-CG-CD2	-5.56	117.66	121.00
1	X	2819	G	C5-C6-O6	-5.56	125.27	128.60
1	X	2865	G	N1-C6-O6	-5.56	116.57	119.90
1	X	2242	C	O5'-P-OP1	-5.56	100.70	105.70
1	X	236	C	C6-N1-C2	-5.55	118.08	120.30
1	X	787	A	N1-C6-N6	5.55	121.93	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	774	A	C6-C5-N7	5.55	136.19	132.30
1	X	859	U	N1-C2-O2	-5.55	118.91	122.80
1	X	521	U	N1-C2-O2	-5.55	118.92	122.80
1	X	787	A	C2-N3-C4	-5.55	107.83	110.60
1	X	1142	G	N7-C8-N9	-5.55	110.33	113.10
1	X	2597	G	C4-N9-C1'	5.54	133.71	126.50
1	X	2256	G	N7-C8-N9	5.54	115.87	113.10
1	X	2489	C	N3-C4-C5	-5.54	119.68	121.90
1	X	1326	U	O4'-C1'-N1	5.54	112.63	108.20
1	X	859	U	P-O3'-C3'	5.54	126.35	119.70
1	X	1670	G	C6-N1-C2	-5.54	121.78	125.10
1	X	2692	A	N1-C6-N6	5.54	121.92	118.60
1	X	928	G	N3-C4-N9	5.54	129.32	126.00
1	X	2492	G	C8-N9-C4	-5.53	104.19	106.40
1	X	1985	G	N7-C8-N9	5.53	115.87	113.10
1	X	2551	A	N7-C8-N9	-5.53	111.03	113.80
1	X	2782	G	N9-C4-C5	-5.52	103.19	105.40
1	X	2033	C	C6-N1-C2	-5.52	118.09	120.30
1	X	796	A	C5-N7-C8	-5.51	101.14	103.90
1	X	940	G	C8-N9-C1'	5.51	134.17	127.00
1	X	540	G	P-O3'-C3'	5.51	126.31	119.70
1	X	762	A	N1-C2-N3	-5.51	126.55	129.30
1	X	2616	U	N3-C2-O2	5.51	126.06	122.20
1	X	30	G	N7-C8-N9	5.51	115.85	113.10
1	X	803	C	C5-C6-N1	5.51	123.75	121.00
1	X	803	C	N3-C2-O2	-5.50	118.05	121.90
1	X	739	G	N1-C2-N3	5.50	127.20	123.90
2	Y	2	C	C5-C6-N1	5.50	123.75	121.00
1	X	525	A	C5-C6-N1	5.50	120.45	117.70
1	X	2553	G	C8-N9-C4	-5.50	104.20	106.40
1	X	661	C	N3-C2-O2	-5.50	118.05	121.90
2	Y	4	C	C5-C6-N1	5.50	123.75	121.00
1	X	2665	G	C4-C5-N7	5.50	113.00	110.80
1	X	1981	A	OP1-P-OP2	5.50	127.85	119.60
1	X	968	C	C6-N1-C1'	-5.49	114.21	120.80
1	X	2821	G	OP1-P-O3'	5.49	117.29	105.20
1	X	344	G	C4-N9-C1'	5.49	133.63	126.50
1	X	463	C	O5'-P-OP1	-5.49	100.76	105.70
1	X	1932	G	O5'-P-OP2	5.49	117.28	110.70
1	X	2542	U	C5-C4-O4	5.49	129.19	125.90
1	X	2314	A	N9-C4-C5	5.49	107.99	105.80
1	X	2822	U	N3-C4-O4	5.49	123.24	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1666	G	OP1-P-OP2	-5.48	111.38	119.60
1	X	541	C	O5'-P-OP2	-5.48	100.77	105.70
1	X	686	C	C5-C6-N1	-5.48	118.26	121.00
1	X	2478	C	N3-C4-C5	-5.47	119.71	121.90
1	X	757	U	OP2-P-O3'	5.47	117.24	105.20
1	X	1001	A	C8-N9-C4	-5.47	103.61	105.80
1	X	2710	C	N1-C2-O2	5.47	122.18	118.90
1	X	1991	C	C5-C6-N1	-5.47	118.27	121.00
1	X	2626	U	N3-C4-C5	5.47	117.88	114.60
1	X	2655	C	C6-N1-C2	5.47	122.49	120.30
1	X	525	A	N1-C6-N6	-5.47	115.32	118.60
1	X	2598	C	C5-C6-N1	-5.46	118.27	121.00
1	X	2371	A	N1-C6-N6	5.46	121.88	118.60
1	X	1729	C	C6-N1-C2	-5.46	118.12	120.30
1	X	1984	A	O5'-P-OP1	5.46	117.25	110.70
1	X	2032	G	C5-N7-C8	5.46	107.03	104.30
1	X	1223	G	N7-C8-N9	5.45	115.83	113.10
1	X	1283	C	C5-C6-N1	-5.45	118.27	121.00
1	X	2792	C	C5-C6-N1	-5.45	118.27	121.00
1	X	469	G	OP1-P-O3'	5.45	117.19	105.20
1	X	958	G	C2-N3-C4	5.45	114.63	111.90
1	X	1478	U	N3-C2-O2	-5.45	118.39	122.20
1	X	939	C	C5-C6-N1	5.45	123.72	121.00
1	X	1767	G	C5-C6-N1	5.44	114.22	111.50
1	X	2052	G	N3-C4-N9	5.44	129.26	126.00
1	X	2659	C	C6-N1-C2	-5.44	118.12	120.30
1	X	2057	U	N3-C4-O4	5.44	123.21	119.40
1	X	522	G	C8-N9-C1'	-5.44	119.93	127.00
15	N	50	ARG	CG-CD-NE	5.44	123.22	111.80
1	X	456	C	C6-N1-C1'	5.43	127.32	120.80
1	X	1284	G	N1-C2-N2	-5.43	111.31	116.20
1	X	1141	U	C5-C6-N1	-5.43	119.98	122.70
1	X	682	G	C2-N3-C4	5.43	114.61	111.90
1	X	2402	U	P-O3'-C3'	5.43	126.21	119.70
1	X	2681	A	N1-C6-N6	5.42	121.85	118.60
2	Y	67	C	C6-N1-C2	-5.42	118.13	120.30
1	X	555	U	C5-C6-N1	-5.42	119.99	122.70
1	X	2422	C	C2-N1-C1'	5.42	124.77	118.80
1	X	2491	C	C2-N1-C1'	5.42	124.77	118.80
1	X	18	U	N3-C2-O2	-5.42	118.41	122.20
1	X	975	C	N1-C2-O2	-5.42	115.65	118.90
1	X	1344	C	N3-C4-C5	5.42	124.07	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	438	G	C5-C6-O6	-5.42	125.35	128.60
1	X	850	C	C6-N1-C2	-5.42	118.13	120.30
1	X	2034	A	C5-C6-N6	-5.42	119.37	123.70
1	X	2676	G	C8-N9-C4	5.42	108.57	106.40
1	X	2586	G	N3-C4-C5	-5.41	125.89	128.60
1	X	573	C	C6-N1-C2	5.41	122.46	120.30
1	X	868	U	C6-N1-C2	-5.41	117.75	121.00
1	X	1283	C	N1-C2-N3	5.41	122.99	119.20
1	X	2034	A	C5-C6-N1	5.41	120.40	117.70
1	X	1931	G	C8-N9-C4	-5.40	104.24	106.40
1	X	381	C	C2-N1-C1'	5.40	124.74	118.80
1	X	2245	A	N1-C6-N6	-5.40	115.36	118.60
1	X	2856	U	C5-C6-N1	5.39	125.40	122.70
1	X	1333	G	C5-N7-C8	-5.39	101.60	104.30
1	X	796	A	C8-N9-C4	-5.39	103.64	105.80
1	X	1253	C	C4-C5-C6	5.39	120.09	117.40
1	X	2239	C	C6-N1-C2	-5.39	118.15	120.30
1	X	1757	C	C5-C6-N1	-5.38	118.31	121.00
1	X	2495	G	C2-N3-C4	5.38	114.59	111.90
1	X	757	U	N1-C2-N3	5.38	118.13	114.90
14	M	28	ARG	C-N-CD	-5.38	108.77	120.60
1	X	2669	C	C4-C5-C6	5.38	120.09	117.40
1	X	485	G	N3-C4-C5	-5.37	125.91	128.60
1	X	1825	C	C2-N1-C1'	5.37	124.71	118.80
2	Y	14	C	P-O3'-C3'	5.37	126.14	119.70
1	X	2045	A	C6-C5-N7	5.37	136.06	132.30
1	X	1990	U	N3-C2-O2	-5.37	118.44	122.20
1	X	656	U	N3-C2-O2	5.36	125.95	122.20
1	X	2602	G	C8-N9-C4	-5.36	104.25	106.40
1	X	754	G	N7-C8-N9	5.36	115.78	113.10
1	X	994	A	C6-N1-C2	-5.36	115.38	118.60
1	X	1316	G	N3-C4-C5	-5.36	125.92	128.60
1	X	2039	G	C4-C5-N7	5.36	112.94	110.80
1	X	754	G	N1-C2-N3	5.36	127.11	123.90
1	X	1810	U	OP2-P-O3'	5.36	116.98	105.20
1	X	508	G	C4-C5-N7	5.35	112.94	110.80
1	X	2699	G	C4-C5-N7	-5.35	108.66	110.80
1	X	2796	A	C6-N1-C2	-5.35	115.39	118.60
1	X	594	G	N1-C6-O6	-5.35	116.69	119.90
1	X	1279	G	OP1-P-O3'	5.35	116.97	105.20
1	X	2534	U	C2-N1-C1'	5.35	124.12	117.70
1	X	859	U	C2-N1-C1'	-5.35	111.28	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2043	A	C5-N7-C8	-5.35	101.23	103.90
1	X	2652	G	C8-N9-C4	-5.35	104.26	106.40
1	X	804	C	C5-C6-N1	-5.34	118.33	121.00
1	X	2316	G	C5-C6-O6	-5.34	125.39	128.60
1	X	485	G	C8-N9-C4	-5.34	104.26	106.40
1	X	2540	A	C2-N3-C4	5.34	113.27	110.60
1	X	2843	A	C5-C6-N1	5.34	120.37	117.70
1	X	788	G	C5-C6-N1	5.34	114.17	111.50
1	X	242	A	C8-N9-C4	-5.33	103.67	105.80
1	X	540	G	C8-N9-C1'	-5.33	120.07	127.00
1	X	228	A	N1-C6-N6	-5.33	115.40	118.60
1	X	1473	U	N3-C4-C5	-5.33	111.40	114.60
2	Y	14	C	OP2-P-O3'	5.33	116.92	105.20
1	X	1258	G	C8-N9-C4	-5.33	104.27	106.40
1	X	2540	A	OP1-P-OP2	5.32	127.58	119.60
1	X	242	A	C2-N3-C4	5.32	113.26	110.60
1	X	685	U	N1-C2-O2	-5.32	119.08	122.80
1	X	1009	C	N3-C2-O2	-5.32	118.18	121.90
1	X	16	G	C8-N9-C4	5.32	108.53	106.40
1	X	2593	A	C8-N9-C4	-5.32	103.67	105.80
1	X	1683	G	C4-N9-C1'	-5.31	119.59	126.50
1	X	689	A	C4-C5-N7	5.31	113.36	110.70
1	X	974	U	OP1-P-OP2	-5.31	111.64	119.60
1	X	2690	A	P-O3'-C3'	5.31	126.07	119.70
1	X	2317	G	O5'-P-OP1	-5.30	100.93	105.70
1	X	2409	A	C4-C5-N7	5.30	113.35	110.70
1	X	2660	C	C4-C5-C6	5.30	120.05	117.40
1	X	747	A	N1-C6-N6	5.30	121.78	118.60
1	X	100	G	P-O3'-C3'	5.29	126.05	119.70
1	X	583	C	C2-N3-C4	5.29	122.55	119.90
1	X	975	C	N1-C2-N3	5.29	122.90	119.20
1	X	759	C	P-O3'-C3'	5.29	126.04	119.70
1	X	2587	G	C6-C5-N7	-5.29	127.23	130.40
1	X	1690	U	O4'-C1'-N1	5.29	112.43	108.20
1	X	501	G	C5-C6-O6	5.28	131.77	128.60
1	X	173	A	C2-N3-C4	-5.28	107.96	110.60
1	X	518	A	P-O3'-C3'	5.28	126.04	119.70
1	X	1702	C	C5-C6-N1	-5.28	118.36	121.00
1	X	2492	G	N1-C6-O6	-5.28	116.73	119.90
1	X	848	A	C2-N3-C4	5.28	113.24	110.60
1	X	26	G	N7-C8-N9	5.28	115.74	113.10
1	X	134	G	C2-N3-C4	5.28	114.54	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	924	C	C2-N1-C1'	5.28	124.60	118.80
1	X	2528	G	OP1-P-O3'	5.28	116.81	105.20
1	X	2596	C	O5'-P-OP1	-5.28	100.95	105.70
1	X	2652	G	N7-C8-N9	5.28	115.74	113.10
1	X	2598	C	N3-C4-C5	5.27	124.01	121.90
1	X	2687	G	C6-N1-C2	-5.27	121.94	125.10
1	X	1662	G	N1-C6-O6	-5.27	116.74	119.90
1	X	2399	C	C6-N1-C2	5.27	122.41	120.30
11	J	93	TYR	CA-CB-CG	5.27	123.42	113.40
1	X	582	G	OP2-P-O3'	5.27	116.79	105.20
2	Y	26	G	C8-N9-C4	-5.27	104.29	106.40
1	X	739	G	C6-N1-C2	-5.26	121.94	125.10
1	X	699	G	N3-C4-N9	-5.26	122.84	126.00
1	X	985	G	C5-N7-C8	-5.26	101.67	104.30
1	X	2338	C	C5-C6-N1	5.26	123.63	121.00
1	X	2433	G	C6-C5-N7	5.26	133.56	130.40
1	X	1820	G	C8-N9-C4	-5.26	104.30	106.40
1	X	1990	U	N3-C4-C5	-5.25	111.45	114.60
1	X	482	A	C8-N9-C4	-5.25	103.70	105.80
1	X	557	U	N1-C2-O2	-5.25	119.12	122.80
1	X	2316	G	N3-C4-N9	5.25	129.15	126.00
1	X	2809	A	C2-N3-C4	5.25	113.23	110.60
1	X	2022	C	N3-C4-C5	-5.25	119.80	121.90
1	X	2694	G	N7-C8-N9	5.25	115.73	113.10
1	X	2041	A	C4-C5-N7	5.25	113.33	110.70
17	P	36	ARG	NE-CZ-NH2	-5.25	117.67	120.30
1	X	698	A	C2-N3-C4	5.24	113.22	110.60
1	X	2557	G	OP1-P-O3'	5.24	116.72	105.20
1	X	2712	G	C8-N9-C4	5.24	108.49	106.40
1	X	14	A	N7-C8-N9	5.23	116.42	113.80
1	X	1656	U	O5'-P-OP1	-5.23	101.00	105.70
1	X	2256	G	O5'-P-OP2	5.23	116.97	110.70
1	X	2330	G	OP2-P-O3'	5.23	116.70	105.20
1	X	2492	G	OP1-P-O3'	5.22	116.69	105.20
1	X	2017	U	C5-C6-N1	5.22	125.31	122.70
1	X	2033	C	C2-N1-C1'	5.22	124.55	118.80
1	X	574	C	C5-C6-N1	5.22	123.61	121.00
12	K	10	LEU	CA-CB-CG	-5.22	103.29	115.30
1	X	2039	G	C5-C6-N1	5.22	114.11	111.50
1	X	1819	U	N3-C2-O2	-5.22	118.55	122.20
1	X	1890	G	N3-C4-N9	5.22	129.13	126.00
1	X	1660	G	N1-C6-O6	-5.21	116.77	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	609	U	C6-N1-C2	5.21	124.13	121.00
1	X	984	A	N1-C6-N6	5.21	121.73	118.60
1	X	1217	U	C5-C6-N1	-5.21	120.09	122.70
1	X	1990	U	C6-N1-C2	-5.21	117.87	121.00
1	X	2040	A	N1-C6-N6	5.21	121.73	118.60
1	X	2531	U	N3-C2-O2	-5.21	118.55	122.20
1	X	501	G	C4-C5-N7	-5.21	108.72	110.80
1	X	655	A	C4-N9-C1'	-5.21	116.92	126.30
1	X	519	C	O5'-P-OP2	-5.21	101.01	105.70
1	X	2409	A	N1-C6-N6	5.21	121.72	118.60
1	X	2553	G	O5'-P-OP2	-5.21	101.01	105.70
1	X	2692	A	C5-N7-C8	-5.21	101.30	103.90
1	X	2686	C	C2-N1-C1'	5.21	124.53	118.80
1	X	2851	G	C6-C5-N7	-5.21	127.28	130.40
1	X	1264	C	N1-C2-O2	5.20	122.02	118.90
1	X	1333	G	C6-N1-C2	5.20	128.22	125.10
1	X	2876	C	C2-N1-C1'	-5.20	113.08	118.80
1	X	766	A	C8-N9-C4	5.19	107.88	105.80
1	X	2551	A	C8-N9-C4	5.19	107.88	105.80
1	X	2665	G	N9-C4-C5	-5.19	103.32	105.40
1	X	690	A	C8-N9-C4	5.19	107.88	105.80
1	X	2046	C	C4-C5-C6	5.19	120.00	117.40
1	X	2481	G	C8-N9-C4	-5.19	104.32	106.40
1	X	2666	U	C6-N1-C2	-5.19	117.89	121.00
1	X	2868	G	C4-C5-N7	-5.19	108.72	110.80
1	X	565	A	C2-N3-C4	-5.19	108.01	110.60
1	X	2046	C	N3-C4-C5	-5.19	119.83	121.90
1	X	2473	G	N3-C4-N9	5.19	129.11	126.00
1	X	506	G	OP2-P-O3'	5.18	116.61	105.20
1	X	1626	A	C5-N7-C8	-5.18	101.31	103.90
1	X	1683	G	N1-C2-N2	5.18	120.87	116.20
1	X	2033	C	O5'-P-OP2	-5.18	101.03	105.70
1	X	753	U	O5'-P-OP2	5.18	116.92	110.70
1	X	89	A	N7-C8-N9	5.18	116.39	113.80
1	X	822	G	C2-N3-C4	5.18	114.49	111.90
1	X	1241	G	N3-C4-C5	-5.18	126.01	128.60
1	X	1682	A	C6-N1-C2	-5.18	115.49	118.60
1	X	1712	G	C8-N9-C1'	-5.18	120.27	127.00
1	X	2041	A	N9-C4-C5	-5.18	103.73	105.80
1	X	1652	G	C5-C6-O6	-5.18	125.49	128.60
1	X	2692	A	C5-C6-N6	-5.18	119.56	123.70
18	Q	91	LEU	CA-CB-CG	5.17	127.20	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1299	A	N9-C4-C5	5.17	107.87	105.80
1	X	559	C	N1-C2-O2	5.17	122.00	118.90
1	X	2433	G	N1-C6-O6	-5.17	116.80	119.90
1	X	2624	G	C2-N3-C4	-5.17	109.31	111.90
1	X	2827	G	C8-N9-C1'	-5.17	120.28	127.00
1	X	1339	U	OP2-P-O3'	5.16	116.56	105.20
3	A	215	LEU	CA-CB-CG	-5.16	103.43	115.30
1	X	1139	A	N1-C6-N6	5.16	121.70	118.60
1	X	448	C	N1-C2-O2	5.16	122.00	118.90
1	X	1765	C	C6-N1-C2	5.16	122.36	120.30
1	X	1933	G	C5-C6-N1	5.16	114.08	111.50
1	X	2045	A	C4-N9-C1'	-5.16	117.02	126.30
1	X	594	G	C5-C6-O6	5.15	131.69	128.60
1	X	1696	C	N1-C2-N3	5.15	122.81	119.20
1	X	1279	G	C8-N9-C4	5.15	108.46	106.40
1	X	1663	C	C6-N1-C1'	-5.15	114.62	120.80
1	X	2817	A	C5-N7-C8	-5.15	101.33	103.90
17	P	105	ARG	NE-CZ-NH1	-5.15	117.73	120.30
1	X	2000	U	N1-C2-O2	-5.15	119.20	122.80
1	X	528	G	C8-N9-C4	-5.14	104.34	106.40
10	I	77	LEU	CA-CB-CG	5.14	127.13	115.30
1	X	1668	G	N3-C2-N2	-5.14	116.30	119.90
1	X	2662	C	N3-C4-C5	-5.14	119.84	121.90
1	X	1013	G	N1-C6-O6	-5.14	116.82	119.90
1	X	2691	C	C5-C6-N1	-5.14	118.43	121.00
1	X	1990	U	C4-C5-C6	5.14	122.78	119.70
1	X	2228	U	N3-C4-C5	-5.14	111.52	114.60
1	X	501	G	N1-C2-N3	5.13	126.98	123.90
1	X	24	G	O5'-P-OP1	-5.13	101.08	105.70
1	X	988	G	O5'-P-OP1	-5.13	101.08	105.70
1	X	1443	G	C4-C5-N7	5.13	112.85	110.80
1	X	1918	G	N1-C6-O6	-5.13	116.82	119.90
1	X	923	A	N1-C6-N6	5.13	121.68	118.60
1	X	460	U	N3-C2-O2	-5.13	118.61	122.20
1	X	2409	A	C5-N7-C8	-5.13	101.34	103.90
25	Z	56	GLN	CG-CD-OE1	5.13	131.86	121.60
1	X	1223	G	C4-N9-C1'	5.13	133.17	126.50
1	X	2298	U	N1-C2-O2	5.13	126.39	122.80
1	X	2474	G	C2-N3-C4	5.13	114.46	111.90
1	X	2521	A	N9-C4-C5	5.13	107.85	105.80
1	X	2820	C	C5-C6-N1	-5.12	118.44	121.00
1	X	2369	U	C5-C6-N1	5.12	125.26	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2600	A	C5-C6-N1	5.12	120.26	117.70
17	P	96	TYR	CA-CB-CG	5.11	123.11	113.40
1	X	1764	A	C8-N9-C4	-5.11	103.76	105.80
1	X	1625	A	N1-C6-N6	5.11	121.67	118.60
1	X	2487	G	C4-C5-C6	-5.11	115.73	118.80
1	X	2044	G	OP1-P-O3'	5.11	116.44	105.20
1	X	2474	G	C5-C6-N1	5.11	114.05	111.50
4	B	58	LYS	CD-CE-NZ	5.11	123.44	111.70
1	X	25	U	C5-C6-N1	5.10	125.25	122.70
1	X	1292	A	C8-N9-C4	5.10	107.84	105.80
1	X	2482	A	C2-N3-C4	5.10	113.15	110.60
1	X	2658	A	O5'-P-OP2	-5.10	101.11	105.70
1	X	2825	A	C5-C6-N6	-5.10	119.62	123.70
1	X	1032	A	N1-C2-N3	5.10	131.85	129.30
1	X	2300	G	C8-N9-C4	-5.10	104.36	106.40
1	X	393	U	C6-N1-C2	-5.09	117.94	121.00
1	X	1466	C	C2-N1-C1'	5.09	124.41	118.80
1	X	2408	G	C2-N3-C4	5.09	114.45	111.90
1	X	1666	G	C5-N7-C8	5.09	106.85	104.30
1	X	1683	G	N1-C6-O6	-5.09	116.84	119.90
1	X	1770	U	C2-N1-C1'	-5.09	111.59	117.70
1	X	2750	G	N3-C4-C5	-5.09	126.06	128.60
1	X	2847	G	P-O3'-C3'	5.09	125.81	119.70
1	X	1023	U	P-O3'-C3'	5.09	125.81	119.70
1	X	2587	G	C4-C5-N7	5.09	112.83	110.80
1	X	1681	A	C5-C6-N1	-5.09	115.16	117.70
1	X	2564	U	N3-C4-O4	5.08	122.96	119.40
1	X	2003	A	C2-N3-C4	5.08	113.14	110.60
1	X	2265	A	O4'-C1'-N9	5.08	112.27	108.20
1	X	2484	G	N3-C2-N2	5.08	123.46	119.90
1	X	1912	G	C8-N9-C4	-5.08	104.37	106.40
1	X	2323	U	C5-C6-N1	5.08	125.24	122.70
1	X	580	A	C5-C6-N6	-5.08	119.64	123.70
1	X	1253	C	N3-C4-C5	-5.08	119.87	121.90
1	X	545	C	C2-N1-C1'	-5.08	113.22	118.80
1	X	508	G	C5-C6-O6	-5.07	125.56	128.60
1	X	1291	G	C8-N9-C4	5.07	108.43	106.40
1	X	1471	G	C5-C6-N1	5.07	114.04	111.50
1	X	1285	A	C5-C6-N1	-5.07	115.16	117.70
1	X	805	G	O4'-C1'-N9	-5.07	104.14	108.20
12	K	22	ARG	NE-CZ-NH1	-5.07	117.77	120.30
1	X	756	C	N3-C4-C5	-5.07	119.87	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	977	G	N7-C8-N9	-5.07	110.56	113.10
1	X	2033	C	OP1-P-O3'	5.07	116.35	105.20
1	X	2698	G	C4-N9-C1'	5.07	133.09	126.50
1	X	538	A	C8-N9-C4	-5.07	103.77	105.80
1	X	1775	A	C8-N9-C4	5.07	107.83	105.80
1	X	2402	U	N3-C2-O2	-5.07	118.65	122.20
1	X	1646	G	C2-N3-C4	-5.07	109.37	111.90
1	X	1692	C	OP1-P-O3'	5.07	116.34	105.20
1	X	1882	G	C2-N3-C4	-5.07	109.37	111.90
1	X	2559	U	C5-C6-N1	5.07	125.23	122.70
1	X	660	G	N9-C4-C5	5.06	107.42	105.40
1	X	2487	G	C2-N3-C4	5.06	114.43	111.90
1	X	863	C	C6-N1-C2	-5.06	118.28	120.30
1	X	574	C	C6-N1-C2	-5.06	118.28	120.30
1	X	757	U	C4-C5-C6	5.06	122.73	119.70
1	X	2468	G	C5-C6-N1	5.06	114.03	111.50
1	X	175	C	N3-C4-N4	5.06	121.54	118.00
1	X	822	G	N1-C6-O6	-5.06	116.86	119.90
1	X	957	G	C5-N7-C8	5.05	106.83	104.30
1	X	1333	G	N3-C2-N2	-5.05	116.36	119.90
1	X	1336	G	N3-C2-N2	5.05	123.44	119.90
1	X	2229	G	O5'-P-OP2	-5.05	101.15	105.70
2	Y	4	C	N1-C2-O2	5.05	121.93	118.90
1	X	1973	C	N3-C2-O2	-5.05	118.36	121.90
1	X	2232	G	C5-C6-O6	-5.05	125.57	128.60
1	X	2670	C	N3-C4-C5	-5.05	119.88	121.90
1	X	2044	G	C4-C5-N7	-5.05	108.78	110.80
1	X	2553	G	N7-C8-N9	5.05	115.62	113.10
1	X	456	C	C2-N1-C1'	-5.04	113.25	118.80
1	X	1623	C	N1-C2-O2	5.04	121.93	118.90
1	X	2235	G	C5-C6-O6	-5.04	125.57	128.60
1	X	1953	A	C8-N9-C4	-5.04	103.78	105.80
1	X	2795	A	C8-N9-C4	5.04	107.82	105.80
1	X	1978	U	C5-C6-N1	5.04	125.22	122.70
1	X	1761	G	N3-C4-C5	-5.04	126.08	128.60
1	X	2438	A	N1-C2-N3	5.04	131.82	129.30
1	X	595	A	OP2-P-O3'	5.04	116.28	105.20
1	X	875	G	C8-N9-C4	-5.04	104.39	106.40
1	X	972	C	C6-N1-C2	-5.04	118.28	120.30
1	X	2325	A	C5-C6-N6	-5.04	119.67	123.70
1	X	2604	G	N9-C4-C5	5.04	107.42	105.40
1	X	2489	C	C4-C5-C6	5.03	119.92	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2843	A	OP2-P-O3'	5.03	116.27	105.20
1	X	457	C	O5'-P-OP2	-5.03	101.17	105.70
1	X	1474	A	N9-C4-C5	5.03	107.81	105.80
1	X	522	G	C5-C6-O6	-5.03	125.58	128.60
1	X	2555	G	N3-C4-C5	5.03	131.12	128.60
1	X	2609	G	C8-N9-C4	-5.03	104.39	106.40
1	X	2792	C	C6-N1-C2	5.03	122.31	120.30
1	X	2475	C	C6-N1-C2	-5.03	118.29	120.30
1	X	1660	G	C5-N7-C8	5.02	106.81	104.30
1	X	2430	A	N1-C2-N3	5.02	131.81	129.30
1	X	2482	A	N3-C4-C5	-5.02	123.28	126.80
1	X	1770	U	C5-C4-O4	5.02	128.91	125.90
1	X	2235	G	N9-C4-C5	-5.02	103.39	105.40
1	X	265	U	C5-C6-N1	5.01	125.20	122.70
1	X	2327	U	C5-C6-N1	5.01	125.20	122.70
1	X	924	C	N3-C2-O2	-5.01	118.39	121.90
1	X	344	G	N3-C4-C5	-5.01	126.10	128.60
1	X	1622	G	C8-N9-C4	5.01	108.40	106.40
1	X	2868	G	N3-C4-C5	-5.01	126.10	128.60
1	X	136	A	C4-N9-C1'	5.00	135.31	126.30
1	X	9	U	N3-C2-O2	-5.00	118.70	122.20
1	X	1306	U	N1-C2-O2	-5.00	119.30	122.80
1	X	2847	G	O4'-C1'-N9	-5.00	104.20	108.20

There are no chirality outliers.

All (36) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
28	3	14	ILE	Peptide
28	3	16	ILE	Peptide
28	3	26	LYS	Peptide
28	3	34	THR	Peptide
3	A	210	GLY	Peptide
3	A	271	VAL	Peptide
4	B	132	LYS	Peptide
4	B	146	THR	Peptide
5	C	49	ALA	Peptide
5	C	55	GLY	Peptide
8	G	115	ALA	Peptide
8	G	36	ASN	Peptide
8	G	95	LEU	Peptide
10	I	20	GLY	Peptide

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Mol	Chain	Res	Type	Group
10	I	38	LYS	Peptide
10	I	40	ARG	Peptide
10	I	57	ILE	Peptide
11	J	12	LYS	Peptide
11	J	26	ASP	Peptide
11	J	28	VAL	Peptide
11	J	71	PRO	Peptide
11	J	81	GLU	Peptide
11	J	91	VAL	Peptide
12	K	8	ARG	Peptide
14	M	28	ARG	Peptide
16	O	13	ARG	Peptide
17	P	132	GLY	Peptide
17	P	45	ILE	Peptide
19	R	60	PRO	Peptide
19	R	81	VAL	Peptide
19	R	86	PRO	Peptide
20	S	32	PHE	Peptide
21	T	68	VAL	Peptide
22	U	47	HIS	Peptide
25	Z	52	TYR	Peptide
25	Z	53	ASP	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	X	57935	0	29196	1261	0
2	Y	2598	0	1328	75	0
3	A	2011	0	2012	124	0
4	B	1544	0	1605	86	0
5	C	1479	0	1488	111	0
6	D	1375	0	1433	67	0
7	E	1286	0	1336	58	0
8	G	1110	0	1133	80	0
9	H	997	0	1046	68	0
10	I	982	0	973	62	0
11	J	1062	0	1067	56	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	K	893	0	944	39	0
13	L	761	0	776	47	0
14	M	923	0	942	56	0
15	N	955	0	974	57	0
16	O	736	0	735	42	0
17	P	1014	0	1085	48	0
18	Q	705	0	717	38	0
19	R	771	0	740	50	0
20	S	1288	0	1237	63	0
21	T	537	0	537	21	0
22	U	519	0	501	35	0
23	V	438	0	456	13	0
24	W	424	0	470	17	0
25	Z	448	0	448	32	0
26	1	314	0	249	16	0
27	2	383	0	414	19	0
28	3	459	0	486	55	0
29	X	50	0	0	0	0
30	2	2	0	0	0	0
30	3	1	0	0	0	0
30	A	3	0	0	0	0
30	B	1	0	0	0	0
30	I	2	0	0	0	0
30	J	1	0	0	0	0
30	K	1	0	0	0	0
30	M	1	0	0	0	0
30	N	3	0	0	0	0
30	X	335	0	0	0	0
30	Y	17	0	0	0	0
31	X	80	0	124	18	0
32	X	32	0	55	2	0
33	X	1	0	0	0	0
34	X	3	0	6	0	0
35	X	5	0	0	0	0
36	X	1	0	0	0	0
All	All	84486	0	54513	2385	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 17.

