



Full wwPDB EM Validation Report ⓘ

Mar 28, 2026 – 02:31 PM UTC

PDB ID : 4V91 / pdb_00004v91
EMDB ID : EMD-2599
Title : Kluyveromyces lactis 80S ribosome in complex with CrPV-IRES
Authors : Fernandez, I.S.; Bai, X.; Scheres, S.H.W.; Ramakrishnan, V.
Deposited on : 2014-03-21
Resolution : 3.70 Å(reported)
Based on initial model : 3B31

This is a Full wwPDB EM 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/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

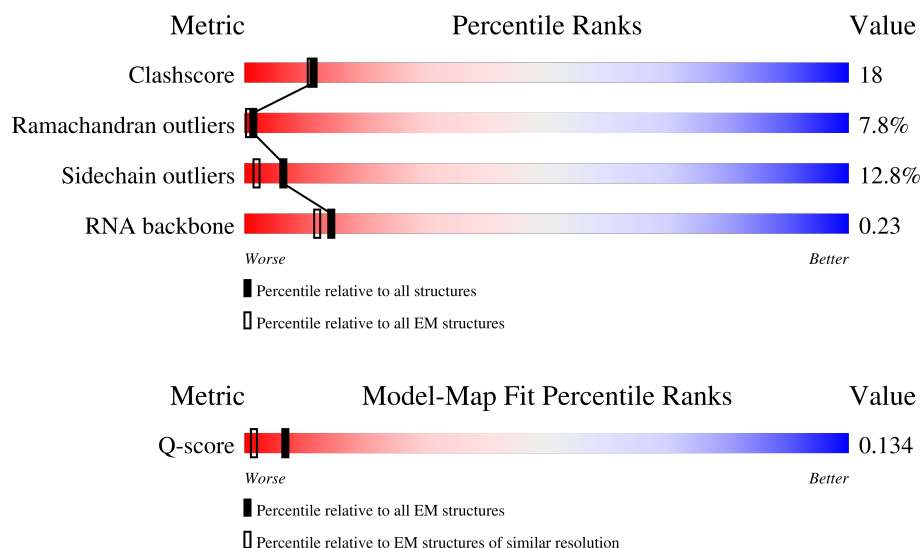
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.70 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)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	11569 (3.20 - 4.20)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	3397	
2	3	121	
3	4	158	

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Mol	Chain	Length	Quality of chain
4	A	254	
5	B	387	
6	C	362	
7	D	297	
8	E	176	
9	F	244	
10	G	256	
11	H	191	
12	I	221	
13	J	174	
14	L	199	
15	M	138	
16	N	204	
17	O	398	
18	P	184	
19	Q	186	
20	R	189	
21	S	172	
22	T	160	
23	U	121	
24	V	137	
25	W	155	
26	X	142	
27	Y	127	
28	Z	136	

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Mol	Chain	Length	Quality of chain
29	a	149	
30	b	59	
31	c	105	
32	d	113	
33	e	130	
34	f	107	
35	g	121	
36	h	120	
37	i	100	
38	j	88	
39	k	78	
40	l	51	
41	m	128	
42	n	25	
43	o	106	
44	p	92	
45	t	217	

2 Entry composition

There are 45 unique types of molecules in this entry. The entry contains 125665 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 25S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	3203	Total	C	N	O	P	0	0
			68514	30602	12358	22351	3203		

- Molecule 2 is a RNA chain called 5S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 3 is a RNA chain called 5.8S RRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 4 is a protein called UL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	252	Total	C	N	O	S	0	0
			1914	1191	388	334	1		

- Molecule 5 is a protein called UL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 6 is a protein called UL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 7 is a protein called UL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	296	Total	C	N	O	S	0	0
			2375	1501	414	458	2		

- Molecule 8 is a protein called EL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	156	Total	C	N	O	S	0	0
			1239	800	222	216	1		

- Molecule 9 is a protein called UL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 10 is a protein called EL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 11 is a protein called UL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 12 is a protein called UL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	211	Total	C	N	O	S	0	0
			1705	1083	322	294	6		

- Molecule 13 is a protein called UL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 14 is a protein called EL13.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	L	193	Total	C	N	O	0	0
			1543	962	315	266		

- Molecule 15 is a protein called EL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 16 is a protein called EL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	N	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 17 is a protein called UL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	O	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 18 is a protein called UL22.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	P	183	Total	C	N	O	0	0
			1420	882	281	257		

- Molecule 19 is a protein called EL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 20 is a protein called EL19.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	R	188	Total	C	N	O	0	0
			1521	935	326	260		

- Molecule 21 is a protein called EL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	172	Total	C	N	O	S	0	0
			1445	930	267	244	4		

- Molecule 22 is a protein called EL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	T	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 23 is a protein called EL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	U	100	Total	C	N	O	S	0	0
			796	516	131	149			

- Molecule 24 is a protein called UL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 25 is a protein called EL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	60	Total	C	N	O	S	0	0
			500	322	98	79	1		

- Molecule 26 is a protein called UL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	X	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 27 is a protein called UL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Y	126	Total	C	N	O	S	0	0
			993	625	192	176			

- Molecule 28 is a protein called EL27.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Z	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 29 is a protein called UL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	a	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 30 is a protein called EL29.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	b	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 31 is a protein called EL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	c	97	Total	C	N	O	S	0	0
			743	479	124	139	1		

- Molecule 32 is a protein called EL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	d	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 33 is a protein called EL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	e	127	Total	C	N	O	S	0	0
			1020	647	205	167	1		

- Molecule 34 is a protein called EL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	f	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 35 is a protein called EL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	g	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 36 is a protein called UL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	h	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 37 is a protein called EL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	i	99	Total	C	N	O	S	0	0
			771	481	156	132	2		

- Molecule 38 is a protein called EL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 39 is a protein called EL38.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	k	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 40 is a protein called EL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 41 is a protein called EL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 42 is a protein called EL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	n	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 43 is a protein called EL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 44 is a protein called EL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