All (2385) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:143:GLN:HB2	4:B:147:PRO:HG3	1.30	1.10
1:X:243:G:H2'	1:X:244:C:H5'	1.32	1.07
18:Q:89:GLU:HB2	18:Q:91:LEU:HD22	1.38	1.06
15:N:66:ASN:HB3	15:N:76:TYR:HB2	1.38	1.05
1:X:566:U:O3'	8:G:140:GLN:NE2	1.88	1.04
21:T:68:VAL:HG12	21:T:80:SER:H	1.23	1.04
1:X:1277:G:OP1	25:Z:19:ARG:NH2	1.94	1.00
1:X:1673:C:H5"	4:B:136:ARG:HB3	1.43	0.99
3:A:28:ARG:HE	3:A:29:PRO:HD2	1.29	0.97
8:G:35:LYS:HD3	8:G:37:ASP:H	1.29	0.97
1:X:1201:G:OP1	16:O:82:ARG:NH1	1.99	0.95
3:A:252:LYS:HD2	3:A:253:PRO:HD3	1.45	0.95
9:H:125:LYS:HD3	9:H:125:LYS:H	1.30	0.93
2:Y:32:C:H1'	2:Y:59:A:H61	1.33	0.92
28:3:16:ILE:HG21	28:3:63:PRO:HB3	1.46	0.92
5:C:56:ARG:HG2	5:C:57:LYS:H	1.33	0.92
1:X:699:G:H1	27:2:12:ARG:HD2	1.33	0.91
8:G:55:ALA:HB1	8:G:134:MET:HE1	1.53	0.90
1:X:545:C:H1'	15:N:53:LYS:HE3	1.52	0.89
1:X:386:U:HO2'	1:X:387:A:H8	0.95	0.89
3:A:69:ARG:HD2	3:A:130:ALA:HB2	1.55	0.89
28:3:5:LYS:HE2	28:3:62:LEU:HB3	1.50	0.88
1:X:70:A:H4'	1:X:71:A:H5"	1.54	0.88
1:X:1979:C:OP1	9:H:43:ARG:NH1	2.07	0.88
9:H:56:LYS:HD3	9:H:57:ASP:HB2	1.56	0.88
10:I:55:ARG:H	10:I:55:ARG:CZ	1.87	0.88
18:Q:10:PRO:HA	18:Q:27:PHE:HB3	1.56	0.87
5:C:6:VAL:HG12	5:C:118:VAL:HG21	1.54	0.87
3:A:244:ARG:O	3:A:252:LYS:NZ	2.08	0.86
17:P:25:PHE:HB2	17:P:127:ILE:HG12	1.57	0.86
5:C:148:VAL:HG12	5:C:185:ARG:HB2	1.57	0.86
1:X:689:A:H8	1:X:2052:G:H21	1.24	0.86
1:X:938:G:H4'	1:X:939:C:H5"	1.56	0.86
17:P:58:ARG:HH21	25:Z:39:LYS:HD3	1.40	0.86
4:B:132:LYS:HG2	4:B:133:LYS:H	1.39	0.85
11:J:74:PRO:HB3	11:J:91:VAL:HG11	1.59	0.85
9:H:99:ILE:HD12	9:H:103:GLY:HA2	1.59	0.84
14:M:2:GLN:HG2	14:M:3:THR:H	1.41	0.84
1:X:1542:G:H22	1:X:1562:G:H1	1.24	0.84
1:X:1173:G:H4'	16:O:22:VAL:HG22	1.58	0.84
1:X:1466:C:H2'	1:X:1467:U:H1'	1.57	0.84
10:I:83:LEU:HD21	10:I:99:VAL:HG11	1.59	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Z:51:TYR:HE1	25:Z:55:ARG:HG2	1.42	0.84
1:X:967:G:O6	11:J:17:ARG:NH1	2.10	0.83
10:I:101:ARG:H	10:I:118:VAL:HG22	1.43	0.83
5:C:6:VAL:HG13	5:C:7:ILE:H	1.43	0.83
20:S:6:LYS:HB3	20:S:31:SER:HB2	1.60	0.83
1:X:1882:G:H21	1:X:1885:C:H41	1.27	0.83
9:H:75:VAL:HG12	9:H:118:LEU:HD21	1.58	0.83
14:M:82:PRO:HG2	14:M:85:SER:HB2	1.59	0.83
5:C:127:ASP:OD1	5:C:128:ALA:N	2.12	0.83
1:X:1745:C:OP1	14:M:101:ARG:NH2	2.11	0.82
1:X:2281:C:H42	1:X:2293:G:H1	1.27	0.82
1:X:1919:A:H2	1:X:1926:U:H3	1.24	0.82
1:X:492:G:HO2'	1:X:517:A:N6	1.77	0.82
28:3:61:MET:N	28:3:61:MET:SD	2.52	0.82
1:X:1919:A:N6	1:X:1946:U:H3	1.76	0.82
5:C:176:ASN:HB3	5:C:179:ASP:HB2	1.61	0.82
1:X:304:A:N6	1:X:356:A:N7	2.28	0.81
9:H:105:PRO:HG3	9:H:126:ILE:HG12	1.61	0.81
1:X:243:G:H2'	1:X:244:C:C5'	2.09	0.81
20:S:11:LYS:HG2	20:S:12:GLN:H	1.45	0.81
1:X:652:C:H42	1:X:657:A:H61	1.26	0.81
3:A:63:ARG:O	3:A:88:ARG:NH2	2.13	0.81
10:I:103:ASN:HD21	10:I:121:HIS:HB2	1.44	0.81
1:X:841:G:H2'	1:X:842:A:C8	2.16	0.81
3:A:145:LEU:HB3	3:A:155:LEU:HB2	1.62	0.81
6:D:101:GLU:O	6:D:105:ASN:HB2	1.80	0.81
7:E:88:GLU:HG2	7:E:130:ARG:HG2	1.61	0.81
18:Q:60:GLY:HA3	18:Q:73:ASN:H	1.46	0.80
12:K:52:ILE:HD11	12:K:94:TYR:CG	2.16	0.80
7:E:97:LYS:HG3	7:E:98:LEU:H	1.46	0.80
10:I:73:GLU:OE2	10:I:81:GLN:NE2	2.15	0.80
1:X:1009:C:OP1	15:N:84:LYS:NZ	2.15	0.80
1:X:1006:C:O2	8:G:31:THR:OG1	1.99	0.79
24:W:25:LEU:HD22	24:W:30:ASP:HB3	1.64	0.79
20:S:7:PRO:HB3	20:S:11:LYS:HD2	1.65	0.79
1:X:476:G:H4'	27:2:16:HIS:HD2	1.48	0.79
3:A:76:ASN:OD1	3:A:118:ASN:ND2	2.16	0.79
1:X:1846:A:H62	1:X:1871:G:H8	1.31	0.79
1:X:1377:G:N7	22:U:6:TYR:N	2.31	0.78
1:X:244:C:N3	1:X:438:G:N1	2.31	0.78
1:X:244:C:N4	1:X:438:G:O6	2.15	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2078:G:N2	1:X:2178:U:O2	2.17	0.78
1:X:2040:A:H2'	1:X:2041:A:C8	2.19	0.78
1:X:2271:C:OP2	13:L:18:ARG:NH2	2.15	0.78
5:C:118:VAL:HG22	5:C:120:VAL:H	1.49	0.78
7:E:165:VAL:HG23	7:E:166:GLY:H	1.48	0.78
19:R:22:VAL:HG11	19:R:80:LYS:HD3	1.65	0.78
1:X:1058:G:H2'	1:X:1121:G:H1	1.48	0.77
21:T:73:GLY:HA3	21:T:76:ALA:HB3	1.66	0.77
1:X:2418:A:H4'	1:X:2419:C:H5"	1.66	0.77
12:K:56:LYS:NZ	12:K:87:TYR:O	2.16	0.77
14:M:41:GLU:HG3	14:M:46:ARG:HE	1.48	0.77
17:P:36:ARG:CZ	25:Z:20:ARG:HH12	1.97	0.77
1:X:793:G:H21	1:X:796:A:H62	1.30	0.77
1:X:1468:A:H5"	1:X:1468:A:H8	1.47	0.77
1:X:1947:G:O2'	1:X:1950:C:OP2	2.02	0.77
16:O:66:GLY:O	16:O:87:ARG:NH1	2.16	0.77
1:X:1270:C:H4'	5:C:77:PHE:CE1	2.20	0.77
1:X:2318:U:H4'	2:Y:43:G:H22	1.49	0.77
1:X:1850:G:O2'	1:X:1866:G:N2	2.18	0.77
19:R:15:HIS:CD2	19:R:82:ALA:HB2	2.19	0.76
3:A:252:LYS:HD2	3:A:253:PRO:CD	2.15	0.76
9:H:90:ARG:NH1	14:M:78:GLU:OE1	2.18	0.76
3:A:72:LYS:NZ	3:A:99:ASP:OD2	2.18	0.76
4:B:60:ASN:HB3	4:B:62:PRO:HD2	1.67	0.76
14:M:90:GLN:HG2	14:M:91:VAL:H	1.50	0.76
21:T:23:VAL:HA	21:T:38:VAL:HG23	1.66	0.76
7:E:127:GLU:HG2	7:E:129:THR:H	1.50	0.76
1:X:699:G:H1	27:2:12:ARG:CD	1.98	0.76
17:P:103:LEU:HB3	17:P:105:ARG:HH12	1.50	0.76
1:X:2737:A:H2'	1:X:2738:A:H5"	1.66	0.76
22:U:14:VAL:HG12	22:U:15:VAL:H	1.51	0.76
4:B:31:CYS:HB3	4:B:49:ILE:HG12	1.67	0.76
5:C:34:GLN:OE1	5:C:176:ASN:ND2	2.17	0.76
9:H:85:ASP:OD1	9:H:87:SER:N	2.15	0.76
11:J:27:TYR:OH	11:J:136:GLU:N	2.19	0.76
12:K:92:GLY:HA2	12:K:94:TYR:CZ	2.19	0.76
1:X:1079:G:H22	1:X:1106:A:H2'	1.51	0.76
2:Y:107:C:O2'	20:S:25:ASN:O	2.04	0.76
1:X:817:A:OP2	10:I:40:ARG:NH2	2.18	0.75
1:X:1745:C:P	14:M:101:ARG:HH22	2.08	0.75
1:X:2291:U:OP2	6:D:71:LYS:NZ	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:91:VAL:HG12	4:B:93:VAL:H	1.51	0.75
1:X:544:U:H2'	1:X:545:C:C6	2.21	0.75
11:J:15:ARG:HD3	11:J:73:LYS:HG3	1.69	0.75
1:X:492:G:O2'	1:X:517:A:N6	2.18	0.75
2:Y:14:C:H5"	21:T:72:LYS:HG2	1.69	0.75
1:X:537:C:C5	1:X:2759:U:H2'	2.22	0.75
1:X:1278:A:H2	1:X:1997:A:H62	1.32	0.75
2:Y:12:C:O2	2:Y:113:G:N2	2.13	0.75
3:A:4:LYS:HB2	3:A:18:THR:HG23	1.68	0.75
16:O:50:ASP:O	16:O:53:LYS:NZ	2.19	0.75
28:3:5:LYS:HD2	28:3:5:LYS:N	2.02	0.75
7:E:8:PRO:O	7:E:69:ARG:NH1	2.20	0.75
21:T:68:VAL:HG12	21:T:80:SER:N	1.99	0.75
1:X:2191:A:H5"	1:X:2192:U:H5	1.51	0.74
1:X:2266:A:N6	1:X:2323:U:H3	1.84	0.74
1:X:2399:C:N4	28:3:31:HIS:O	2.20	0.74
9:H:116:ARG:H	9:H:134:LEU:HD21	1.52	0.74
1:X:476:G:H4'	27:2:16:HIS:CD2	2.21	0.74
9:H:2:ILE:HB	9:H:45:ALA:HB3	1.69	0.74
1:X:265:U:HO2'	1:X:266:U:H6	1.35	0.74
1:X:1687:C:H42	1:X:1691:G:H5'	1.52	0.74
1:X:243:G:H3'	1:X:243:G:N3	2.03	0.74
1:X:2563:U:H2'	1:X:2564:U:H2'	1.70	0.74
8:G:75:ILE:HD12	8:G:147:ARG:HE	1.52	0.74
9:H:47:VAL:HA	9:H:74:VAL:HG23	1.70	0.73
1:X:2292:C:O4'	6:D:37:ASN:ND2	2.21	0.73
19:R:15:HIS:HD2	19:R:82:ALA:HB2	1.53	0.73
1:X:649:G:H22	1:X:660:G:N2	1.87	0.73
1:X:2225:G:H2'	1:X:2226:A:H8	1.51	0.73
2:Y:45:C:O2	6:D:92:ARG:NH2	2.22	0.73
2:Y:67:C:H2'	2:Y:111:C:H41	1.54	0.73
9:H:134:LEU:HD12	14:M:38:LYS:HE3	1.71	0.73
1:X:654:A:H2'	1:X:655:A:H5'	1.70	0.73
1:X:1468:A:H5"	1:X:1468:A:C8	2.23	0.73
20:S:27:GLU:HG3	20:S:28:ASN:H	1.53	0.73
1:X:309:G:N2	1:X:352:G:O6	2.22	0.73
1:X:1105:U:H2'	1:X:1106:A:H5"	1.69	0.73
1:X:1816:G:OP1	3:A:52:ARG:HD3	1.88	0.73
1:X:2533:U:H2'	1:X:2534:U:C6	2.23	0.73
17:P:58:ARG:NH2	25:Z:39:LYS:HD3	2.03	0.73
24:W:36:ASP:OD1	24:W:41:ARG:NH1	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1475:U:O2'	1:X:1476:G:OP1	2.07	0.72
9:H:85:ASP:OD1	9:H:86:GLY:N	2.22	0.72
18:Q:11:VAL:HG23	18:Q:27:PHE:HA	1.70	0.72
28:3:36:LYS:HG2	28:3:37:SER:H	1.54	0.72
8:G:116:ARG:HG3	8:G:118:ALA:H	1.53	0.72
15:N:42:ALA:O	15:N:46:GLU:HG3	1.89	0.72
1:X:2191:A:OP1	1:X:2193:C:N4	2.22	0.72
1:X:1270:C:H4'	5:C:77:PHE:CD1	2.24	0.72
3:A:6:TYR:CD2	3:A:13:ARG:HD2	2.24	0.72
1:X:320:A:N3	1:X:340:G:O2'	2.21	0.72
1:X:1670:G:H5'	12:K:2:ARG:HD2	1.72	0.72
1:X:2015:G:H21	4:B:146:THR:HB	1.52	0.72
1:X:2594:U:H2'	1:X:2595:C:C6	2.24	0.72
4:B:132:LYS:HA	4:B:134:TRP:CD1	2.25	0.72
5:C:2:ALA:H	5:C:14:THR:HB	1.54	0.72
5:C:72:ARG:HA	5:C:77:PHE:CE2	2.25	0.72
1:X:2318:U:H4'	2:Y:43:G:N2	2.05	0.72
3:A:34:THR:O	3:A:36:ALA:N	2.22	0.72
4:B:7:THR:HG21	14:M:5:ILE:HD11	1.70	0.72
6:D:4:LEU:HD11	6:D:97:TYR:HB3	1.72	0.72
1:X:259:U:O2'	1:X:260:U:OP2	2.07	0.71
5:C:2:ALA:HB2	5:C:14:THR:HG22	1.71	0.71
1:X:661:C:H2'	1:X:662:G:C8	2.25	0.71
1:X:2314:A:O2'	1:X:2316:G:N7	2.23	0.71
1:X:318:G:H21	1:X:341:A:H62	1.35	0.71
1:X:640:C:H4'	1:X:660:G:H21	1.56	0.71
1:X:826:U:H2'	1:X:827:C:C6	2.25	0.71
1:X:1399:C:OP2	1:X:1409:U:N3	2.21	0.71
5:C:56:ARG:CG	5:C:57:LYS:H	2.03	0.71
4:B:128:SER:OG	4:B:129:HIS:N	2.22	0.71
8:G:146:THR:O	8:G:149:LYS:NZ	2.23	0.71
1:X:1981:A:OP2	4:B:136:ARG:NH1	2.24	0.71
1:X:2085:G:N2	1:X:2171:U:O2'	2.24	0.70
1:X:2279:G:H2'	1:X:2280:A:H8	1.55	0.70
1:X:1693:A:C2	1:X:1976:U:H5'	2.26	0.70
5:C:45:THR:HG21	5:C:85:GLY:HA3	1.73	0.70
7:E:23:VAL:HG13	7:E:36:PRO:HA	1.72	0.70
25:Z:36:CYS:HB2	25:Z:49:CYS:SG	2.31	0.70
1:X:244:C:O2'	1:X:245:C:O4'	2.06	0.70
22:U:21:ARG:HE	22:U:23:LYS:HE3	1.57	0.70
1:X:1995:G:H4'	17:P:117:ILE:HD11	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:957:G:H2'	1:X:958:G:H8	1.58	0.69
1:X:1673:C:C5'	4:B:136:ARG:HB3	2.20	0.69
1:X:567:G:P	8:G:140:GLN:HE21	2.15	0.69
1:X:652:C:O2'	1:X:2329:C:OP1	2.09	0.69
1:X:1437:A:H2'	1:X:1438:G:H8	1.56	0.69
11:J:20:GLY:O	11:J:99:LYS:HG3	1.91	0.69
6:D:19:GLN:HG3	6:D:20:PHE:H	1.56	0.69
15:N:5:LYS:HG3	15:N:7:GLY:H	1.55	0.69
1:X:168:A:H2'	1:X:169:C:C6	2.27	0.69
1:X:1662:G:H5"	1:X:1663:C:H5'	1.74	0.69
7:E:18:ASN:HB3	7:E:25:LYS:HB3	1.74	0.69
8:G:70:PHE:O	15:N:64:ARG:NH1	2.26	0.69
19:R:72:ARG:NH1	19:R:73:GLU:O	2.25	0.69
5:C:137:ALA:HB1	5:C:142:LEU:HB2	1.75	0.69
6:D:117:ILE:HG13	6:D:118:ASN:H	1.55	0.69
18:Q:64:ARG:HD3	18:Q:67:ARG:HA	1.75	0.69
6:D:43:SER:OG	6:D:150:ARG:NH2	2.25	0.69
11:J:43:ILE:HD12	11:J:98:VAL:HG21	1.75	0.69
21:T:38:VAL:HG12	21:T:59:LEU:HG	1.75	0.69
22:U:10:LYS:HG2	22:U:12:ASN:HB3	1.74	0.69
23:V:14:PHE:HD2	23:V:57:LYS:HD3	1.57	0.69
28:3:8:LYS:O	28:3:12:ARG:HD3	1.92	0.69
1:X:1467:U:O2'	1:X:1468:A:OP1	2.11	0.69
1:X:1836:C:H5'	3:A:254:THR:HG22	1.72	0.69
1:X:38:G:H1	1:X:453:U:H3	1.39	0.69
1:X:1448:A:H61	1:X:1574:A:H61	1.40	0.69
8:G:44:VAL:HG11	8:G:54:LEU:HD11	1.74	0.69
8:G:104:THR:HG22	8:G:109:GLY:HA3	1.74	0.69
1:X:1418:C:H2'	1:X:1419:G:H8	1.54	0.68
8:G:110:LEU:O	8:G:112:THR:N	2.26	0.68
9:H:81:ILE:HD11	9:H:117:GLU:HG3	1.75	0.68
1:X:358:C:H2'	1:X:359:G:H5'	1.76	0.68
1:X:2843:A:H5'	1:X:2844:G:OP2	1.94	0.68
5:C:54:THR:OG1	5:C:73:SER:HB3	1.92	0.68
5:C:57:LYS:HD2	5:C:58:MET:H	1.58	0.68
22:U:21:ARG:HE	22:U:23:LYS:CE	2.06	0.68
1:X:2040:A:H2'	1:X:2041:A:H8	1.56	0.68
8:G:35:LYS:HD3	8:G:37:ASP:N	2.07	0.68
1:X:405:C:H2'	1:X:406:G:H8	1.58	0.68
1:X:2393:G:H21	10:I:59:ARG:HH11	1.42	0.68
17:P:103:LEU:HB3	17:P:105:ARG:NH1	2.09	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:9:GLY:O	22:U:11:LYS:N	2.26	0.68
1:X:2672:U:H2'	1:X:2673:G:H8	1.58	0.68
8:G:68:PRO:HB2	8:G:70:PHE:CE1	2.29	0.68
15:N:49:ASP:O	15:N:53:LYS:HG2	1.93	0.68
1:X:171:G:H2'	1:X:172:A:O4'	1.94	0.68
1:X:1418:C:H2'	1:X:1419:G:C8	2.28	0.68
1:X:2437:G:O2'	1:X:2439:U:O4	2.10	0.68
3:A:17:THR:HB	3:A:205:VAL:H	1.59	0.68
7:E:172:LYS:HG2	7:E:173:ALA:H	1.59	0.68
1:X:814:G:O4'	5:C:48:ARG:NH2	2.26	0.68
1:X:2691:C:O2'	1:X:2692:A:OP2	2.10	0.68
3:A:134:ARG:HB2	3:A:187:SER:HB2	1.76	0.68
7:E:154:PRO:HA	7:E:160:LYS:O	1.93	0.68
8:G:95:LEU:O	8:G:97:ASP:N	2.27	0.68
1:X:318:G:N1	1:X:321:A:OP2	2.26	0.68
1:X:797:A:C5	3:A:229:VAL:HG21	2.29	0.68
1:X:1856:U:OP1	1:X:2389:G:O2'	2.10	0.67
13:L:36:LYS:HG2	13:L:64:LYS:HB2	1.76	0.67
1:X:618:A:H2'	1:X:619:A:C8	2.28	0.67
1:X:1024:G:H2'	1:X:1025:A:H8	1.58	0.67
1:X:2287:G:O2'	1:X:2289:A:OP2	2.11	0.67
4:B:132:LYS:HG2	4:B:133:LYS:N	2.03	0.67
10:I:54:SER:HB3	10:I:55:ARG:NH1	2.09	0.67
11:J:15:ARG:HE	11:J:73:LYS:NZ	1.91	0.67
1:X:1468:A:C8	1:X:1468:A:OP2	2.48	0.67
19:R:77:HIS:O	19:R:79:SER:N	2.24	0.67
1:X:2237:C:O2'	1:X:2406:C:OP2	2.13	0.67
19:R:52:ASN:OD1	19:R:73:GLU:HA	1.95	0.67
1:X:1005:U:H3'	15:N:54:LYS:HE3	1.76	0.67
18:Q:38:ILE:O	18:Q:42:ILE:HG12	1.95	0.67
18:Q:88:ILE:HD12	18:Q:90:ALA:H	1.59	0.67
1:X:2708:U:H2'	1:X:2709:C:C6	2.29	0.67
15:N:7:GLY:O	15:N:8:ILE:HG12	1.95	0.67
15:N:10:ARG:HG2	15:N:14:HIS:CD2	2.30	0.67
1:X:2594:U:H2'	1:X:2595:C:H6	1.60	0.67
1:X:38:G:H2'	1:X:39:C:C6	2.30	0.67
1:X:649:G:H22	1:X:660:G:H22	1.42	0.67
1:X:2579:A:N7	3:A:237:GLU:HG3	2.10	0.67
11:J:92:GLU:O	11:J:93:TYR:HD1	1.78	0.67
17:P:87:GLU:HA	17:P:90:LEU:HG	1.77	0.67
20:S:17:SER:OG	20:S:35:ASP:OD1	2.10	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:251:GLY:H	3:A:255:LYS:NZ	1.92	0.67
5:C:58:MET:HE1	5:C:69:HIS:HB3	1.77	0.67
10:I:56:LEU:HB3	28:3:12:ARG:HG2	1.75	0.67
3:A:245:VAL:HA	3:A:252:LYS:HZ1	1.60	0.66
11:J:106:GLU:N	11:J:106:GLU:OE1	2.28	0.66
19:R:52:ASN:HB3	19:R:72:ARG:O	1.94	0.66
1:X:651:C:H2'	1:X:652:C:H6	1.60	0.66
11:J:100:PRO:HB2	20:S:74:ARG:HG2	1.77	0.66
1:X:2616:U:H5"	4:B:82:ARG:NH1	2.10	0.66
1:X:1428:G:N2	1:X:1602:G:H5'	2.11	0.66
11:J:31:GLY:HA2	11:J:108:ALA:HB2	1.76	0.66
1:X:1793:A:H2'	1:X:1794:A:C8	2.31	0.66
1:X:2186:G:H2'	1:X:2187:A:C8	2.30	0.66
10:I:54:SER:HB3	10:I:55:ARG:HH12	1.61	0.66
18:Q:88:ILE:HD12	18:Q:90:ALA:N	2.10	0.66
1:X:2043:A:H1'	1:X:2481:G:H1'	1.76	0.66
1:X:2173:G:H2'	1:X:2174:G:H8	1.60	0.66
15:N:20:ARG:NH2	16:O:72:ARG:HH11	1.92	0.66
19:R:15:HIS:HE1	19:R:78:ALA:HB1	1.60	0.66
21:T:67:VAL:HG22	21:T:68:VAL:HG13	1.76	0.66
1:X:627:A:H2'	1:X:628:A:C8	2.30	0.66
14:M:32:THR:O	14:M:51:GLU:HA	1.94	0.66
1:X:649:G:H1	1:X:660:G:H1	1.43	0.66
1:X:1791:C:OP2	3:A:183:ARG:NH1	2.29	0.66
1:X:650:U:H2'	1:X:651:C:C6	2.30	0.66
1:X:2729:A:OP1	7:E:6:LYS:NZ	2.27	0.66
1:X:339:U:H3	1:X:343:A:H2	1.44	0.65
1:X:1225:G:H1'	1:X:1250:A:N6	2.11	0.65
3:A:36:ALA:HA	3:A:61:LEU:HD22	1.77	0.65
3:A:252:LYS:NZ	3:A:253:PRO:HD3	2.12	0.65
15:N:83:LEU:HD12	15:N:113:SER:HB2	1.78	0.65
2:Y:94:G:H5"	20:S:74:ARG:HH22	1.60	0.65
5:C:4:ILE:H	5:C:4:ILE:HD12	1.60	0.65
1:X:513:A:OP2	17:P:19:LYS:NZ	2.26	0.65
1:X:627:A:H2'	1:X:628:A:H8	1.61	0.65
1:X:812:G:H3'	1:X:813:A:H2'	1.78	0.65
1:X:1081:A:N7	1:X:1107:A:O2'	2.21	0.65
1:X:1310:C:H2'	1:X:1311:C:H6	1.60	0.65
19:R:12:ASP:OD1	19:R:42:ARG:HG2	1.95	0.65
1:X:2189:A:H3'	1:X:2190:A:H5"	1.78	0.65
5:C:2:ALA:N	5:C:14:THR:HB	2.12	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:3:GLN:NE2	5:C:116:LYS:O	2.29	0.65
20:S:3:LEU:HD11	20:S:34:LEU:HA	1.78	0.65
1:X:693:A:H2'	1:X:694:G:C8	2.31	0.65
8:G:79:PHE:CE1	8:G:147:ARG:HG2	2.31	0.65
1:X:249:A:H1'	1:X:381:C:H1'	1.78	0.65
1:X:1225:G:H1'	1:X:1250:A:H61	1.61	0.65
1:X:1816:G:H2'	1:X:1817:U:H6	1.62	0.65
5:C:144:GLY:HA3	5:C:166:TRP:CE2	2.31	0.65
11:J:15:ARG:HE	11:J:73:LYS:HZ1	1.43	0.65
16:O:13:ARG:HG2	16:O:14:VAL:HG23	1.79	0.65
4:B:176:ARG:HE	14:M:16:ILE:HG22	1.61	0.65
1:X:649:G:N2	1:X:660:G:H22	1.94	0.65
5:C:176:ASN:ND2	5:C:178:TYR:H	1.95	0.65
1:X:2020:G:H2'	1:X:2021:G:C8	2.32	0.64
4:B:132:LYS:HA	4:B:134:TRP:HD1	1.62	0.64
5:C:75:PRO:HG3	5:C:83:ALA:HB2	1.78	0.64
1:X:1070:G:H5"	1:X:1071:U:H2'	1.78	0.64
1:X:2290:A:N1	6:D:42:SER:OG	2.25	0.64
14:M:99:VAL:HG21	14:M:104:LEU:HD21	1.78	0.64
1:X:759:C:O2'	1:X:760:U:OP2	2.15	0.64
1:X:946:U:H2'	1:X:947:C:H6	1.63	0.64
1:X:2640:G:H2'	1:X:2641:A:C8	2.33	0.64
3:A:79:VAL:HG21	3:A:111:LEU:HD21	1.79	0.64
8:G:69:ASP:O	8:G:71:THR:N	2.30	0.64
10:I:122:VAL:O	10:I:126:SER:N	2.27	0.64
1:X:2043:A:H1'	1:X:2481:G:C1'	2.27	0.64
1:X:2811:G:H2'	1:X:2812:A:C8	2.32	0.64
1:X:512:A:H4'	17:P:15:LYS:HB3	1.79	0.64
1:X:1503:G:H2'	1:X:1504:G:C8	2.32	0.64
1:X:2322:U:O2'	1:X:2323:U:OP1	2.15	0.64
2:Y:51:G:OP2	13:L:99:ARG:NH1	2.29	0.64
4:B:37:LYS:NZ	4:B:80:GLU:OE2	2.25	0.64
13:L:68:ALA:HB1	13:L:102:ALA:HB3	1.80	0.64
1:X:1373:G:H22	1:X:2192:U:H3	1.45	0.64
1:X:105:G:H21	1:X:357:A:H61	1.45	0.64
1:X:1061:A:N6	1:X:2731:G:O6	2.28	0.64
1:X:2543:A:OP1	1:X:2627:G:O2'	2.15	0.64
4:B:114:GLN:OE1	4:B:118:LYS:HD3	1.97	0.64
8:G:62:ILE:HD11	8:G:80:VAL:HG22	1.80	0.64
8:G:104:THR:CG2	8:G:109:GLY:HA3	2.28	0.64
1:X:501:G:OP1	32:X:3246:MPD:H11	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2225:G:H2'	1:X:2226:A:C8	2.32	0.64
1:X:2311:U:H4'	1:X:2315:A:H62	1.63	0.64
8:G:98:LYS:O	8:G:116:ARG:N	2.29	0.64
15:N:66:ASN:HB3	15:N:76:TYR:CB	2.24	0.64
15:N:95:LEU:HA	15:N:98:ILE:HD13	1.78	0.64
2:Y:30:C:H2'	2:Y:31:A:H8	1.63	0.64
7:E:107:ILE:O	7:E:152:ARG:NH1	2.29	0.64
11:J:12:LYS:O	11:J:13:GLN:HG2	1.97	0.64
8:G:114:THR:HG22	8:G:119:LEU:HD22	1.80	0.63
13:L:11:LEU:HA	13:L:14:ARG:NE	2.13	0.63
1:X:38:G:H21	5:C:42:THR:HG21	1.63	0.63
5:C:118:VAL:CG2	5:C:120:VAL:H	2.10	0.63
13:L:9:ARG:O	13:L:11:LEU:N	2.31	0.63
6:D:4:LEU:HD13	6:D:101:GLU:HB2	1.80	0.63
16:O:5:ILE:O	16:O:7:THR:N	2.31	0.63
1:X:2245:A:H4'	1:X:2246:A:N3	2.13	0.63
1:X:1770:U:H5	1:X:1775:A:N7	1.97	0.63
1:X:135:U:H2'	1:X:136:A:C8	2.33	0.63
1:X:455:A:N7	5:C:39:ARG:HD2	2.14	0.63
6:D:35:VAL:HG22	6:D:90:THR:HG22	1.81	0.63
7:E:18:ASN:O	7:E:24:PHE:HB2	1.99	0.63
1:X:795:A:C2	3:A:226:MET:HG2	2.34	0.63
2:Y:32:C:H1'	2:Y:59:A:N6	2.12	0.63
6:D:119:PRO:HB3	6:D:177:PHE:HD2	1.64	0.63
7:E:56:SER:HB3	7:E:61:HIS:ND1	2.14	0.63
11:J:44:LYS:HD3	11:J:47:GLN:NE2	2.13	0.63
13:L:8:ARG:HG3	13:L:9:ARG:H	1.63	0.63
13:L:26:ARG:NH1	13:L:87:VAL:O	2.30	0.63
1:X:2222:U:H2'	1:X:2223:U:C6	2.34	0.63
1:X:2226:A:H2'	1:X:2227:C:H6	1.64	0.63
3:A:252:LYS:H	3:A:253:PRO:CD	2.12	0.63
1:X:136:A:H2'	1:X:137:A:C8	2.33	0.62
1:X:267:C:H2'	1:X:268:G:H8	1.62	0.62
1:X:1437:A:H2'	1:X:1438:G:C8	2.33	0.62
1:X:1963:G:O2'	1:X:1965:U:OP2	2.13	0.62
1:X:2175:A:H2'	1:X:2176:U:C6	2.34	0.62
1:X:2246:A:H5"	1:X:2247:A:H5"	1.81	0.62
28:3:52:LYS:NZ	28:3:56:ALA:HB2	2.13	0.62
1:X:1675:C:OP1	4:B:134:TRP:NE1	2.32	0.62
2:Y:50:U:H2'	2:Y:51:G:C8	2.34	0.62
3:A:38:PRO:HB3	3:A:60:ARG:O	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2324:G:H21	1:X:2360:C:H3'	1.64	0.62
1:X:2621:G:H5'	8:G:106:TYR:CD2	2.33	0.62
10:I:81:GLN:O	10:I:81:GLN:HG2	1.98	0.62
1:X:79:G:H2'	1:X:80:A:H8	1.63	0.62
1:X:172:A:H61	1:X:175:C:H3'	1.64	0.62
2:Y:68:A:H61	2:Y:110:U:H2'	1.65	0.62
1:X:946:U:H2'	1:X:947:C:C6	2.33	0.62
1:X:1839:A:H8	1:X:1839:A:OP2	1.83	0.62
6:D:5:LYS:O	6:D:8:TYR:HB3	2.00	0.62
1:X:1785:A:H2'	1:X:1786:C:C6	2.34	0.62
1:X:2261:G:H21	1:X:2369:U:H3	1.46	0.62
1:X:2556:A:O2'	25:Z:3:LYS:HA	2.00	0.62
1:X:2807:U:H4'	1:X:2808:U:H5"	1.81	0.62
9:H:76:ARG:O	9:H:94:ASN:HA	2.00	0.62
1:X:494:A:O2'	19:R:68:GLY:N	2.32	0.62
1:X:590:C:H2'	1:X:591:G:H8	1.65	0.62
1:X:628:A:OP1	5:C:100:ARG:HG3	2.00	0.62
1:X:2279:G:H2'	1:X:2280:A:C8	2.34	0.62
1:X:2394:G:H4'	10:I:58:ALA:O	1.99	0.62
7:E:94:PHE:HA	7:E:107:ILE:HG22	1.82	0.62
8:G:85:ALA:HB3	8:G:152:ALA:HA	1.82	0.62
1:X:1465:G:H2'	1:X:1466:C:C6	2.34	0.61
1:X:1562:G:H5'	1:X:1563:U:H5'	1.83	0.61
1:X:1698:C:O2	31:X:3243:SPD:H32	1.99	0.61
1:X:2:G:H2'	1:X:3:U:C6	2.34	0.61
1:X:2728:A:H2'	1:X:2729:A:C8	2.35	0.61
8:G:51:LEU:HB2	8:G:88:VAL:HG21	1.81	0.61
1:X:1097:A:OP1	1:X:1115:C:O2'	2.13	0.61
4:B:92:ASN:HD21	4:B:182:ILE:HB	1.64	0.61
6:D:135:GLN:HG3	6:D:151:GLY:HA2	1.82	0.61
19:R:53:VAL:HG22	19:R:54:ILE:H	1.64	0.61
4:B:176:ARG:NE	14:M:16:ILE:HG22	2.15	0.61
1:X:1024:G:H2'	1:X:1025:A:C8	2.35	0.61
5:C:71:ASP:OD1	5:C:72:ARG:N	2.33	0.61
1:X:318:G:H21	1:X:341:A:N6	1.97	0.61
1:X:542:A:OP1	1:X:570:G:N2	2.30	0.61
1:X:1057:A:H5'	1:X:1058:G:OP2	2.00	0.61
1:X:2795:A:H4'	12:K:3:HIS:HD1	1.64	0.61
4:B:50:GLY:HA3	4:B:75:THR:HG21	1.81	0.61
11:J:49:GLU:OE2	11:J:52:ARG:NH1	2.34	0.61
11:J:64:LYS:HD2	11:J:108:ALA:O	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:77:HIS:C	19:R:79:SER:H	2.04	0.61
1:X:136:A:H2'	1:X:137:A:H8	1.66	0.61
1:X:2047:C:H2'	1:X:2048:C:C6	2.36	0.61
3:A:143:HIS:ND1	3:A:194:GLY:O	2.22	0.61
9:H:125:LYS:H	9:H:125:LYS:CD	2.07	0.61
1:X:617:U:H5	1:X:632:A:N7	1.99	0.61
1:X:1030:U:H3	1:X:1153:A:N6	1.99	0.61
1:X:1673:C:H2'	1:X:1674:C:H6	1.66	0.61
2:Y:7:C:O2'	2:Y:29:C:O2	2.14	0.61
4:B:111:LYS:HG2	12:K:1:MET:HE1	1.83	0.61
16:O:10:LYS:H	16:O:10:LYS:HD2	1.65	0.61
1:X:1439:G:H2'	1:X:1440:G:C8	2.36	0.60
1:X:2477:C:H5'	1:X:2477:C:H6	1.66	0.60
5:C:181:LEU:HD11	10:I:1:MET:HB3	1.83	0.60
19:R:82:ALA:HB1	19:R:83:LEU:HD12	1.82	0.60
1:X:304:A:OP1	1:X:304:A:H4'	2.01	0.60
1:X:310:A:N3	1:X:330:C:O2'	2.33	0.60
10:I:55:ARG:H	10:I:55:ARG:NE	1.98	0.60
20:S:7:PRO:HD2	20:S:33:ALA:H	1.65	0.60
1:X:70:A:H5"	1:X:71:A:H2'	1.83	0.60
1:X:408:U:H2'	1:X:409:G:C8	2.35	0.60
1:X:1283:C:H5"	1:X:1284:G:H5'	1.83	0.60
2:Y:30:C:OP1	13:L:37:HIS:HB2	2.01	0.60
15:N:58:ARG:O	15:N:61:TRP:HB2	2.02	0.60
15:N:91:ASN:O	15:N:93:LYS:N	2.34	0.60
1:X:1219:C:H2'	1:X:1220:G:O4'	2.01	0.60
3:A:238:GLY:O	3:A:239:ARG:HG3	2.02	0.60
28:3:30:ARG:HG3	28:3:31:HIS:H	1.65	0.60
1:X:1311:C:H5"	1:X:1312:G:OP2	2.01	0.60
1:X:2867:G:OP2	1:X:2867:G:H8	1.85	0.60
19:R:83:LEU:HD12	19:R:83:LEU:H	1.66	0.60
1:X:5:A:H2'	1:X:6:A:H8	1.66	0.60
1:X:1223:G:H4'	1:X:1224:A:H5"	1.84	0.60
1:X:1882:G:N2	1:X:1885:C:H41	1.97	0.60
1:X:2623:A:H62	31:X:3242:SPD:H41	1.67	0.60
1:X:1082:G:H5'	1:X:1083:C:H5	1.66	0.60
1:X:1264:C:H5"	15:N:13:ARG:HH22	1.66	0.60
1:X:1270:C:P	5:C:69:HIS:HE2	2.23	0.60
1:X:2372:A:H5"	10:I:55:ARG:HB3	1.84	0.60
10:I:53:ARG:HD3	28:3:12:ARG:HH21	1.67	0.60
1:X:567:G:H5"	8:G:140:GLN:HG2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2378:G:HO2'	26:1:20:PHE:HE1	1.49	0.60
1:X:2692:A:H5"	1:X:2693:U:OP2	2.02	0.60
26:1:21:TYR:HD2	26:1:50:PHE:HZ	1.48	0.60
1:X:478:G:OP1	27:2:33:ARG:NE	2.32	0.60
1:X:1443:G:H2'	1:X:1444:C:C6	2.37	0.60
10:I:58:ALA:HA	28:3:11:LYS:HD2	1.84	0.60
11:J:20:GLY:C	11:J:99:LYS:HE2	2.23	0.60
13:L:64:LYS:H	13:L:64:LYS:HD2	1.65	0.60
16:O:68:LYS:HE3	16:O:70:TYR:CE1	2.37	0.60
20:S:75:LYS:HG3	20:S:76:ARG:H	1.67	0.60
1:X:2873:G:H2'	1:X:2874:A:C8	2.36	0.60
1:X:265:U:O2'	1:X:266:U:H6	1.85	0.59
1:X:2522:G:H2'	1:X:2523:G:C8	2.36	0.59
8:G:141:GLY:O	8:G:145:HIS:ND1	2.32	0.59
1:X:1212:U:H2'	1:X:1213:U:C6	2.36	0.59
1:X:1985:G:OP1	12:K:17:ARG:NH2	2.35	0.59
1:X:572:G:N3	15:N:37:GLN:NE2	2.50	0.59
1:X:1037:U:H2'	1:X:1037:U:O2	2.00	0.59
1:X:1366:A:H2'	1:X:1367:A:C8	2.36	0.59
1:X:2282:G:H1'	6:D:129:ASN:HD21	1.67	0.59
1:X:2434:G:H2'	1:X:2435:C:C6	2.37	0.59
6:D:9:ASN:HA	6:D:12:VAL:HG22	1.85	0.59
6:D:91:LEU:HD13	6:D:96:MET:HA	1.83	0.59
1:X:1148:G:H5"	1:X:1149:G:OP2	2.02	0.59
1:X:1465:G:H2'	1:X:1466:C:H6	1.66	0.59
1:X:2556:A:H5"	1:X:2557:G:H5'	1.84	0.59
2:Y:51:G:H2'	2:Y:52:G:H8	1.67	0.59
3:A:5:LYS:C	3:A:6:TYR:HD1	2.05	0.59
20:S:88:TYR:HA	20:S:127:PRO:HB3	1.83	0.59
1:X:567:G:P	8:G:140:GLN:NE2	2.75	0.59
1:X:602:C:H1'	28:3:2:PRO:O	2.02	0.59
1:X:2605:C:H2'	1:X:2606:G:H8	1.67	0.59
15:N:61:TRP:CE2	15:N:94:VAL:HG12	2.37	0.59
17:P:80:LEU:HD21	17:P:87:GLU:HB3	1.84	0.59
1:X:1503:G:H2'	1:X:1504:G:H8	1.65	0.59
4:B:48:GLN:NE2	4:B:78:LEU:HD13	2.18	0.59
7:E:22:GLY:HA2	7:E:43:VAL:HG11	1.83	0.59
13:L:108:ARG:CZ	13:L:111:GLY:HA3	2.33	0.59
15:N:22:LYS:O	15:N:24:PHE:N	2.31	0.59
1:X:699:G:N1	27:2:12:ARG:HD2	2.13	0.59
1:X:1284:G:H5"	31:X:3238:SPD:H82	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:2:ALA:HA	5:C:13:ARG:O	2.03	0.59
9:H:73:VAL:HG21	9:H:123:PHE:CE2	2.37	0.59
1:X:517:A:H5"	1:X:518:A:H5'	1.84	0.59
1:X:1475:U:HO2'	1:X:1476:G:P	2.26	0.59
1:X:1989:C:OP1	31:X:3240:SPD:H32	2.02	0.59
9:H:23:ARG:HB3	9:H:52:VAL:HB	1.85	0.59
10:I:74:VAL:HG21	10:I:108:LEU:HD12	1.84	0.59
10:I:89:ASP:OD1	10:I:90:ARG:N	2.36	0.59
17:P:9:ARG:H	17:P:9:ARG:HD3	1.68	0.59
17:P:27:VAL:HG23	17:P:125:THR:HG22	1.84	0.59
18:Q:10:PRO:HD3	23:V:30:PHE:CD1	2.38	0.59
1:X:408:U:H2'	1:X:409:G:H8	1.67	0.58
4:B:131:SER:O	4:B:131:SER:OG	2.11	0.58
10:I:106:VAL:HG22	10:I:107:LYS:H	1.67	0.58
1:X:1100:G:N2	1:X:1113:C:H42	2.01	0.58
1:X:1798:G:H5"	1:X:1799:A:OP2	2.03	0.58
6:D:3:GLN:O	6:D:5:LYS:N	2.34	0.58
7:E:69:ARG:HH22	7:E:73:ALA:HB2	1.68	0.58
11:J:76:THR:HG21	11:J:88:LYS:HE3	1.85	0.58
14:M:2:GLN:HG2	14:M:3:THR:N	2.17	0.58
27:2:30:ILE:O	27:2:34:ARG:HG3	2.03	0.58
3:A:34:THR:C	3:A:36:ALA:H	2.06	0.58
5:C:72:ARG:HA	5:C:77:PHE:CD2	2.38	0.58
16:O:34:GLU:HB2	16:O:56:VAL:HB	1.86	0.58
16:O:57:GLN:N	16:O:97:GLY:HA3	2.18	0.58
22:U:11:LYS:HE3	22:U:60:VAL:HG21	1.85	0.58
1:X:717:G:H2'	1:X:739:G:H22	1.68	0.58
6:D:126:GLY:HA3	6:D:160:ALA:HB3	1.85	0.58
14:M:16:ILE:HD12	14:M:16:ILE:O	2.03	0.58
1:X:1079:G:H22	1:X:1106:A:C2'	2.15	0.58
1:X:2030:U:H2'	1:X:2031:A:H8	1.69	0.58
1:X:1270:C:H5'	5:C:69:HIS:CE1	2.38	0.58
19:R:85:ASP:HB3	19:R:86:PRO:HD3	1.85	0.58
1:X:24:G:H2'	1:X:25:U:H6	1.68	0.58
1:X:383:G:H4'	1:X:384:A:OP2	2.03	0.58
1:X:958:G:H2'	1:X:959:C:C6	2.39	0.58
1:X:2634:G:O2'	1:X:2643:G:O6	2.15	0.58
3:A:12:SER:O	3:A:14:ARG:N	2.35	0.58
3:A:210:GLY:HA2	3:A:213:ARG:HG2	1.86	0.58
3:A:210:GLY:HA2	3:A:213:ARG:H	1.67	0.58
6:D:170:LEU:HB2	6:D:175:LEU:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:760:U:O2	1:X:1997:A:H1'	2.04	0.58
1:X:1333:G:N2	1:X:1344:C:H41	2.01	0.58
1:X:2076:G:N1	1:X:2077:G:O6	2.36	0.58
25:Z:6:VAL:HG22	25:Z:7:PRO:HD2	1.85	0.58
1:X:276:A:H2'	1:X:277:G:C8	2.38	0.58
1:X:313:U:H2'	1:X:314:G:H8	1.69	0.58
1:X:942:U:O2'	24:W:22:ALA:HA	2.04	0.58
1:X:1710:U:O2'	3:A:14:ARG:NH1	2.37	0.58
1:X:1770:U:C5	1:X:1775:A:N7	2.71	0.58
2:Y:52:G:OP1	13:L:65:THR:OG1	2.19	0.58
14:M:41:GLU:HG3	14:M:46:ARG:NE	2.17	0.58
16:O:36:LYS:O	16:O:52:GLY:HA2	2.03	0.58
17:P:89:ARG:HE	17:P:131:LYS:HG3	1.68	0.58
1:X:455:A:H2	1:X:1258:G:N3	2.02	0.58
1:X:578:U:H5"	1:X:579:G:OP2	2.04	0.58
1:X:1468:A:H8	1:X:1468:A:OP2	1.87	0.58
1:X:2295:C:H5'	6:D:125:ARG:NH1	2.19	0.58
5:C:152:THR:HA	5:C:190:ALA:HB2	1.85	0.58
7:E:24:PHE:HE1	7:E:37:TYR:HE2	1.50	0.58
8:G:110:LEU:O	8:G:112:THR:OG1	2.17	0.58
10:I:91:ASP:OD1	10:I:92:THR:N	2.29	0.58
1:X:5:A:H2'	1:X:6:A:C8	2.39	0.57
1:X:503:G:H2'	1:X:504:G:O4'	2.03	0.57
1:X:564:U:H2'	1:X:565:A:C8	2.39	0.57
1:X:2728:A:H2'	1:X:2729:A:H8	1.69	0.57
9:H:110:VAL:HG23	9:H:129:LEU:HB2	1.86	0.57
20:S:125:PRO:HD2	20:S:157:GLY:O	2.03	0.57
1:X:485:G:C6	1:X:520:C:N4	2.72	0.57
1:X:597:U:H2'	1:X:598:U:C6	2.39	0.57
1:X:868:U:H2'	1:X:869:C:C6	2.39	0.57
1:X:1153:A:O2'	1:X:1154:A:O5'	2.18	0.57
2:Y:44:C:N3	6:D:90:THR:OG1	2.36	0.57
1:X:405:C:H2'	1:X:406:G:C8	2.38	0.57
1:X:1664:G:OP2	31:X:3238:SPD:H32	2.04	0.57
1:X:2769:C:H2'	1:X:2770:A:C8	2.38	0.57
4:B:184:VAL:HG11	4:B:188:ILE:HD11	1.85	0.57
6:D:15:ALA:O	6:D:19:GLN:HG2	2.04	0.57
19:R:26:SER:OG	19:R:27:GLY:N	2.36	0.57
28:3:2:PRO:O	28:3:3:LYS:HB2	2.03	0.57
1:X:717:G:C2'	1:X:739:G:H22	2.17	0.57
1:X:1171:A:H1'	16:O:7:THR:HG23	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2307:A:H2'	1:X:2308:A:C8	2.39	0.57
3:A:142:VAL:HG12	3:A:193:ILE:HA	1.87	0.57
8:G:85:ALA:HB1	8:G:127:ILE:HD12	1.85	0.57
11:J:134:LYS:HD2	11:J:135:ARG:HB3	1.86	0.57
18:Q:4:TYR:CE2	23:V:23:LYS:HB2	2.39	0.57
3:A:12:SER:OG	3:A:13:ARG:N	2.37	0.57
3:A:246:PRO:HD2	3:A:250:TRP:N	2.18	0.57
9:H:56:LYS:CD	9:H:57:ASP:HB2	2.32	0.57
22:U:19:ILE:HD11	22:U:40:ARG:HA	1.86	0.57
9:H:4:PRO:HA	9:H:21:CYS:HB3	1.85	0.57
18:Q:10:PRO:HA	18:Q:27:PHE:CB	2.32	0.57
1:X:824:U:H2'	10:I:21:ARG:HA	1.87	0.57
1:X:1675:C:OP1	4:B:134:TRP:CE2	2.58	0.57
1:X:243:G:N1	1:X:244:C:C5	2.72	0.57
1:X:1085:G:H2'	1:X:1086:C:C5	2.40	0.57
1:X:1466:C:H2'	1:X:1467:U:C1'	2.33	0.57
1:X:1674:C:H2'	1:X:1675:C:C6	2.39	0.57
1:X:2265:A:N3	1:X:2325:A:N6	2.52	0.57
17:P:8:PHE:CD2	17:P:14:ARG:HG3	2.39	0.57
28:3:8:LYS:O	28:3:8:LYS:HG2	2.05	0.57
1:X:1068:A:N6	1:X:1098:G:OP1	2.38	0.57
14:M:110:LEU:O	14:M:112:GLY:N	2.37	0.57
1:X:759:C:HO2'	1:X:760:U:P	2.28	0.57
5:C:46:ARG:HD3	5:C:51:VAL:HG12	1.87	0.57
9:H:18:GLU:HB3	9:H:57:ASP:HB3	1.86	0.57
18:Q:48:VAL:HG21	18:Q:82:LEU:HD13	1.86	0.57
1:X:71:A:O2'	1:X:72:A:OP1	2.19	0.56
1:X:1051:U:H2'	1:X:1052:C:H6	1.70	0.56
1:X:1806:G:H5"	1:X:1807:A:H2'	1.85	0.56
1:X:1954:A:C2	3:A:240:THR:HG22	2.39	0.56
13:L:26:ARG:HD3	13:L:86:GLN:HB3	1.87	0.56
17:P:89:ARG:HH11	17:P:131:LYS:HD2	1.70	0.56
1:X:591:G:H2'	1:X:592:G:C8	2.40	0.56
1:X:1443:G:H2'	1:X:1444:C:H6	1.70	0.56
2:Y:37:C:H2'	2:Y:38:C:O4'	2.05	0.56
8:G:104:THR:CG2	8:G:106:TYR:H	2.18	0.56
27:2:37:LYS:HE2	27:2:39:ARG:NH2	2.20	0.56
1:X:168:A:H2'	1:X:169:C:H6	1.66	0.56
1:X:1332:G:O2'	1:X:1333:G:H5'	2.05	0.56
1:X:1469:U:H5"	1:X:1470:G:N7	2.19	0.56
1:X:2193:C:H2'	1:X:2194:A:H8	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2605:C:H2'	1:X:2606:G:C8	2.41	0.56
1:X:2871:U:H2'	1:X:2872:U:C6	2.40	0.56
8:G:104:THR:HG23	8:G:106:TYR:H	1.70	0.56
20:S:103:ARG:HG3	20:S:107:GLU:HB3	1.86	0.56
1:X:256:C:H42	1:X:263:G:H22	1.50	0.56
1:X:1264:C:H5"	15:N:13:ARG:HH12	1.69	0.56
1:X:1816:G:H2'	1:X:1817:U:C6	2.40	0.56
1:X:2726:U:H2'	1:X:2727:G:H5'	1.88	0.56
2:Y:66:G:H2'	2:Y:67:C:O4'	2.05	0.56
7:E:105:MET:HB2	7:E:113:VAL:HG23	1.86	0.56
18:Q:29:VAL:HG11	18:Q:38:ILE:HD11	1.87	0.56
1:X:537:C:H1'	1:X:538:A:C5	2.40	0.56
1:X:1499:A:H2'	1:X:1500:U:C6	2.40	0.56
2:Y:6:C:H2'	2:Y:7:C:H6	1.69	0.56
2:Y:14:C:H5'	21:T:72:LYS:HE3	1.87	0.56
5:C:6:VAL:HG13	5:C:7:ILE:N	2.18	0.56
5:C:118:VAL:HG22	5:C:120:VAL:N	2.20	0.56
1:X:242:A:H1'	1:X:243:G:H1'	1.87	0.56
1:X:857:U:H2'	1:X:858:G:O4'	2.05	0.56
1:X:2866:A:H3'	1:X:2867:G:C8	2.41	0.56
4:B:33:ILE:HG21	4:B:36:ARG:NH2	2.21	0.56
5:C:48:ARG:HH11	5:C:74:VAL:HG12	1.70	0.56
13:L:76:ALA:HB1	13:L:111:GLY:HA2	1.87	0.56
15:N:61:TRP:NE1	15:N:94:VAL:HG12	2.20	0.56
18:Q:8:GLN:O	23:V:29:ARG:HD2	2.05	0.56
19:R:80:LYS:C	19:R:80:LYS:HD2	2.26	0.56
19:R:106:VAL:O	19:R:112:LYS:HA	2.05	0.56
20:S:7:PRO:HD2	20:S:32:PHE:HB2	1.88	0.56
1:X:24:G:H2'	1:X:25:U:C6	2.41	0.56
1:X:859:U:O2'	1:X:860:U:O5'	2.22	0.56
1:X:2467:A:O2'	1:X:2468:G:H5'	2.06	0.56
2:Y:29:C:O3'	13:L:37:HIS:ND1	2.38	0.56
22:U:65:ASN:HA	22:U:68:ARG:HD3	1.87	0.56
19:R:44:GLN:O	19:R:77:HIS:HA	2.05	0.56
1:X:256:C:H1'	1:X:257:G:H5'	1.86	0.56
1:X:1935:A:C4	9:H:22:ILE:HD11	2.40	0.56
1:X:2475:C:OP2	11:J:83:ARG:HG2	2.05	0.56
2:Y:30:C:H2'	2:Y:31:A:C8	2.41	0.56
7:E:20:GLN:O	7:E:22:GLY:N	2.38	0.56
24:W:2:LYS:HE3	24:W:33:GLU:OE2	2.05	0.56
9:H:10:VAL:HA	9:H:96:ALA:O	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:21:ASP:HB2	20:S:74:ARG:HD2	1.88	0.56
14:M:110:LEU:HB3	14:M:115:ALA:HB1	1.87	0.56
18:Q:35:LYS:O	18:Q:38:ILE:HG22	2.06	0.56
1:X:649:G:H1	1:X:660:G:H22	1.54	0.55
1:X:1271:C:O4'	5:C:78:VAL:HG11	2.06	0.55
1:X:2011:U:H2'	1:X:2012:A:C8	2.41	0.55
9:H:29:ILE:HD13	9:H:123:PHE:CD1	2.40	0.55
9:H:42:LYS:HE3	9:H:44:TYR:O	2.05	0.55
17:P:36:ARG:NH2	25:Z:20:ARG:HH12	2.05	0.55
21:T:56:ASP:OD1	21:T:58:THR:HG22	2.05	0.55
3:A:65:ILE:HG22	3:A:88:ARG:HH21	1.71	0.55
1:X:89:A:O3'	1:X:91:A:N6	2.39	0.55
1:X:597:U:O4	1:X:683:A:H1'	2.06	0.55
1:X:1264:C:H5"	15:N:13:ARG:NH2	2.22	0.55
1:X:2039:G:C2	1:X:2040:A:C8	2.95	0.55
1:X:2285:U:H5"	1:X:2286:G:N7	2.22	0.55
1:X:2312:A:H5'	1:X:2314:A:C8	2.40	0.55
1:X:2821:G:H2'	1:X:2822:U:C6	2.41	0.55
13:L:11:LEU:HA	13:L:14:ARG:HE	1.70	0.55
1:X:267:C:H2'	1:X:268:G:C8	2.42	0.55
1:X:1919:A:H61	1:X:1946:U:H3	1.51	0.55
1:X:2667:C:N4	1:X:2700:U:OP2	2.39	0.55
1:X:1218:C:O4'	10:I:4:HIS:NE2	2.39	0.55
1:X:1781:C:H2'	1:X:1782:A:C5	2.40	0.55
28:3:30:ARG:HG3	28:3:31:HIS:N	2.21	0.55
1:X:683:A:H5"	10:I:40:ARG:HG3	1.88	0.55
1:X:827:C:OP1	16:O:82:ARG:HA	2.07	0.55
1:X:1919:A:H2	1:X:1926:U:N3	2.01	0.55
1:X:2266:A:H62	1:X:2323:U:H3	1.54	0.55
1:X:2372:A:P	28:3:30:ARG:HB2	2.47	0.55
1:X:2431:C:H2'	1:X:2432:A:C8	2.41	0.55
5:C:22:VAL:HG23	5:C:106:MET:HB3	1.89	0.55
5:C:57:LYS:HD2	5:C:58:MET:N	2.22	0.55
6:D:44:LYS:H	6:D:44:LYS:HD2	1.71	0.55
13:L:47:ARG:O	13:L:49:GLN:N	2.37	0.55
14:M:3:THR:O	14:M:3:THR:OG1	2.21	0.55
18:Q:56:MET:CE	18:Q:77:LYS:HE3	2.36	0.55
1:X:255:A:H1'	1:X:256:C:H5'	1.88	0.55
4:B:135:HIS:CG	4:B:136:ARG:HG2	2.41	0.55
7:E:69:ARG:NH2	7:E:73:ALA:HB2	2.22	0.55
15:N:55:ARG:HA	15:N:58:ARG:HD2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:103:LEU:HB2	17:P:119:LYS:HB2	1.88	0.55
21:T:32:LYS:N	21:T:35:ASN:OD1	2.38	0.55
1:X:661:C:H2'	1:X:662:G:H8	1.69	0.55
1:X:2407:G:H5"	1:X:2408:G:OP1	2.06	0.55
9:H:88:THR:HB	14:M:80:VAL:HB	1.88	0.55
1:X:543:G:H5'	15:N:24:PHE:CE1	2.41	0.55
1:X:1086:C:O2'	1:X:1087:C:OP1	2.22	0.55
1:X:1322:G:H4'	27:2:7:PRO:HB2	1.88	0.55
1:X:1779:C:H2'	1:X:1780:A:C8	2.42	0.55
1:X:2418:A:C4'	1:X:2419:C:H5"	2.36	0.55
6:D:40:LEU:HD13	6:D:50:ILE:HA	1.89	0.55
17:P:89:ARG:HE	17:P:131:LYS:CG	2.20	0.55
1:X:922:A:H2'	1:X:923:A:C8	2.42	0.55
1:X:1586:A:H2'	1:X:1587:A:C8	2.42	0.55
1:X:1981:A:P	4:B:136:ARG:HH12	2.29	0.55
9:H:104:GLU:OE1	9:H:125:LYS:HG3	2.07	0.55
11:J:45:SER:HB3	11:J:71:PRO:HG3	1.89	0.55
16:O:40:VAL:HG13	16:O:43:GLU:HA	1.87	0.55
19:R:61:SER:N	19:R:64:ASN:O	2.36	0.55
1:X:70:A:C4'	1:X:71:A:H5"	2.34	0.54
1:X:394:U:H2'	1:X:395:G:C8	2.42	0.54
1:X:580:A:H4'	1:X:581:A:OP1	2.06	0.54
1:X:1707:A:H3'	1:X:1708:C:H6	1.72	0.54
1:X:1790:G:N2	3:A:155:LEU:HD23	2.21	0.54
1:X:2292:C:H5"	6:D:88:LYS:HD3	1.89	0.54
1:X:2402:U:O2'	1:X:2404:A:H2'	2.07	0.54
1:X:2800:C:H3'	1:X:2801:A:H8	1.72	0.54
8:G:168:THR:HB	8:G:169:GLN:OE1	2.07	0.54
1:X:83:A:C2	1:X:101:A:C5	2.94	0.54
1:X:90:G:H5'	1:X:91:A:OP2	2.07	0.54
1:X:995:A:H5"	1:X:996:C:H5	1.71	0.54
1:X:1670:G:H3'	12:K:2:ARG:HG2	1.89	0.54
1:X:2226:A:H2'	1:X:2227:C:C6	2.42	0.54
6:D:127:ASN:OD1	6:D:157:VAL:HA	2.07	0.54
13:L:29:LEU:HA	13:L:41:GLN:O	2.07	0.54
19:R:108:VAL:HG22	19:R:109:ALA:H	1.72	0.54
23:V:14:PHE:CD2	23:V:57:LYS:HD3	2.41	0.54
1:X:341:A:O2'	1:X:342:G:OP1	2.25	0.54
1:X:1098:G:N2	1:X:1114:A:H1'	2.22	0.54
1:X:2516:U:H2'	1:X:2517:C:C6	2.42	0.54
19:R:22:VAL:CG1	19:R:80:LYS:HD3	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:17:G:H2'	1:X:18:U:C6	2.43	0.54
1:X:686:C:OP1	5:C:48:ARG:HD2	2.08	0.54
1:X:1162:A:H4'	15:N:81:ASN:ND2	2.23	0.54
1:X:2659:C:H5'	4:B:189:PRO:HA	1.89	0.54
3:A:77:ALA:HB3	3:A:117:VAL:HB	1.89	0.54
5:C:120:VAL:HA	5:C:191:ALA:HB2	1.90	0.54
22:U:10:LYS:HG2	22:U:12:ASN:CB	2.36	0.54
1:X:2400:G:O6	28:3:32:GLN:NE2	2.41	0.54
2:Y:14:C:H4'	2:Y:17:A:H61	1.72	0.54
8:G:115:ALA:O	8:G:116:ARG:HG2	2.06	0.54
9:H:125:LYS:HD3	9:H:125:LYS:N	2.07	0.54
14:M:110:LEU:HD13	14:M:115:ALA:HB1	1.88	0.54
22:U:47:HIS:CG	22:U:48:LYS:H	2.24	0.54
1:X:339:U:H4'	19:R:77:HIS:CE1	2.42	0.54
1:X:830:C:O2'	1:X:852:U:H5"	2.07	0.54
1:X:1329:U:H2'	1:X:1330:G:H8	1.72	0.54
1:X:2399:C:H41	28:3:31:HIS:HB3	1.72	0.54
1:X:2788:C:H2'	1:X:2789:U:H6	1.72	0.54
6:D:40:LEU:HA	6:D:150:ARG:NH1	2.23	0.54
8:G:35:LYS:CD	8:G:37:ASP:H	2.14	0.54
15:N:12:ARG:HD2	15:N:15:LYS:NZ	2.22	0.54
20:S:147:ILE:HB	20:S:169:VAL:HG22	1.90	0.54
1:X:338:G:H2'	1:X:339:U:O4'	2.08	0.54
1:X:712:A:H2'	1:X:713:G:O4'	2.07	0.54
1:X:1510:A:H2'	1:X:1511:A:O4'	2.08	0.54
1:X:2220:A:H2'	1:X:2221:G:C8	2.42	0.54
11:J:30:PHE:HB3	11:J:66:TYR:CE2	2.42	0.54
16:O:19:VAL:HG13	16:O:90:PHE:CD2	2.42	0.54
1:X:314:G:H2'	1:X:315:G:H8	1.71	0.54
1:X:1051:U:H2'	1:X:1052:C:C6	2.42	0.54
1:X:1193:G:H2'	1:X:1194:U:C6	2.42	0.54
1:X:1268:U:C6	5:C:67:ALA:HA	2.43	0.54
1:X:1998:A:N3	25:Z:6:VAL:HG23	2.23	0.54
1:X:2006:G:H5'	1:X:2596:C:H4'	1.90	0.54
3:A:25:THR:HB	3:A:81:ALA:HB1	1.89	0.54
7:E:163:ARG:NH2	7:E:169:ILE:HG21	2.23	0.54
10:I:83:LEU:HA	10:I:86:THR:HG23	1.88	0.54
12:K:17:ARG:H	12:K:17:ARG:HD2	1.71	0.54
12:K:24:GLN:HB3	12:K:44:LEU:HD22	1.90	0.54
1:X:1999:U:O2'	25:Z:7:PRO:O	2.22	0.54
1:X:2691:C:H2'	1:X:2694:G:H5"	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:33:ARG:HE	13:L:38:ILE:HG21	1.72	0.54
17:P:25:PHE:HD1	17:P:26:ALA:N	2.06	0.54
19:R:98:ILE:HG22	19:R:99:VAL:H	1.73	0.54
24:W:46:THR:HG22	24:W:47:VAL:HG13	1.88	0.54
1:X:691:C:H2'	1:X:692:C:H6	1.73	0.54
1:X:1076:U:H3	1:X:1085:G:N2	2.06	0.54
1:X:1582:A:OP1	3:A:211:ARG:NH2	2.40	0.54
2:Y:46:G:N2	2:Y:50:U:H1'	2.23	0.54
4:B:18:ASP:N	4:B:18:ASP:OD1	2.40	0.54
7:E:136:ILE:HG13	7:E:137:ASP:H	1.73	0.54
14:M:48:GLN:HG2	14:M:49:ALA:N	2.22	0.54
17:P:8:PHE:CE2	17:P:14:ARG:HG3	2.43	0.54
20:S:71:MET:HB2	20:S:78:PRO:HA	1.90	0.54
1:X:832:A:OP2	1:X:1201:G:N2	2.33	0.53
1:X:1030:U:OP1	1:X:1046:U:O2'	2.17	0.53
1:X:1333:G:N2	1:X:1344:C:N4	2.56	0.53
1:X:1787:U:H2'	1:X:1788:C:H6	1.72	0.53
1:X:2085:G:H2'	1:X:2086:U:C6	2.42	0.53
3:A:252:LYS:CD	3:A:253:PRO:HD3	2.29	0.53
24:W:1:MET:HB3	24:W:34:VAL:HG12	1.90	0.53
1:X:1812:U:H4'	1:X:1813:A:OP2	2.08	0.53
1:X:753:U:H2'	1:X:754:G:C8	2.43	0.53
1:X:1451:C:H2'	1:X:1452:U:C6	2.43	0.53
1:X:2402:U:O2'	1:X:2403:C:OP2	2.25	0.53
3:A:146:GLU:OE1	3:A:149:PRO:HA	2.09	0.53
6:D:16:LEU:HD21	6:D:28:VAL:HG21	1.89	0.53
11:J:19:THR:HG23	11:J:99:LYS:HD3	1.90	0.53
1:X:1925:C:H2'	1:X:1926:U:C5	2.43	0.53
1:X:1935:A:N3	9:H:22:ILE:HD11	2.23	0.53
1:X:2526:U:H2'	1:X:2527:G:H8	1.73	0.53
3:A:231:HIS:CD2	3:A:247:VAL:HA	2.43	0.53
1:X:224:G:H4'	1:X:399:G:C5	2.43	0.53
1:X:427:C:H2'	1:X:428:A:C8	2.43	0.53
1:X:991:A:N7	1:X:1146:G:H5"	2.23	0.53
1:X:1069:G:H2'	1:X:1070:G:C8	2.43	0.53
1:X:1674:C:H2'	1:X:1675:C:H6	1.73	0.53
1:X:1911:A:H5"	1:X:1912:G:OP2	2.08	0.53
1:X:2024:U:H2'	1:X:2025:A:C8	2.43	0.53
1:X:2291:U:C2'	6:D:37:ASN:HD21	2.22	0.53
1:X:2670:C:H5'	1:X:2847:G:H5"	1.90	0.53
2:Y:78:A:H2'	2:Y:79:U:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:49:ALA:O	5:C:51:VAL:N	2.41	0.53
6:D:111:ILE:HB	6:D:114:PHE:HB2	1.90	0.53
8:G:164:GLN:HG3	8:G:165:VAL:H	1.73	0.53
17:P:9:ARG:HE	17:P:13:GLN:CB	2.21	0.53
20:S:8:ARG:NE	20:S:8:ARG:HA	2.23	0.53
1:X:590:C:H2'	1:X:591:G:C8	2.42	0.53
1:X:654:A:N1	1:X:2348:A:O2'	2.37	0.53
1:X:1164:C:H2'	1:X:1165:G:C8	2.44	0.53
1:X:1573:G:H3'	1:X:1574:A:H5"	1.91	0.53
1:X:1993:G:H5"	17:P:63:SER:HB2	1.90	0.53
1:X:2273:C:OP1	13:L:11:LEU:HD21	2.08	0.53
3:A:252:LYS:HZ2	3:A:253:PRO:HD3	1.72	0.53
13:L:33:ARG:NH1	13:L:100:VAL:HA	2.23	0.53
1:X:504:G:H4'	17:P:27:VAL:HG13	1.89	0.53
1:X:652:C:H42	1:X:657:A:N6	2.03	0.53
1:X:1753:A:H2'	31:X:3243:SPD:N1	2.23	0.53
1:X:2448:A:N6	1:X:2460:G:H1'	2.24	0.53
4:B:2:LYS:HA	4:B:84:PHE:CD1	2.44	0.53
1:X:78:C:H2'	1:X:79:G:H8	1.74	0.53
1:X:399:G:H5'	1:X:401:G:H22	1.74	0.53
1:X:2448:A:H61	1:X:2460:G:H1'	1.73	0.53
4:B:119:ARG:HG2	4:B:120:TRP:NE1	2.24	0.53
8:G:164:GLN:NE2	8:G:165:VAL:HG22	2.24	0.53
19:R:24:VAL:O	19:R:31:GLY:N	2.41	0.53
20:S:17:SER:O	20:S:35:ASP:HA	2.08	0.53
20:S:40:ASP:OD2	20:S:44:ARG:NH2	2.41	0.53
21:T:77:ARG:C	21:T:78:PHE:HD1	2.11	0.53
1:X:1279:G:O2'	1:X:1995:G:O6	2.22	0.53
1:X:1787:U:H2'	1:X:1788:C:C6	2.44	0.53
1:X:1845:A:H2'	1:X:1846:A:C8	2.44	0.53
1:X:2551:A:H5"	1:X:2553:G:H4'	1.90	0.53
1:X:2559:U:H5"	1:X:2560:G:N2	2.24	0.53
6:D:117:ILE:HG13	6:D:118:ASN:N	2.24	0.53
10:I:56:LEU:HA	28:3:12:ARG:HA	1.91	0.53
13:L:14:ARG:O	13:L:18:ARG:HB2	2.09	0.53
1:X:692:C:H2'	1:X:693:A:H8	1.74	0.53
1:X:1429:A:N3	1:X:1603:A:H1'	2.25	0.53
1:X:1843:U:H3	1:X:1874:G:H1	1.57	0.53
1:X:1991:C:H2'	1:X:1992:G:H8	1.72	0.53
1:X:2393:G:N3	10:I:59:ARG:NH1	2.57	0.53
3:A:251:GLY:H	3:A:255:LYS:CE	2.21	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:32:TYR:O	15:N:64:ARG:NH1	2.39	0.53
1:X:562:G:H2'	1:X:563:U:O4'	2.08	0.52
1:X:787:A:H2	1:X:800:U:HO2'	1.55	0.52
1:X:1079:G:N2	1:X:1106:A:H2'	2.22	0.52
1:X:1264:C:H5"	15:N:13:ARG:NH1	2.24	0.52
1:X:1823:G:H2'	1:X:1824:C:C6	2.44	0.52
9:H:81:ILE:CD1	9:H:117:GLU:HG3	2.37	0.52
16:O:16:GLU:H	16:O:95:ILE:HB	1.74	0.52
16:O:57:GLN:H	16:O:97:GLY:HA3	1.72	0.52
17:P:25:PHE:CD1	17:P:25:PHE:C	2.82	0.52
19:R:95:ARG:HB3	19:R:104:VAL:HB	1.91	0.52
1:X:1645:U:H2'	1:X:1646:G:C8	2.44	0.52
13:L:9:ARG:C	13:L:11:LEU:H	2.13	0.52
1:X:401:G:OP1	22:U:34:THR:OG1	2.28	0.52
1:X:480:G:O6	27:2:37:LYS:HE3	2.09	0.52
1:X:542:A:N6	1:X:2003:A:H1'	2.24	0.52
1:X:1062:G:H2'	1:X:1063:C:C5	2.44	0.52
1:X:2855:C:O2'	12:K:93:GLY:HA3	2.10	0.52
2:Y:80:A:H2'	2:Y:81:C:O4'	2.09	0.52
16:O:20:ILE:HG22	16:O:91:THR:O	2.09	0.52
1:X:257:G:H2'	1:X:258:C:C6	2.45	0.52
1:X:1284:G:C5'	31:X:3238:SPD:H82	2.40	0.52
1:X:1801:C:H41	22:U:48:LYS:HB2	1.73	0.52
1:X:1888:C:H5'	1:X:1889:G:O5'	2.08	0.52
5:C:2:ALA:HA	5:C:13:ARG:C	2.29	0.52
1:X:227:G:H5'	28:3:8:LYS:NZ	2.24	0.52
1:X:1104:G:H2'	1:X:1105:U:H5	1.73	0.52
1:X:1673:C:H2'	1:X:1674:C:C6	2.43	0.52
1:X:1997:A:H2'	1:X:1998:A:C8	2.44	0.52
1:X:2557:G:O2'	1:X:2558:C:H5'	2.10	0.52
1:X:2690:A:OP2	31:X:3239:SPD:N1	2.42	0.52
1:X:2725:C:H2'	1:X:2726:U:C6	2.45	0.52
2:Y:122:U:H5"	2:Y:123:U:OP2	2.08	0.52
4:B:143:GLN:N	4:B:143:GLN:OE1	2.43	0.52
7:E:37:TYR:HE2	7:E:72:VAL:HG12	1.75	0.52
10:I:76:LYS:HE2	10:I:90:ARG:NH2	2.24	0.52
13:L:21:THR:HG23	13:L:45:ASP:HB3	1.91	0.52
14:M:54:VAL:HG22	14:M:68:VAL:HG12	1.91	0.52
1:X:546:A:H2'	1:X:547:U:C6	2.45	0.52
1:X:670:U:H2'	1:X:671:A:C8	2.44	0.52
1:X:2764:U:H4'	4:B:42:ASP:OD1	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:49:ILE:HD11	4:B:90:SER:HB3	1.91	0.52
5:C:89:ARG:HG3	5:C:91:TYR:HE1	1.73	0.52
25:Z:45:ILE:HG22	25:Z:52:TYR:HB2	1.91	0.52
1:X:1288:A:H2'	1:X:1289:A:O4'	2.09	0.52
1:X:2030:U:H2'	1:X:2031:A:C8	2.45	0.52
1:X:2245:A:H4'	1:X:2246:A:C2	2.45	0.52
1:X:2269:G:H2'	1:X:2270:U:O4'	2.10	0.52
5:C:148:VAL:O	5:C:167:VAL:HA	2.10	0.52
14:M:102:ALA:O	14:M:103:LYS:HE2	2.10	0.52
28:3:14:ILE:HA	28:3:23:MET:O	2.10	0.52
1:X:575:U:H5"	10:I:28:LYS:HD2	1.90	0.52
1:X:810:U:P	5:C:56:ARG:HD3	2.49	0.52
1:X:1082:G:H3'	1:X:1083:C:H6	1.74	0.52
4:B:48:GLN:HE21	4:B:78:LEU:HD13	1.74	0.52
15:N:90:LEU:HD23	15:N:90:LEU:O	2.09	0.52
25:Z:36:CYS:SG	25:Z:48:ASN:HB2	2.50	0.52
1:X:2:G:H2'	1:X:3:U:H6	1.75	0.52
1:X:79:G:H2'	1:X:80:A:C8	2.44	0.52
1:X:242:A:N3	1:X:243:G:C8	2.78	0.52
1:X:836:G:H2'	1:X:837:U:H6	1.75	0.52
1:X:1827:G:H1'	1:X:1914:U:C2	2.45	0.52
1:X:2440:C:H2'	1:X:2441:U:C6	2.45	0.52
1:X:2709:C:H2'	1:X:2710:C:C6	2.44	0.52
5:C:146:GLU:OE1	5:C:185:ARG:HD2	2.09	0.52
19:R:85:ASP:O	19:R:87:GLU:N	2.42	0.52
1:X:63:A:O2'	18:Q:70:GLY:HA2	2.10	0.52
1:X:790:A:O2'	3:A:48:ARG:NH2	2.39	0.52
1:X:2441:U:H2'	1:X:2442:C:C6	2.44	0.52
1:X:2594:U:C6	25:Z:7:PRO:HA	2.45	0.52
8:G:100:TYR:OH	8:G:126:VAL:HG13	2.10	0.52
9:H:11:ALA:O	9:H:110:VAL:HA	2.10	0.52
10:I:100:ARG:HA	10:I:117:ALA:O	2.10	0.52
1:X:39:C:O2	5:C:40:ARG:NH2	2.44	0.51
1:X:600:G:O2'	1:X:601:A:H5'	2.10	0.51
1:X:711:C:O2'	1:X:747:A:N6	2.43	0.51
1:X:1171:A:H2'	1:X:1172:U:C6	2.45	0.51
1:X:1270:C:H4'	5:C:77:PHE:HE1	1.71	0.51
1:X:1800:A:H4'	1:X:1801:C:OP1	2.10	0.51
1:X:1845:A:H2'	1:X:1846:A:H8	1.75	0.51
1:X:2200:G:O2'	3:A:149:PRO:HG2	2.10	0.51
4:B:93:VAL:HG23	4:B:94:ASP:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:15:ALA:O	6:D:19:GLN:NE2	2.43	0.51
18:Q:20:MET:HG2	18:Q:92:ALA:HB1	1.91	0.51
2:Y:68:A:N6	2:Y:110:U:H2'	2.23	0.51
3:A:165:VAL:HG12	3:A:175:VAL:HG12	1.92	0.51
19:R:58:VAL:HG12	19:R:60:PRO:O	2.10	0.51
27:2:17:GLY:O	27:2:21:ARG:HG2	2.10	0.51
28:3:23:MET:HA	28:3:48:PHE:HB2	1.91	0.51
1:X:39:C:H2'	1:X:40:U:C6	2.46	0.51
1:X:1031:C:O4'	1:X:1032:A:C2	2.63	0.51
1:X:1398:G:O2'	1:X:1399:C:O5'	2.28	0.51
1:X:1865:C:H3'	1:X:1866:G:H8	1.75	0.51
1:X:2526:U:H2'	1:X:2527:G:C8	2.46	0.51
5:C:27:LEU:O	5:C:31:VAL:HG23	2.10	0.51
14:M:29:PRO:HB3	14:M:54:VAL:O	2.10	0.51
19:R:108:VAL:HG13	19:R:109:ALA:N	2.25	0.51
28:3:5:LYS:CE	28:3:62:LEU:HB3	2.32	0.51
1:X:1441:A:H4'	1:X:1442:C:O5'	2.10	0.51
8:G:115:ALA:C	8:G:116:ARG:HG2	2.31	0.51
24:W:5:LEU:HA	24:W:51:LEU:HD23	1.92	0.51
1:X:689:A:H8	1:X:2052:G:N2	2.02	0.51
1:X:1504:G:H5"	1:X:1505:U:OP2	2.11	0.51
1:X:2212:U:H2'	1:X:2213:G:C8	2.46	0.51
1:X:2595:C:H2'	1:X:2596:C:H6	1.76	0.51
14:M:104:LEU:HA	14:M:106:TYR:CE1	2.46	0.51
28:3:30:ARG:CG	28:3:31:HIS:H	2.20	0.51
1:X:123:A:H5"	27:2:19:ARG:HG2	1.92	0.51
1:X:554:U:H5"	1:X:556:A:C2	2.45	0.51
1:X:2542:U:H5'	9:H:37:GLY:HA2	1.92	0.51
7:E:18:ASN:OD1	7:E:19:ALA:N	2.43	0.51
1:X:1486:A:H2'	1:X:1487:C:C6	2.46	0.51
1:X:1989:C:OP1	31:X:3240:SPD:N6	2.41	0.51
1:X:2325:A:HO2'	1:X:2326:C:P	2.34	0.51
4:B:14:ILE:HG13	14:M:20:HIS:NE2	2.26	0.51
4:B:188:ILE:HG23	4:B:189:PRO:HD2	1.93	0.51
16:O:28:GLU:O	16:O:30:GLY:N	2.44	0.51
18:Q:60:GLY:HA3	18:Q:73:ASN:N	2.21	0.51
26:1:14:SER:HB2	26:1:22:TYR:O	2.11	0.51
1:X:1030:U:O4	1:X:1031:C:N4	2.44	0.51
1:X:1270:C:O2'	5:C:78:VAL:HG12	2.11	0.51
1:X:2855:C:C2'	12:K:93:GLY:HA3	2.41	0.51
4:B:96:PHE:CE1	4:B:102:ILE:HG21	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:91:PHE:N	9:H:91:PHE:CD1	2.78	0.51
11:J:27:TYR:CG	11:J:28:VAL:N	2.78	0.51
17:P:9:ARG:HH11	17:P:13:GLN:HA	1.76	0.51
19:R:100:ASP:HB3	19:R:102:LYS:HD2	1.92	0.51
1:X:863:C:H42	1:X:940:G:H1	1.59	0.51
1:X:876:A:H2'	1:X:877:G:C8	2.46	0.51
1:X:1937:G:O2'	1:X:1939:U:O4	2.19	0.51
7:E:24:PHE:HE1	7:E:37:TYR:CE2	2.27	0.51
9:H:3:MET:HB2	9:H:4:PRO:HD2	1.93	0.51
20:S:54:ILE:HG13	20:S:62:PHE:HE1	1.75	0.51
1:X:1349:A:H2'	1:X:1350:G:C8	2.46	0.51
1:X:1705:U:O2	1:X:1717:A:H5'	2.11	0.51
1:X:2020:G:H2'	1:X:2021:G:H8	1.74	0.51
6:D:3:GLN:O	6:D:4:LEU:HD23	2.11	0.51
9:H:13:ASN:OD1	9:H:108:THR:N	2.43	0.51
18:Q:63:LYS:O	18:Q:70:GLY:HA3	2.10	0.51
1:X:487:G:H4'	1:X:512:A:N1	2.27	0.50
1:X:938:G:O2'	1:X:940:G:N7	2.33	0.50
1:X:1060:C:N4	1:X:1061:A:H62	2.09	0.50
1:X:1584:G:OP2	3:A:63:ARG:NH2	2.44	0.50
1:X:1954:A:O2'	3:A:239:ARG:HB3	2.11	0.50
1:X:2467:A:C2'	1:X:2468:G:H5'	2.41	0.50
7:E:22:GLY:O	7:E:37:TYR:HB2	2.11	0.50
9:H:29:ILE:HD13	9:H:123:PHE:CE1	2.45	0.50
16:O:70:TYR:HD2	16:O:83:ARG:HE	1.55	0.50
1:X:797:A:N7	3:A:229:VAL:HG21	2.27	0.50
1:X:957:G:H2'	1:X:958:G:C8	2.41	0.50
1:X:1422:C:H2'	1:X:1423:A:H8	1.76	0.50
1:X:1514:C:HO2'	1:X:1592:U:HO2'	1.58	0.50
1:X:2869:U:H2'	1:X:2870:C:C6	2.46	0.50
2:Y:17:A:H1'	2:Y:112:A:C8	2.47	0.50
5:C:191:ALA:O	5:C:195:ILE:HG12	2.11	0.50
10:I:118:VAL:HG12	10:I:119:THR:N	2.26	0.50
1:X:308:C:OP2	31:X:3244:SPD:N10	2.38	0.50
1:X:1690:U:H2'	1:X:1691:G:H5"	1.92	0.50
2:Y:6:C:H2'	2:Y:7:C:C6	2.46	0.50
4:B:14:ILE:HG13	14:M:20:HIS:CD2	2.45	0.50
4:B:105:THR:CG2	4:B:197:VAL:HB	2.40	0.50
13:L:33:ARG:NH2	13:L:68:ALA:HA	2.26	0.50
15:N:55:ARG:O	15:N:58:ARG:HB2	2.10	0.50
17:P:97:VAL:HG22	17:P:124:ILE:HG23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:U:47:HIS:CD2	22:U:48:LYS:H	2.30	0.50
1:X:330:C:H2'	1:X:331:U:O4'	2.11	0.50
1:X:543:G:C5	1:X:544:U:C4	2.99	0.50
1:X:649:G:H1	1:X:660:G:N2	2.08	0.50
2:Y:27:A:H2'	2:Y:27:A:N3	2.27	0.50
2:Y:39:C:H5'	2:Y:40:C:OP2	2.11	0.50
8:G:140:GLN:O	8:G:144:MET:HG3	2.11	0.50
16:O:40:VAL:CG1	16:O:43:GLU:HA	2.41	0.50
25:Z:16:ARG:HG3	25:Z:17:ASP:N	2.26	0.50
1:X:227:G:H5'	28:3:8:LYS:HZ2	1.77	0.50
1:X:393:U:H4'	22:U:19:ILE:O	2.11	0.50
1:X:1063:C:H2'	1:X:1064:C:C6	2.46	0.50
1:X:1436:G:N1	1:X:1593:C:O2	2.44	0.50
1:X:2372:A:OP1	28:3:30:ARG:HB2	2.12	0.50
2:Y:12:C:N3	2:Y:113:G:N1	2.39	0.50
17:P:107:ILE:HG13	17:P:107:ILE:O	2.11	0.50
1:X:1428:G:H22	1:X:1602:G:H5'	1.77	0.50
1:X:1563:U:H2'	1:X:1564:U:C6	2.46	0.50
1:X:2077:G:C6	1:X:2078:G:C2	2.99	0.50
1:X:2629:U:H2'	1:X:2630:C:H6	1.77	0.50
1:X:2796:A:H2'	1:X:2797:G:H8	1.77	0.50
2:Y:31:A:H2'	2:Y:32:C:C6	2.46	0.50
3:A:261:ARG:HG3	3:A:262:LYS:O	2.12	0.50
4:B:133:LYS:HB3	4:B:137:ARG:HH21	1.77	0.50
5:C:30:VAL:HG11	5:C:177:VAL:HG21	1.92	0.50
11:J:44:LYS:HB2	11:J:47:GLN:HG3	1.94	0.50
1:X:317:U:O2'	1:X:1224:A:N7	2.45	0.50
1:X:428:A:H2'	1:X:429:C:C6	2.47	0.50
1:X:847:C:C2	1:X:848:A:C8	2.99	0.50
1:X:2008:C:OP1	4:B:149:ARG:NH1	2.44	0.50
1:X:2292:C:H2'	1:X:2293:G:C8	2.47	0.50
1:X:2402:U:HO2'	1:X:2403:C:P	2.33	0.50
1:X:2546:G:H2'	1:X:2547:C:H6	1.77	0.50
10:I:101:ARG:C	10:I:118:VAL:HG13	2.32	0.50
1:X:306:G:H2'	1:X:307:C:H6	1.76	0.50
1:X:318:G:N2	1:X:320:A:H3'	2.27	0.50
1:X:393:U:H2'	1:X:394:U:C6	2.47	0.50
1:X:537:C:H1'	1:X:538:A:C6	2.47	0.50
1:X:732:G:H2'	1:X:733:G:H8	1.77	0.50
1:X:1050:G:H8	1:X:1050:G:O5'	1.95	0.50
1:X:2677:U:H2'	1:X:2678:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:52:ASN:CG	19:R:73:GLU:HA	2.31	0.50
1:X:492:G:H1'	1:X:516:G:N2	2.27	0.50
1:X:1349:A:H2'	1:X:1350:G:H8	1.77	0.50
1:X:1656:U:H2'	1:X:1657:A:H5"	1.93	0.50
1:X:1870:U:H2'	1:X:1871:G:H5"	1.94	0.50
1:X:1989:C:O5'	1:X:1989:C:H6	1.95	0.50
1:X:2796:A:OP2	12:K:3:HIS:HE1	1.95	0.50
7:E:21:ASP:O	7:E:39:THR:HG22	2.12	0.50
20:S:63:PRO:HG2	20:S:88:TYR:HE2	1.77	0.50
20:S:113:VAL:HG22	20:S:171:VAL:HG22	1.93	0.50
1:X:231:G:O6	28:3:4:MET:HG3	2.12	0.49
1:X:265:U:O2'	1:X:266:U:O5'	2.30	0.49
1:X:1179:A:H2'	1:X:1180:A:C8	2.47	0.49
1:X:1816:G:O2'	3:A:252:LYS:HG3	2.12	0.49
5:C:56:ARG:HG2	5:C:57:LYS:N	2.14	0.49
11:J:27:TYR:CE2	11:J:137:VAL:O	2.65	0.49
25:Z:51:TYR:CE1	25:Z:55:ARG:HG2	2.34	0.49
1:X:1991:C:H2'	1:X:1992:G:C8	2.47	0.49
1:X:2241:U:H5	21:T:16:SER:HB3	1.77	0.49
8:G:97:ASP:O	8:G:99:VAL:HG23	2.11	0.49
13:L:28:ARG:HG3	13:L:90:ASP:HB2	1.94	0.49
20:S:3:LEU:CD1	20:S:34:LEU:HA	2.41	0.49
24:W:49:HIS:CD2	24:W:49:HIS:H	2.30	0.49
1:X:398:C:O2'	1:X:399:G:OP2	2.22	0.49
1:X:877:G:H2'	1:X:878:C:C6	2.47	0.49
1:X:1072:U:H4'	1:X:1081:A:O2'	2.12	0.49
1:X:1377:G:C5	22:U:6:TYR:N	2.79	0.49
1:X:1484:G:H2'	1:X:1485:U:C6	2.47	0.49
1:X:1504:G:H21	3:A:99:ASP:HA	1.77	0.49
1:X:1939:U:H1'	1:X:2531:U:OP1	2.13	0.49
1:X:2569:A:H2'	1:X:2570:C:C6	2.47	0.49
5:C:7:ILE:CG1	5:C:122:GLY:HA2	2.42	0.49
14:M:110:LEU:HB3	14:M:115:ALA:CB	2.41	0.49
17:P:9:ARG:NH1	17:P:13:GLN:HA	2.26	0.49
1:X:654:A:H2'	1:X:655:A:C5'	2.40	0.49
1:X:810:U:OP1	5:C:56:ARG:HD3	2.13	0.49
2:Y:58:G:H21	2:Y:60:A:H61	1.60	0.49
3:A:211:ARG:HD2	3:A:214:TRP:CE3	2.46	0.49
20:S:72:ASP:HB3	20:S:75:LYS:HB3	1.94	0.49
28:3:50:LEU:HD12	28:3:51:ALA:N	2.28	0.49
1:X:240:U:H2'	1:X:241:C:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:339:U:H4'	19:R:77:HIS:ND1	2.27	0.49
1:X:1267:A:H5"	1:X:1268:U:H5"	1.94	0.49
1:X:1562:G:H8	1:X:1562:G:OP2	1.95	0.49
1:X:1581:C:H2'	3:A:21:PHE:CE2	2.48	0.49
1:X:1688:U:HO2'	1:X:1690:U:H5	1.60	0.49
1:X:1762:C:H2'	1:X:1763:G:C8	2.47	0.49
1:X:1827:G:H1	1:X:1888:C:H42	1.59	0.49
1:X:2011:U:H2'	1:X:2012:A:H8	1.78	0.49
3:A:210:GLY:HA2	3:A:213:ARG:CG	2.43	0.49
8:G:93:LYS:HB2	8:G:97:ASP:HB2	1.95	0.49
9:H:56:LYS:HD3	9:H:56:LYS:C	2.32	0.49
1:X:51:A:H2'	1:X:52:A:C8	2.48	0.49
1:X:618:A:H2'	1:X:619:A:H8	1.74	0.49
1:X:1034:U:H2'	1:X:1035:G:H5'	1.94	0.49
1:X:1607:A:H2'	1:X:1608:U:C6	2.48	0.49
1:X:1882:G:O2'	1:X:1883:A:H5"	2.11	0.49
1:X:1988:A:H5"	31:X:3240:SPD:C7	2.43	0.49
1:X:1989:C:O5'	1:X:1989:C:C6	2.66	0.49
1:X:2218:G:H5'	3:A:249:PRO:HG3	1.94	0.49
1:X:2604:G:H2'	1:X:2605:C:C6	2.47	0.49
5:C:56:ARG:CG	5:C:57:LYS:N	2.75	0.49
7:E:27:LYS:HA	7:E:31:GLY:HA3	1.94	0.49
1:X:636:G:H5"	1:X:637:G:OP2	2.12	0.49
1:X:2795:A:H4'	12:K:3:HIS:ND1	2.27	0.49
1:X:2796:A:H2'	1:X:2797:G:C8	2.48	0.49
2:Y:22:U:H2'	2:Y:23:G:C8	2.47	0.49
3:A:181:GLU:HG3	3:A:271:VAL:HB	1.93	0.49
5:C:176:ASN:ND2	5:C:178:TYR:HB3	2.27	0.49
7:E:83:TYR:CE2	7:E:138:LYS:HB2	2.48	0.49
15:N:66:ASN:O	15:N:70:ARG:HG3	2.12	0.49
18:Q:71:GLN:HG3	18:Q:72:ARG:O	2.12	0.49
22:U:43:ARG:HG2	22:U:44:ALA:H	1.78	0.49
1:X:198:A:H61	1:X:441:A:H62	1.61	0.49
1:X:531:G:H2'	1:X:532:A:H8	1.78	0.49
1:X:1050:G:H1'	1:X:1128:G:H22	1.78	0.49
1:X:1100:G:H22	1:X:1113:C:H42	1.60	0.49
1:X:1310:C:H2'	1:X:1311:C:C6	2.45	0.49
1:X:2561:G:H5'	1:X:2561:G:C8	2.48	0.49
3:A:16:MET:HE3	3:A:211:ARG:HD3	1.95	0.49
3:A:163:VAL:HG13	3:A:175:VAL:HB	1.95	0.49
4:B:27:LEU:HD22	4:B:51:TYR:OH	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:132:ILE:HB	6:D:152:MET:O	2.13	0.49
7:E:17:VAL:HG21	7:E:50:LEU:HD11	1.94	0.49
1:X:249:A:H8	1:X:278:G:H21	1.56	0.49
1:X:1192:A:H5'	1:X:1193:G:OP2	2.13	0.49
1:X:1332:G:C2	1:X:1333:G:C2	3.00	0.49
1:X:1357:U:H4'	1:X:1397:A:C6	2.48	0.49
1:X:1429:A:C2	1:X:1603:A:H1'	2.47	0.49
1:X:1510:A:H8	1:X:1511:A:C8	2.31	0.49
2:Y:58:G:H4'	2:Y:59:A:O5'	2.13	0.49
7:E:98:LEU:HD12	7:E:102:ALA:O	2.12	0.49
12:K:52:ILE:HD11	12:K:94:TYR:CD2	2.47	0.49
13:L:70:ALA:HA	13:L:73:LYS:HE2	1.94	0.49
20:S:71:MET:CB	20:S:78:PRO:HA	2.42	0.49
1:X:1043:A:H2	1:X:1133:G:H1	1.60	0.49
1:X:1255:A:H2'	1:X:1256:C:H6	1.76	0.49
1:X:1712:G:C8	3:A:8:PRO:HB2	2.48	0.49
1:X:1948:C:H5"	1:X:1949:A:H2'	1.94	0.49
1:X:2362:G:H2'	1:X:2363:G:C8	2.48	0.49
1:X:2594:U:C2	25:Z:7:PRO:HA	2.48	0.49
1:X:2672:U:H2'	1:X:2673:G:C8	2.45	0.49
4:B:87:ASP:N	4:B:87:ASP:OD1	2.45	0.49
5:C:46:ARG:CD	5:C:51:VAL:HG12	2.43	0.49
9:H:80:ALA:HA	9:H:90:ARG:HG2	1.94	0.49
12:K:100:VAL:HG23	12:K:101:GLY:N	2.28	0.49
14:M:29:PRO:CG	14:M:99:VAL:HG11	2.43	0.49
15:N:94:VAL:HG23	15:N:94:VAL:O	2.13	0.49
16:O:35:LEU:HD23	16:O:35:LEU:H	1.77	0.49
20:S:154:LEU:HD11	20:S:160:LEU:HB2	1.95	0.49
1:X:219:G:O2'	1:X:220:U:P	2.71	0.48
1:X:439:C:H2'	1:X:440:U:O4'	2.13	0.48
1:X:1520:G:H2'	1:X:1521:U:O4'	2.13	0.48
3:A:65:ILE:CG2	3:A:88:ARG:HH21	2.25	0.48
5:C:6:VAL:HG22	5:C:7:ILE:HG12	1.94	0.48
5:C:41:GLY:HA3	5:C:89:ARG:O	2.13	0.48
18:Q:56:MET:HE3	18:Q:77:LYS:HE3	1.95	0.48
1:X:839:U:H5"	1:X:2408:G:OP2	2.12	0.48
1:X:2073:A:C6	1:X:2209:G:C6	3.01	0.48
1:X:2705:A:O2'	1:X:2706:U:C6	2.66	0.48
9:H:116:ARG:NE	14:M:38:LYS:HD2	2.28	0.48
11:J:64:LYS:HE3	11:J:110:VAL:HG22	1.94	0.48
14:M:44:ARG:NH2	14:M:46:ARG:HH21	2.11	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:69:VAL:HG13	20:S:81:VAL:HG22	1.94	0.48
26:1:9:ILE:HG22	26:1:28:ARG:HA	1.94	0.48
1:X:30:G:C6	1:X:31:C:C4	3.01	0.48
1:X:1753:A:H3'	31:X:3243:SPD:H21	1.94	0.48
1:X:2344:G:H4'	21:T:60:PHE:CZ	2.49	0.48
1:X:2369:U:O5'	1:X:2369:U:H6	1.97	0.48
1:X:2398:U:O4	28:3:31:HIS:ND1	2.46	0.48
16:O:70:TYR:HE2	16:O:83:ARG:HH11	1.57	0.48
1:X:63:A:C4	18:Q:65:VAL:HG21	2.48	0.48
1:X:417:C:H4'	1:X:418:C:O5'	2.13	0.48
1:X:1134:C:H2'	1:X:1135:C:C6	2.48	0.48
1:X:1370:U:H3'	1:X:1371:G:C8	2.49	0.48
1:X:2424:G:O2'	1:X:2425:G:H5'	2.13	0.48
1:X:2738:A:C6	7:E:67:LEU:HD11	2.49	0.48
4:B:2:LYS:HE2	4:B:95:ILE:HB	1.94	0.48
5:C:13:ARG:NE	5:C:13:ARG:HA	2.28	0.48
10:I:86:THR:HA	10:I:89:ASP:CG	2.34	0.48
15:N:66:ASN:HD22	15:N:70:ARG:HH21	1.61	0.48
18:Q:29:VAL:HG21	18:Q:38:ILE:HD12	1.95	0.48
19:R:93:ARG:HG3	19:R:94:VAL:N	2.29	0.48
20:S:49:THR:OG1	20:S:132:GLN:HA	2.13	0.48
1:X:247:A:N1	1:X:382:U:H4'	2.28	0.48
1:X:500:G:O5'	1:X:500:G:H8	1.96	0.48
1:X:772:G:O2'	1:X:773:G:H5'	2.13	0.48
1:X:1425:G:H2'	1:X:1426:U:C6	2.48	0.48
1:X:2074:U:H1'	22:U:48:LYS:HE2	1.96	0.48
1:X:2663:U:C2	1:X:2664:G:C8	3.01	0.48
2:Y:50:U:O3'	13:L:97:HIS:NE2	2.47	0.48
2:Y:54:U:H2'	2:Y:55:C:O4'	2.13	0.48
7:E:42:THR:OG1	7:E:53:GLU:O	2.28	0.48
8:G:44:VAL:CG1	8:G:54:LEU:HD11	2.41	0.48
8:G:63:ARG:HA	8:G:63:ARG:HD2	1.62	0.48
11:J:105:PHE:HA	11:J:106:GLU:OE1	2.14	0.48
18:Q:12:ILE:HD12	18:Q:12:ILE:O	2.12	0.48
20:S:63:PRO:HG2	20:S:88:TYR:CE2	2.48	0.48
22:U:28:GLY:HA3	22:U:34:THR:HA	1.94	0.48
26:1:21:TYR:CD2	26:1:50:PHE:HZ	2.30	0.48
1:X:531:G:H2'	1:X:532:A:C8	2.49	0.48
1:X:626:A:H5'	5:C:38:ARG:HH12	1.79	0.48
1:X:751:G:H2'	1:X:752:G:C8	2.49	0.48
1:X:1029:C:H2'	1:X:1030:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1104:G:H2'	1:X:1105:U:C5	2.48	0.48
1:X:1608:U:H2'	1:X:1609:G:C8	2.49	0.48
5:C:149:LEU:HD23	5:C:180:ILE:HG22	1.94	0.48
9:H:83:ARG:HH12	9:H:134:LEU:HD21	1.77	0.48
11:J:78:LYS:HG2	11:J:79:PRO:HD2	1.95	0.48
12:K:92:GLY:HA2	12:K:94:TYR:CE2	2.49	0.48
22:U:9:GLY:C	22:U:10:LYS:HD3	2.34	0.48
22:U:27:ASP:HB3	22:U:32:ARG:CB	2.44	0.48
28:3:52:LYS:HZ2	28:3:56:ALA:HB2	1.77	0.48
1:X:936:A:H2'	1:X:937:C:C6	2.48	0.48
1:X:1665:C:OP1	31:X:3238:SPD:C5	2.61	0.48
5:C:164:VAL:CG1	5:C:167:VAL:HG22	2.44	0.48
10:I:53:ARG:HD3	28:3:12:ARG:NH2	2.28	0.48
17:P:58:ARG:HE	25:Z:39:LYS:CE	2.27	0.48
18:Q:27:PHE:CE2	18:Q:42:ILE:HD12	2.48	0.48
28:3:47:GLY:O	28:3:48:PHE:HB3	2.13	0.48
1:X:615:C:O2	1:X:670:U:O2'	2.32	0.48
1:X:1422:C:H2'	1:X:1423:A:C8	2.49	0.48
1:X:2029:G:H5'	25:Z:19:ARG:HG2	1.96	0.48
1:X:2284:U:N3	1:X:2285:U:O4	2.47	0.48
1:X:2299:A:H4'	1:X:2300:G:C4	2.48	0.48
1:X:2498:U:C5	1:X:2520:A:C6	3.02	0.48
2:Y:14:C:H3'	2:Y:14:C:H6	1.78	0.48
3:A:41:GLY:O	3:A:43:ARG:N	2.44	0.48
3:A:52:ARG:O	3:A:53:PHE:HB2	2.14	0.48
5:C:48:ARG:NH1	5:C:74:VAL:HG12	2.28	0.48
8:G:94:LYS:HE2	8:G:117:GLU:HG2	1.96	0.48
15:N:78:THR:HB	15:N:117:ARG:CZ	2.43	0.48
28:3:36:LYS:HG2	28:3:37:SER:N	2.25	0.48
1:X:310:A:H8	1:X:310:A:OP2	1.97	0.48
1:X:356:A:H2	1:X:357:A:H62	1.57	0.48
1:X:500:G:H2'	1:X:501:G:O4'	2.12	0.48
1:X:537:C:O2'	1:X:538:A:P	2.72	0.48
1:X:540:G:O6	1:X:2006:G:OP1	2.32	0.48
1:X:2237:C:H5"	1:X:2237:C:H6	1.78	0.48
1:X:79:G:H1'	1:X:356:A:H2	1.79	0.48
1:X:538:A:C2	1:X:2025:A:C6	3.02	0.48
1:X:1581:C:H2'	3:A:21:PHE:HE2	1.79	0.48
1:X:1670:G:C5'	12:K:2:ARG:HD2	2.42	0.48
1:X:2311:U:C4'	1:X:2315:A:H62	2.26	0.48
1:X:2368:G:H5"	1:X:2369:U:H5'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2441:U:H2'	1:X:2442:C:H6	1.78	0.48
1:X:2446:C:H2'	1:X:2447:G:O4'	2.14	0.48
1:X:2533:U:H2'	1:X:2534:U:C5	2.48	0.48
22:U:48:LYS:HD2	22:U:49:LYS:N	2.29	0.48
1:X:109:A:H5"	23:V:62:ARG:NH2	2.29	0.47
1:X:1750:A:H4'	1:X:2695:C:O4'	2.14	0.47
1:X:2513:A:C2	1:X:2514:G:H1'	2.48	0.47
3:A:239:ARG:O	3:A:240:THR:HG23	2.14	0.47
4:B:93:VAL:CG2	4:B:94:ASP:N	2.77	0.47
14:M:55:ILE:O	14:M:103:LYS:O	2.32	0.47
20:S:1:MET:N	20:S:52:PHE:HE2	2.12	0.47
1:X:384:A:O2'	1:X:386:U:O4'	2.31	0.47
1:X:545:C:H2'	1:X:546:A:H8	1.78	0.47
1:X:1085:G:H2'	1:X:1086:C:H5	1.79	0.47
1:X:1681:A:N1	1:X:2706:U:C6	2.82	0.47
1:X:2278:A:H2'	1:X:2279:G:C8	2.48	0.47
1:X:2399:C:P	28:3:34:THR:H	2.37	0.47
1:X:2675:U:H2'	1:X:2676:G:C8	2.50	0.47
6:D:6:THR:O	6:D:10:ASP:N	2.40	0.47
9:H:116:ARG:NH1	14:M:41:GLU:OE2	2.46	0.47
9:H:117:GLU:H	9:H:117:GLU:HG2	1.41	0.47
1:X:67:G:H2'	1:X:68:C:C6	2.49	0.47
1:X:780:U:O2'	1:X:781:G:H5'	2.15	0.47
1:X:1212:U:H2'	1:X:1213:U:H6	1.79	0.47
1:X:1332:G:C6	1:X:1333:G:N1	2.83	0.47
1:X:1608:U:H2'	1:X:1609:G:H8	1.78	0.47
1:X:2721:A:H2'	1:X:2722:C:O4'	2.14	0.47
1:X:2760:G:N1	8:G:128:GLU:OE2	2.47	0.47
1:X:2819:G:H2'	1:X:2820:C:C6	2.49	0.47
9:H:81:ILE:HD11	9:H:117:GLU:CG	2.43	0.47
1:X:599:A:O2'	1:X:600:G:H5'	2.13	0.47
1:X:834:A:H5'	1:X:835:U:C6	2.49	0.47
1:X:1329:U:H2'	1:X:1330:G:C8	2.49	0.47
1:X:1412:C:H2'	1:X:1413:U:H6	1.80	0.47
1:X:1469:U:H5"	1:X:1470:G:C8	2.48	0.47
1:X:2474:G:OP1	11:J:83:ARG:HG3	2.14	0.47
3:A:70:ARG:HA	3:A:190:TYR:HE2	1.80	0.47
4:B:32:PRO:HD2	4:B:50:GLY:O	2.15	0.47
6:D:13:ARG:HA	6:D:16:LEU:HD23	1.97	0.47
11:J:33:TYR:O	11:J:106:GLU:HA	2.14	0.47
12:K:84:ALA:N	12:K:85:PRO:HD2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:10:ARG:O	15:N:14:HIS:HD2	1.97	0.47
16:O:65:ARG:HG2	16:O:87:ARG:HG2	1.95	0.47
1:X:1193:G:H2'	1:X:1194:U:H6	1.80	0.47
1:X:1278:A:H61	1:X:1996:A:H5"	1.78	0.47
1:X:1468:A:H8	1:X:1468:A:C5'	2.22	0.47
1:X:2186:G:H2'	1:X:2187:A:H8	1.78	0.47
1:X:2188:A:H5"	1:X:2189:A:OP2	2.15	0.47
1:X:2270:U:H2'	1:X:2271:C:C6	2.50	0.47
2:Y:25:G:H2'	2:Y:26:G:N7	2.28	0.47
7:E:17:VAL:HG22	7:E:26:VAL:HG22	1.96	0.47
11:J:134:LYS:HD2	11:J:135:ARG:N	2.30	0.47
20:S:146:HIS:HB3	20:S:170:SER:OG	2.14	0.47
24:W:36:ASP:HA	24:W:41:ARG:NH2	2.29	0.47
1:X:525:A:C8	1:X:526:C:C6	3.03	0.47
1:X:2277:A:H1'	1:X:2300:G:N2	2.29	0.47
1:X:2394:G:H2'	1:X:2395:C:C6	2.50	0.47
1:X:2477:C:O2'	1:X:2478:C:H5'	2.15	0.47
6:D:13:ARG:O	6:D:16:LEU:HB2	2.14	0.47
6:D:53:ALA:HA	6:D:56:GLU:HG2	1.95	0.47
1:X:78:C:H2'	1:X:79:G:C8	2.50	0.47
1:X:203:G:H2'	1:X:204:A:C8	2.49	0.47
1:X:487:G:H22	1:X:490:A:C5'	2.26	0.47
1:X:683:A:OP1	10:I:40:ARG:NE	2.48	0.47
1:X:1070:G:H5"	1:X:1071:U:C2'	2.44	0.47
1:X:1073:G:N2	1:X:1074:G:N7	2.60	0.47
1:X:1255:A:H2'	1:X:1256:C:C6	2.50	0.47
1:X:1801:C:N4	22:U:48:LYS:HB2	2.30	0.47
1:X:2187:A:H5'	3:A:151:LYS:CB	2.44	0.47
1:X:2217:G:H2'	1:X:2217:G:N3	2.30	0.47
1:X:2677:U:H2'	1:X:2678:C:H6	1.79	0.47
1:X:2698:G:H4'	14:M:103:LYS:HG3	1.96	0.47
5:C:182:ARG:HE	5:C:183:HIS:CE1	2.33	0.47
6:D:54:ALA:HB1	6:D:65:PRO:HG2	1.96	0.47
8:G:35:LYS:C	8:G:35:LYS:HD2	2.35	0.47
8:G:51:LEU:HB2	8:G:88:VAL:CG2	2.43	0.47
10:I:58:ALA:HB2	28:3:11:LYS:HB3	1.96	0.47
12:K:56:LYS:NZ	12:K:88:ALA:HA	2.30	0.47
14:M:44:ARG:HH21	14:M:46:ARG:HH21	1.63	0.47
23:V:49:GLU:O	23:V:53:LEU:HB2	2.13	0.47
1:X:23:G:C2	1:X:24:G:C8	3.03	0.47
1:X:312:G:C6	1:X:328:A:C6	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:404:A:H2'	1:X:404:A:N3	2.29	0.47
1:X:540:G:N2	1:X:2005:U:OP1	2.47	0.47
1:X:640:C:C4'	1:X:660:G:H21	2.26	0.47
1:X:691:C:H2'	1:X:692:C:C6	2.50	0.47
1:X:742:G:OP2	3:A:13:ARG:NH2	2.48	0.47
1:X:834:A:H5'	1:X:835:U:H6	1.77	0.47
1:X:1602:G:H5"	1:X:1603:A:OP2	2.14	0.47
1:X:1920:A:O2'	1:X:1921:A:H5'	2.15	0.47
2:Y:23:G:H2'	2:Y:24:U:H6	1.80	0.47
3:A:4:LYS:HB2	3:A:18:THR:CG2	2.42	0.47
4:B:61:LYS:N	4:B:62:PRO:HD2	2.30	0.47
6:D:81:GLN:HG3	6:D:82:GLY:N	2.29	0.47
8:G:54:LEU:HD12	8:G:54:LEU:HA	1.69	0.47
8:G:132:PHE:CE2	8:G:145:HIS:HD2	2.32	0.47
10:I:52:GLY:O	10:I:53:ARG:NH1	2.48	0.47
11:J:66:TYR:HB2	11:J:106:GLU:CG	2.45	0.47
13:L:56:SER:HB2	13:L:71:VAL:HG11	1.97	0.47
14:M:44:ARG:HH21	14:M:46:ARG:NH2	2.13	0.47
15:N:52:ASN:O	15:N:55:ARG:HG2	2.15	0.47
16:O:15:SER:HA	16:O:95:ILE:HB	1.97	0.47
27:2:41:GLN:O	27:2:43:THR:N	2.47	0.47
1:X:870:C:H4'	21:T:23:VAL:HG21	1.96	0.47
1:X:1068:A:H2'	1:X:1068:A:N3	2.30	0.47
1:X:1142:G:O3'	8:G:110:LEU:HD22	2.15	0.47
1:X:1573:G:O5'	1:X:1574:A:H5"	2.14	0.47
1:X:1865:C:H3'	1:X:1866:G:C8	2.49	0.47
1:X:2196:U:H5'	1:X:2197:U:OP2	2.15	0.47
1:X:2324:G:N3	1:X:2360:C:H2'	2.29	0.47
1:X:2433:G:C4	1:X:2434:G:C8	3.03	0.47
1:X:2546:G:H2'	1:X:2547:C:C6	2.49	0.47
2:Y:52:G:C2	2:Y:53:G:C8	3.03	0.47
9:H:70:VAL:HG13	9:H:98:ILE:HG23	1.96	0.47
1:X:824:U:C4	10:I:21:ARG:NH2	2.83	0.47
1:X:1430:G:O2'	1:X:1431:U:O5'	2.33	0.47
1:X:2310:G:N2	1:X:2364:C:C4	2.83	0.47
1:X:2371:A:H2	1:X:2403:C:H42	1.61	0.47
2:Y:23:G:H2'	2:Y:24:U:C6	2.50	0.47
3:A:34:THR:C	3:A:36:ALA:N	2.68	0.47
4:B:105:THR:HG22	4:B:197:VAL:HB	1.96	0.47
6:D:56:GLU:O	6:D:60:ILE:HG12	2.15	0.47
9:H:22:ILE:HD13	9:H:22:ILE:HG21	1.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:89:ILE:CD1	9:H:134:LEU:HD22	2.45	0.47
15:N:10:ARG:HG2	15:N:14:HIS:HD2	1.79	0.47
15:N:88:ILE:CB	16:O:49:GLU:HB2	2.45	0.47
18:Q:64:ARG:HD3	18:Q:67:ARG:CA	2.44	0.47
1:X:686:C:OP1	5:C:48:ARG:CD	2.63	0.46
1:X:751:G:O2'	1:X:752:G:OP1	2.30	0.46
1:X:1715:A:C8	1:X:1717:A:O4'	2.68	0.46
1:X:2395:C:OP1	10:I:57:ILE:HG22	2.15	0.46
5:C:154:ASP:HB2	5:C:157:THR:OG1	2.15	0.46
9:H:91:PHE:N	9:H:91:PHE:HD1	2.13	0.46
1:X:879:A:H2'	1:X:879:A:N3	2.30	0.46
1:X:1788:C:O2'	3:A:257:LEU:HD12	2.14	0.46
1:X:2696:A:O2'	1:X:2697:G:H5'	2.16	0.46
1:X:2705:A:O2'	1:X:2706:U:P	2.73	0.46
2:Y:51:G:H2'	2:Y:52:G:C8	2.48	0.46
13:L:9:ARG:C	13:L:11:LEU:N	2.67	0.46
1:X:129:A:H2'	1:X:130:C:C6	2.50	0.46
1:X:1776:A:C8	1:X:1778:U:C5	3.03	0.46
1:X:2262:C:C6	1:X:2368:G:H2'	2.50	0.46
1:X:2630:C:H2'	1:X:2631:C:H6	1.80	0.46
4:B:146:THR:H	4:B:147:PRO:HD2	1.80	0.46
7:E:32:GLU:O	7:E:34:THR:HG23	2.16	0.46
19:R:16:PHE:HZ	19:R:46:VAL:HG22	1.81	0.46
1:X:1810:U:H2'	3:A:154:GLN:O	2.16	0.46
1:X:2042:A:O3'	5:C:63:GLY:HA2	2.15	0.46
1:X:2274:C:H2'	1:X:2275:U:H5'	1.97	0.46
2:Y:36:A:H4'	2:Y:37:C:OP1	2.16	0.46
4:B:136:ARG:HD3	4:B:136:ARG:HA	1.77	0.46
5:C:148:VAL:CG2	5:C:167:VAL:HG12	2.45	0.46
7:E:97:LYS:HG3	7:E:98:LEU:N	2.22	0.46
12:K:10:LEU:HD23	12:K:10:LEU:HA	1.69	0.46
14:M:13:LEU:HA	14:M:13:LEU:HD13	1.63	0.46
17:P:45:ILE:HD11	17:P:57:LEU:CG	2.45	0.46
17:P:59:PHE:HD2	25:Z:30:LEU:HD11	1.80	0.46
20:S:1:MET:H3	20:S:52:PHE:HE2	1.61	0.46
22:U:10:LYS:HD2	22:U:63:SER:HB3	1.97	0.46
22:U:10:LYS:HG3	22:U:66:ALA:HB2	1.98	0.46
1:X:125:A:H5"	1:X:126:C:C6	2.50	0.46
1:X:143:A:H2'	1:X:144:U:C6	2.51	0.46
1:X:242:A:N3	1:X:243:G:H8	2.13	0.46
1:X:2065:A:P	22:U:20:ARG:HH12	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:39:ARG:CZ	5:C:91:TYR:CE2	2.99	0.46
5:C:53:LYS:O	5:C:54:THR:HG23	2.15	0.46
6:D:158:THR:HG21	6:D:169:LEU:HD22	1.98	0.46
7:E:89:LEU:HD23	7:E:107:ILE:HG21	1.96	0.46
10:I:66:ASN:O	10:I:100:ARG:N	2.43	0.46
11:J:27:TYR:HE2	11:J:137:VAL:O	1.98	0.46
1:X:597:U:H5"	10:I:16:ARG:NH1	2.31	0.46
1:X:797:A:H5"	3:A:227:ASN:ND2	2.31	0.46
1:X:1005:U:O2	16:O:6:GLN:NE2	2.47	0.46
1:X:1352:G:OP2	18:Q:77:LYS:NZ	2.49	0.46
1:X:1484:G:H2'	1:X:1485:U:H6	1.79	0.46
1:X:1594:U:H2'	1:X:1595:A:H8	1.80	0.46
1:X:1655:C:H4'	1:X:2689:C:O2	2.15	0.46
1:X:1790:G:H4'	1:X:1791:C:O5'	2.16	0.46
1:X:1925:C:H2'	1:X:1926:U:H5	1.81	0.46
1:X:2261:G:H5"	1:X:2262:C:O4'	2.14	0.46
1:X:2295:C:H2'	1:X:2296:U:H6	1.80	0.46
1:X:2422:C:O2'	1:X:2423:G:H5'	2.16	0.46
5:C:142:LEU:HD22	5:C:148:VAL:HG11	1.97	0.46
9:H:14:SER:O	9:H:16:ALA:N	2.49	0.46
10:I:53:ARG:HA	10:I:53:ARG:NE	2.30	0.46
11:J:64:LYS:O	11:J:107:VAL:HA	2.16	0.46
13:L:64:LYS:HD2	13:L:64:LYS:N	2.28	0.46
22:U:47:HIS:CG	22:U:48:LYS:N	2.84	0.46
1:X:205:A:H2'	1:X:206:U:H5'	1.97	0.46
1:X:260:U:H5'	1:X:261:G:OP2	2.15	0.46
1:X:1398:G:HO2'	1:X:1399:C:H6	1.61	0.46
1:X:1673:C:C2	1:X:1674:C:C5	3.04	0.46
1:X:1778:U:H2'	1:X:1779:C:H6	1.81	0.46
1:X:2270:U:H2'	1:X:2271:C:H6	1.80	0.46
1:X:2362:G:H2'	1:X:2363:G:H8	1.80	0.46
1:X:2403:C:H2'	1:X:2408:G:O2'	2.15	0.46
1:X:2495:G:O2'	1:X:2496:C:H5'	2.16	0.46
8:G:68:PRO:HB2	8:G:70:PHE:CD1	2.50	0.46
17:P:25:PHE:HD1	17:P:25:PHE:C	2.18	0.46
22:U:43:ARG:HG2	22:U:44:ALA:N	2.31	0.46
28:3:14:ILE:HD13	28:3:24:ALA:HB2	1.97	0.46
1:X:38:G:H2'	1:X:39:C:H6	1.75	0.46
1:X:814:G:C1'	5:C:48:ARG:HH21	2.27	0.46
1:X:836:G:H2'	1:X:837:U:C6	2.50	0.46
1:X:838:A:H2'	1:X:839:U:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1412:C:H2'	1:X:1413:U:C6	2.51	0.46
1:X:1834:G:H2'	1:X:1835:C:H6	1.81	0.46
1:X:2307:A:H2'	1:X:2308:A:H8	1.80	0.46
1:X:2528:G:C2	1:X:2529:G:N7	2.83	0.46
3:A:166:GLN:HB2	3:A:174:ILE:HB	1.96	0.46
7:E:27:LYS:HG2	7:E:32:GLU:H	1.80	0.46
17:P:59:PHE:CE2	25:Z:39:LYS:HG3	2.51	0.46
1:X:122:G:C2	27:2:19:ARG:NH2	2.84	0.46
1:X:133:C:C5	1:X:134:G:H1'	2.51	0.46
1:X:1739:G:H2'	1:X:1740:G:C8	2.51	0.46
1:X:2839:G:H2'	1:X:2840:U:C6	2.50	0.46
5:C:39:ARG:HD3	5:C:91:TYR:CD2	2.51	0.46
7:E:97:LYS:HD2	7:E:97:LYS:HA	1.78	0.46
9:H:88:THR:O	14:M:79:ARG:HG3	2.16	0.46
10:I:55:ARG:NH1	28:3:25:PHE:HB2	2.30	0.46
10:I:79:GLN:C	10:I:80:LEU:HD23	2.35	0.46
13:L:11:LEU:O	13:L:14:ARG:HG2	2.16	0.46
13:L:33:ARG:HG2	13:L:38:ILE:HD12	1.97	0.46
27:2:39:ARG:O	27:2:40:HIS:CB	2.64	0.46
28:3:24:ALA:H	28:3:48:PHE:HA	1.81	0.46
1:X:19:C:OP2	15:N:30:LYS:NZ	2.49	0.46
1:X:242:A:O3'	1:X:243:G:O4'	2.34	0.46
1:X:1056:U:OP1	1:X:1057:A:H5"	2.16	0.46
1:X:1326:U:H2'	1:X:1626:A:C2	2.51	0.46
1:X:1408:A:O2'	1:X:1409:U:O5'	2.32	0.46
1:X:1448:A:H61	1:X:1574:A:N6	2.10	0.46
4:B:2:LYS:HA	4:B:84:PHE:CE1	2.51	0.46
4:B:119:ARG:HG2	4:B:120:TRP:CD1	2.50	0.46
5:C:58:MET:O	5:C:59:TYR:HB3	2.17	0.46
7:E:86:ASN:HB2	7:E:165:VAL:CG1	2.46	0.46
7:E:107:ILE:O	7:E:107:ILE:HG13	2.16	0.46
14:M:66:PHE:HD1	14:M:83:PHE:CE1	2.33	0.46
1:X:548:G:H5'	8:G:33:ILE:HD11	1.98	0.45
1:X:796:A:H8	1:X:797:A:H4'	1.80	0.45
1:X:1488:G:H3'	1:X:1489:C:C5'	2.46	0.45
1:X:1982:C:H5"	1:X:2703:C:O2'	2.16	0.45
1:X:2500:C:H2'	1:X:2501:U:C6	2.51	0.45
4:B:135:HIS:ND1	4:B:136:ARG:HG2	2.31	0.45
7:E:86:ASN:HB2	7:E:165:VAL:HG12	1.97	0.45
17:P:103:LEU:H	17:P:103:LEU:HD12	1.81	0.45
1:X:1022:A:H2'	1:X:1024:G:H5"	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1781:C:H2'	1:X:1782:A:N7	2.31	0.45
1:X:2086:U:H2'	1:X:2087:U:C5	2.51	0.45
2:Y:46:G:N3	2:Y:49:C:N4	2.64	0.45
7:E:136:ILE:HG13	7:E:137:ASP:N	2.30	0.45
9:H:34:LEU:HD12	9:H:101:ASN:HA	1.98	0.45
10:I:83:LEU:HD21	10:I:99:VAL:CG1	2.39	0.45
10:I:101:ARG:N	10:I:118:VAL:HG22	2.23	0.45
16:O:17:GLY:HA2	16:O:94:LYS:HA	1.97	0.45
19:R:25:LEU:HD12	19:R:25:LEU:O	2.17	0.45
20:S:7:PRO:HB3	20:S:11:LYS:CD	2.41	0.45
1:X:492:G:H1'	1:X:516:G:H22	1.81	0.45
1:X:540:G:C8	1:X:540:G:H3'	2.51	0.45
1:X:748:A:H3'	1:X:749:C:H6	1.82	0.45
1:X:1790:G:C2	3:A:155:LEU:HD23	2.50	0.45
1:X:1807:A:H4'	1:X:1808:C:OP1	2.16	0.45
1:X:1810:U:O4	3:A:154:GLN:HG3	2.15	0.45
1:X:2447:G:O2'	1:X:2448:A:C8	2.69	0.45
1:X:2639:A:H2'	1:X:2640:G:O4'	2.16	0.45
2:Y:12:C:H2'	2:Y:13:C:O4'	2.16	0.45
2:Y:29:C:O2'	13:L:37:HIS:HE1	1.99	0.45
5:C:39:ARG:CZ	5:C:91:TYR:HE2	2.29	0.45
6:D:19:GLN:HG3	6:D:20:PHE:N	2.27	0.45
9:H:83:ARG:HH12	9:H:134:LEU:CD2	2.30	0.45
24:W:25:LEU:HD22	24:W:30:ASP:CB	2.39	0.45
26:1:36:GLU:OE1	26:1:36:GLU:N	2.49	0.45
1:X:88:G:OP2	1:X:89:A:H3'	2.16	0.45
1:X:231:G:O2'	1:X:397:U:H5'	2.16	0.45
1:X:724:C:H3'	1:X:725:C:OP1	2.16	0.45
1:X:1085:G:C2	1:X:1086:C:N4	2.84	0.45
1:X:1165:G:H5"	1:X:1166:A:OP2	2.16	0.45
1:X:1336:G:H2'	1:X:1337:G:H5'	1.99	0.45
1:X:1385:C:H2'	1:X:1386:A:O4'	2.17	0.45
1:X:2262:C:H2'	1:X:2263:C:O4'	2.16	0.45
1:X:2367:A:N7	1:X:2368:G:C6	2.84	0.45
2:Y:8:C:HO2'	13:L:39:TYR:HE2	1.64	0.45
5:C:125:ILE:HD12	5:C:125:ILE:O	2.17	0.45
8:G:124:GLU:O	8:G:128:GLU:HB2	2.17	0.45
10:I:19:VAL:CG1	10:I:30:ALA:HB1	2.47	0.45
11:J:40:PRO:HB3	11:J:99:LYS:HZ3	1.80	0.45
11:J:99:LYS:HE3	11:J:100:PRO:HD2	1.99	0.45
20:S:49:THR:HG22	20:S:95:SER:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2352:A:H2'	1:X:2353:G:C8	2.52	0.45
1:X:2492:G:N2	4:B:143:GLN:HE21	2.14	0.45
2:Y:120:G:C6	2:Y:121:G:N7	2.84	0.45
8:G:114:THR:HG22	8:G:119:LEU:CD2	2.47	0.45
14:M:113:LYS:O	14:M:116:ARG:HD2	2.16	0.45
16:O:5:ILE:C	16:O:7:THR:H	2.19	0.45
17:P:35:PRO:O	17:P:39:ARG:HG3	2.15	0.45
20:S:124:ALA:HA	20:S:158:CYS:SG	2.56	0.45
28:3:6:THR:HG22	28:3:59:LYS:HB3	1.98	0.45
1:X:399:G:H5'	1:X:401:G:N2	2.31	0.45
1:X:791:G:H5'	3:A:48:ARG:CZ	2.46	0.45