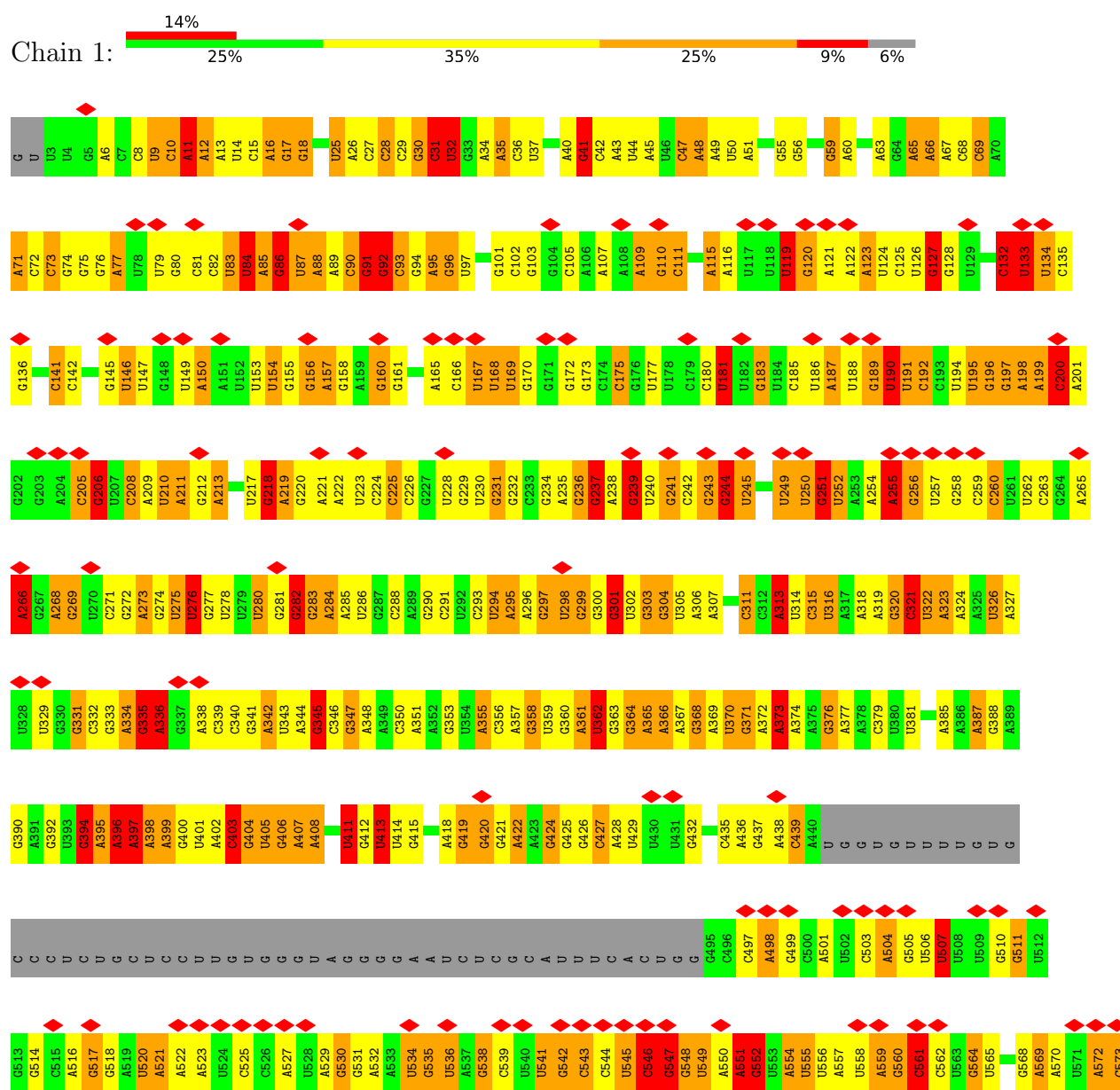
- Molecule 45 is a protein called UL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	t	217	Total	C	N	O	S	0	0
			1718	1097	299	312	10		