1:X:792:U:OP1	3:A:49:ILE:HG13	2.15	0.45
1:X:1161:U:H2'	1:X:1162:A:H8	1.81	0.45
1:X:1246:G:C5	1:X:1247:U:C5	3.05	0.45
1:X:1587:A:H2'	1:X:1588:A:C8	2.51	0.45
1:X:2855:C:H2'	12:K:93:GLY:HA3	1.99	0.45
2:Y:46:G:H21	2:Y:50:U:H1'	1.81	0.45
3:A:6:TYR:HB2	3:A:13:ARG:O	2.17	0.45
12:K:97:ILE:HG13	12:K:113:ILE:CD1	2.46	0.45
1:X:45:C:OP2	1:X:192:G:H2'	2.16	0.45
1:X:476:G:OP1	27:2:12:ARG:NH2	2.50	0.45
1:X:788:G:C5	1:X:807:A:C8	3.05	0.45
1:X:817:A:H5"	1:X:818:G:OP1	2.17	0.45
1:X:930:A:N3	2:Y:82:U:O2'	2.42	0.45
1:X:1433:A:O2'	1:X:1434:U:OP1	2.35	0.45
1:X:1474:A:H2'	1:X:1474:A:N3	2.32	0.45
1:X:2487:G:C2	1:X:2561:G:C6	3.04	0.45
1:X:2557:G:C2	1:X:2558:C:C5	3.05	0.45
1:X:2701:A:H2'	1:X:2702:G:O4'	2.16	0.45
2:Y:69:G:C8	2:Y:69:G:OP1	2.70	0.45
3:A:14:ARG:HG3	3:A:15:GLN:N	2.32	0.45
6:D:142:THR:HG22	6:D:144:ASP:H	1.81	0.45
6:D:166:ALA:O	6:D:169:LEU:HG	2.16	0.45
8:G:52:GLY:O	8:G:55:ALA:HB3	2.16	0.45
10:I:27:ASP:OD1	10:I:27:ASP:N	2.50	0.45
14:M:64:LYS:HE3	14:M:83:PHE:CE2	2.52	0.45
17:P:96:TYR:CE1	17:P:125:THR:OG1	2.68	0.45
22:U:14:VAL:HG12	22:U:15:VAL:N	2.27	0.45
1:X:858:G:O5'	1:X:858:G:H8	2.00	0.45
1:X:1116:U:H2'	1:X:1117:G:H8	1.81	0.45
1:X:1785:A:H2'	1:X:1786:C:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1810:U:O2'	1:X:1811:A:P	2.75	0.45
1:X:2306:A:H2'	1:X:2307:A:C8	2.52	0.45
1:X:2325:A:O2'	1:X:2326:C:P	2.74	0.45
1:X:2659:C:O2'	1:X:2660:C:H5'	2.17	0.45
3:A:146:GLU:HB2	3:A:189:CYS:HB3	1.99	0.45
9:H:24:VAL:HG12	9:H:42:LYS:HD3	1.99	0.45
9:H:83:ARG:NH1	9:H:117:GLU:OE2	2.50	0.45
9:H:112:GLY:O	9:H:131:PRO:HD2	2.17	0.45
11:J:134:LYS:HD2	11:J:135:ARG:CB	2.46	0.45
13:L:8:ARG:HG3	13:L:9:ARG:N	2.31	0.45
13:L:63:ASN:HB3	13:L:66:ASP:HB2	1.98	0.45
1:X:276:A:H2'	1:X:277:G:H8	1.80	0.45
1:X:343:A:C2	1:X:346:C:C4	3.05	0.45
1:X:554:U:H4'	1:X:555:U:OP2	2.16	0.45
1:X:1202:U:H5'	16:O:78:VAL:HG22	1.99	0.45
1:X:1229:C:H5"	15:N:11:ARG:NH2	2.32	0.45
1:X:1737:G:H2'	1:X:1738:U:C6	2.51	0.45
1:X:2043:A:H5'	5:C:62:LYS:HZ2	1.82	0.45
1:X:2273:C:H2'	1:X:2274:C:H6	1.82	0.45
1:X:2277:A:H3'	1:X:2278:A:H8	1.82	0.45
1:X:2492:G:H2'	1:X:2493:U:C6	2.52	0.45
1:X:2691:C:O2'	1:X:2693:U:H5'	2.16	0.45
3:A:6:TYR:OH	3:A:18:THR:HG21	2.17	0.45
3:A:72:LYS:HE2	3:A:97:TYR:HD2	1.81	0.45
5:C:28:HIS:CE1	10:I:8:PRO:HB3	2.52	0.45
9:H:83:ARG:HH22	9:H:134:LEU:HD13	1.81	0.45
18:Q:56:MET:HE3	18:Q:77:LYS:HG2	1.98	0.45
1:X:198:A:H61	1:X:441:A:N6	2.14	0.45
1:X:1123:G:H2'	1:X:1124:U:O4'	2.17	0.45
1:X:1485:U:H2'	1:X:1486:A:C8	2.52	0.45
1:X:1802:A:H2'	1:X:1803:G:O4'	2.17	0.45
1:X:2457:A:C8	1:X:2508:G:C5	3.05	0.45
1:X:2757:G:H5'	1:X:2758:A:H5'	1.99	0.45
3:A:246:PRO:HD2	3:A:250:TRP:H	1.81	0.45
17:P:11:LYS:HG3	17:P:14:ARG:HH12	1.81	0.45
19:R:108:VAL:HG13	19:R:109:ALA:H	1.81	0.45
21:T:23:VAL:HB	21:T:26:PHE:CE1	2.52	0.45
23:V:45:GLN:O	23:V:48:ARG:HB3	2.17	0.45
24:W:40:VAL:HG22	24:W:43:MET:HE3	1.99	0.45
28:3:37:SER:HB3	28:3:40:GLU:OE1	2.17	0.45
1:X:946:U:C2	1:X:947:C:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1053:G:H4'	1:X:1054:C:OP1	2.17	0.44
1:X:1985:G:OP2	12:K:9:LYS:HE3	2.17	0.44
1:X:2086:U:H2'	1:X:2087:U:C6	2.52	0.44
1:X:2669:C:OP2	12:K:17:ARG:NH1	2.50	0.44
1:X:2873:G:H2'	1:X:2874:A:H8	1.82	0.44
3:A:21:PHE:CD1	3:A:21:PHE:N	2.83	0.44
3:A:63:ARG:N	3:A:63:ARG:HD2	2.32	0.44
3:A:146:GLU:HG2	3:A:152:GLY:CA	2.48	0.44
8:G:116:ARG:CZ	8:G:118:ALA:HB2	2.47	0.44
10:I:28:LYS:HG2	10:I:29:THR:N	2.32	0.44
11:J:117:GLU:OE2	11:J:120:ARG:NH2	2.50	0.44
14:M:58:ASN:O	14:M:64:LYS:HA	2.17	0.44
17:P:96:TYR:HD1	17:P:96:TYR:O	1.99	0.44
26:1:42:PRO:HB2	26:1:43:VAL:H	1.58	0.44
1:X:736:G:H2'	1:X:737:C:O4'	2.18	0.44
1:X:1998:A:C2	25:Z:6:VAL:HG23	2.53	0.44
1:X:2277:A:H2	1:X:2300:G:H2'	1.82	0.44
1:X:2387:U:H2'	1:X:2388:G:H8	1.81	0.44
1:X:2399:C:N4	28:3:31:HIS:HB3	2.32	0.44
1:X:2598:C:O2'	1:X:2599:U:H5'	2.17	0.44
3:A:72:LYS:O	3:A:75:VAL:HG22	2.17	0.44
3:A:203:ASN:OD1	3:A:203:ASN:N	2.38	0.44
4:B:5:LEU:HD21	4:B:79:ARG:CG	2.47	0.44
8:G:70:PHE:C	15:N:64:ARG:HH11	2.17	0.44
19:R:85:ASP:C	19:R:87:GLU:H	2.20	0.44
1:X:48:A:H4'	1:X:49:U:O5'	2.17	0.44
1:X:88:G:C8	1:X:89:A:H2'	2.53	0.44
1:X:163:A:H2'	1:X:164:G:C8	2.52	0.44
1:X:312:G:C4	1:X:313:U:C5	3.06	0.44
1:X:1129:A:H2'	1:X:1130:U:O4'	2.16	0.44
1:X:1800:A:O2'	1:X:1801:C:H5'	2.18	0.44
1:X:1918:G:H1'	1:X:1947:G:N2	2.33	0.44
1:X:2522:G:H2'	1:X:2523:G:H8	1.82	0.44
1:X:2679:G:H2'	1:X:2680:U:C6	2.52	0.44
1:X:2790:C:H2'	1:X:2791:C:H6	1.82	0.44
1:X:2869:U:H2'	1:X:2870:C:H6	1.80	0.44
6:D:123:ASP:OD2	6:D:127:ASN:HB3	2.18	0.44
10:I:19:VAL:HG11	10:I:30:ALA:HB1	1.98	0.44
27:2:5:TYR:CE2	27:2:7:PRO:HG3	2.53	0.44
1:X:339:U:N3	1:X:343:A:H2	2.11	0.44
1:X:568:G:H2'	1:X:569:C:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:742:G:H5'	1:X:743:A:H5"	1.98	0.44
1:X:1162:A:H2'	1:X:1163:C:C6	2.52	0.44
1:X:1469:U:H5'	1:X:1470:G:P	2.57	0.44
1:X:1656:U:C2'	1:X:1657:A:H5"	2.47	0.44
1:X:1755:G:C6	1:X:1972:G:C2	3.05	0.44
1:X:2811:G:H2'	1:X:2812:A:H8	1.78	0.44
5:C:120:VAL:HG22	5:C:121:ASP:OD1	2.17	0.44
17:P:45:ILE:HD11	17:P:57:LEU:HG	1.99	0.44
19:R:54:ILE:HB	19:R:71:GLN:OE1	2.18	0.44
20:S:107:GLU:HG2	20:S:113:VAL:HG23	1.99	0.44
24:W:49:HIS:ND1	24:W:50:LEU:HD12	2.31	0.44
1:X:39:C:H2'	1:X:40:U:H6	1.82	0.44
1:X:249:A:H1'	1:X:381:C:C1'	2.45	0.44
1:X:314:G:H2'	1:X:315:G:C8	2.51	0.44
1:X:528:G:H2'	1:X:529:U:C6	2.53	0.44
1:X:682:G:H2'	1:X:682:G:N3	2.31	0.44
1:X:2270:U:O2'	1:X:2353:G:N3	2.46	0.44
1:X:2370:G:N2	1:X:2408:G:H1'	2.32	0.44
1:X:2410:U:O2	1:X:2412:A:C8	2.70	0.44
2:Y:3:A:C6	2:Y:4:C:N4	2.86	0.44
3:A:67:PHE:HB3	3:A:153:ALA:CB	2.47	0.44
3:A:139:GLY:H	3:A:165:VAL:HG23	1.83	0.44
3:A:181:GLU:HB2	3:A:271:VAL:HG23	1.99	0.44
8:G:43:VAL:HG12	8:G:81:VAL:HB	2.00	0.44
9:H:20:MET:HG2	9:H:21:CYS:N	2.32	0.44
12:K:87:TYR:OH	12:K:115:LEU:HB3	2.17	0.44
15:N:17:VAL:HG21	15:N:32:TYR:HE1	1.83	0.44
1:X:121:G:H2'	1:X:122:G:O4'	2.17	0.44
1:X:175:C:H2'	1:X:176:A:H5"	2.00	0.44
1:X:1016:C:H1'	1:X:1023:U:H3	1.83	0.44
1:X:1210:C:C2	1:X:1211:G:C8	3.06	0.44
1:X:1698:C:H42	31:X:3243:SPD:H101	1.65	0.44
1:X:1727:C:H2'	1:X:1728:A:C8	2.52	0.44
2:Y:25:G:H5"	2:Y:26:G:OP1	2.17	0.44
2:Y:50:U:H2'	2:Y:51:G:H8	1.78	0.44
2:Y:53:G:N3	2:Y:53:G:H2'	2.33	0.44
6:D:62:LEU:HD23	6:D:62:LEU:O	2.18	0.44
8:G:90:LEU:HD23	8:G:91:THR:N	2.33	0.44
14:M:90:GLN:HG2	14:M:91:VAL:N	2.25	0.44
20:S:3:LEU:HD23	20:S:54:ILE:HB	1.99	0.44
22:U:50:ALA:HB3	22:U:62:LEU:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1268:U:C5	5:C:67:ALA:HA	2.52	0.44
1:X:1645:U:H2'	1:X:1646:G:H8	1.81	0.44
1:X:1705:U:H1'	1:X:1718:A:C6	2.53	0.44
1:X:2083:G:H2'	1:X:2083:G:N3	2.33	0.44
1:X:2329:C:H2'	1:X:2330:G:O4'	2.18	0.44
1:X:2336:G:N2	1:X:2339:A:OP2	2.50	0.44
2:Y:9:G:H5"	13:L:32:TYR:CE1	2.53	0.44
2:Y:77:G:H2'	2:Y:78:A:O4'	2.17	0.44
3:A:96:HIS:CE1	3:A:102:LYS:HE2	2.52	0.44
5:C:176:ASN:HD21	5:C:178:TYR:HB3	1.83	0.44
5:C:189:ASP:HB3	5:C:190:ALA:H	1.68	0.44
6:D:13:ARG:HB3	6:D:14:PRO:HD3	1.99	0.44
7:E:12:PRO:HG3	7:E:80:SER:CB	2.47	0.44
8:G:41:TRP:O	8:G:42:VAL:HG13	2.17	0.44
14:M:14:ARG:NH2	14:M:18:GLN:HB3	2.33	0.44
18:Q:25:TYR:CE1	18:Q:88:ILE:HG12	2.52	0.44
19:R:99:VAL:C	19:R:101:GLY:H	2.20	0.44
28:3:56:ALA:O	28:3:59:LYS:HB2	2.17	0.44
1:X:32:C:H2'	1:X:33:C:C6	2.52	0.44
1:X:263:G:N2	1:X:264:U:O4	2.47	0.44
1:X:800:U:H5"	1:X:801:A:H5'	2.00	0.44
1:X:840:U:H4'	1:X:841:G:C2	2.53	0.44
1:X:1034:U:H5	1:X:1035:G:C4	2.34	0.44
1:X:1335:A:N1	1:X:1346:C:O2'	2.39	0.44
1:X:1439:G:O5'	1:X:1439:G:H8	2.01	0.44
1:X:2067:U:H2'	1:X:2068:C:C6	2.53	0.44
1:X:2078:G:H2'	1:X:2079:A:N9	2.33	0.44
2:Y:71:G:C4	2:Y:72:C:C5	3.06	0.44
4:B:56:GLU:HA	4:B:59:VAL:HG23	2.00	0.44
6:D:72:LYS:HA	6:D:81:GLN:HB3	2.00	0.44
12:K:10:LEU:HD11	12:K:43:GLU:HG2	1.99	0.44
15:N:95:LEU:HA	15:N:98:ILE:CD1	2.47	0.44
20:S:30:VAL:HG12	20:S:31:SER:N	2.33	0.44
20:S:105:GLN:HA	20:S:108:VAL:HG12	1.99	0.44
28:3:62:LEU:HA	28:3:63:PRO:HD3	1.63	0.44
1:X:7:G:H2'	1:X:8:A:H8	1.83	0.44
1:X:704:G:H2'	1:X:705:C:H6	1.82	0.44
1:X:1066:G:H2'	1:X:1067:G:O4'	2.18	0.44
1:X:1451:C:H2'	1:X:1452:U:H6	1.83	0.44
1:X:1485:U:H2'	1:X:1486:A:H8	1.82	0.44
1:X:1681:A:C6	1:X:2706:U:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1774:A:H5'	1:X:2587:G:H4'	2.00	0.44
1:X:1982:C:H4'	1:X:2703:C:O2	2.18	0.44
1:X:2191:A:H5"	1:X:2192:U:C5	2.40	0.44
1:X:2312:A:H4'	1:X:2313:G:O5'	2.18	0.44
1:X:2440:C:H2'	1:X:2441:U:H6	1.82	0.44
3:A:5:LYS:C	3:A:6:TYR:CD1	2.89	0.44
3:A:212:SER:HB2	3:A:217:ARG:HG3	1.99	0.44
5:C:126:ALA:H	5:C:132:ASN:HD22	1.65	0.44
5:C:159:ARG:HG3	5:C:162:ARG:HH22	1.83	0.44
6:D:43:SER:HG	6:D:150:ARG:HH22	1.63	0.44
6:D:127:ASN:HA	6:D:158:THR:HG22	2.00	0.44
9:H:119:ARG:NH1	14:M:40:ARG:O	2.50	0.44
15:N:53:LYS:HA	15:N:53:LYS:HD3	1.62	0.44
21:T:19:LYS:O	21:T:21:LEU:N	2.41	0.44
25:Z:40:LYS:HG2	25:Z:41:LEU:N	2.32	0.44
1:X:576:A:H4'	1:X:821:A:OP1	2.18	0.43
1:X:688:A:H4'	5:C:61:GLN:OE1	2.17	0.43
1:X:755:C:H2'	1:X:756:C:C6	2.53	0.43
1:X:917:U:H2'	1:X:918:A:H5'	2.00	0.43
1:X:1137:A:H4'	1:X:1138:A:C5'	2.47	0.43
1:X:1270:C:H4'	5:C:77:PHE:HD1	1.79	0.43
1:X:1433:A:C8	1:X:1595:A:N6	2.86	0.43
1:X:1679:U:H2'	1:X:1680:U:O4'	2.18	0.43
1:X:1805:G:N3	3:A:50:THR:HG21	2.32	0.43
1:X:2262:C:C2	1:X:2368:G:C2	3.06	0.43
1:X:2291:U:H5'	6:D:85:VAL:HG21	1.99	0.43
1:X:2299:A:H5'	1:X:2300:G:C8	2.53	0.43
1:X:2511:G:C4	1:X:2512:A:C8	3.05	0.43
3:A:131:LEU:HD23	3:A:131:LEU:HA	1.81	0.43
3:A:245:VAL:CA	3:A:252:LYS:HZ1	2.30	0.43
5:C:121:ASP:OD1	5:C:121:ASP:N	2.51	0.43
6:D:57:LEU:HD22	6:D:89:VAL:HG21	2.00	0.43
8:G:75:ILE:HG13	8:G:75:ILE:O	2.18	0.43
15:N:43:ALA:O	15:N:44:THR:C	2.55	0.43
16:O:70:TYR:CE2	16:O:83:ARG:NH1	2.81	0.43
17:P:29:LYS:HA	17:P:123:HIS:ND1	2.32	0.43
1:X:259:U:HO2'	1:X:260:U:P	2.39	0.43
1:X:623:G:C2	1:X:624:A:H1'	2.53	0.43
1:X:746:G:H2'	1:X:747:A:H5"	1.99	0.43
1:X:1354:A:H8	1:X:1354:A:O5'	2.00	0.43
1:X:1469:U:H5'	1:X:1470:G:OP2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1563:U:H2'	1:X:1564:U:H6	1.82	0.43
1:X:1751:A:H2'	1:X:1752:U:C6	2.54	0.43
1:X:2628:C:H2'	1:X:2629:U:H6	1.83	0.43
3:A:12:SER:C	3:A:14:ARG:H	2.21	0.43
6:D:44:LYS:HG2	6:D:44:LYS:O	2.18	0.43
11:J:40:PRO:HB3	11:J:99:LYS:NZ	2.33	0.43
17:P:59:PHE:CE2	25:Z:39:LYS:CG	3.01	0.43
1:X:883:A:H2'	1:X:884:C:O4'	2.17	0.43
1:X:1281:A:H2'	1:X:1282:A:O4'	2.18	0.43
1:X:2193:C:C2	1:X:2194:A:C8	3.05	0.43
2:Y:3:A:OP1	2:Y:3:A:H3'	2.17	0.43
2:Y:36:A:C2	2:Y:46:G:C6	3.05	0.43
2:Y:42:U:C5	2:Y:44:C:H5'	2.54	0.43
4:B:12:THR:OG1	14:M:17:GLU:OE1	2.31	0.43
4:B:93:VAL:CG1	4:B:177:ALA:HB1	2.48	0.43
4:B:132:LYS:O	4:B:133:LYS:HG2	2.18	0.43
11:J:27:TYR:CZ	11:J:28:VAL:HG22	2.53	0.43
12:K:52:ILE:HG21	12:K:52:ILE:HD13	1.78	0.43
28:3:10:ALA:HB2	28:3:64:ARG:HD3	2.00	0.43
28:3:10:ALA:CB	28:3:64:ARG:HD3	2.48	0.43
1:X:169:C:O2	1:X:815:A:O2'	2.29	0.43
1:X:392:G:C6	1:X:409:G:C6	3.06	0.43
1:X:717:G:O2'	1:X:739:G:N2	2.51	0.43
1:X:1084:A:C5	1:X:1085:G:H1'	2.53	0.43
1:X:1391:A:O2'	1:X:1393:G:N7	2.45	0.43
1:X:1922:U:OP1	1:X:2583:U:O2'	2.34	0.43
1:X:2379:G:H1'	26:1:20:PHE:CZ	2.53	0.43
1:X:2464:G:OP1	11:J:47:GLN:NE2	2.48	0.43
1:X:2495:G:C6	1:X:2548:G:C2	3.06	0.43
1:X:2770:A:H4'	1:X:2771:C:H5'	2.01	0.43
1:X:2793:G:O2'	1:X:2794:G:H5'	2.17	0.43
31:X:3239:SPD:H21	12:K:15:SER:HB3	2.00	0.43
5:C:72:ARG:HA	5:C:77:PHE:HE2	1.79	0.43
9:H:72:ALA:HA	9:H:98:ILE:HA	1.99	0.43
14:M:104:LEU:HD23	14:M:106:TYR:HE1	1.84	0.43
16:O:38:LEU:HD22	16:O:47:PHE:HB3	2.00	0.43
26:1:9:ILE:HG22	26:1:28:ARG:CB	2.48	0.43
1:X:7:G:H2'	1:X:8:A:C8	2.53	0.43
1:X:243:G:N1	1:X:244:C:C6	2.87	0.43
1:X:504:G:H4'	17:P:27:VAL:CG1	2.48	0.43
1:X:1288:A:OP2	1:X:1663:C:N4	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1310:C:C2	1:X:1311:C:C5	3.07	0.43
1:X:1978:U:H3'	1:X:1979:C:H2'	1.99	0.43
1:X:2737:A:C2'	1:X:2738:A:H5"	2.43	0.43
4:B:59:VAL:HG12	4:B:64:GLN:HG3	2.01	0.43
4:B:161:GLY:O	4:B:162:MET:HB3	2.18	0.43
10:I:83:LEU:HD12	10:I:86:THR:HG21	2.00	0.43
11:J:6:LYS:HB3	11:J:7:ARG:H	1.64	0.43
13:L:33:ARG:NH1	13:L:99:ARG:O	2.52	0.43
14:M:90:GLN:CG	14:M:91:VAL:H	2.27	0.43
14:M:110:LEU:HD23	14:M:110:LEU:HA	1.77	0.43
19:R:25:LEU:O	19:R:26:SER:HB3	2.18	0.43
19:R:108:VAL:HG22	19:R:109:ALA:N	2.33	0.43
20:S:121:GLN:O	20:S:161:ALA:HB3	2.19	0.43
20:S:129:ARG:O	20:S:129:ARG:HG3	2.17	0.43
25:Z:30:LEU:HA	25:Z:30:LEU:HD23	1.68	0.43
1:X:34:U:N3	19:R:4:PRO:HG3	2.34	0.43
1:X:876:A:H2'	1:X:877:G:H8	1.83	0.43
1:X:1367:A:H2'	1:X:1368:G:O4'	2.19	0.43
1:X:1753:A:H3'	31:X:3243:SPD:C4	2.49	0.43
1:X:1805:G:H21	3:A:50:THR:HG22	1.83	0.43
1:X:2079:A:H5'	1:X:2080:U:OP2	2.19	0.43
1:X:2280:A:H2'	1:X:2281:C:C6	2.53	0.43
1:X:2705:A:O2'	1:X:2706:U:H2'	2.18	0.43
6:D:34:ILE:HB	6:D:91:LEU:HD11	2.00	0.43
7:E:165:VAL:HG23	7:E:166:GLY:N	2.25	0.43
8:G:132:PHE:CD2	8:G:145:HIS:HD2	2.36	0.43
9:H:2:ILE:HD13	9:H:2:ILE:HA	1.86	0.43
13:L:9:ARG:O	13:L:9:ARG:HD2	2.18	0.43
16:O:3:ALA:O	16:O:11:GLN:HB2	2.17	0.43
22:U:42:GLN:OE1	22:U:42:GLN:N	2.51	0.43
26:1:39:LYS:HA	26:1:48:VAL:O	2.18	0.43
1:X:175:C:H6	1:X:175:C:O5'	2.02	0.43
1:X:338:G:N2	1:X:347:C:C2	2.86	0.43
1:X:647:G:O2'	1:X:649:G:O2'	2.27	0.43
1:X:758:G:H2'	1:X:759:C:H5'	2.00	0.43
1:X:848:A:C4	1:X:849:G:C8	3.07	0.43
1:X:886:A:O2'	11:J:66:TYR:HE1	2.01	0.43
1:X:956:A:C4	1:X:2427:A:C2	3.07	0.43
1:X:1670:G:H8	1:X:1670:G:OP2	2.02	0.43
1:X:2220:A:H2'	1:X:2221:G:H8	1.82	0.43
2:Y:35:C:H2'	2:Y:36:A:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:77:ALA:HB2	3:A:97:TYR:CE1	2.54	0.43
3:A:226:MET:SD	3:A:231:HIS:HB2	2.59	0.43
15:N:14:HIS:ND1	15:N:32:TYR:CG	2.80	0.43
16:O:10:LYS:HD2	16:O:10:LYS:N	2.31	0.43
26:1:10:VAL:HG12	26:1:11:LYS:O	2.18	0.43
28:3:38:GLY:HA2	28:3:41:ILE:HG22	2.01	0.43
1:X:338:G:H1'	19:R:10:HIS:NE2	2.34	0.43
1:X:518:A:H5"	1:X:518:A:N3	2.34	0.43
1:X:814:G:OP1	5:C:50:GLN:HB2	2.18	0.43
1:X:1225:G:H2'	1:X:1249:G:H22	1.84	0.43
1:X:1431:U:H3'	1:X:1432:G:O4'	2.19	0.43
1:X:1445:A:H2'	1:X:1446:U:O4'	2.18	0.43
1:X:2043:A:HO2'	1:X:2044:G:P	2.42	0.43
1:X:2509:A:N7	7:E:172:LYS:NZ	2.65	0.43
1:X:2596:C:H2'	1:X:2597:G:H8	1.83	0.43
1:X:2737:A:N6	7:E:67:LEU:HD12	2.33	0.43
3:A:10:THR:HB	3:A:11:PRO:HD2	2.01	0.43
4:B:14:ILE:HG23	4:B:21:ILE:HG13	2.00	0.43
4:B:179:GLU:CB	4:B:181:LEU:HD23	2.49	0.43
8:G:164:GLN:CG	8:G:165:VAL:H	2.31	0.43
17:P:59:PHE:HE2	25:Z:39:LYS:HG3	1.83	0.43
20:S:3:LEU:HD13	20:S:3:LEU:HA	1.67	0.43
1:X:318:G:H22	1:X:321:A:P	2.42	0.43
1:X:725:C:N4	1:X:733:G:O6	2.52	0.43
1:X:1117:G:N2	1:X:1118:G:O6	2.52	0.43
1:X:1935:A:N3	1:X:2539:C:O2'	2.42	0.43
1:X:2043:A:H1'	1:X:2481:G:O4'	2.18	0.43
1:X:2279:G:C2	1:X:2280:A:C5	3.07	0.43
1:X:2315:A:C2	1:X:2364:C:H1'	2.54	0.43
1:X:2569:A:H2'	1:X:2570:C:H6	1.82	0.43
8:G:167:LYS:HG2	8:G:168:THR:H	1.83	0.43
9:H:7:ARG:HG2	9:H:18:GLU:OE2	2.19	0.43
13:L:9:ARG:C	13:L:9:ARG:HD2	2.39	0.43
15:N:6:THR:HG21	15:N:10:ARG:NH2	2.34	0.43
20:S:43:PHE:CE1	20:S:66:VAL:HG11	2.54	0.43
21:T:53:MET:HA	21:T:59:LEU:HA	2.00	0.43
24:W:34:VAL:HG22	24:W:40:VAL:HG11	2.00	0.43
1:X:540:G:C8	1:X:540:G:C3'	3.02	0.43
1:X:754:G:H2'	1:X:755:C:H6	1.82	0.43
1:X:1536:G:H2'	1:X:1537:U:C6	2.53	0.43
1:X:1855:G:H5'	1:X:1856:U:OP2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2055:G:H2'	1:X:2056:C:H6	1.83	0.43
1:X:2290:A:H1'	6:D:77:PHE:HZ	1.84	0.43
1:X:2323:U:HO2'	1:X:2324:G:H3'	1.84	0.43
1:X:2433:G:C5	1:X:2434:G:N7	2.87	0.43
6:D:123:ASP:HB2	6:D:125:ARG:O	2.19	0.43
9:H:85:ASP:CG	9:H:87:SER:H	2.15	0.43
9:H:89:ILE:HD12	9:H:134:LEU:HD22	2.00	0.43
11:J:13:GLN:HG3	11:J:14:PHE:CD2	2.54	0.43
13:L:8:ARG:HE	13:L:9:ARG:H	1.66	0.43
16:O:80:TYR:CE1	16:O:82:ARG:NH1	2.87	0.43
17:P:56:LEU:HD23	17:P:56:LEU:HA	1.84	0.43
18:Q:33:ALA:O	18:Q:76:LYS:NZ	2.49	0.43
21:T:67:VAL:CG2	21:T:68:VAL:HG13	2.47	0.43
1:X:591:G:C6	1:X:592:G:C6	3.07	0.42
1:X:682:G:N3	1:X:682:G:C2'	2.81	0.42
1:X:1810:U:O2'	1:X:1811:A:OP2	2.33	0.42
10:I:57:ILE:HG12	28:3:25:PHE:CE2	2.53	0.42
14:M:22:ARG:HD3	14:M:24:LEU:HD12	2.00	0.42
1:X:986:A:H1'	1:X:1001:A:C2	2.54	0.42
1:X:1332:G:C2	1:X:1333:G:N2	2.87	0.42
1:X:2772:U:H2'	1:X:2773:G:C8	2.54	0.42
1:X:2845:C:H2'	1:X:2846:G:H5'	2.01	0.42
5:C:176:ASN:HD22	5:C:177:VAL:N	2.16	0.42
9:H:108:THR:O	9:H:109:ARG:HG3	2.19	0.42
10:I:49:PHE:CG	10:I:50:GLU:N	2.86	0.42
19:R:22:VAL:HG12	19:R:23:ILE:N	2.35	0.42
24:W:14:GLY:HA2	24:W:17:VAL:HG12	2.01	0.42
1:X:692:C:H2'	1:X:693:A:C8	2.54	0.42
1:X:2087:U:H2'	1:X:2088:U:O4'	2.19	0.42
1:X:2700:U:O2	1:X:2700:U:H2'	2.20	0.42
4:B:20:ALA:HB2	9:H:85:ASP:O	2.19	0.42
7:E:27:LYS:HA	7:E:31:GLY:CA	2.50	0.42
19:R:94:VAL:CB	19:R:107:ALA:HB3	2.50	0.42
20:S:124:ALA:O	20:S:126:GLY:N	2.47	0.42
1:X:588:G:O2'	1:X:2002:A:OP1	2.24	0.42
1:X:1473:U:O2	1:X:1473:U:O4'	2.37	0.42
1:X:1669:A:N6	12:K:11:ASN:OD1	2.52	0.42
1:X:1727:C:H2'	1:X:1728:A:H8	1.84	0.42
1:X:2218:G:H5'	3:A:249:PRO:CG	2.49	0.42
1:X:2277:A:C2	1:X:2300:G:H2'	2.54	0.42
1:X:2355:A:H2'	1:X:2356:A:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2367:A:C8	1:X:2368:G:C5	3.08	0.42
1:X:2379:G:H1'	26:1:20:PHE:CE2	2.54	0.42
2:Y:53:G:OP2	13:L:64:LYS:HD3	2.19	0.42
8:G:132:PHE:CG	8:G:145:HIS:CD2	3.07	0.42
9:H:4:PRO:O	9:H:5:GLN:HB2	2.19	0.42
11:J:15:ARG:CD	11:J:73:LYS:HG3	2.45	0.42
11:J:86:LYS:HB3	11:J:87:GLY:H	1.56	0.42
12:K:89:GLU:HG3	12:K:90:ARG:N	2.31	0.42
1:X:491:A:N3	1:X:491:A:H2'	2.34	0.42
1:X:831:G:O2'	1:X:832:A:O4'	2.29	0.42
1:X:1030:U:H3	1:X:1153:A:H61	1.65	0.42
1:X:1478:U:H2'	1:X:1479:G:C8	2.55	0.42
1:X:1711:C:H4'	1:X:1712:G:O5'	2.20	0.42
1:X:1770:U:C5	1:X:1774:A:C8	3.07	0.42
1:X:2073:A:N6	1:X:2209:G:O6	2.52	0.42
1:X:2773:G:N2	1:X:2779:A:C2	2.85	0.42
1:X:2782:G:H2'	1:X:2783:U:O5'	2.19	0.42
1:X:2788:C:H2'	1:X:2789:U:C6	2.53	0.42
4:B:134:TRP:O	4:B:135:HIS:HB3	2.20	0.42
5:C:3:GLN:HE22	5:C:117:LEU:CA	2.32	0.42
5:C:17:LEU:HD23	5:C:17:LEU:HA	1.85	0.42
8:G:94:LYS:HG2	8:G:95:LEU:HD12	2.00	0.42
9:H:116:ARG:H	9:H:134:LEU:CD2	2.28	0.42
15:N:99:ALA:HB2	15:N:106:PHE:CE1	2.55	0.42
19:R:57:ASN:OD1	19:R:58:VAL:HG23	2.20	0.42
22:U:54:ASN:HB2	22:U:78:ILE:O	2.19	0.42
1:X:67:G:H2'	1:X:68:C:H6	1.82	0.42
1:X:333:A:H5'	1:X:351:A:H1'	2.02	0.42
1:X:389:G:H2'	1:X:390:U:C6	2.54	0.42
1:X:1134:C:H2'	1:X:1135:C:H6	1.85	0.42
1:X:1264:C:C5'	15:N:13:ARG:HH12	2.33	0.42
1:X:2390:A:H2'	1:X:2391:A:H8	1.85	0.42
1:X:2408:G:H5'	1:X:2409:A:P	2.60	0.42
1:X:2691:C:HO2'	1:X:2692:A:P	2.40	0.42
1:X:2746:G:H2'	1:X:2746:G:N3	2.34	0.42
1:X:2814:G:O2'	12:K:49:GLU:HG2	2.20	0.42
1:X:2819:G:H2'	1:X:2820:C:H6	1.84	0.42
4:B:146:THR:N	4:B:147:PRO:HD2	2.34	0.42
12:K:52:ILE:HD11	12:K:94:TYR:CD1	2.53	0.42
18:Q:27:PHE:CZ	18:Q:42:ILE:HD12	2.54	0.42
26:1:35:LEU:O	26:1:36:GLU:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:172:A:N6	1:X:175:C:H3'	2.33	0.42
1:X:757:U:H2'	1:X:758:G:O4'	2.19	0.42
1:X:991:A:C6	1:X:992:A:C6	3.08	0.42
1:X:1518:C:H2'	1:X:1519:G:C8	2.55	0.42
1:X:1672:A:H3'	1:X:1673:C:C5	2.55	0.42
1:X:1675:C:OP1	4:B:134:TRP:CD1	2.72	0.42
1:X:1796:A:N3	3:A:50:THR:HG23	2.34	0.42
1:X:1935:A:C6	1:X:1936:A:N1	2.87	0.42
1:X:2057:U:H2'	1:X:2058:U:C6	2.54	0.42
1:X:2080:U:H2'	1:X:2081:U:C6	2.54	0.42
3:A:246:PRO:HD3	3:A:250:TRP:O	2.18	0.42
7:E:55:PRO:HG2	7:E:61:HIS:ND1	2.35	0.42
13:L:67:THR:O	13:L:71:VAL:HG22	2.19	0.42
15:N:66:ASN:HD22	15:N:70:ARG:NH2	2.17	0.42
20:S:43:PHE:HE1	20:S:66:VAL:HG11	1.84	0.42
20:S:75:LYS:HG3	20:S:76:ARG:N	2.35	0.42
1:X:648:A:C5'	10:I:103:ASN:HB2	2.49	0.42
1:X:870:C:O2'	1:X:871:U:H5'	2.20	0.42
1:X:958:G:H2'	1:X:959:C:H6	1.83	0.42
1:X:1030:U:C4	1:X:1031:C:N4	2.87	0.42
1:X:1332:G:C2	1:X:1347:C:C2	3.08	0.42
1:X:2330:G:O2'	1:X:2331:A:H5'	2.20	0.42
1:X:2373:C:H2'	1:X:2374:C:C6	2.54	0.42
1:X:2482:A:H4'	1:X:2483:U:OP1	2.20	0.42
1:X:2790:C:H2'	1:X:2791:C:C6	2.55	0.42
6:D:34:ILE:HB	6:D:91:LEU:CD1	2.50	0.42
8:G:70:PHE:HA	15:N:64:ARG:HE	1.84	0.42
17:P:59:PHE:CD2	25:Z:30:LEU:HD21	2.55	0.42
23:V:41:HIS:HA	23:V:44:ARG:HD3	2.02	0.42
1:X:219:G:N2	1:X:231:G:H2'	2.35	0.42
1:X:659:G:H3'	1:X:660:G:H8	1.84	0.42
1:X:1264:C:H5"	15:N:13:ARG:CZ	2.50	0.42
1:X:1699:A:H61	1:X:1723:U:H3	1.68	0.42
1:X:2234:G:H2'	1:X:2235:G:O4'	2.19	0.42
1:X:2393:G:N2	10:I:59:ARG:HH11	2.14	0.42
1:X:2608:A:C6	1:X:2869:U:C2	3.08	0.42
1:X:2692:A:OP2	31:X:3239:SPD:H22	2.20	0.42
1:X:2705:A:C2'	1:X:2706:U:H2'	2.49	0.42
2:Y:35:C:H2'	2:Y:36:A:H8	1.85	0.42
3:A:231:HIS:NE2	3:A:247:VAL:HA	2.35	0.42
5:C:6:VAL:HG12	5:C:120:VAL:HG12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:59:TYR:CG	5:C:60:GLY:N	2.87	0.42
5:C:120:VAL:HG13	5:C:121:ASP:O	2.20	0.42
7:E:69:ARG:O	7:E:72:VAL:HG22	2.19	0.42
14:M:25:PRO:O	14:M:27:PHE:CD1	2.73	0.42
15:N:57:PHE:HD1	15:N:61:TRP:CZ3	2.37	0.42
22:U:51:ILE:HG13	22:U:59:THR:OG1	2.20	0.42
1:X:31:C:O2'	1:X:32:C:H5'	2.19	0.42
1:X:227:G:C6	1:X:228:A:C6	3.08	0.42
1:X:306:G:H2'	1:X:307:C:C6	2.54	0.42
1:X:573:C:H2'	1:X:574:C:O4'	2.19	0.42
1:X:782:U:H5"	1:X:783:G:OP2	2.20	0.42
8:G:135:LEU:HD23	8:G:135:LEU:HA	1.74	0.42
16:O:55:THR:OG1	16:O:98:ILE:HD12	2.20	0.42
16:O:71:ILE:HD13	16:O:71:ILE:HA	1.71	0.42
20:S:146:HIS:HB3	20:S:170:SER:CB	2.49	0.42
1:X:545:C:H2'	1:X:546:A:C8	2.55	0.41
1:X:1399:C:H2'	1:X:1400:A:H8	1.85	0.41
1:X:1428:G:N2	1:X:1601:U:H4'	2.34	0.41
1:X:1475:U:O2'	1:X:1476:G:P	2.75	0.41
1:X:2278:A:H2'	1:X:2279:G:H8	1.85	0.41
1:X:2293:G:H2'	1:X:2294:U:C6	2.55	0.41
1:X:2651:U:H2'	1:X:2652:G:O5'	2.20	0.41
1:X:2729:A:C6	1:X:2730:A:N1	2.88	0.41
3:A:215:LEU:HD23	3:A:215:LEU:HA	1.74	0.41
4:B:133:LYS:HB3	4:B:137:ARG:HD3	2.02	0.41
5:C:17:LEU:HD13	5:C:109:ALA:HA	2.02	0.41
7:E:129:THR:O	7:E:129:THR:HG22	2.20	0.41
9:H:83:ARG:HH22	9:H:134:LEU:CD1	2.32	0.41
20:S:27:GLU:HG3	20:S:28:ASN:N	2.29	0.41
20:S:91:PRO:HB3	20:S:125:PRO:HA	2.02	0.41
26:1:10:VAL:HG12	26:1:11:LYS:N	2.35	0.41
28:3:52:LYS:O	28:3:52:LYS:HD2	2.20	0.41
1:X:656:U:O2'	1:X:657:A:OP2	2.30	0.41
1:X:748:A:H5'	1:X:749:C:OP2	2.21	0.41
1:X:787:A:H2	1:X:800:U:O2'	2.02	0.41
1:X:1153:A:C8	1:X:1153:A:H5"	2.55	0.41
1:X:1270:C:OP1	5:C:69:HIS:NE2	2.40	0.41
1:X:1373:G:N2	1:X:2192:U:H3	2.14	0.41
1:X:1505:U:H1'	1:X:1506:C:C5	2.55	0.41
1:X:1539:U:H2'	1:X:1540:C:C6	2.55	0.41
3:A:19:ALA:HB3	3:A:21:PHE:HE1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:106:LEU:O	3:A:108:PRO:HD3	2.20	0.41
11:J:51:CYS:HA	11:J:54:VAL:HG12	2.02	0.41
18:Q:17:TYR:O	18:Q:20:MET:HB3	2.20	0.41
23:V:17:GLU:HB3	23:V:53:LEU:HD11	2.02	0.41
1:X:37:C:H2'	1:X:38:G:C8	2.56	0.41
1:X:425:A:H3'	1:X:426:C:H6	1.85	0.41
1:X:487:G:H22	1:X:490:A:H5"	1.84	0.41
1:X:1762:C:H2'	1:X:1763:G:H8	1.83	0.41
1:X:2551:A:OP2	4:B:146:THR:HG22	2.21	0.41
1:X:2641:A:H2'	1:X:2642:G:O4'	2.21	0.41
1:X:2701:A:H1'	1:X:2848:A:O2'	2.20	0.41
1:X:2705:A:C4	1:X:2707:G:C8	3.07	0.41
2:Y:62:C:C2	2:Y:63:A:C8	3.08	0.41
5:C:128:ALA:HB2	5:C:156:ASN:OD1	2.20	0.41
6:D:127:ASN:HD21	6:D:157:VAL:HG13	1.85	0.41
7:E:22:GLY:HA2	7:E:43:VAL:CG1	2.50	0.41
13:L:16:LYS:NZ	13:L:90:ASP:OD2	2.53	0.41
17:P:95:ALA:O	17:P:96:TYR:HB3	2.20	0.41
20:S:25:ASN:HB3	20:S:85:MET:HB2	2.02	0.41
26:1:6:PRO:C	26:1:7:ARG:HD2	2.41	0.41
28:3:50:LEU:HD12	28:3:51:ALA:H	1.86	0.41
1:X:129:A:H2'	1:X:130:C:H6	1.86	0.41
1:X:158:A:H2'	1:X:159:A:C8	2.56	0.41
1:X:530:G:H2'	1:X:531:G:H8	1.85	0.41
1:X:596:C:N4	10:I:30:ALA:HB2	2.36	0.41
1:X:761:G:C8	1:X:763:A:C8	3.08	0.41
1:X:1076:U:H2'	1:X:1077:U:C2	2.55	0.41
1:X:1137:A:H4'	1:X:1138:A:H5"	2.01	0.41
1:X:1201:G:H5"	16:O:80:TYR:CE1	2.55	0.41
1:X:1261:G:P	5:C:86:PRO:HG3	2.61	0.41
1:X:2328:G:OP2	28:3:42:ARG:HD3	2.21	0.41
4:B:9:ILE:HG22	14:M:13:LEU:CD2	2.50	0.41
14:M:57:ILE:O	14:M:57:ILE:HG13	2.20	0.41
18:Q:7:LEU:HD11	18:Q:42:ILE:HD13	2.02	0.41
19:R:102:LYS:HD3	19:R:103:LYS:H	1.86	0.41
23:V:40:PRO:O	23:V:43:VAL:HB	2.21	0.41
24:W:36:ASP:HA	24:W:41:ARG:CZ	2.50	0.41
28:3:11:LYS:HA	28:3:11:LYS:HD3	1.79	0.41
1:X:1160:C:H2'	1:X:1161:U:O4'	2.21	0.41
1:X:1278:A:N6	1:X:1996:A:H5"	2.36	0.41
1:X:1517:C:H2'	1:X:1518:C:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1545:G:H2'	1:X:1546:C:C6	2.56	0.41
1:X:1693:A:H2	1:X:1976:U:H5'	1.82	0.41
1:X:2268:G:N3	1:X:2268:G:H2'	2.36	0.41
1:X:2596:C:C2	1:X:2597:G:C8	3.08	0.41
3:A:132:PRO:HD3	3:A:190:TYR:CE1	2.56	0.41
4:B:188:ILE:CG2	4:B:189:PRO:HD2	2.50	0.41
6:D:162:THR:CG2	6:D:164:GLU:HG2	2.50	0.41
8:G:35:LYS:H	8:G:35:LYS:HG3	1.66	0.41
12:K:20:LEU:O	12:K:23:ALA:N	2.53	0.41
12:K:99:ARG:HD3	25:Z:43:HIS:O	2.21	0.41
15:N:61:TRP:O	15:N:65:ILE:HG13	2.21	0.41
20:S:39:PHE:CZ	20:S:81:VAL:HG21	2.56	0.41
20:S:69:VAL:HG22	20:S:81:VAL:HG13	2.03	0.41
1:X:199:A:C6	1:X:201:G:C2	3.09	0.41
1:X:1142:G:O4'	8:G:110:LEU:HB2	2.20	0.41
1:X:1271:C:H2'	1:X:1272:G:O4'	2.20	0.41
1:X:1392:U:C6	1:X:1392:U:OP1	2.73	0.41
1:X:1411:C:C2	1:X:1412:C:C5	3.09	0.41
1:X:1699:A:H2'	1:X:1700:C:C6	2.55	0.41
1:X:1749:G:H4'	1:X:1750:A:OP2	2.20	0.41
1:X:1856:U:H2'	1:X:1857:G:O4'	2.21	0.41
1:X:1979:C:H4'	1:X:1980:A:OP1	2.20	0.41
1:X:2625:U:H2'	1:X:2626:U:O4'	2.21	0.41
1:X:2734:U:H2'	1:X:2736:U:OP1	2.20	0.41
4:B:93:VAL:HG12	4:B:177:ALA:HB1	2.01	0.41
6:D:102:LYS:HE2	6:D:106:ILE:HD11	2.01	0.41
12:K:27:ALA:O	12:K:31:GLU:HG2	2.21	0.41
12:K:65:LEU:O	12:K:68:GLN:HG2	2.20	0.41
17:P:31:VAL:O	17:P:122:SER:N	2.53	0.41
22:U:48:LYS:O	22:U:62:LEU:O	2.39	0.41
1:X:139:A:H2'	1:X:140:G:H8	1.85	0.41
1:X:143:A:H2'	1:X:144:U:O4'	2.21	0.41
1:X:475:U:C2	1:X:801:A:C6	3.09	0.41
1:X:787:A:C2	1:X:800:U:O2'	2.73	0.41
1:X:846:A:H2'	1:X:847:C:C6	2.56	0.41
1:X:1197:U:O3'	24:W:26:ARG:NH2	2.54	0.41
1:X:1342:U:H5"	1:X:1343:C:H5	1.84	0.41
1:X:1489:C:H5"	1:X:1490:U:OP2	2.21	0.41
1:X:1735:G:H2'	1:X:1736:C:C6	2.56	0.41
1:X:1777:A:H1'	1:X:1921:A:N6	2.35	0.41
1:X:2371:A:C4	1:X:2408:G:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2670:C:C5'	1:X:2847:G:H5"	2.51	0.41
3:A:6:TYR:HD1	3:A:6:TYR:N	2.19	0.41
3:A:142:VAL:O	3:A:163:VAL:N	2.54	0.41
5:C:78:VAL:O	5:C:78:VAL:HG13	2.20	0.41
12:K:49:GLU:HG3	12:K:94:TYR:HD2	1.85	0.41
19:R:87:GLU:O	19:R:88:THR:HB	2.21	0.41
20:S:20:ALA:O	20:S:80:HIS:HA	2.20	0.41
20:S:126:GLY:HA2	20:S:127:PRO:HD2	1.93	0.41
21:T:68:VAL:N	21:T:80:SER:O	2.48	0.41
1:X:116:A:N3	1:X:155:G:H1'	2.36	0.41
1:X:699:G:H4'	1:X:700:C:OP2	2.21	0.41
1:X:805:G:C8	1:X:2419:C:O2	2.74	0.41
1:X:1027:C:H5'	1:X:1028:G:OP2	2.21	0.41
1:X:1428:G:C2	1:X:1601:U:H4'	2.56	0.41
1:X:1454:U:H2'	1:X:1455:C:C6	2.56	0.41
1:X:1544:A:C4	1:X:1560:A:C6	3.09	0.41
10:I:83:LEU:HA	10:I:86:THR:CG2	2.50	0.41
15:N:115:ASN:C	15:N:115:ASN:HD22	2.23	0.41
16:O:11:GLN:N	16:O:11:GLN:OE1	2.53	0.41
20:S:39:PHE:O	20:S:43:PHE:N	2.47	0.41
1:X:215:G:C6	1:X:237:G:C6	3.09	0.41
1:X:457:C:O2'	1:X:458:G:H5'	2.21	0.41
1:X:530:G:H2'	1:X:531:G:C8	2.56	0.41
1:X:571:U:C2	1:X:581:A:C8	3.09	0.41
1:X:689:A:C2	1:X:815:A:N6	2.87	0.41
1:X:781:G:H2'	1:X:782:U:H6	1.86	0.41
1:X:793:G:N2	1:X:796:A:H62	2.08	0.41
1:X:849:G:H2'	1:X:850:C:C6	2.56	0.41
1:X:1117:G:N2	1:X:1118:G:N7	2.62	0.41
1:X:1191:G:C5	1:X:1192:A:C8	3.08	0.41
1:X:1225:G:HO2'	1:X:1226:A:P	2.43	0.41
1:X:1265:G:O2'	1:X:1266:G:C8	2.73	0.41
1:X:1609:G:H2'	1:X:1610:A:O4'	2.21	0.41
1:X:1790:G:C8	3:A:181:GLU:OE1	2.74	0.41
1:X:1872:A:O2'	1:X:2070:G:H5'	2.21	0.41
1:X:1998:A:C4	25:Z:6:VAL:HG23	2.55	0.41
1:X:2175:A:H2'	1:X:2176:U:H6	1.80	0.41
1:X:2208:U:H2'	1:X:2209:G:H8	1.85	0.41
1:X:2259:G:O2'	1:X:2367:A:N1	2.44	0.41
1:X:2273:C:H5"	13:L:11:LEU:HD11	2.03	0.41
1:X:2378:G:H2'	26:1:20:PHE:HE1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2493:U:H2'	1:X:2494:C:C6	2.56	0.41
1:X:2507:U:H2'	1:X:2509:A:H5"	2.02	0.41
1:X:2543:A:C2	1:X:2626:U:H4'	2.55	0.41
1:X:2661:G:C2'	1:X:2662:C:H5'	2.51	0.41
2:Y:39:C:O2	2:Y:39:C:H2'	2.20	0.41
3:A:70:ARG:NH2	3:A:146:GLU:OE1	2.53	0.41
4:B:32:PRO:O	4:B:49:ILE:HG13	2.20	0.41
4:B:56:GLU:HA	4:B:59:VAL:CG2	2.51	0.41
4:B:60:ASN:HB3	4:B:62:PRO:CD	2.43	0.41
7:E:83:TYR:HB2	7:E:135:GLY:O	2.21	0.41
7:E:83:TYR:HD1	7:E:83:TYR:HA	1.82	0.41
8:G:128:GLU:HG2	8:G:132:PHE:CE2	2.56	0.41
8:G:132:PHE:CD2	8:G:145:HIS:CD2	3.09	0.41
10:I:82:ASP:O	10:I:85:ASP:HB2	2.21	0.41
11:J:8:THR:HG22	11:J:70:PHE:CE2	2.55	0.41
11:J:99:LYS:HD2	11:J:99:LYS:HA	1.76	0.41
12:K:54:THR:O	12:K:62:SER:HB3	2.21	0.41
20:S:23:ALA:HB2	20:S:83:PHE:HB2	2.02	0.41
28:3:16:ILE:HD13	28:3:63:PRO:HG3	2.01	0.41
1:X:27:G:N2	1:X:522:G:H1'	2.36	0.41
1:X:1050:G:H21	1:X:1127:C:N4	2.18	0.41
1:X:1050:G:N3	1:X:1128:G:N1	2.69	0.41
1:X:1769:U:H3'	1:X:1775:A:N6	2.36	0.41
1:X:1834:G:H2'	1:X:1835:C:C6	2.56	0.41
1:X:2044:G:C2	1:X:2046:C:C4	3.09	0.41
1:X:2222:U:H2'	1:X:2223:U:H6	1.81	0.41
1:X:2599:U:O4'	4:B:156:MET:HG3	2.21	0.41
1:X:2621:G:H5'	8:G:106:TYR:CE2	2.56	0.41
3:A:67:PHE:HB3	3:A:153:ALA:HB2	2.02	0.41
4:B:179:GLU:HB2	4:B:181:LEU:HD23	2.02	0.41
6:D:68:THR:OG1	6:D:86:GLY:O	2.35	0.41
8:G:37:ASP:OD1	8:G:38:GLU:N	2.54	0.41
8:G:151:TYR:HH	8:G:158:HIS:CE1	2.39	0.41
8:G:164:GLN:HE21	8:G:165:VAL:HG22	1.85	0.41
15:N:39:LEU:HD23	15:N:39:LEU:HA	1.72	0.41
19:R:14:LEU:HA	19:R:14:LEU:HD23	1.83	0.41
20:S:62:PHE:HA	20:S:63:PRO:HD3	1.94	0.41
22:U:49:LYS:HA	22:U:61:TRP:CE3	2.56	0.41
23:V:18:ILE:HG13	23:V:53:LEU:HD22	2.02	0.41
25:Z:35:GLN:HB3	25:Z:51:TYR:CD2	2.56	0.41
1:X:5:A:C6	1:X:2873:G:C6	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:64:C:H1'	18:Q:68:PHE:HD2	1.85	0.40
1:X:689:A:C2	1:X:690:A:C8	3.09	0.40
1:X:1495:G:C2	1:X:1530:U:O2	2.73	0.40
1:X:1609:G:H2'	1:X:1610:A:C8	2.55	0.40
1:X:2295:C:H5'	6:D:125:ARG:HH12	1.82	0.40
1:X:2315:A:N3	1:X:2364:C:H1'	2.36	0.40
1:X:2799:C:H2'	1:X:2800:C:O4'	2.20	0.40
2:Y:50:U:C2	2:Y:51:G:N7	2.89	0.40
10:I:63:ARG:O	10:I:63:ARG:NH1	2.49	0.40
11:J:36:ILE:HG13	11:J:102:ARG:O	2.21	0.40
11:J:66:TYR:HD2	11:J:106:GLU:HG2	1.85	0.40
14:M:38:LYS:HE3	14:M:79:ARG:HH22	1.85	0.40
21:T:21:LEU:HD21	21:T:41:ARG:NH2	2.36	0.40
24:W:12:ARG:HH11	24:W:12:ARG:HG3	1.86	0.40
25:Z:52:TYR:O	25:Z:53:ASP:CG	2.59	0.40
1:X:23:G:C6	1:X:528:G:C6	3.10	0.40
1:X:94:C:H2'	1:X:95:G:O4'	2.21	0.40
1:X:353:G:H2'	1:X:354:C:H6	1.86	0.40
1:X:1050:G:H21	1:X:1127:C:H42	1.69	0.40
1:X:1994:U:H2'	1:X:1995:G:H5'	2.03	0.40
1:X:2073:A:C6	1:X:2209:G:O6	2.74	0.40
1:X:2784:A:C6	1:X:2866:A:C8	3.09	0.40
3:A:210:GLY:CA	3:A:213:ARG:H	2.33	0.40
7:E:124:ALA:HB3	7:E:132:ASP:HB3	2.02	0.40
7:E:127:GLU:HB3	7:E:130:ARG:HB2	2.04	0.40
7:E:163:ARG:CZ	7:E:169:ILE:HG21	2.52	0.40
16:O:70:TYR:HE2	16:O:83:ARG:NH1	2.17	0.40
18:Q:35:LYS:HA	18:Q:38:ILE:HG22	2.03	0.40
1:X:12:U:H6	1:X:12:U:H2'	1.66	0.40
1:X:470:U:OP1	27:2:39:ARG:O	2.39	0.40
1:X:529:U:C2	1:X:530:G:C8	3.09	0.40
1:X:540:G:H3'	1:X:540:G:H8	1.86	0.40
1:X:1217:U:O2	10:I:4:HIS:HD2	2.05	0.40
1:X:1314:A:H2	1:X:1642:G:H21	1.68	0.40
1:X:1332:G:C5	1:X:1333:G:C6	3.10	0.40
1:X:1659:G:N7	32:X:3248:MPD:HM3	2.36	0.40
1:X:1724:C:N3	1:X:1747:G:C6	2.89	0.40
1:X:1883:A:H1'	1:X:1953:A:H2'	2.04	0.40
1:X:2043:A:H3'	5:C:62:LYS:NZ	2.37	0.40
1:X:2373:C:OP1	28:3:30:ARG:NH1	2.53	0.40
1:X:2845:C:C2'	1:X:2846:G:H5'	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:31:CYS:HB3	4:B:49:ILE:CG1	2.44	0.40
7:E:38:ASN:HB3	7:E:40:GLU:CD	2.41	0.40
11:J:21:ASP:OD1	11:J:22:ALA:N	2.55	0.40
20:S:54:ILE:HG13	20:S:62:PHE:CE1	2.55	0.40
27:2:27:GLY:HA2	27:2:30:ILE:HD12	2.02	0.40
1:X:555:U:H2'	1:X:1234:C:H5"	2.03	0.40
1:X:644:A:N7	1:X:645:G:H1'	2.37	0.40
1:X:741:G:C4	1:X:743:A:C8	3.09	0.40
1:X:839:U:H5"	1:X:2408:G:P	2.61	0.40
1:X:1301:U:O2'	1:X:1664:G:N2	2.55	0.40
1:X:1652:G:C6	1:X:1653:C:C4	3.09	0.40
1:X:1787:U:H4'	3:A:254:THR:OG1	2.21	0.40
1:X:2594:U:N1	25:Z:7:PRO:HA	2.35	0.40
1:X:2751:C:O2'	4:B:203:LYS:NZ	2.49	0.40
1:X:2824:C:H4'	1:X:2825:A:H5'	2.03	0.40
4:B:135:HIS:CE1	4:B:136:ARG:HG2	2.57	0.40
4:B:195:LEU:HB2	14:M:3:THR:CG2	2.51	0.40
6:D:40:LEU:HD23	6:D:150:ARG:HD2	2.03	0.40
8:G:33:ILE:HA	8:G:34:PRO:HD3	1.88	0.40
8:G:119:LEU:CD1	8:G:122:HIS:NE2	2.84	0.40
8:G:134:MET:HB2	8:G:134:MET:HE2	1.73	0.40
19:R:47:VAL:HG22	19:R:75:ALA:HB2	2.02	0.40
23:V:32:ALA:HA	23:V:37:LEU:HB2	2.03	0.40
28:3:5:LYS:HE3	28:3:61:MET:SD	2.61	0.40
1:X:528:G:H2'	1:X:529:U:H6	1.86	0.40
1:X:582:G:H5'	1:X:584:A:N7	2.36	0.40
1:X:969:U:C4	11:J:17:ARG:HB2	2.56	0.40
1:X:1171:A:H1'	16:O:7:THR:CG2	2.52	0.40
1:X:1175:A:C2	1:X:1176:U:C2	3.10	0.40
1:X:1286:U:OP2	31:X:3238:SPD:H92	2.22	0.40
1:X:1463:A:H2'	1:X:1464:A:C8	2.56	0.40
1:X:1752:U:H3	1:X:1753:A:N6	2.19	0.40
1:X:1912:G:O2'	1:X:1913:G:H5'	2.22	0.40
1:X:2198:U:OP2	1:X:2199:C:H5"	2.21	0.40
1:X:2358:C:H2'	1:X:2359:U:C6	2.56	0.40
2:Y:51:G:H5'	13:L:97:HIS:HE1	1.87	0.40
2:Y:90:C:H2'	2:Y:91:A:O4'	2.22	0.40
5:C:5:ASN:HA	5:C:118:VAL:HG23	2.03	0.40
6:D:31:ILE:HD11	6:D:34:ILE:HD11	2.04	0.40
6:D:68:THR:N	6:D:86:GLY:O	2.35	0.40
11:J:8:THR:HG22	11:J:70:PHE:HE2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:56:MET:HE1	18:Q:77:LYS:HE3	2.00	0.40
18:Q:88:ILE:HD13	18:Q:91:LEU:HD23	2.02	0.40
20:S:63:PRO:HB2	20:S:86:VAL:HB	2.03	0.40
20:S:103:ARG:HG3	20:S:107:GLU:CB	2.52	0.40
20:S:104:SER:OG	20:S:105:GLN:N	2.55	0.40
21:T:33:ALA:N	21:T:64:ASP:OD1	2.54	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
3	A	270/274 (98%)	221 (82%)	30 (11%)	19 (7%)	1 7
4	B	204/206 (99%)	180 (88%)	18 (9%)	6 (3%)	4 27
5	C	194/205 (95%)	152 (78%)	29 (15%)	13 (7%)	1 8
6	D	175/177 (99%)	140 (80%)	29 (17%)	6 (3%)	3 23
7	E	169/171 (99%)	144 (85%)	18 (11%)	7 (4%)	3 19
8	G	140/143 (98%)	111 (79%)	18 (13%)	11 (8%)	1 5
9	H	132/134 (98%)	120 (91%)	9 (7%)	3 (2%)	6 33
10	I	135/137 (98%)	109 (81%)	18 (13%)	8 (6%)	1 12
11	J	133/136 (98%)	102 (77%)	22 (16%)	9 (7%)	1 8
12	K	113/116 (97%)	101 (89%)	8 (7%)	4 (4%)	3 23
13	L	102/104 (98%)	80 (78%)	17 (17%)	5 (5%)	2 16
14	M	116/166 (70%)	100 (86%)	9 (8%)	7 (6%)	1 11
15	N	115/117 (98%)	101 (88%)	11 (10%)	3 (3%)	5 30
16	O	96/98 (98%)	75 (78%)	16 (17%)	5 (5%)	2 14
17	P	127/134 (95%)	119 (94%)	8 (6%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
18	Q	90/93 (97%)	80 (89%)	8 (9%)	2 (2%)	6 34
19	R	108/110 (98%)	73 (68%)	19 (18%)	16 (15%)	0 1
20	S	173/175 (99%)	136 (79%)	28 (16%)	9 (5%)	2 14
21	T	72/91 (79%)	61 (85%)	8 (11%)	3 (4%)	3 19
22	U	72/74 (97%)	51 (71%)	17 (24%)	4 (6%)	2 13
23	V	52/61 (85%)	48 (92%)	3 (6%)	1 (2%)	8 38
24	W	53/55 (96%)	47 (89%)	6 (11%)	0	100 100
25	Z	55/58 (95%)	44 (80%)	7 (13%)	4 (7%)	1 7
26	1	47/49 (96%)	33 (70%)	8 (17%)	6 (13%)	0 1
27	2	44/47 (94%)	38 (86%)	4 (9%)	2 (4%)	2 17
28	3	61/63 (97%)	45 (74%)	11 (18%)	5 (8%)	1 5
All	All	3048/3194 (95%)	2511 (82%)	379 (12%)	158 (5%)	2 14

All (158) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	90	ALA
3	A	153	ALA
3	A	242	ALA
3	A	247	VAL
3	A	252	LYS
5	C	16	GLU
5	C	22	VAL
5	C	69	HIS
5	C	118	VAL
5	C	189	ASP
6	D	4	LEU
6	D	72	LYS
6	D	78	LYS
7	E	21	ASP
8	G	35	LYS
8	G	96	ASP
9	H	18	GLU
10	I	30	ALA
10	I	34	HIS
10	I	105	PRO
11	J	13	GLN
11	J	86	LYS

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Mol	Chain	Res	Type
11	J	136	GLU
12	K	100	VAL
13	L	10	LYS
14	M	28	ARG
14	M	29	PRO
14	M	96	ARG
15	N	92	ARG
16	O	14	VAL
19	R	26	SER
19	R	58	VAL
19	R	78	ALA
19	R	98	ILE
20	S	48	THR
20	S	127	PRO
21	T	68	VAL
21	T	69	PHE
22	U	10	LYS
22	U	45	ASN
26	1	23	THR
27	2	40	HIS
28	3	3	LYS
28	3	30	ARG
3	A	38	PRO
3	A	171	ASP
3	A	250	TRP
4	B	130	GLY
5	C	6	VAL
5	C	59	TYR
5	C	127	ASP
5	C	190	ALA
6	D	48	LYS
8	G	70	PHE
8	G	111	LYS
8	G	115	ALA
8	G	168	THR
10	I	28	LYS
10	I	39	SER
11	J	62	GLY
13	L	68	ALA
14	M	3	THR
14	M	30	GLY
14	M	111	ARG