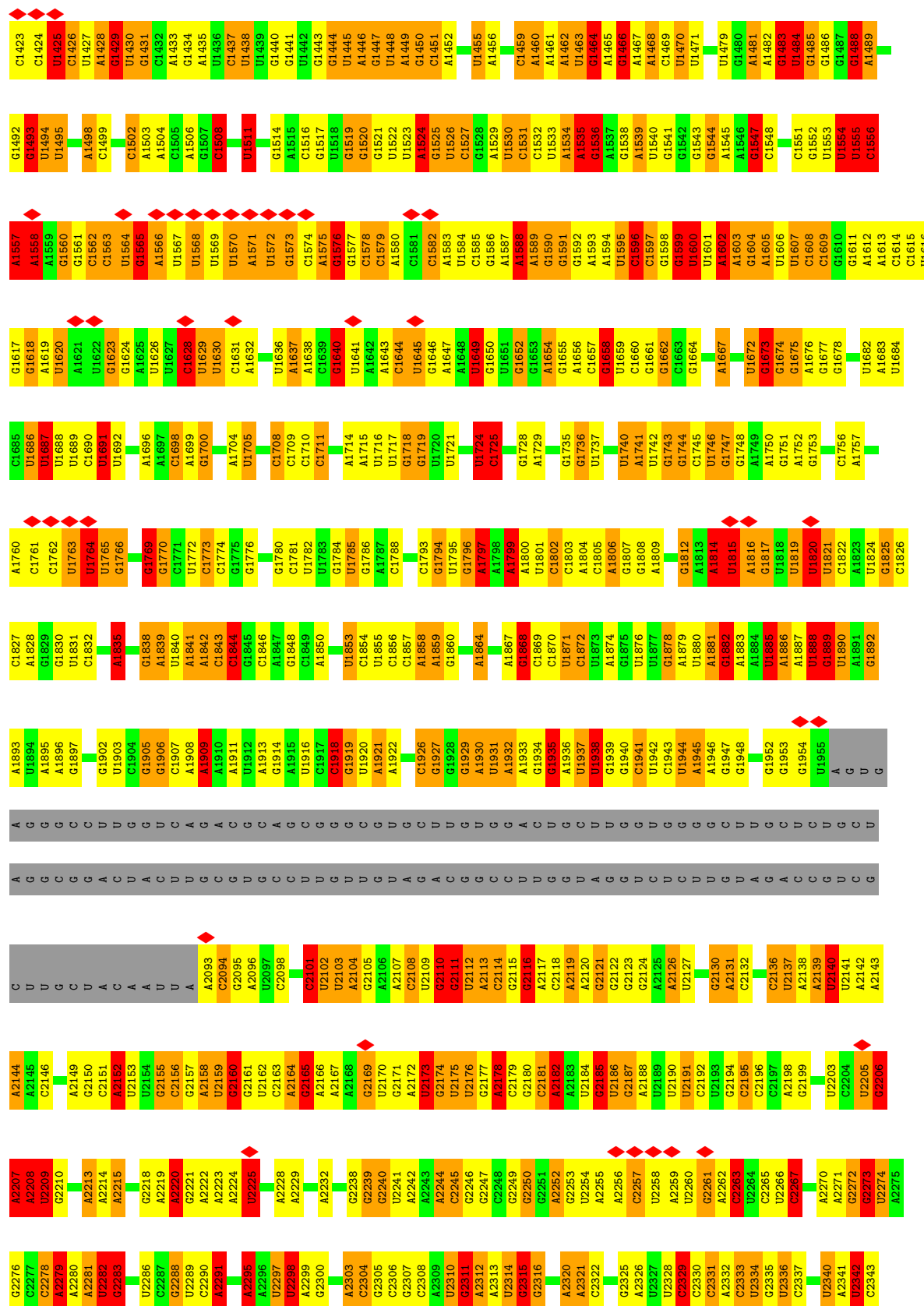
3 Residue-property plots

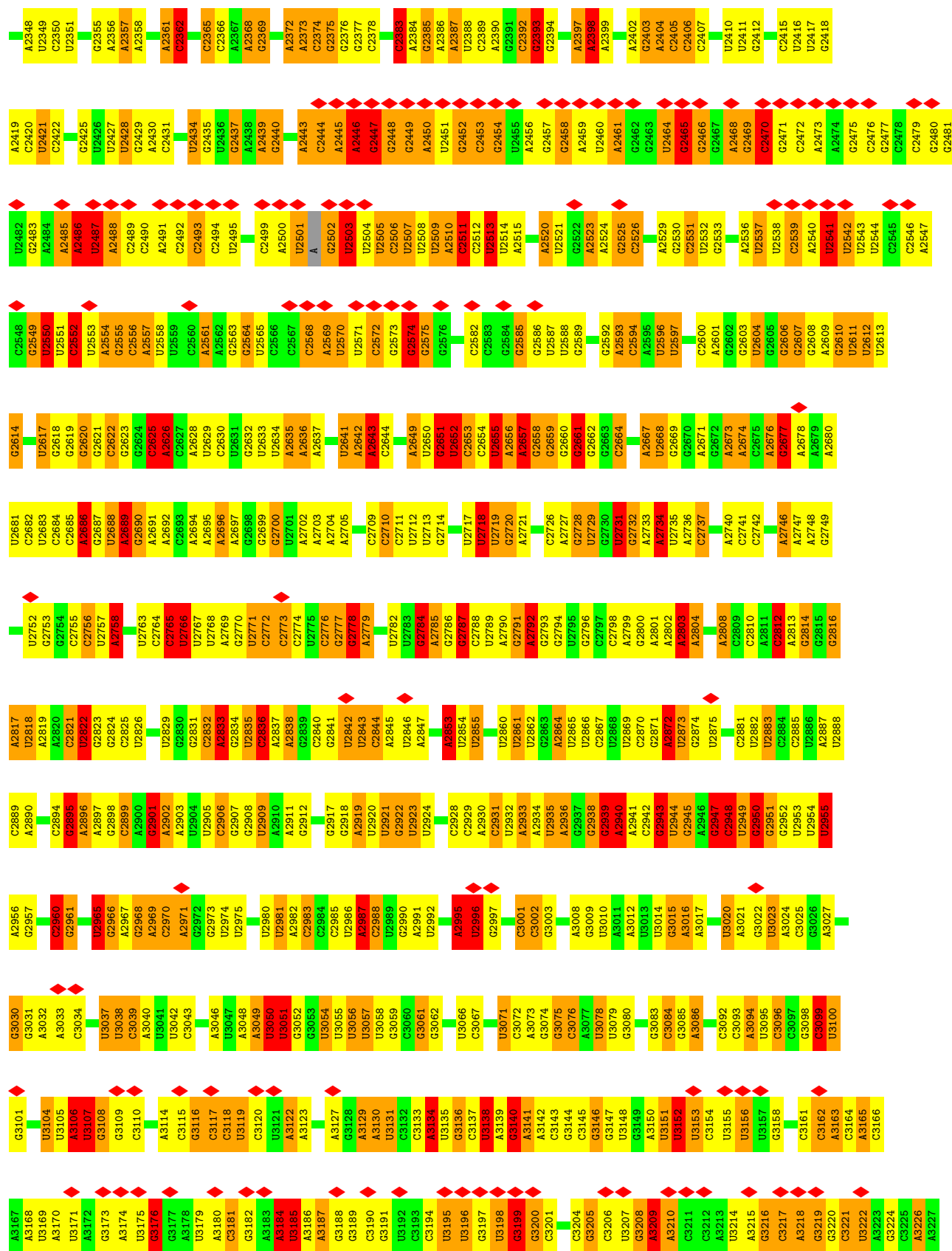
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