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Mol	Chain	Res	Type
15	N	8	ILE
16	O	6	GLN
16	O	48	GLY
19	R	89	GLY
20	S	30	VAL
22	U	12	ASN
25	Z	21	SER
25	Z	39	LYS
25	Z	53	ASP
26	1	20	PHE
26	1	21	TYR
26	1	42	PRO
28	3	13	ARG
28	3	14	ILE
3	A	35	GLU
3	A	39	LYS
3	A	80	ALA
4	B	144	ARG
5	C	116	LYS
5	C	128	ALA
6	D	47	SER
6	D	160	ALA
7	E	7	GLN
7	E	94	PHE
8	G	92	GLY
8	G	167	LYS
8	G	170	PRO
9	H	61	ARG
10	I	35	LYS
10	I	43	ALA
11	J	11	ARG
11	J	12	LYS
11	J	60	ARG
11	J	93	TYR
12	K	4	GLY
13	L	21	THR
14	M	118	LYS
19	R	60	PRO
19	R	85	ASP
19	R	87	GLU
19	R	97	GLN
19	R	108	VAL

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Mol	Chain	Res	Type
20	S	9	THR
20	S	13	LYS
20	S	47	SER
20	S	140	LYS
20	S	156	GLU
26	1	17	GLY
26	1	36	GLU
27	2	42	LEU
28	3	49	VAL
3	A	12	SER
3	A	53	PHE
3	A	156	ALA
3	A	254	THR
7	E	55	PRO
7	E	164	PHE
7	E	165	VAL
8	G	97	ASP
12	K	56	LYS
13	L	59	LEU
13	L	95	LYS
16	O	9	GLY
18	Q	88	ILE
19	R	65	PRO
19	R	82	ALA
22	U	30	VAL
25	Z	37	HIS
4	B	147	PRO
11	J	30	PHE
12	K	20	LEU
18	Q	83	ALA
19	R	51	VAL
21	T	47	ALA
3	A	144	ALA
3	A	240	THR
4	B	34	VAL
9	H	22	ILE
10	I	108	LEU
16	O	8	GLY
19	R	90	LYS
23	V	43	VAL
8	G	163	PRO
20	S	157	GLY

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Mol	Chain	Res	Type
5	C	70	GLY
15	N	23	GLY
3	A	253	PRO
5	C	8	GLY
19	R	67	GLY
19	R	86	PRO
3	A	150	GLY
4	B	86	PRO
4	B	146	THR
7	E	12	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	A	197/215 (92%)	195 (99%)	2 (1%)	76 89
4	B	155/155 (100%)	153 (99%)	2 (1%)	69 86
5	C	151/163 (93%)	144 (95%)	7 (5%)	27 62
6	D	147/153 (96%)	144 (98%)	3 (2%)	55 79
7	E	136/136 (100%)	133 (98%)	3 (2%)	52 78
8	G	117/119 (98%)	114 (97%)	3 (3%)	46 75
9	H	103/103 (100%)	100 (97%)	3 (3%)	42 72
10	I	93/105 (89%)	89 (96%)	4 (4%)	29 63
11	J	104/110 (94%)	101 (97%)	3 (3%)	42 72
12	K	91/93 (98%)	83 (91%)	8 (9%)	10 36
13	L	69/74 (93%)	67 (97%)	2 (3%)	42 72
14	M	97/134 (72%)	93 (96%)	4 (4%)	30 65
15	N	91/96 (95%)	89 (98%)	2 (2%)	52 78
16	O	71/78 (91%)	69 (97%)	2 (3%)	43 73
17	P	107/115 (93%)	102 (95%)	5 (5%)	26 61
18	Q	71/75 (95%)	71 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
19	R	77/91 (85%)	73 (95%)	4 (5%)	23 58
20	S	134/149 (90%)	132 (98%)	2 (2%)	65 84
21	T	51/67 (76%)	49 (96%)	2 (4%)	32 66
22	U	45/59 (76%)	42 (93%)	3 (7%)	16 49
23	V	43/49 (88%)	42 (98%)	1 (2%)	50 77
24	W	48/48 (100%)	47 (98%)	1 (2%)	53 79
25	Z	50/51 (98%)	49 (98%)	1 (2%)	55 79
26	1	22/44 (50%)	20 (91%)	2 (9%)	9 33
27	2	39/40 (98%)	38 (97%)	1 (3%)	46 75
28	3	42/50 (84%)	38 (90%)	4 (10%)	8 31
All	All	2351/2572 (91%)	2277 (97%)	74 (3%)	40 71