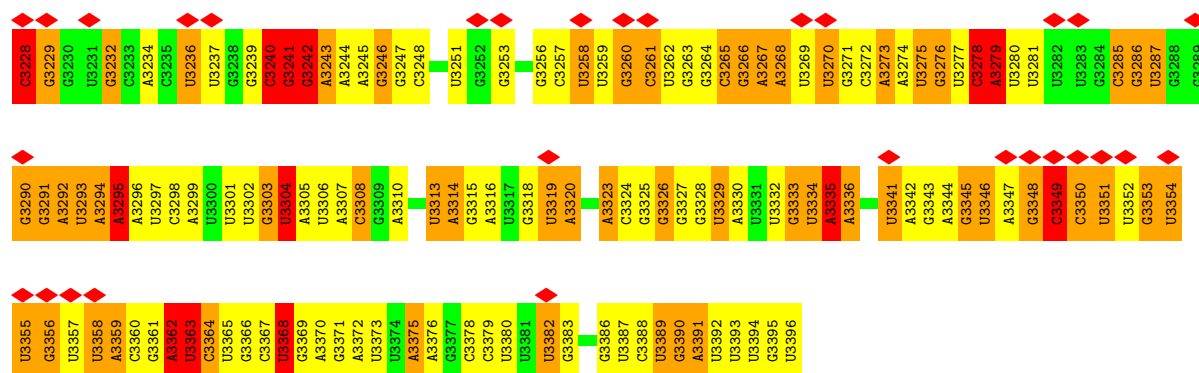
• Molecule 1: 25S rRNA



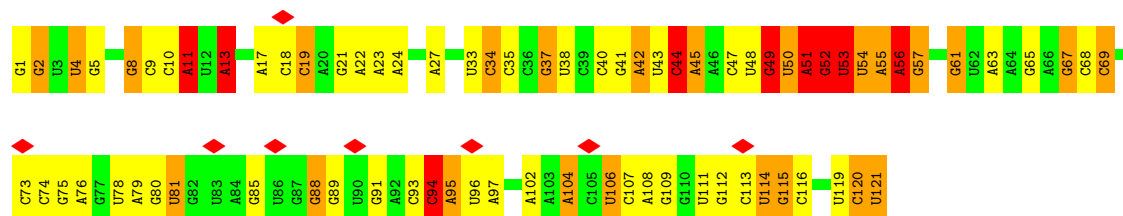




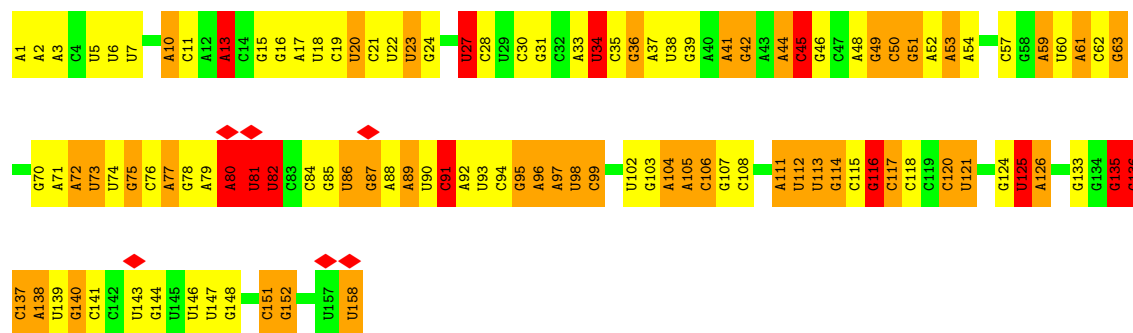




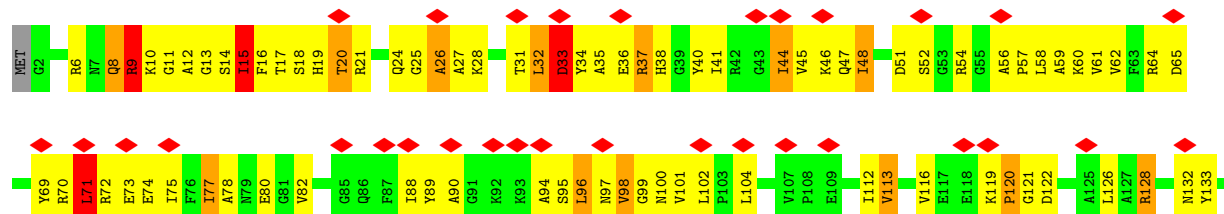
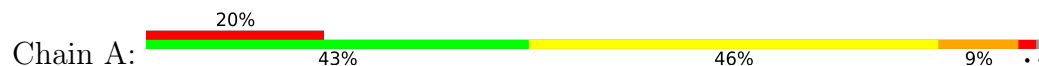
• Molecule 2: 5S RRNA