All (74) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	6	TYR
3	A	252	LYS
4	B	18	ASP
4	B	156	MET
5	C	59	TYR
5	C	91	TYR
5	C	100	ARG
5	C	120	VAL
5	C	166	TRP
5	C	176	ASN
5	C	182	ARG
6	D	4	LEU
6	D	44	LYS
6	D	71	LYS
7	E	54	ARG
7	E	69	ARG
7	E	106	ASN
8	G	35	LYS
8	G	104	THR
8	G	167	LYS
9	H	81	ILE
9	H	91	PHE
9	H	125	LYS

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Mol	Chain	Res	Type
10	I	4	HIS
10	I	55	ARG
10	I	63	ARG
10	I	105	PRO
11	J	17	ARG
11	J	21	ASP
11	J	93	TYR
12	K	2	ARG
12	K	17	ARG
12	K	35	GLN
12	K	83	VAL
12	K	99	ARG
12	K	102	THR
12	K	104	ARG
12	K	109	THR
13	L	9	ARG
13	L	64	LYS
14	M	5	ILE
14	M	14	ARG
14	M	22	ARG
14	M	116	ARG
15	N	61	TRP
15	N	115	ASN
16	O	6	GLN
16	O	10	LYS
17	P	9	ARG
17	P	25	PHE
17	P	45	ILE
17	P	96	TYR
17	P	125	THR
19	R	30	LYS
19	R	70	GLU
19	R	80	LYS
19	R	102	LYS
20	S	9	THR
20	S	112	LEU
21	T	55	ARG
21	T	78	PHE
22	U	10	LYS
22	U	40	ARG
22	U	48	LYS
23	V	44	ARG

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Mol	Chain	Res	Type
24	W	4	LYS
25	Z	16	ARG
26	1	50	PHE
26	1	54	LYS
27	2	4	THR
28	3	4	MET
28	3	44	LYS
28	3	52	LYS
28	3	61	MET

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

Mol	Chain	Res	Type
3	A	76	ASN
3	A	118	ASN
3	A	220	HIS
3	A	227	ASN
4	B	92	ASN
5	C	3	GLN
5	C	34	GLN
5	C	163	ASN
5	C	176	ASN
6	D	37	ASN
6	D	129	ASN
8	G	140	GLN
8	G	164	GLN
10	I	103	ASN
19	R	15	HIS
24	W	49	HIS
25	Z	56	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	X	2686/2880 (93%)	750 (27%)	76 (2%)
2	Y	121/123 (98%)	33 (27%)	4 (3%)
All	All	2807/3003 (93%)	783 (27%)	80 (2%)

All (783) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	X	3	U
1	X	10	A
1	X	12	U
1	X	13	A
1	X	14	A
1	X	15	G
1	X	23	G
1	X	26	G
1	X	27	G
1	X	28	A
1	X	34	U
1	X	39	C
1	X	42	G
1	X	45	C
1	X	46	C
1	X	47	G
1	X	48	A
1	X	49	U
1	X	50	G
1	X	51	A
1	X	57	G
1	X	59	G
1	X	69	G
1	X	70	A
1	X	71	A
1	X	72	A
1	X	73	A
1	X	74	G
1	X	83	A
1	X	89	A
1	X	91	A
1	X	95	G
1	X	99	U
1	X	100	G
1	X	101	A
1	X	102	C
1	X	108	G
1	X	109	A
1	X	111	G
1	X	116	A
1	X	117	A
1	X	118	U
1	X	119	G

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Mol	Chain	Res	Type
1	X	120	G
1	X	123	A
1	X	126	C
1	X	127	C
1	X	129	A
1	X	132	U
1	X	133	C
1	X	134	G
1	X	135	U
1	X	137	A
1	X	143	A
1	X	147	G
1	X	148	C
1	X	149	A
1	X	150	A
1	X	157	G
1	X	158	A
1	X	164	G
1	X	169	C
1	X	173	A
1	X	176	A
1	X	192	G
1	X	193	A
1	X	199	A
1	X	200	A
1	X	201	G
1	X	206	U
1	X	207	U
1	X	210	A
1	X	218	A
1	X	219	G
1	X	220	U
1	X	222	G
1	X	225	G
1	X	226	C
1	X	229	G
1	X	241	C
1	X	242	A
1	X	243	G
1	X	244	C
1	X	245	C
1	X	247	A

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Mol	Chain	Res	Type
1	X	249	A
1	X	250	C
1	X	252	G
1	X	254	A
1	X	255	A
1	X	256	C
1	X	257	G
1	X	259	U
1	X	260	U
1	X	261	G
1	X	262	C
1	X	264	U
1	X	265	U
1	X	266	U
1	X	267	C
1	X	268	G
1	X	270	G
1	X	272	U
1	X	273	U
1	X	274	G
1	X	275	U
1	X	276	A
1	X	280	C
1	X	281	C
1	X	282	A
1	X	304	A
1	X	305	A
1	X	310	A
1	X	322	A
1	X	340	G
1	X	342	G
1	X	343	A
1	X	344	G
1	X	349	G
1	X	358	C
1	X	360	A
1	X	362	C
1	X	384	A
1	X	385	G
1	X	386	U
1	X	387	A
1	X	388	G

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Mol	Chain	Res	Type
1	X	398	C
1	X	399	G
1	X	400	U
1	X	401	G
1	X	403	A
1	X	404	A
1	X	408	U
1	X	409	G
1	X	416	U
1	X	418	C
1	X	419	G
1	X	424	G
1	X	425	A
1	X	441	A
1	X	448	C
1	X	456	C
1	X	459	A
1	X	461	A
1	X	463	C
1	X	467	U
1	X	475	U
1	X	476	G
1	X	483	A
1	X	484	G
1	X	492	G
1	X	493	A
1	X	504	G
1	X	506	G
1	X	514	G
1	X	515	A
1	X	516	G
1	X	518	A
1	X	519	C
1	X	520	C
1	X	527	C
1	X	536	A
1	X	537	C
1	X	538	A
1	X	540	G
1	X	541	C
1	X	542	A
1	X	543	G

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Mol	Chain	Res	Type
1	X	552	C
1	X	554	U
1	X	555	U
1	X	556	A
1	X	559	C
1	X	560	G
1	X	572	G
1	X	578	U
1	X	582	G
1	X	584	A
1	X	591	G
1	X	595	A
1	X	600	G
1	X	601	A
1	X	602	C
1	X	603	C
1	X	605	G
1	X	613	A
1	X	614	G
1	X	624	A
1	X	625	A
1	X	626	A
1	X	627	A
1	X	628	A
1	X	631	G
1	X	632	A
1	X	636	G
1	X	642	A
1	X	645	G
1	X	646	C
1	X	648	A
1	X	649	G
1	X	655	A
1	X	657	A
1	X	664	C
1	X	665	A
1	X	666	U
1	X	667	U
1	X	668	A
1	X	682	G
1	X	690	A
1	X	699	G

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Mol	Chain	Res	Type
1	X	719	A
1	X	741	G
1	X	743	A
1	X	747	A
1	X	752	G
1	X	760	U
1	X	766	A
1	X	774	A
1	X	775	U
1	X	777	A
1	X	778	G
1	X	781	G
1	X	782	U
1	X	788	G
1	X	789	G
1	X	790	A
1	X	795	A
1	X	797	A
1	X	798	G
1	X	802	A
1	X	803	C
1	X	805	G
1	X	806	A
1	X	807	A
1	X	813	A
1	X	818	G
1	X	820	U
1	X	825	C
1	X	832	A
1	X	837	U
1	X	840	U
1	X	841	G
1	X	859	U
1	X	860	U
1	X	872	G
1	X	877	G
1	X	879	A
1	X	887	G
1	X	890	U
1	X	891	A
1	X	913	A
1	X	922	A

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Mol	Chain	Res	Type
1	X	924	C
1	X	939	C
1	X	940	G
1	X	944	A
1	X	949	G
1	X	952	A
1	X	957	G
1	X	958	G
1	X	969	U
1	X	970	A
1	X	971	A
1	X	972	C
1	X	973	U
1	X	985	G
1	X	994	A
1	X	995	A
1	X	1006	C
1	X	1007	A
1	X	1016	C
1	X	1018	C
1	X	1019	U
1	X	1021	A
1	X	1022	A
1	X	1023	U
1	X	1024	G
1	X	1028	G
1	X	1033	G
1	X	1034	U
1	X	1036	G
1	X	1038	U
1	X	1043	A
1	X	1044	U
1	X	1045	G
1	X	1047	G
1	X	1049	C
1	X	1054	C
1	X	1055	A
1	X	1056	U
1	X	1057	A
1	X	1058	G
1	X	1060	C
1	X	1064	C

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Mol	Chain	Res	Type
1	X	1069	G
1	X	1070	G
1	X	1072	U
1	X	1073	G
1	X	1075	C
1	X	1076	U
1	X	1077	U
1	X	1081	A
1	X	1082	G
1	X	1083	C
1	X	1084	A
1	X	1085	G
1	X	1086	C
1	X	1087	C
1	X	1089	C
1	X	1090	C
1	X	1094	C
1	X	1096	A
1	X	1097	A
1	X	1098	G
1	X	1099	A
1	X	1101	U
1	X	1102	G
1	X	1105	U
1	X	1106	A
1	X	1114	A
1	X	1122	A
1	X	1123	G
1	X	1124	U
1	X	1127	C
1	X	1128	G
1	X	1129	A
1	X	1130	U
1	X	1139	A
1	X	1141	U
1	X	1143	A
1	X	1146	G
1	X	1148	G
1	X	1149	G
1	X	1152	C
1	X	1153	A
1	X	1154	A

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Mol	Chain	Res	Type
1	X	1156	U
1	X	1161	U
1	X	1165	G
1	X	1166	A
1	X	1180	A
1	X	1182	U
1	X	1183	C
1	X	1192	A
1	X	1207	G
1	X	1224	A
1	X	1226	A
1	X	1227	A
1	X	1234	C
1	X	1242	A
1	X	1249	G
1	X	1251	G
1	X	1266	G
1	X	1269	G
1	X	1275	A
1	X	1278	A
1	X	1282	A
1	X	1284	G
1	X	1285	A
1	X	1288	A
1	X	1289	A
1	X	1298	G
1	X	1302	C
1	X	1311	C
1	X	1313	U
1	X	1314	A
1	X	1315	A
1	X	1321	A
1	X	1325	U
1	X	1331	G
1	X	1334	A
1	X	1342	U
1	X	1351	G
1	X	1354	A
1	X	1359	G
1	X	1365	U
1	X	1370	U
1	X	1378	A

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Mol	Chain	Res	Type
1	X	1379	A
1	X	1381	G
1	X	1391	A
1	X	1392	U
1	X	1398	G
1	X	1401	G
1	X	1404	C
1	X	1408	A
1	X	1409	U
1	X	1412	C
1	X	1413	U
1	X	1428	G
1	X	1430	G
1	X	1432	G
1	X	1433	A
1	X	1434	U
1	X	1435	G
1	X	1440	G
1	X	1441	A
1	X	1442	C
1	X	1443	G
1	X	1460	G
1	X	1465	G
1	X	1467	U
1	X	1468	A
1	X	1469	U
1	X	1470	G
1	X	1474	A
1	X	1476	G
1	X	1482	U
1	X	1483	G
1	X	1490	U
1	X	1497	C
1	X	1498	G
1	X	1499	A
1	X	1500	U
1	X	1501	C
1	X	1505	U
1	X	1506	C
1	X	1509	A
1	X	1510	A
1	X	1513	U

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Mol	Chain	Res	Type
1	X	1519	G
1	X	1531	C
1	X	1545	G
1	X	1562	G
1	X	1571	G
1	X	1574	A
1	X	1575	C
1	X	1582	A
1	X	1585	A
1	X	1587	A
1	X	1593	C
1	X	1594	U
1	X	1601	U
1	X	1602	G
1	X	1603	A
1	X	1604	A
1	X	1610	A
1	X	1623	C
1	X	1624	A
1	X	1625	A
1	X	1626	A
1	X	1634	A
1	X	1636	G
1	X	1642	G
1	X	1647	U
1	X	1648	C
1	X	1650	A
1	X	1651	U
1	X	1657	A
1	X	1665	C
1	X	1668	G
1	X	1671	A
1	X	1673	C
1	X	1681	A
1	X	1688	U
1	X	1689	U
1	X	1691	G
1	X	1692	C
1	X	1693	A
1	X	1695	U
1	X	1698	C
1	X	1699	A

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Mol	Chain	Res	Type
1	X	1708	C
1	X	1710	U
1	X	1713	G
1	X	1714	A
1	X	1717	A
1	X	1718	A
1	X	1719	G
1	X	1747	G
1	X	1753	A
1	X	1754	G
1	X	1755	G
1	X	1760	G
1	X	1764	A
1	X	1766	U
1	X	1771	A
1	X	1773	C
1	X	1779	C
1	X	1788	C
1	X	1790	G
1	X	1791	C
1	X	1792	C
1	X	1793	A
1	X	1798	G
1	X	1799	A
1	X	1800	A
1	X	1801	C
1	X	1802	A
1	X	1807	A
1	X	1808	C
1	X	1811	A
1	X	1819	U
1	X	1821	A
1	X	1825	C
1	X	1826	U
1	X	1827	G
1	X	1830	C
1	X	1831	G
1	X	1839	A
1	X	1840	A
1	X	1850	G
1	X	1852	G
1	X	1855	G

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Mol	Chain	Res	Type
1	X	1867	A
1	X	1871	G
1	X	1872	A
1	X	1883	A
1	X	1886	G
1	X	1889	G
1	X	1891	C
1	X	1909	U
1	X	1910	A
1	X	1911	A
1	X	1912	G
1	X	1913	G
1	X	1920	A
1	X	1921	A
1	X	1922	U
1	X	1928	G
1	X	1938	U
1	X	1939	U
1	X	1943	A
1	X	1946	U
1	X	1947	G
1	X	1949	A
1	X	1950	C
1	X	1953	A
1	X	1954	A
1	X	1955	G
1	X	1958	G
1	X	1959	U
1	X	1965	U
1	X	1975	G
1	X	1977	C
1	X	1980	A
1	X	2006	G
1	X	2011	U
1	X	2014	A
1	X	2015	G
1	X	2019	C
1	X	2026	C
1	X	2033	C
1	X	2035	G
1	X	2038	C
1	X	2039	G

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Mol	Chain	Res	Type
1	X	2043	A
1	X	2044	G
1	X	2045	A
1	X	2046	C
1	X	2052	G
1	X	2063	A
1	X	2066	G
1	X	2075	U
1	X	2076	G
1	X	2077	G
1	X	2079	A
1	X	2082	C
1	X	2084	G
1	X	2085	G
1	X	2086	U
1	X	2088	U
1	X	2089	C
1	X	2090	U
1	X	2167	A
1	X	2168	A
1	X	2170	C
1	X	2171	U
1	X	2172	U
1	X	2176	U
1	X	2181	A
1	X	2188	A
1	X	2189	A
1	X	2190	A
1	X	2191	A
1	X	2192	U
1	X	2196	U
1	X	2197	U
1	X	2198	U
1	X	2199	C
1	X	2200	G
1	X	2204	A
1	X	2205	C
1	X	2217	G
1	X	2222	U
1	X	2246	A
1	X	2247	A
1	X	2262	C

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Mol	Chain	Res	Type
1	X	2264	C
1	X	2265	A
1	X	2266	A
1	X	2268	G
1	X	2274	C
1	X	2275	U
1	X	2277	A
1	X	2284	U
1	X	2285	U
1	X	2286	G
1	X	2287	G
1	X	2290	A
1	X	2291	U
1	X	2298	U
1	X	2299	A
1	X	2301	A
1	X	2304	G
1	X	2306	A
1	X	2307	A
1	X	2313	G
1	X	2315	A
1	X	2322	U
1	X	2323	U
1	X	2324	G
1	X	2326	C
1	X	2329	C
1	X	2331	A
1	X	2333	A
1	X	2339	A
1	X	2351	G
1	X	2355	A
1	X	2358	C
1	X	2361	G
1	X	2362	G
1	X	2363	G
1	X	2364	C
1	X	2367	A
1	X	2368	G
1	X	2369	U
1	X	2370	G
1	X	2375	G
1	X	2382	C

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Mol	Chain	Res	Type
1	X	2385	U
1	X	2386	G
1	X	2389	G
1	X	2398	U
1	X	2402	U
1	X	2403	C
1	X	2404	A
1	X	2408	G
1	X	2409	A
1	X	2410	U
1	X	2415	G
1	X	2419	C
1	X	2420	C
1	X	2426	G
1	X	2427	A
1	X	2429	A
1	X	2436	U
1	X	2437	G
1	X	2438	A
1	X	2452	U
1	X	2453	C
1	X	2455	A
1	X	2457	A
1	X	2458	U
1	X	2459	C
1	X	2460	G
1	X	2461	G
1	X	2468	G
1	X	2469	G
1	X	2470	U
1	X	2471	U
1	X	2477	C
1	X	2480	C
1	X	2481	G
1	X	2484	G
1	X	2485	U
1	X	2491	C
1	X	2492	G
1	X	2497	A
1	X	2508	G
1	X	2509	A
1	X	2521	A

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Mol	Chain	Res	Type
1	X	2529	G
1	X	2538	C
1	X	2542	U
1	X	2543	A
1	X	2545	A
1	X	2546	G
1	X	2548	G
1	X	2551	A
1	X	2553	G
1	X	2556	A
1	X	2560	G
1	X	2561	G
1	X	2562	G
1	X	2563	U
1	X	2564	U
1	X	2565	C
1	X	2578	G
1	X	2588	U
1	X	2591	C
1	X	2594	U
1	X	2613	A
1	X	2621	G
1	X	2633	A
1	X	2664	G
1	X	2668	U
1	X	2679	G
1	X	2684	A
1	X	2692	A
1	X	2693	U
1	X	2699	G
1	X	2706	U
1	X	2707	G
1	X	2713	A
1	X	2724	G
1	X	2728	A
1	X	2731	G
1	X	2732	C
1	X	2736	U
1	X	2737	A
1	X	2738	A
1	X	2744	A
1	X	2745	A

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Mol	Chain	Res	Type
1	X	2757	G
1	X	2758	A
1	X	2759	U
1	X	2769	C
1	X	2771	C
1	X	2772	U
1	X	2773	G
1	X	2781	G
1	X	2783	U
1	X	2787	A
1	X	2792	C
1	X	2793	G
1	X	2795	A
1	X	2796	A
1	X	2798	A
1	X	2807	U
1	X	2808	U
1	X	2809	A
1	X	2810	A
1	X	2815	C
1	X	2842	C
1	X	2843	A
1	X	2847	G
1	X	2848	A
1	X	2849	C
1	X	2850	U
1	X	2851	G
1	X	2854	G
1	X	2858	A
1	X	2861	A
1	X	2864	C
1	X	2867	G
1	X	2868	G
1	X	2869	U
1	X	2877	A
2	Y	3	A
2	Y	6	C
2	Y	14	C
2	Y	15	A
2	Y	16	U
2	Y	17	A
2	Y	18	G

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Mol	Chain	Res	Type
2	Y	26	G
2	Y	27	A
2	Y	28	A
2	Y	29	C
2	Y	30	C
2	Y	37	C
2	Y	40	C
2	Y	42	U
2	Y	43	G
2	Y	44	C
2	Y	49	C
2	Y	52	G
2	Y	54	U
2	Y	58	G
2	Y	59	A
2	Y	69	G
2	Y	84	G
2	Y	95	U
2	Y	99	G
2	Y	102	A
2	Y	108	G
2	Y	112	A
2	Y	115	G
2	Y	121	G
2	Y	122	U
2	Y	123	U

All (80) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	X	38	G
1	X	48	A
1	X	50	G
1	X	70	A
1	X	100	G
1	X	219	G
1	X	259	U
1	X	265	U
1	X	341	A
1	X	383	G
1	X	400	U
1	X	483	A

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Mol	Chain	Res	Type
1	X	490	A
1	X	518	A
1	X	537	C
1	X	540	G
1	X	559	C
1	X	600	G
1	X	751	G
1	X	759	C
1	X	788	G
1	X	789	G
1	X	797	A
1	X	806	A
1	X	843	G
1	X	859	U
1	X	872	G
1	X	969	U
1	X	972	C
1	X	994	A
1	X	1023	U
1	X	1053	G
1	X	1074	G
1	X	1086	C
1	X	1096	A
1	X	1122	A
1	X	1145	C
1	X	1153	A
1	X	1225	G
1	X	1288	A
1	X	1391	A
1	X	1403	U
1	X	1408	A
1	X	1412	C
1	X	1433	A
1	X	1439	G
1	X	1473	U
1	X	1475	U
1	X	1602	G
1	X	1625	A
1	X	1712	G
1	X	1753	A
1	X	1790	G
1	X	1800	A

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Mol	Chain	Res	Type
1	X	1810	U
1	X	1909	U
1	X	1910	A
1	X	1920	A
1	X	2043	A
1	X	2180	U
1	X	2190	A
1	X	2237	C
1	X	2312	A
1	X	2322	U
1	X	2323	U
1	X	2325	A
1	X	2330	G
1	X	2402	U
1	X	2437	G
1	X	2460	G
1	X	2485	U
1	X	2705	A
1	X	2782	G
1	X	2807	U
1	X	2846	G
1	X	2848	A
2	Y	14	C
2	Y	36	A
2	Y	58	G
2	Y	68	A

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 388 ligands modelled in this entry, 374 are monoatomic - leaving 14 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	$\#\|Z\| > 2$
31	SPD	X	3243	1	9,9,9	0.63	0	8,8,8	1.12	0
31	SPD	X	3242	1	9,9,9	0.60	0	8,8,8	0.93	0
32	MPD	X	3245	-	7,7,7	0.57	0	9,10,10	0.40	0
29	QU2	X	2901	-	53,53,53	1.00	4 (7%)	66,76,76	1.65	11 (16%)
34	EOH	X	3250	-	2,2,2	0.50	0	1,1,1	0.11	0
31	SPD	X	3238	1	9,9,9	0.85	0	8,8,8	2.07	3 (37%)
32	MPD	X	3248	-	7,7,7	0.62	0	9,10,10	0.40	0
31	SPD	X	3240	1	9,9,9	0.67	0	8,8,8	1.36	1 (12%)
31	SPD	X	3241	1	9,9,9	0.31	0	8,8,8	0.79	0
32	MPD	X	3246	-	7,7,7	0.55	0	9,10,10	1.14	0
32	MPD	X	3247	-	7,7,7	0.39	0	9,10,10	0.73	0
31	SPD	X	3244	1	9,9,9	0.27	0	8,8,8	0.82	0
31	SPD	X	3239	1	9,9,9	0.67	0	8,8,8	1.86	2 (25%)
31	SPD	X	3237	1	9,9,9	0.68	0	8,8,8	1.18	1 (12%)

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
31	SPD	X	3243	1	-	3/7/7/7	-
31	SPD	X	3242	1	-	1/7/7/7	-
32	MPD	X	3245	-	-	1/5/5/5	-
29	QU2	X	2901	-	-	21/57/98/98	0/3/4/4
31	SPD	X	3238	1	-	2/7/7/7	-
32	MPD	X	3248	-	-	3/5/5/5	-
31	SPD	X	3240	1	-	1/7/7/7	-
31	SPD	X	3241	1	-	2/7/7/7	-
32	MPD	X	3246	-	-	2/5/5/5	-
32	MPD	X	3247	-	-	3/5/5/5	-
31	SPD	X	3244	1	-	2/7/7/7	-
31	SPD	X	3239	1	-	2/7/7/7	-
31	SPD	X	3237	1	-	4/7/7/7	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	2901	QU2	C32-C31	3.95	1.60	1.52
29	X	2901	QU2	C7-C8	3.04	1.62	1.54
29	X	2901	QU2	C7-C6	2.27	1.57	1.54
29	X	2901	QU2	O6-C32	2.05	1.47	1.42

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	X	2901	QU2	C5-C4-C3	5.21	126.35	109.52
31	X	3238	SPD	C7-N6-C5	4.51	134.73	113.45
29	X	2901	QU2	O8-C22-C23	4.08	118.67	108.10
29	X	2901	QU2	C36-O6-C32	3.98	124.97	114.52
29	X	2901	QU2	O5-C31-C30	-3.87	99.93	111.04
31	X	3239	SPD	C4-C5-N6	3.83	122.48	112.14
29	X	2901	QU2	O3-C21-C14	3.45	118.83	110.04
29	X	2901	QU2	O12-C12-C11	3.40	123.79	115.37
31	X	3240	SPD	C7-N6-C5	3.01	127.67	113.45
29	X	2901	QU2	C19-C6-C7	-2.99	106.20	110.69
31	X	3237	SPD	C7-C8-C9	-2.75	104.21	114.28
29	X	2901	QU2	C37-O5-C31	2.58	121.31	114.52
31	X	3239	SPD	C7-N6-C5	2.54	125.44	113.45
29	X	2901	QU2	O4-C30-C31	2.31	114.09	109.51
29	X	2901	QU2	C22-C23-C24	2.26	112.89	109.19
29	X	2901	QU2	C23-C24-N1	2.17	117.12	110.83
31	X	3238	SPD	C3-C4-C5	2.04	123.22	113.56
31	X	3238	SPD	C7-C8-C9	2.03	121.72	114.28

There are no chirality outliers.

All (47) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
29	X	2901	QU2	C10-C11-C12-C13
29	X	2901	QU2	C10-C11-C12-O12
29	X	2901	QU2	C12-C13-C14-C15
29	X	2901	QU2	O12-C13-C14-C15
29	X	2901	QU2	O12-C13-C14-C21
29	X	2901	QU2	C13-C14-C21-O3
29	X	2901	QU2	C15-C14-C21-O3
29	X	2901	QU2	C23-C24-N1-C29
29	X	2901	QU2	C25-C24-N1-C28
29	X	2901	QU2	C25-C24-N1-C29

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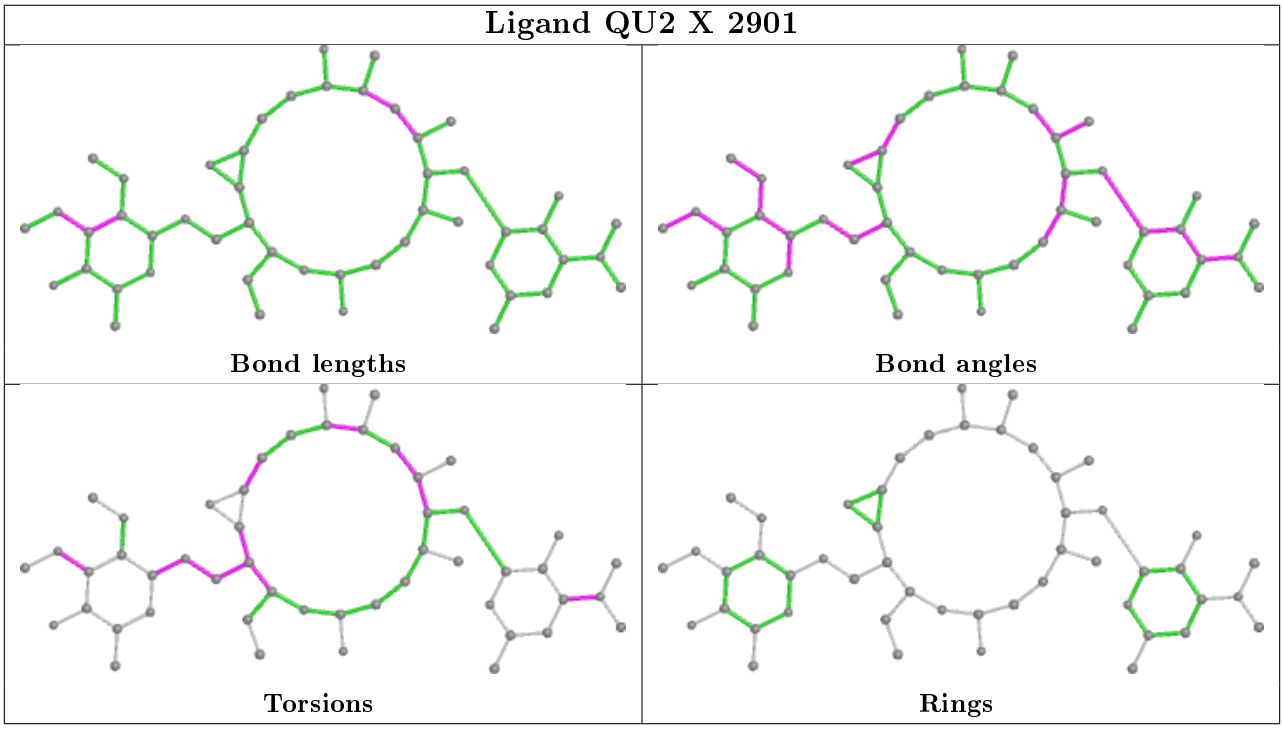
Mol	Chain	Res	Type	Atoms
29	X	2901	QU2	O4-C30-O3-C21
29	X	2901	QU2	C20-C8-C9-C10
29	X	2901	QU2	C20-C8-C9-O11
31	X	3239	SPD	C8-C7-N6-C5
31	X	3237	SPD	N6-C7-C8-C9
29	X	2901	QU2	C33-C32-O6-C36
31	X	3237	SPD	C8-C7-N6-C5
31	X	3240	SPD	C2-C3-C4-C5
31	X	3238	SPD	C4-C5-N6-C7
31	X	3243	SPD	C4-C5-N6-C7
31	X	3239	SPD	C2-C3-C4-C5
29	X	2901	QU2	C31-C30-O3-C21
29	X	2901	QU2	C13-C14-C15-O2
32	X	3248	MPD	O2-C2-C3-C4
29	X	2901	QU2	C19-C6-C7-C8
32	X	3245	MPD	C2-C3-C4-C5
32	X	3248	MPD	C2-C3-C4-C5
32	X	3247	MPD	CM-C2-C3-C4
31	X	3244	SPD	N6-C7-C8-C9
31	X	3243	SPD	C2-C3-C4-C5
29	X	2901	QU2	C5-C6-C7-C8
31	X	3241	SPD	C2-C3-C4-C5
31	X	3237	SPD	C7-C8-C9-N10
32	X	3246	MPD	O2-C2-C3-C4
32	X	3247	MPD	O2-C2-C3-C4
31	X	3243	SPD	N1-C2-C3-C4
31	X	3237	SPD	C3-C4-C5-N6
31	X	3242	SPD	C4-C5-N6-C7
31	X	3244	SPD	C8-C7-N6-C5
29	X	2901	QU2	O8-C5-C6-C7
32	X	3246	MPD	C2-C3-C4-C5
32	X	3247	MPD	C2-C3-C4-C5
31	X	3241	SPD	C4-C5-N6-C7
29	X	2901	QU2	C14-C21-O3-C30
32	X	3248	MPD	C2-C3-C4-O4
29	X	2901	QU2	C31-C32-O6-C36
31	X	3238	SPD	C2-C3-C4-C5

There are no ring outliers.

8 monomers are involved in 20 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	X	3243	SPD	5	0
31	X	3242	SPD	1	0
31	X	3238	SPD	5	0
32	X	3248	MPD	1	0
31	X	3240	SPD	3	0
32	X	3246	MPD	1	0
31	X	3244	SPD	1	0
31	X	3239	SPD	3	0

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



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	X	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	X	724:C	O3'	725:C	P	4.40

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	X	2699/2880 (93%)	-0.55	38 (1%) 75 64	74, 122, 216, 317	2 (0%)
2	Y	122/123 (99%)	-0.44	3 (2%) 57 44	131, 174, 197, 204	0
3	A	272/274 (99%)	0.37	19 (6%) 16 10	102, 146, 172, 180	0
4	B	206/206 (100%)	0.07	9 (4%) 34 22	83, 99, 121, 130	0
5	C	196/205 (95%)	0.22	13 (6%) 18 11	94, 144, 175, 183	0
6	D	177/177 (100%)	1.12	50 (28%) 0 0	197, 222, 244, 253	0
7	E	171/171 (100%)	0.16	12 (7%) 16 10	130, 176, 217, 223	0
8	G	142/143 (99%)	0.19	9 (6%) 20 11	92, 121, 139, 144	0
9	H	134/134 (100%)	-0.46	1 (0%) 87 82	86, 93, 104, 108	0
10	I	137/137 (100%)	0.73	25 (18%) 1 1	112, 159, 177, 179	0
11	J	135/136 (99%)	0.75	22 (16%) 1 1	133, 156, 174, 182	0
12	K	115/116 (99%)	-0.27	1 (0%) 84 76	76, 81, 91, 93	0
13	L	104/104 (100%)	0.94	20 (19%) 1 0	158, 170, 176, 179	0
14	M	118/166 (71%)	-0.25	1 (0%) 86 79	90, 98, 118, 124	0
15	N	117/117 (100%)	-0.17	1 (0%) 84 76	87, 118, 147, 154	0
16	O	98/98 (100%)	-0.13	1 (1%) 82 73	105, 139, 163, 169	0
17	P	129/134 (96%)	0.09	4 (3%) 49 34	83, 92, 118, 135	0
18	Q	92/93 (98%)	0.44	12 (13%) 3 2	114, 137, 155, 161	0
19	R	110/110 (100%)	0.52	10 (9%) 9 5	128, 135, 177, 198	0
20	S	175/175 (100%)	0.83	32 (18%) 1 0	161, 189, 202, 208	0
21	T	74/91 (81%)	0.99	14 (18%) 1 0	129, 139, 146, 151	0
22	U	74/74 (100%)	0.75	10 (13%) 3 2	129, 164, 191, 198	0
23	V	54/61 (88%)	0.23	6 (11%) 5 3	149, 159, 187, 199	0
24	W	55/55 (100%)	1.56	22 (40%) 0 0	130, 137, 144, 146	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	Z	57/58 (98%)	-0.32	1 (1%) 68 56	76, 91, 115, 122	0
26	1	49/49 (100%)	1.26	11 (22%) 0 0	158, 163, 167, 170	0
27	2	46/47 (97%)	0.38	2 (4%) 35 23	94, 110, 119, 123	0
28	3	63/63 (100%)	1.47	21 (33%) 0 0	136, 142, 153, 154	0
All	All	5921/6197 (95%)	-0.06	370 (6%) 20 12	74, 133, 212, 317	2 (0%)

All (370) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
10	I	67	ASN	9.5
1	X	774	A	8.9
28	3	63	PRO	8.2
10	I	68	VAL	7.3
6	D	162	THR	6.8
26	1	24	THR	6.4
22	U	8	THR	6.3
23	V	66	GLN	6.1
1	X	1086	C	6.1
21	T	71	ASN	6.1
6	D	108	LEU	6.0
13	L	52	ALA	5.9
1	X	2198	U	5.9
6	D	141	ILE	5.9
20	S	68	ALA	5.8
13	L	40	ALA	5.6
28	3	22	VAL	5.6
10	I	72	TYR	5.5
13	L	63	ASN	5.5
20	S	81	VAL	5.5
24	W	6	VAL	5.5
6	D	73	SER	5.4
6	D	120	ASN	5.4
11	J	37	ALA	5.3
6	D	107	GLY	5.3
6	D	139	PRO	5.2
11	J	21	ASP	5.1
20	S	22	VAL	5.1
5	C	189	ASP	5.1
5	C	193	LEU	5.0
28	3	14	ILE	5.0
8	G	97	ASP	5.0

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Mol	Chain	Res	Type	RSRZ
20	S	69	VAL	5.0
21	T	20	TYR	5.0
28	3	64	ARG	5.0
4	B	206	ALA	4.9
13	L	53	ALA	4.8
20	S	23	ALA	4.8
13	L	62	GLY	4.8
26	1	35	LEU	4.6
1	X	282	A	4.6
22	U	7	LEU	4.6
5	C	180	ILE	4.6
19	R	84	VAL	4.6
28	3	62	LEU	4.6
6	D	156	ILE	4.5
20	S	80	HIS	4.5
10	I	65	PHE	4.5
6	D	165	GLU	4.4
23	V	36	GLN	4.4
23	V	65	GLU	4.4
1	X	362	C	4.3
10	I	88	PHE	4.3
5	C	16	GLU	4.3
13	L	54	ALA	4.3
28	3	48	PHE	4.3
11	J	140	GLU	4.3
24	W	50	LEU	4.3
22	U	6	TYR	4.2
6	D	103	LEU	4.2
6	D	176	PRO	4.2
10	I	66	ASN	4.2
13	L	61	SER	4.2
3	A	249	PRO	4.2
8	G	96	ASP	4.1
7	E	156	ALA	4.1
1	X	1191	G	4.1
6	D	142	THR	4.1
26	1	25	THR	4.1
28	3	20	GLY	4.1
10	I	92	THR	4.1
1	X	1111	C	4.1
24	W	33	GLU	4.0
11	J	104	MET	4.0

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Mol	Chain	Res	Type	RSRZ
24	W	4	LYS	4.0
10	I	87	THR	4.0
2	Y	2	C	4.0
10	I	15	ASP	4.0
26	1	54	LYS	4.0
13	L	30	SER	4.0
6	D	175	LEU	3.9
13	L	33	ARG	3.9
20	S	83	PHE	3.9
6	D	136	LEU	3.8
1	X	1095	A	3.8
13	L	39	TYR	3.7
11	J	101	GLY	3.7
22	U	62	LEU	3.7
21	T	45	PHE	3.7
18	Q	66	GLY	3.7
3	A	251	GLY	3.7
28	3	61	MET	3.7
20	S	21	ALA	3.7
22	U	26	ALA	3.6
28	3	60	LEU	3.6
13	L	55	SER	3.6
21	T	52	GLY	3.6
6	D	109	PRO	3.6
11	J	119	PHE	3.6
24	W	7	ARG	3.6
6	D	31	ILE	3.6
11	J	105	PHE	3.6
6	D	138	PHE	3.5
3	A	35	GLU	3.5
1	X	1104	G	3.5
21	T	42	GLY	3.5
6	D	94	GLU	3.5
3	A	254	THR	3.5
13	L	12	ARG	3.5
20	S	74	ARG	3.5
1	X	2045	A	3.4
28	3	51	ALA	3.4
6	D	135	GLN	3.4
20	S	77	ALA	3.4
1	X	2581	A	3.4
6	D	157	VAL	3.4