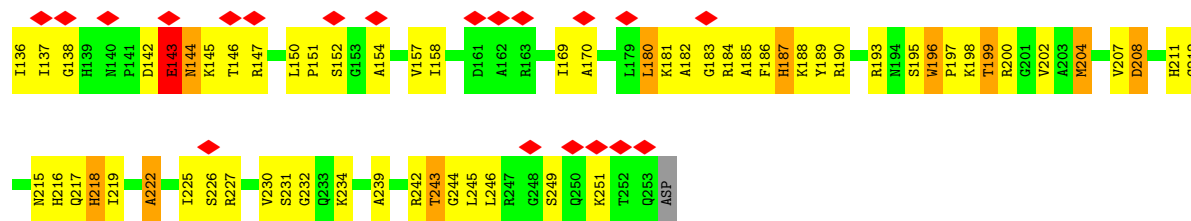


• Molecule 3: 5.8S RRNA

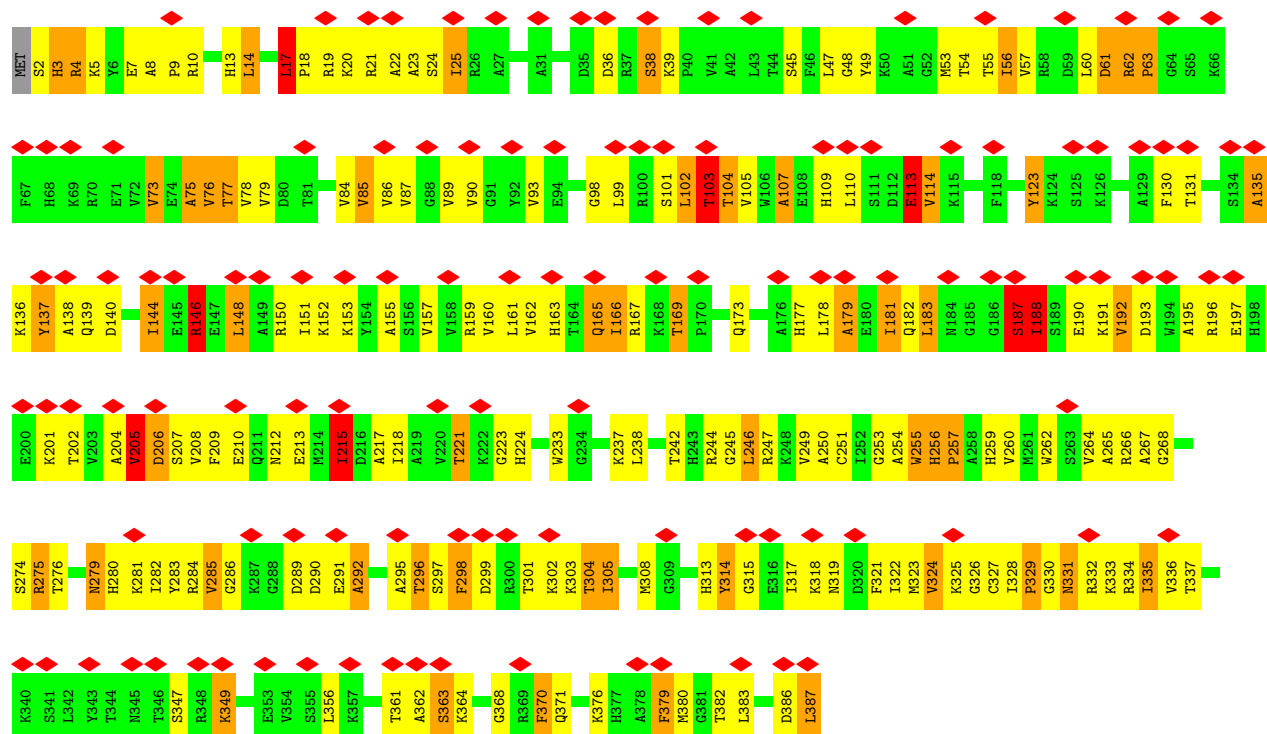


• Molecule 4: UL2

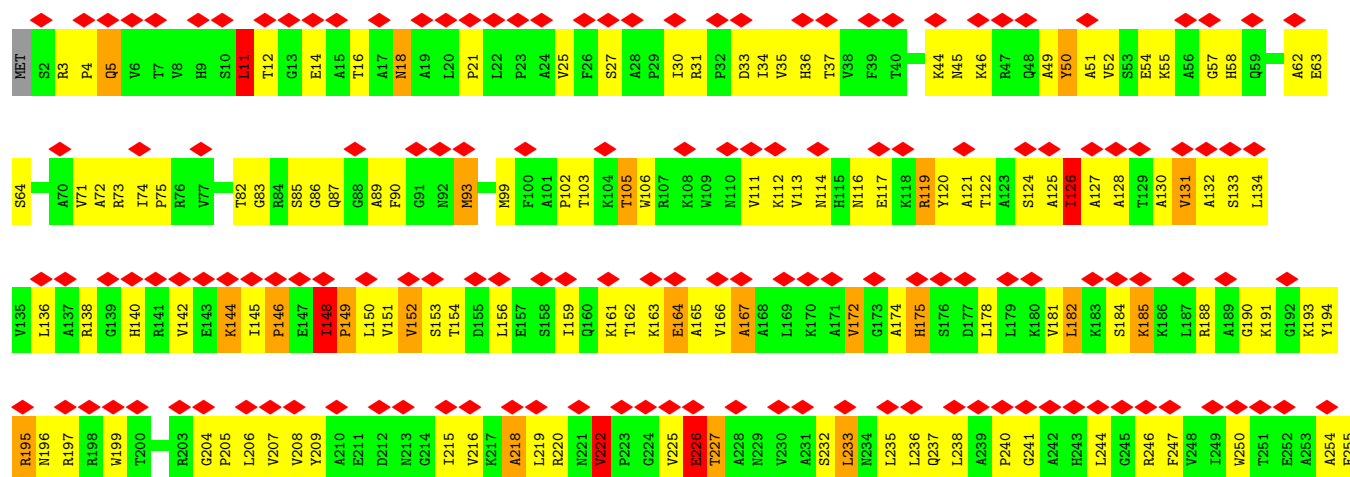


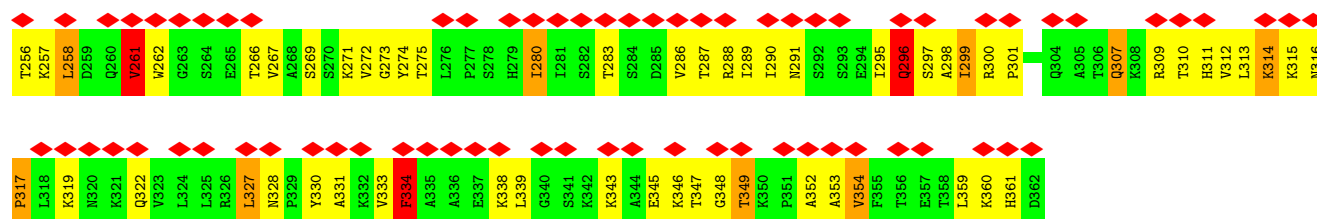


• Molecule 5: UL3

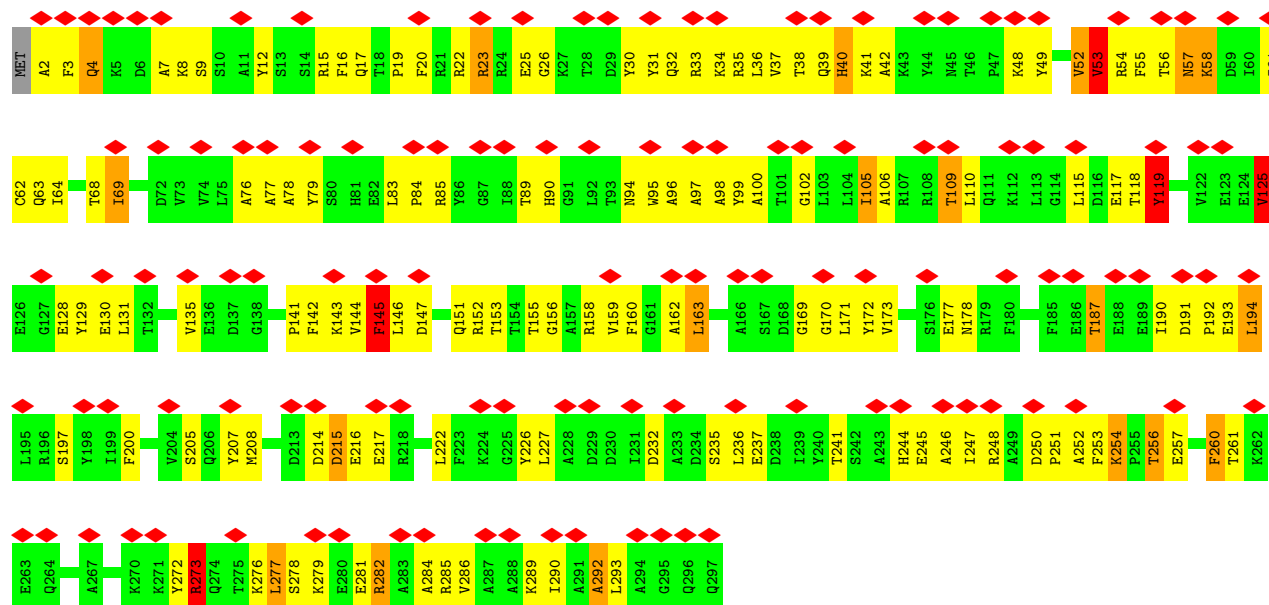
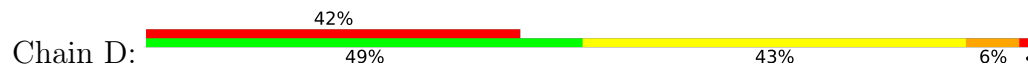


• Molecule 6: UL4

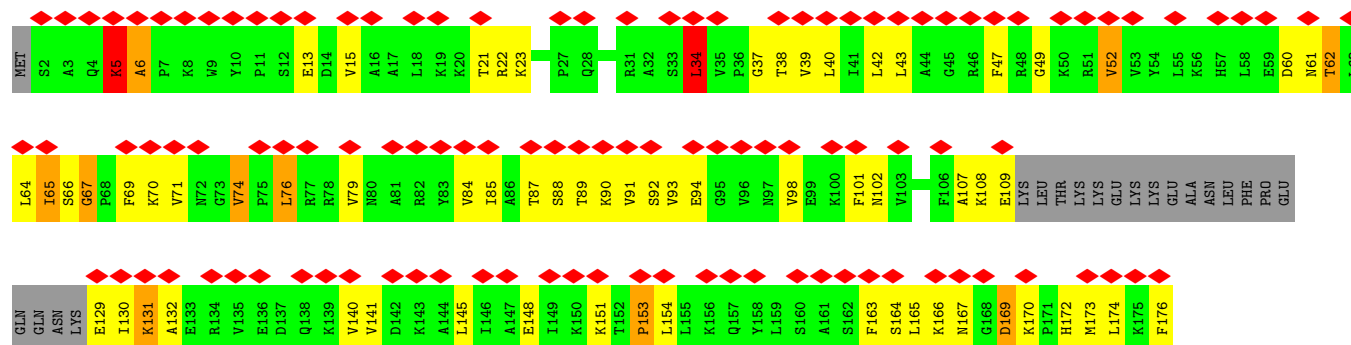




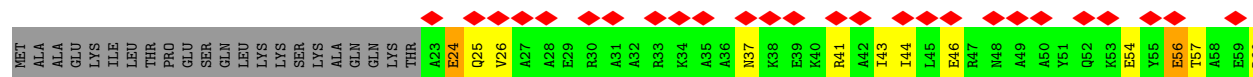
• Molecule 7: UL18

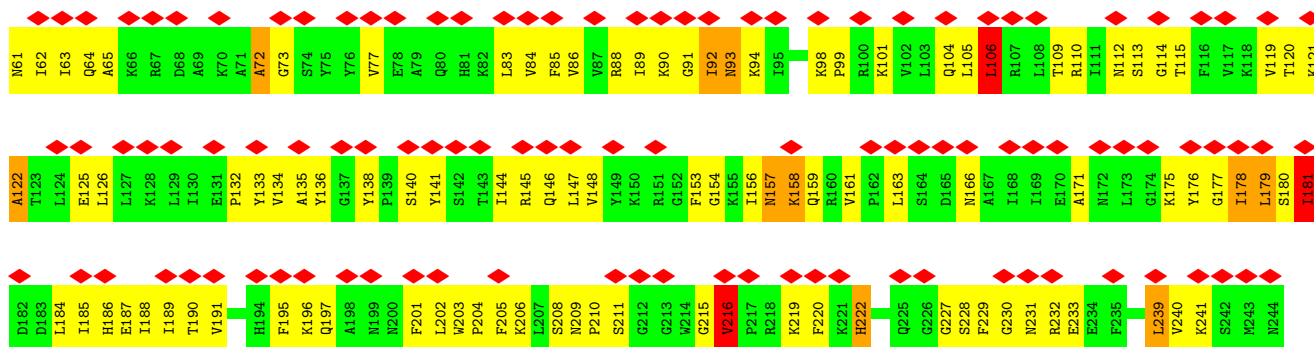


• Molecule 8: EL6

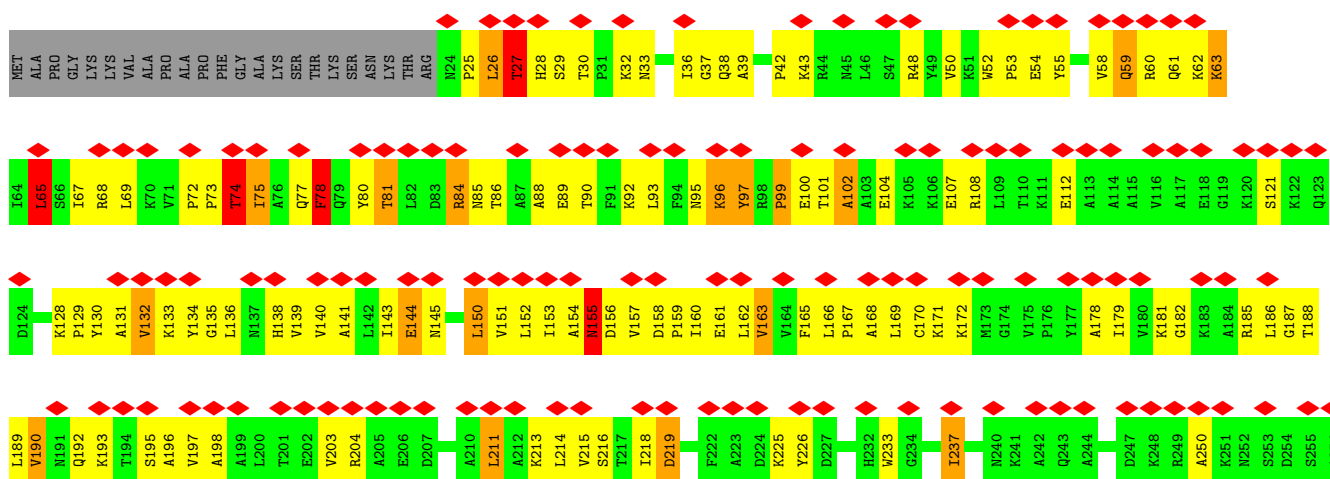


• Molecule 9: UL30