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Mol	Chain	Res	Type	RSRZ
26	1	21	TYR	3.4
19	R	100	ASP	3.4
1	X	1057	A	3.3
24	W	26	ARG	3.3
6	D	36	VAL	3.3
1	X	2166	G	3.3
1	X	1087	C	3.3
20	S	70	GLN	3.3
24	W	1	MET	3.3
5	C	190	ALA	3.3
6	D	34	ILE	3.3
10	I	83	LEU	3.3
11	J	63	GLY	3.3
10	I	63	ARG	3.2
20	S	82	ASP	3.2
11	J	22	ALA	3.2
17	P	133	ASN	3.2
28	3	49	VAL	3.2
3	A	190	TYR	3.2
20	S	171	VAL	3.2
19	R	81	VAL	3.2
24	W	34	VAL	3.2
3	A	268	ARG	3.2
18	Q	64	ARG	3.2
4	B	135	HIS	3.1
7	E	57	ASP	3.1
11	J	100	PRO	3.1
2	Y	123	U	3.1
8	G	44	VAL	3.1
21	T	41	ARG	3.1
6	D	99	PHE	3.1
1	X	2089	C	3.1
8	G	166	LEU	3.1
1	X	2165	A	3.1
24	W	53	VAL	3.1
6	D	172	SER	3.0
24	W	10	ILE	3.0
10	I	16	ARG	3.0
28	3	9	MET	3.0
28	3	37	SER	3.0
1	X	1085	G	3.0
21	T	59	LEU	3.0

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Mol	Chain	Res	Type	RSRZ
18	Q	27	PHE	3.0
21	T	22	GLY	3.0
3	A	38	PRO	3.0
6	D	69	LYS	3.0
13	L	89	PHE	3.0
26	1	18	THR	3.0
13	L	42	ILE	2.9
6	D	163	ASP	2.9
6	D	112	ARG	2.9
1	X	2780	A	2.9
13	L	57	ALA	2.9
24	W	3	ILE	2.9
11	J	20	GLY	2.9
1	X	2090	U	2.9
18	Q	67	ARG	2.9
3	A	110	GLY	2.9
7	E	155	ASP	2.9
10	I	18	ARG	2.9
20	S	86	VAL	2.9
1	X	1753	A	2.9
3	A	2	ALA	2.8
20	S	15	ASP	2.8
3	A	8	PRO	2.8
24	W	17	VAL	2.8
19	R	82	ALA	2.8
20	S	20	ALA	2.8
11	J	98	VAL	2.8
19	R	55	THR	2.8
13	L	51	LEU	2.8
6	D	161	LYS	2.8
7	E	37	TYR	2.8
11	J	36	ILE	2.8
11	J	139	ASP	2.8
11	J	19	THR	2.8
28	3	23	MET	2.8
1	X	1602	G	2.7
7	E	62	ARG	2.7
13	L	34	SER	2.7
6	D	32	GLU	2.7
11	J	55	MET	2.7
3	A	231	HIS	2.7
5	C	45	THR	2.7

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Mol	Chain	Res	Type	RSRZ
7	E	153	LYS	2.7
5	C	172	VAL	2.7
24	W	20	VAL	2.7
28	3	52	LYS	2.7
6	D	173	MET	2.7
1	X	2083	G	2.7
3	A	111	LEU	2.7
21	T	21	LEU	2.7
21	T	15	ASP	2.7
6	D	72	LYS	2.7
10	I	31	GLY	2.7
2	Y	14	C	2.7
4	B	1	MET	2.7
28	3	21	LYS	2.6
13	L	29	LEU	2.6
4	B	3	GLY	2.6
6	D	74	ILE	2.6
10	I	41	SER	2.6
1	X	1110	G	2.6
6	D	113	ASP	2.6
6	D	164	GLU	2.6
20	S	160	LEU	2.6
18	Q	71	GLN	2.6
20	S	92	VAL	2.6
1	X	1090	C	2.6
18	Q	9	ALA	2.6
4	B	169	ASN	2.6
3	A	69	ARG	2.6
20	S	155	PRO	2.6
6	D	137	ILE	2.6
10	I	115	SER	2.6
28	3	16	ILE	2.5
6	D	81	GLN	2.5
23	V	62	ARG	2.5
8	G	148	LEU	2.5
27	2	22	MET	2.5
22	U	14	VAL	2.5
10	I	105	PRO	2.5
17	P	118	LYS	2.5
20	S	122	ILE	2.5
6	D	169	LEU	2.5
18	Q	93	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
10	I	48	PHE	2.5
8	G	99	VAL	2.4
8	G	58	ILE	2.4
18	Q	56	MET	2.4
4	B	84	PHE	2.4
6	D	121	ALA	2.4
11	J	108	ALA	2.4
8	G	114	THR	2.4
1	X	1077	U	2.4
6	D	65	PRO	2.4
19	R	83	LEU	2.4
3	A	184	ARG	2.4
21	T	47	ALA	2.4
19	R	62	MET	2.4
10	I	61	PRO	2.4
11	J	38	MET	2.4
22	U	61	TRP	2.4
1	X	1037	U	2.4
21	T	53	MET	2.4
23	V	64	GLY	2.4
11	J	117	GLU	2.4
1	X	281	C	2.4
26	1	52	GLU	2.3
28	3	24	ALA	2.3
20	S	4	THR	2.3
26	1	50	PHE	2.3
12	K	69	ASP	2.3
10	I	60	LEU	2.3
4	B	12	THR	2.3
6	D	83	MET	2.3
20	S	72	ASP	2.3
17	P	103	LEU	2.3
20	S	162	ALA	2.3
1	X	1072	U	2.3
1	X	2169	A	2.3
27	2	40	HIS	2.3
24	W	51	LEU	2.3
24	W	25	LEU	2.3
4	B	34	VAL	2.3
10	I	30	ALA	2.3
7	E	168	GLN	2.3
20	S	134	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
18	Q	77	LYS	2.3
24	W	49	HIS	2.3
19	R	12	ASP	2.3
4	B	205	SER	2.3
24	W	32	ARG	2.3
11	J	42	TRP	2.3
20	S	73	LYS	2.3
25	Z	26	THR	2.3
5	C	17	LEU	2.3
11	J	118	ALA	2.3
26	1	14	SER	2.3
22	U	16	ASN	2.2
19	R	44	GLN	2.2
22	U	60	VAL	2.2
6	D	140	GLU	2.2
7	E	61	HIS	2.2
10	I	69	GLY	2.2
6	D	88	LYS	2.2
26	1	53	LYS	2.2
11	J	109	GLY	2.2
20	S	66	VAL	2.2
14	M	115	ALA	2.2
5	C	10	ASN	2.2
1	X	2088	U	2.2
1	X	1091	C	2.2
20	S	154	LEU	2.2
10	I	99	VAL	2.2
1	X	2779	A	2.2
7	E	173	ALA	2.2
1	X	1094	C	2.2
9	H	19	ILE	2.2
3	A	72	LYS	2.2
28	3	39	ASP	2.2
1	X	1056	U	2.2
5	C	21	GLU	2.2
18	Q	74	ASP	2.2
10	I	33	GLY	2.2
28	3	50	LEU	2.1
5	C	121	ASP	2.1
13	L	41	GLN	2.1
24	W	5	LEU	2.1
13	L	109	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	X	1093	U	2.1
3	A	104	TYR	2.1
6	D	145	MET	2.1
23	V	35	GLY	2.1
21	T	10	SER	2.1
28	3	15	LYS	2.1
7	E	123	PHE	2.1
1	X	2170	C	2.1
19	R	73	GLU	2.1
3	A	26	LYS	2.1
21	T	72	LYS	2.1
1	X	2087	U	2.1
6	D	87	ILE	2.1
20	S	94	VAL	2.1
17	P	105	ARG	2.1
3	A	103	ARG	2.1
18	Q	70	GLY	2.1
20	S	120	LEU	2.1
24	W	2	LYS	2.1
26	1	10	VAL	2.1
6	D	82	GLY	2.1
7	E	41	LEU	2.1
6	D	20	PHE	2.1
16	O	45	THR	2.1
5	C	188	ILE	2.1
7	E	114	ILE	2.1
6	D	152	MET	2.1
22	U	11	LYS	2.1
20	S	173	PRO	2.1
3	A	246	PRO	2.0
6	D	154	ILE	2.0
6	D	144	ASP	2.0
10	I	54	SER	2.0
24	W	55	GLU	2.0
8	G	80	VAL	2.0
5	C	119	ALA	2.0
20	S	123	VAL	2.0
24	W	9	VAL	2.0
20	S	148	THR	2.0
18	Q	72	ARG	2.0
1	X	408	U	2.0
15	N	91	ASN	2.0

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Mol	Chain	Res	Type	RSRZ
24	W	54	GLN	2.0
6	D	62	LEU	2.0

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

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

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
30	MG	X	3190	1/1	0.37	0.91	183,183,183,183	0
30	MG	X	3130	1/1	0.41	0.73	143,143,143,143	0
30	MG	X	3211	1/1	0.52	0.56	111,111,111,111	0
30	MG	Y	210	1/1	0.54	0.58	149,149,149,149	0
30	MG	X	3143	1/1	0.58	0.53	95,95,95,95	0
30	MG	X	3155	1/1	0.59	0.48	99,99,99,99	0
30	MG	X	3057	1/1	0.60	0.85	131,131,131,131	0
30	MG	X	3087	1/1	0.65	0.65	82,82,82,82	0
30	MG	X	2983	1/1	0.66	1.13	121,121,121,121	0
30	MG	Y	213	1/1	0.66	0.96	131,131,131,131	0
30	MG	X	3107	1/1	0.68	0.91	122,122,122,122	0
30	MG	X	3117	1/1	0.68	0.77	130,130,130,130	0
30	MG	X	3210	1/1	0.68	0.74	99,99,99,99	0
30	MG	X	3227	1/1	0.69	0.44	98,98,98,98	0
30	MG	X	3086	1/1	0.69	0.62	112,112,112,112	0
30	MG	X	3002	1/1	0.69	0.58	107,107,107,107	0
30	MG	X	3224	1/1	0.70	2.02	133,133,133,133	0
30	MG	X	3083	1/1	0.70	0.53	104,104,104,104	0
30	MG	X	3110	1/1	0.70	0.53	127,127,127,127	0
30	MG	X	3176	1/1	0.70	0.45	106,106,106,106	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3120	1/1	0.71	0.58	110,110,110,110	0
30	MG	X	2924	1/1	0.72	0.95	78,78,78,78	0
30	MG	X	3231	1/1	0.72	0.16	99,99,99,99	0
30	MG	X	3196	1/1	0.73	0.90	86,86,86,86	0
30	MG	X	3207	1/1	0.73	0.44	102,102,102,102	0
30	MG	X	3050	1/1	0.73	0.31	91,91,91,91	0
30	MG	Y	214	1/1	0.73	1.13	122,122,122,122	0
30	MG	2	102	1/1	0.73	0.32	116,116,116,116	0
30	MG	Y	205	1/1	0.74	1.25	123,123,123,123	0
30	MG	X	3191	1/1	0.74	0.33	146,146,146,146	0
30	MG	X	3023	1/1	0.74	1.01	91,91,91,91	0
30	MG	X	2985	1/1	0.74	0.61	101,101,101,101	0
30	MG	X	2975	1/1	0.74	1.03	79,79,79,79	0
30	MG	X	3232	1/1	0.75	0.78	87,87,87,87	0
30	MG	X	3051	1/1	0.75	0.54	79,79,79,79	0
30	MG	X	2953	1/1	0.75	1.05	125,125,125,125	0
30	MG	X	3156	1/1	0.76	0.30	121,121,121,121	0
30	MG	X	3115	1/1	0.76	0.72	108,108,108,108	0
30	MG	X	3214	1/1	0.76	0.83	94,94,94,94	0
30	MG	X	3041	1/1	0.76	0.33	88,88,88,88	0
30	MG	X	3139	1/1	0.77	0.37	99,99,99,99	0
30	MG	I	201	1/1	0.77	0.49	105,105,105,105	0
30	MG	X	3183	1/1	0.77	0.43	92,92,92,92	0
30	MG	X	3146	1/1	0.78	0.50	97,97,97,97	0
30	MG	K	201	1/1	0.78	0.41	89,89,89,89	0
30	MG	X	2978	1/1	0.78	0.93	95,95,95,95	0
30	MG	X	3065	1/1	0.79	0.81	102,102,102,102	0
30	MG	X	3134	1/1	0.79	0.52	82,82,82,82	0
30	MG	X	3072	1/1	0.79	0.90	123,123,123,123	0
30	MG	X	3141	1/1	0.79	0.29	87,87,87,87	0
32	MPD	X	3245	8/8	0.79	0.46	128,128,128,128	0
30	MG	X	3079	1/1	0.80	0.42	106,106,106,106	0
30	MG	X	3111	1/1	0.80	0.58	100,100,100,100	0
30	MG	X	3215	1/1	0.80	0.51	105,105,105,105	0
30	MG	X	3209	1/1	0.80	0.51	81,81,81,81	0
31	SPD	X	3243	10/10	0.80	0.39	96,96,96,96	0
31	SPD	X	3244	10/10	0.80	0.31	137,137,137,137	0
30	MG	X	3112	1/1	0.80	1.67	128,128,128,128	0
30	MG	N	203	1/1	0.81	0.59	98,98,98,98	0
30	MG	X	3043	1/1	0.81	0.81	120,120,120,120	0
30	MG	X	2994	1/1	0.81	0.56	86,86,86,86	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	Y	207	1/1	0.81	0.93	131,131,131,131	0
30	MG	X	2989	1/1	0.81	1.05	111,111,111,111	0
30	MG	X	3225	1/1	0.82	0.30	132,132,132,132	0
30	MG	Y	216	1/1	0.82	0.60	152,152,152,152	0
30	MG	X	3161	1/1	0.82	0.39	107,107,107,107	0
30	MG	X	2982	1/1	0.82	0.69	83,83,83,83	0
30	MG	X	3181	1/1	0.82	0.24	91,91,91,91	0
30	MG	X	3025	1/1	0.82	1.06	109,109,109,109	0
30	MG	X	2928	1/1	0.82	0.36	127,127,127,127	0
30	MG	X	2955	1/1	0.82	0.67	80,80,80,80	0
30	MG	X	3067	1/1	0.82	0.47	85,85,85,85	0
35	CA	X	3251	1/1	0.82	0.32	78,78,78,78	0
30	MG	X	3185	1/1	0.83	0.40	92,92,92,92	0
30	MG	X	3189	1/1	0.83	0.64	153,153,153,153	0
30	MG	X	3152	1/1	0.83	0.46	88,88,88,88	0
30	MG	X	3160	1/1	0.83	0.53	108,108,108,108	0
30	MG	X	3019	1/1	0.83	0.88	82,82,82,82	0
30	MG	X	2954	1/1	0.84	0.30	115,115,115,115	0
30	MG	X	3182	1/1	0.84	0.32	87,87,87,87	0
30	MG	X	3223	1/1	0.84	1.86	137,137,137,137	0
30	MG	X	3103	1/1	0.84	0.69	145,145,145,145	0
30	MG	X	3169	1/1	0.84	0.92	112,112,112,112	0
30	MG	X	3009	1/1	0.84	0.72	123,123,123,123	0
30	MG	X	3178	1/1	0.84	0.26	95,95,95,95	0
30	MG	A	302	1/1	0.84	1.29	104,104,104,104	0
30	MG	X	2950	1/1	0.85	0.77	122,122,122,122	0
30	MG	X	3233	1/1	0.85	0.86	68,68,68,68	0
30	MG	Y	201	1/1	0.85	1.01	126,126,126,126	0
30	MG	X	3037	1/1	0.85	1.48	95,95,95,95	0
30	MG	X	2917	1/1	0.85	1.17	79,79,79,79	0
30	MG	X	3164	1/1	0.85	0.48	149,149,149,149	0
30	MG	X	2948	1/1	0.85	1.06	103,103,103,103	0
30	MG	X	3187	1/1	0.85	0.82	120,120,120,120	0
30	MG	X	3024	1/1	0.85	0.87	122,122,122,122	0
30	MG	X	3014	1/1	0.86	0.24	96,96,96,96	0
30	MG	X	3042	1/1	0.86	0.33	89,89,89,89	0
30	MG	X	3074	1/1	0.86	1.05	106,106,106,106	0
30	MG	X	2969	1/1	0.86	0.52	96,96,96,96	0
30	MG	X	2906	1/1	0.86	0.59	94,94,94,94	0
30	MG	X	2944	1/1	0.86	0.53	101,101,101,101	0
31	SPD	X	3242	10/10	0.86	0.32	95,95,95,95	0
30	MG	X	2946	1/1	0.86	0.54	75,75,75,75	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3059	1/1	0.86	0.40	149,149,149,149	0
30	MG	X	2913	1/1	0.86	0.58	85,85,85,85	0
30	MG	X	3140	1/1	0.86	0.36	98,98,98,98	0
30	MG	X	2965	1/1	0.87	0.72	99,99,99,99	0
30	MG	X	3118	1/1	0.87	0.72	98,98,98,98	0
30	MG	A	303	1/1	0.87	0.51	113,113,113,113	0
30	MG	X	3005	1/1	0.87	0.52	120,120,120,120	0
30	MG	X	3124	1/1	0.87	0.27	95,95,95,95	0
30	MG	X	3104	1/1	0.87	0.53	97,97,97,97	0
30	MG	X	3036	1/1	0.87	0.34	89,89,89,89	0
30	MG	X	3179	1/1	0.87	0.46	75,75,75,75	0
30	MG	Y	208	1/1	0.87	0.49	180,180,180,180	0
30	MG	X	3116	1/1	0.87	0.56	115,115,115,115	0
30	MG	X	3204	1/1	0.87	0.41	161,161,161,161	0
30	MG	X	3226	1/1	0.87	0.58	79,79,79,79	0
30	MG	X	3168	1/1	0.88	0.37	135,135,135,135	0
30	MG	X	3206	1/1	0.88	0.21	102,102,102,102	0
30	MG	X	2996	1/1	0.88	0.59	71,71,71,71	0
30	MG	2	101	1/1	0.88	0.59	103,103,103,103	0
30	MG	X	3208	1/1	0.88	0.79	104,104,104,104	0
30	MG	X	2992	1/1	0.88	0.29	91,91,91,91	0
30	MG	X	3068	1/1	0.88	0.36	83,83,83,83	0
30	MG	X	3017	1/1	0.88	0.58	93,93,93,93	0
30	MG	X	3101	1/1	0.88	0.76	128,128,128,128	0
34	EOH	X	3250	3/3	0.88	0.42	88,88,88,88	0
30	MG	X	2968	1/1	0.88	0.48	114,114,114,114	0
29	QU2	X	2901	50/50	0.89	0.37	80,80,80,80	0
30	MG	X	2941	1/1	0.89	0.47	81,81,81,81	0
30	MG	X	3216	1/1	0.89	0.18	135,135,135,135	0
30	MG	X	3217	1/1	0.89	1.01	83,83,83,83	0
30	MG	X	3012	1/1	0.89	1.23	101,101,101,101	0
30	MG	X	3094	1/1	0.89	0.40	84,84,84,84	0
30	MG	X	2925	1/1	0.89	0.53	99,99,99,99	0
30	MG	X	3048	1/1	0.89	0.55	112,112,112,112	0
30	MG	X	3166	1/1	0.89	0.77	139,139,139,139	0
30	MG	X	3029	1/1	0.89	0.22	87,87,87,87	0
30	MG	X	2991	1/1	0.89	0.55	90,90,90,90	0
30	MG	X	3078	1/1	0.89	0.96	86,86,86,86	0
30	MG	X	3236	1/1	0.89	0.53	88,88,88,88	0
30	MG	X	3055	1/1	0.89	0.79	111,111,111,111	0
30	MG	X	3142	1/1	0.89	0.18	94,94,94,94	0
30	MG	X	3080	1/1	0.89	0.22	98,98,98,98	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3081	1/1	0.89	0.33	123,123,123,123	0
30	MG	X	2997	1/1	0.90	0.74	97,97,97,97	0
30	MG	X	2961	1/1	0.90	0.54	70,70,70,70	0
30	MG	X	3088	1/1	0.90	0.54	87,87,87,87	0
30	MG	X	3228	1/1	0.90	0.38	109,109,109,109	0
30	MG	X	2963	1/1	0.90	0.79	94,94,94,94	0
30	MG	X	3095	1/1	0.90	0.80	106,106,106,106	0
30	MG	X	3098	1/1	0.90	0.65	69,69,69,69	0
30	MG	X	2942	1/1	0.90	0.58	73,73,73,73	0
30	MG	X	3071	1/1	0.90	0.06	155,155,155,155	0
30	MG	Y	202	1/1	0.90	0.56	122,122,122,122	0
30	MG	Y	204	1/1	0.90	0.84	140,140,140,140	0
30	MG	X	3144	1/1	0.90	0.39	108,108,108,108	0
30	MG	Y	206	1/1	0.90	0.56	148,148,148,148	0
30	MG	X	3192	1/1	0.90	0.41	88,88,88,88	0
30	MG	X	3030	1/1	0.90	1.01	83,83,83,83	0
30	MG	X	3148	1/1	0.90	0.52	88,88,88,88	0
30	MG	X	3126	1/1	0.91	0.30	107,107,107,107	0
30	MG	X	3128	1/1	0.91	0.15	92,92,92,92	0
30	MG	X	2930	1/1	0.91	0.66	87,87,87,87	0
30	MG	Y	209	1/1	0.91	0.88	140,140,140,140	0
30	MG	X	2964	1/1	0.91	0.73	85,85,85,85	0
30	MG	X	3076	1/1	0.91	0.43	108,108,108,108	0
30	MG	X	3052	1/1	0.91	0.75	121,121,121,121	0
30	MG	X	3106	1/1	0.91	0.30	79,79,79,79	0
30	MG	X	3032	1/1	0.91	0.80	56,56,56,56	0
30	MG	X	3108	1/1	0.91	0.57	112,112,112,112	0
30	MG	X	2940	1/1	0.91	0.81	89,89,89,89	0
30	MG	X	3145	1/1	0.91	0.46	106,106,106,106	0
30	MG	X	2958	1/1	0.91	0.62	79,79,79,79	0
30	MG	X	3060	1/1	0.91	0.21	84,84,84,84	0
30	MG	X	3114	1/1	0.91	0.84	105,105,105,105	0
31	SPD	X	3240	10/10	0.91	0.26	75,75,75,75	0
30	MG	X	3064	1/1	0.91	0.54	82,82,82,82	0
30	MG	X	2998	1/1	0.91	0.56	84,84,84,84	0
30	MG	X	2959	1/1	0.91	0.89	79,79,79,79	0
30	MG	X	3090	1/1	0.91	0.34	78,78,78,78	0
30	MG	X	3004	1/1	0.91	0.85	105,105,105,105	0
30	MG	X	2921	1/1	0.91	0.30	97,97,97,97	0
35	CA	X	3253	1/1	0.91	0.38	72,72,72,72	0
30	MG	X	3180	1/1	0.92	0.34	76,76,76,76	0
30	MG	X	3003	1/1	0.92	0.37	82,82,82,82	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3077	1/1	0.92	0.58	118,118,118,118	0
30	MG	X	2915	1/1	0.92	0.46	83,83,83,83	0
30	MG	N	202	1/1	0.92	0.31	95,95,95,95	0
30	MG	X	3047	1/1	0.92	0.92	100,100,100,100	0
30	MG	X	3070	1/1	0.92	1.17	105,105,105,105	0
30	MG	X	3167	1/1	0.92	0.25	117,117,117,117	0
31	SPD	X	3237	10/10	0.92	0.30	82,82,82,82	0
30	MG	X	2920	1/1	0.92	0.77	67,67,67,67	0
30	MG	X	3082	1/1	0.92	0.18	110,110,110,110	0
30	MG	X	3172	1/1	0.92	0.61	98,98,98,98	0
30	MG	X	3195	1/1	0.92	0.55	91,91,91,91	0
30	MG	X	3174	1/1	0.92	0.82	115,115,115,115	0
32	MPD	X	3246	8/8	0.92	0.17	93,93,93,93	0
30	MG	X	3026	1/1	0.92	0.64	107,107,107,107	0
30	MG	X	3137	1/1	0.92	0.30	78,78,78,78	0
30	MG	X	2976	1/1	0.92	0.48	81,81,81,81	0
30	MG	X	3015	1/1	0.93	0.57	72,72,72,72	0
30	MG	X	2905	1/1	0.93	0.57	84,84,84,84	0
30	MG	X	2974	1/1	0.93	0.84	86,86,86,86	0
30	MG	X	3221	1/1	0.93	0.62	82,82,82,82	0
30	MG	X	3127	1/1	0.93	0.60	83,83,83,83	0
30	MG	X	3157	1/1	0.93	0.47	97,97,97,97	0
30	MG	X	3159	1/1	0.93	0.52	143,143,143,143	0
30	MG	I	202	1/1	0.93	0.42	143,143,143,143	0
30	MG	X	3085	1/1	0.93	0.39	127,127,127,127	0
30	MG	X	3058	1/1	0.93	0.36	156,156,156,156	0
30	MG	X	3109	1/1	0.93	1.03	77,77,77,77	0
30	MG	X	3073	1/1	0.93	0.78	137,137,137,137	0
30	MG	X	3046	1/1	0.93	0.24	94,94,94,94	0
30	MG	X	3202	1/1	0.93	0.53	156,156,156,156	0
31	SPD	X	3238	10/10	0.93	0.30	79,79,79,79	0
30	MG	X	3031	1/1	0.93	0.94	69,69,69,69	0
30	MG	X	3205	1/1	0.93	0.12	186,186,186,186	0
30	MG	X	3113	1/1	0.93	0.50	86,86,86,86	0
30	MG	X	3091	1/1	0.93	0.24	85,85,85,85	0
30	MG	X	3062	1/1	0.93	0.47	110,110,110,110	0
30	MG	X	2926	1/1	0.93	0.45	99,99,99,99	0
32	MPD	X	3248	8/8	0.93	0.31	94,94,94,94	0
30	MG	X	2904	1/1	0.93	0.63	62,62,62,62	0
30	MG	X	2995	1/1	0.93	0.39	76,76,76,76	0
30	MG	X	3147	1/1	0.93	0.14	93,93,93,93	0
30	MG	X	3044	1/1	0.94	0.63	82,82,82,82	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3045	1/1	0.94	0.25	124,124,124,124	0
30	MG	Y	211	1/1	0.94	0.33	173,173,173,173	0
30	MG	Y	212	1/1	0.94	0.62	186,186,186,186	0
30	MG	X	3089	1/1	0.94	0.59	89,89,89,89	0
30	MG	X	3133	1/1	0.94	0.78	70,70,70,70	0
30	MG	X	2910	1/1	0.94	0.68	70,70,70,70	0
30	MG	X	3135	1/1	0.94	0.07	90,90,90,90	0
30	MG	X	3219	1/1	0.94	0.44	103,103,103,103	0
30	MG	X	3186	1/1	0.94	0.52	105,105,105,105	0
30	MG	X	3136	1/1	0.94	0.54	77,77,77,77	0
30	MG	J	201	1/1	0.94	0.09	134,134,134,134	0
30	MG	X	3188	1/1	0.94	0.71	131,131,131,131	0
30	MG	X	2987	1/1	0.94	0.79	107,107,107,107	0
30	MG	X	2988	1/1	0.94	0.47	100,100,100,100	0
30	MG	X	3049	1/1	0.94	0.92	106,106,106,106	0
30	MG	X	3096	1/1	0.94	0.42	90,90,90,90	0
30	MG	3	101	1/1	0.94	0.78	103,103,103,103	0
30	MG	X	3229	1/1	0.94	0.17	112,112,112,112	0
30	MG	X	3038	1/1	0.94	0.35	80,80,80,80	0
31	SPD	X	3239	10/10	0.94	0.27	78,78,78,78	0
30	MG	X	3039	1/1	0.94	0.42	76,76,76,76	0
30	MG	X	3200	1/1	0.94	0.17	116,116,116,116	0
30	MG	X	3201	1/1	0.94	0.37	104,104,104,104	0
30	MG	X	3170	1/1	0.94	0.65	127,127,127,127	0
30	MG	X	3069	1/1	0.94	0.17	131,131,131,131	0
30	MG	X	3173	1/1	0.94	0.22	191,191,191,191	0
30	MG	X	3007	1/1	0.94	0.64	100,100,100,100	0
30	MG	X	2927	1/1	0.94	0.80	77,77,77,77	0
30	MG	X	3177	1/1	0.94	0.21	97,97,97,97	0
30	MG	X	3010	1/1	0.94	0.63	97,97,97,97	0
30	MG	X	2990	1/1	0.95	0.76	89,89,89,89	0
30	MG	X	2911	1/1	0.95	0.56	59,59,59,59	0
30	MG	B	301	1/1	0.95	0.18	72,72,72,72	0
30	MG	X	3006	1/1	0.95	0.16	108,108,108,108	0
30	MG	X	2977	1/1	0.95	0.67	82,82,82,82	0
30	MG	X	3230	1/1	0.95	0.52	119,119,119,119	0
30	MG	X	2993	1/1	0.95	0.33	95,95,95,95	0
30	MG	X	2956	1/1	0.95	0.34	107,107,107,107	0
30	MG	X	3011	1/1	0.95	0.53	87,87,87,87	0
30	MG	X	3234	1/1	0.95	0.42	75,75,75,75	0
30	MG	X	3034	1/1	0.95	0.35	99,99,99,99	0
30	MG	X	2951	1/1	0.95	0.92	115,115,115,115	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3054	1/1	0.95	0.76	93,93,93,93	0
30	MG	X	3123	1/1	0.95	0.18	104,104,104,104	0
30	MG	X	2919	1/1	0.95	1.04	89,89,89,89	0
30	MG	X	3056	1/1	0.95	0.79	149,149,149,149	0
30	MG	X	2960	1/1	0.95	0.71	74,74,74,74	0
30	MG	X	2970	1/1	0.95	0.68	88,88,88,88	0
30	MG	X	3129	1/1	0.95	0.66	76,76,76,76	0
30	MG	X	3018	1/1	0.95	0.12	89,89,89,89	0
30	MG	X	3131	1/1	0.95	0.36	83,83,83,83	0
32	MPD	X	3247	8/8	0.95	0.17	103,103,103,103	0
30	MG	X	3132	1/1	0.95	0.88	75,75,75,75	0
30	MG	X	2923	1/1	0.95	0.72	89,89,89,89	0
30	MG	X	3061	1/1	0.95	0.33	82,82,82,82	0
35	CA	X	3252	1/1	0.95	0.45	100,100,100,100	0
30	MG	X	2962	1/1	0.95	0.82	89,89,89,89	0
30	MG	X	3102	1/1	0.96	1.71	98,98,98,98	0
30	MG	Y	217	1/1	0.96	0.52	161,161,161,161	0
30	MG	X	2922	1/1	0.96	0.53	95,95,95,95	0
30	MG	X	2908	1/1	0.96	0.69	49,49,49,49	0
30	MG	X	2916	1/1	0.96	0.32	80,80,80,80	0
30	MG	X	2914	1/1	0.96	0.70	79,79,79,79	0
30	MG	X	2935	1/1	0.96	0.62	76,76,76,76	0
30	MG	X	2947	1/1	0.96	0.57	89,89,89,89	0
30	MG	X	3028	1/1	0.96	0.48	101,101,101,101	0
30	MG	X	3193	1/1	0.96	0.79	68,68,68,68	0
30	MG	X	3165	1/1	0.96	0.39	144,144,144,144	0
30	MG	X	2980	1/1	0.96	0.29	92,92,92,92	0
30	MG	X	3199	1/1	0.96	0.47	163,163,163,163	0
30	MG	X	2966	1/1	0.96	0.67	89,89,89,89	0
30	MG	X	2967	1/1	0.96	0.52	97,97,97,97	0
30	MG	X	3138	1/1	0.96	0.24	85,85,85,85	0
30	MG	X	3203	1/1	0.96	0.48	157,157,157,157	0
30	MG	X	2938	1/1	0.96	0.49	104,104,104,104	0
31	SPD	X	3241	10/10	0.96	0.27	160,160,160,160	0
30	MG	X	3013	1/1	0.96	0.49	74,74,74,74	0
30	MG	X	3092	1/1	0.96	0.41	91,91,91,91	0
30	MG	X	2949	1/1	0.96	0.21	91,91,91,91	0
30	MG	X	3000	1/1	0.96	0.68	98,98,98,98	0
30	MG	X	3016	1/1	0.96	0.39	116,116,116,116	0
30	MG	X	3122	1/1	0.96	0.32	97,97,97,97	0
30	MG	X	3001	1/1	0.96	0.96	128,128,128,128	0
30	MG	X	3099	1/1	0.96	0.38	101,101,101,101	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	3040	1/1	0.96	0.10	143,143,143,143	0
30	MG	X	3149	1/1	0.96	0.56	100,100,100,100	0
30	MG	X	3150	1/1	0.96	0.26	158,158,158,158	0
35	CA	X	3255	1/1	0.96	0.23	78,78,78,78	0
30	MG	X	2986	1/1	0.97	0.57	101,101,101,101	0
30	MG	X	2907	1/1	0.97	0.48	75,75,75,75	0
30	MG	X	2932	1/1	0.97	0.24	94,94,94,94	0
30	MG	X	2971	1/1	0.97	0.66	149,149,149,149	0
30	MG	X	2933	1/1	0.97	0.30	81,81,81,81	0
30	MG	X	3063	1/1	0.97	0.36	88,88,88,88	0
30	MG	X	3212	1/1	0.97	0.22	95,95,95,95	0
30	MG	X	3213	1/1	0.97	0.75	99,99,99,99	0
30	MG	Y	215	1/1	0.97	0.11	130,130,130,130	0
30	MG	X	3008	1/1	0.97	0.30	110,110,110,110	0
30	MG	X	2957	1/1	0.97	0.57	72,72,72,72	0
30	MG	A	301	1/1	0.97	0.41	105,105,105,105	0
30	MG	X	3235	1/1	0.97	0.48	80,80,80,80	0
30	MG	X	3121	1/1	0.97	0.44	103,103,103,103	0
30	MG	X	3066	1/1	0.97	0.45	94,94,94,94	0
30	MG	X	2984	1/1	0.97	0.41	88,88,88,88	0
33	NA	X	3249	1/1	0.97	0.23	91,91,91,91	0
30	MG	Y	203	1/1	0.97	0.67	101,101,101,101	0
30	MG	X	3022	1/1	0.97	0.67	120,120,120,120	0
30	MG	X	3171	1/1	0.97	0.77	116,116,116,116	0
30	MG	M	201	1/1	0.97	0.26	90,90,90,90	0
35	CA	X	3254	1/1	0.97	0.24	82,82,82,82	0
30	MG	X	2918	1/1	0.97	0.47	97,97,97,97	0
30	MG	X	3198	1/1	0.98	0.53	132,132,132,132	0
30	MG	X	3097	1/1	0.98	0.62	132,132,132,132	0
30	MG	X	2999	1/1	0.98	0.20	105,105,105,105	0
30	MG	X	2936	1/1	0.98	0.39	87,87,87,87	0
30	MG	X	3100	1/1	0.98	0.45	88,88,88,88	0
30	MG	N	201	1/1	0.98	0.53	108,108,108,108	0
30	MG	X	3027	1/1	0.98	0.22	107,107,107,107	0
30	MG	X	2952	1/1	0.98	0.70	78,78,78,78	0
30	MG	X	3125	1/1	0.98	0.09	94,94,94,94	0
30	MG	X	2979	1/1	0.98	0.31	95,95,95,95	0
30	MG	X	2945	1/1	0.98	0.52	96,96,96,96	0
30	MG	X	3105	1/1	0.98	0.35	105,105,105,105	0
30	MG	X	3151	1/1	0.98	0.25	157,157,157,157	0
30	MG	X	2981	1/1	0.98	0.54	103,103,103,103	0
30	MG	X	3154	1/1	0.98	0.09	106,106,106,106	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
30	MG	X	2912	1/1	0.98	0.51	80,80,80,80	0
30	MG	X	3033	1/1	0.98	0.16	119,119,119,119	0
30	MG	X	2939	1/1	0.98	0.54	93,93,93,93	0
30	MG	X	3035	1/1	0.98	0.27	80,80,80,80	0
30	MG	X	2972	1/1	0.98	0.71	106,106,106,106	0
30	MG	X	3020	1/1	0.98	0.29	85,85,85,85	0
30	MG	X	3162	1/1	0.98	0.07	112,112,112,112	0
30	MG	X	3021	1/1	0.98	0.44	90,90,90,90	0
30	MG	X	3222	1/1	0.98	0.30	109,109,109,109	0
30	MG	X	3093	1/1	0.98	0.26	89,89,89,89	0
30	MG	X	2929	1/1	0.98	0.32	79,79,79,79	0
30	MG	X	3194	1/1	0.98	0.38	85,85,85,85	0
30	MG	X	2934	1/1	0.98	0.39	95,95,95,95	0
30	MG	X	2902	1/1	0.98	0.48	105,105,105,105	0
30	MG	X	3197	1/1	0.98	0.16	94,94,94,94	0
36	K	X	3256	1/1	0.98	0.24	89,89,89,89	0
30	MG	X	3119	1/1	0.99	0.10	102,102,102,102	0
30	MG	X	2931	1/1	0.99	0.38	93,93,93,93	0
30	MG	X	3158	1/1	0.99	0.49	67,67,67,67	0
30	MG	X	3184	1/1	0.99	0.10	75,75,75,75	0
30	MG	X	2943	1/1	0.99	0.38	87,87,87,87	0
30	MG	X	2909	1/1	0.99	0.34	68,68,68,68	0
30	MG	X	3075	1/1	0.99	0.45	100,100,100,100	0
30	MG	X	2903	1/1	0.99	0.40	89,89,89,89	0
30	MG	X	3175	1/1	0.99	0.07	89,89,89,89	0
30	MG	X	3218	1/1	0.99	0.26	88,88,88,88	0
30	MG	X	3163	1/1	0.99	0.20	71,71,71,71	0
30	MG	X	3220	1/1	0.99	0.38	88,88,88,88	0
30	MG	X	3084	1/1	0.99	0.12	128,128,128,128	0
30	MG	X	3153	1/1	0.99	0.41	110,110,110,110	0
30	MG	X	2937	1/1	0.99	0.32	80,80,80,80	0
30	MG	X	3053	1/1	0.99	0.09	110,110,110,110	0
30	MG	X	2973	1/1	1.00	0.30	107,107,107,107	0

6.5 Other polymers (i)

There are no such residues in this entry.