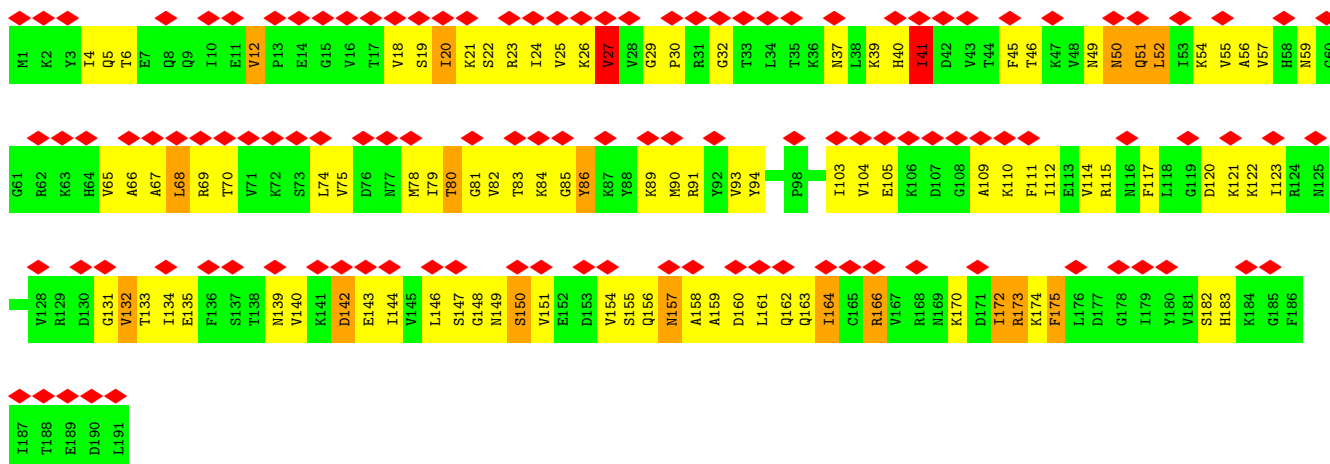




• Molecule 10: EL8

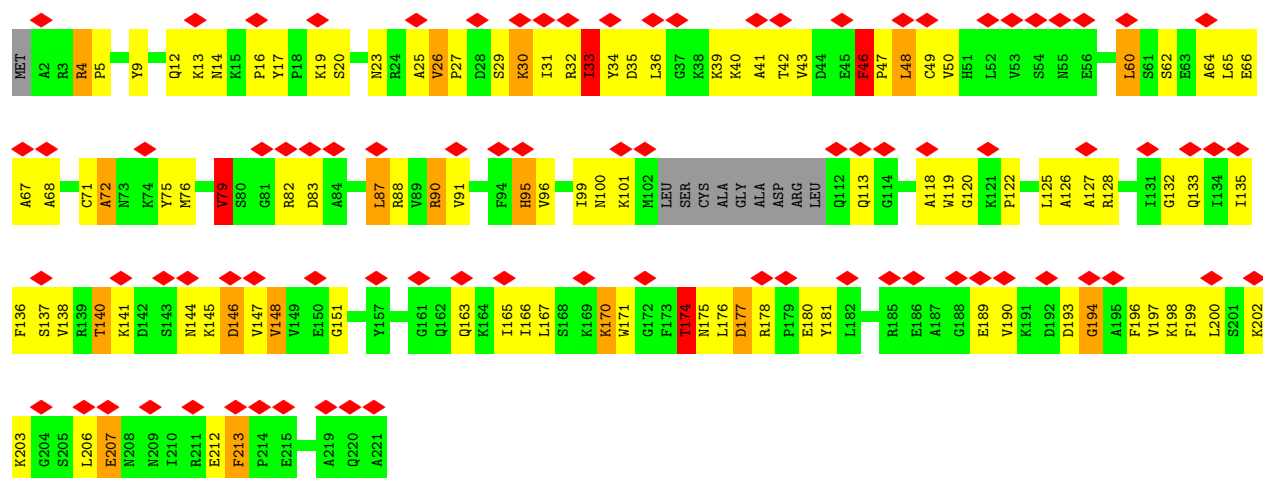


• Molecule 11: UL6

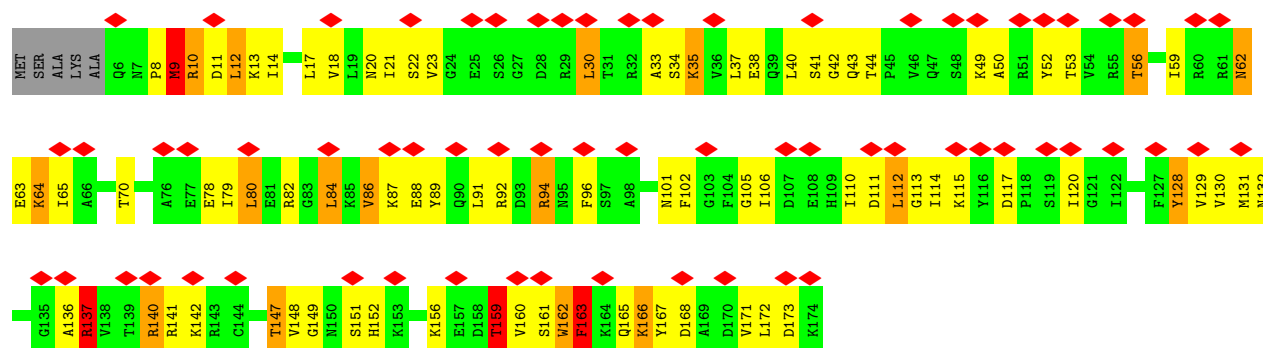


• Molecule 12: UL16

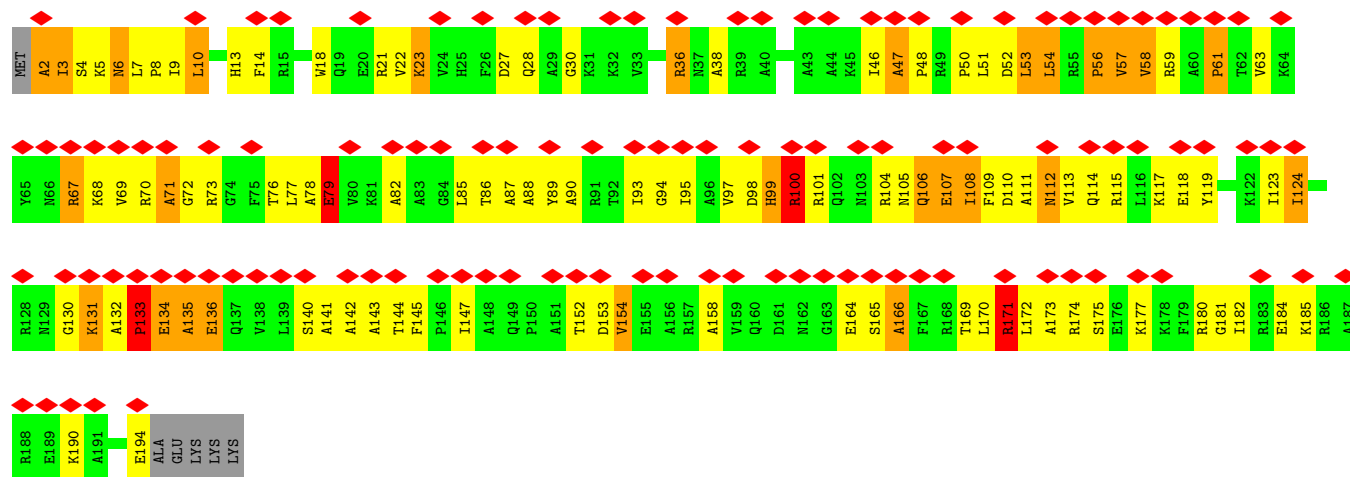
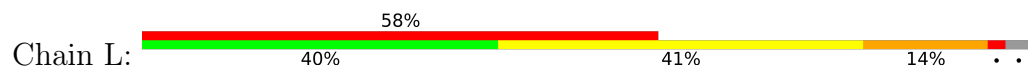




• Molecule 13: UL5

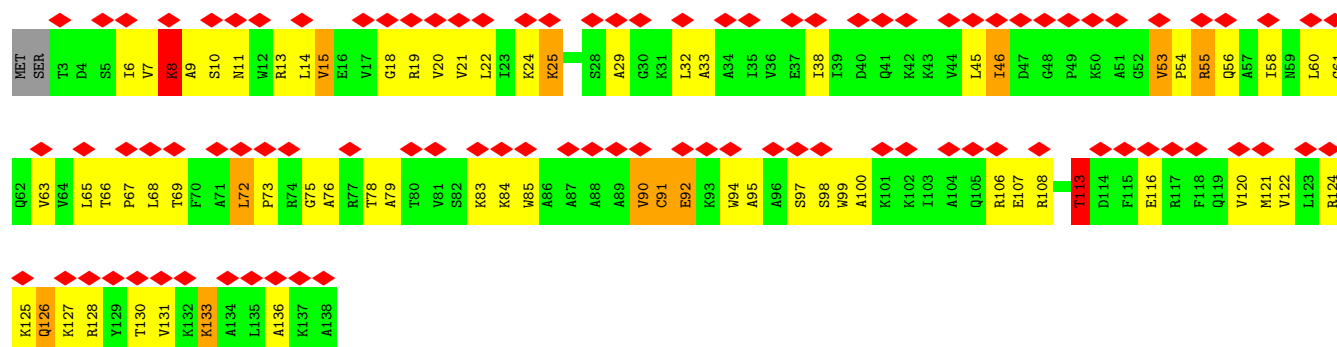


• Molecule 14: EL13

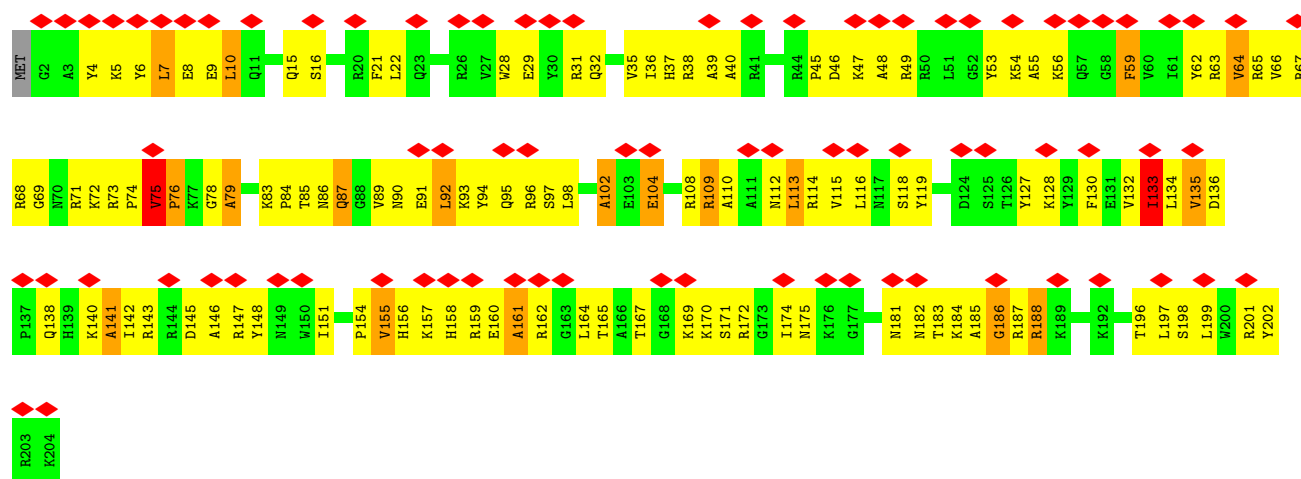


• Molecule 15: EL14

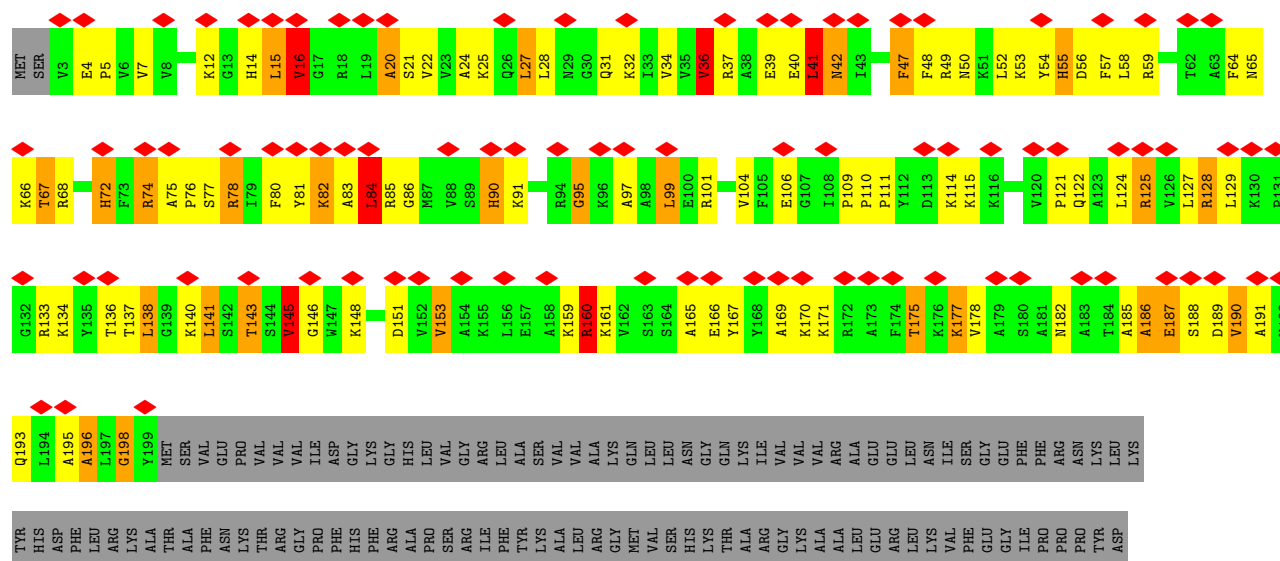
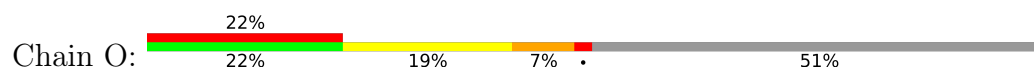




• Molecule 16: EL15

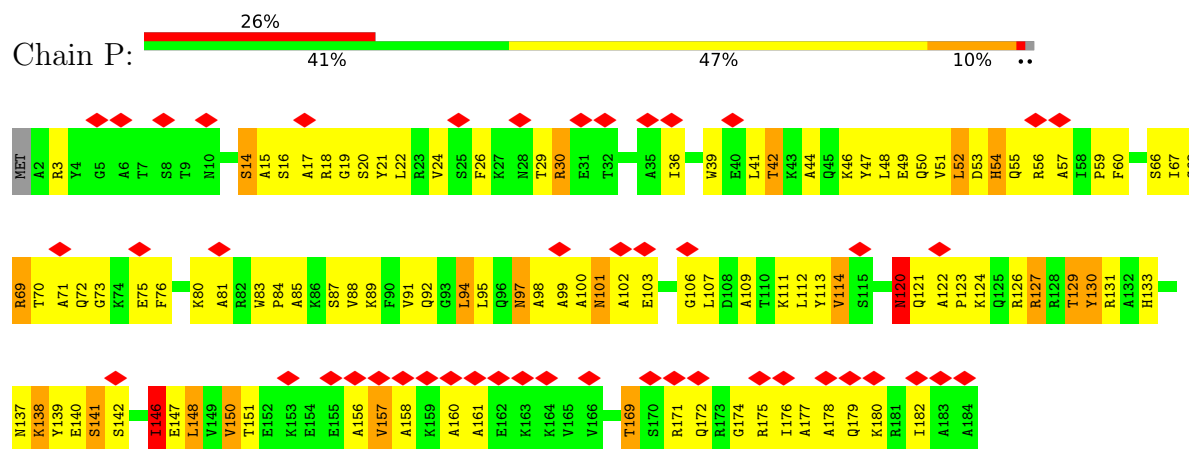


• Molecule 17: UL13

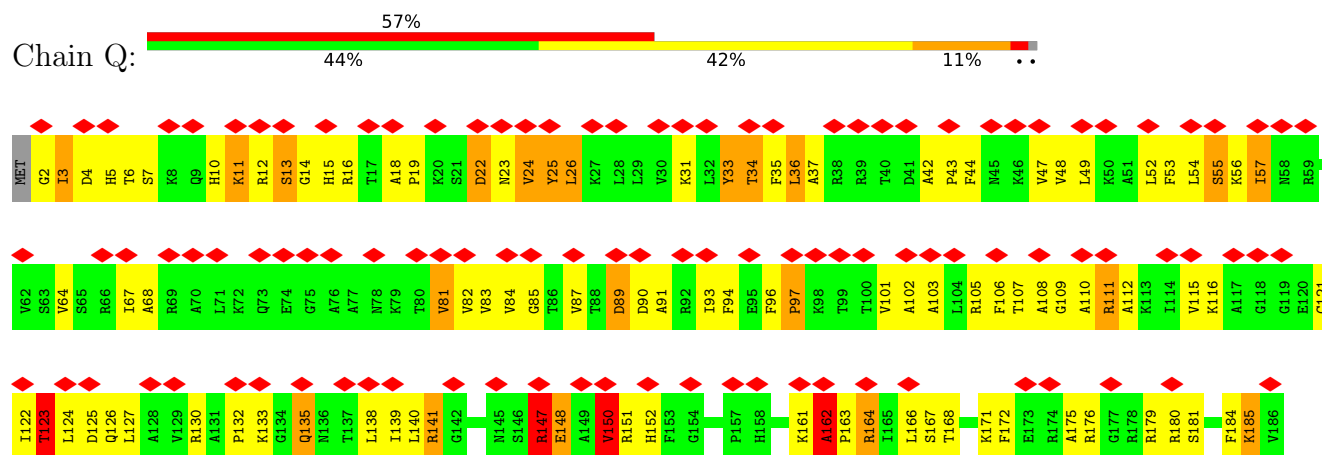


LYS	LYS	LYS	ARG	VAL	VAL	VAL	PRO	GLN	ALA	LEU	ARG	VAL	LEU	ARG	LEU	ASP	VAL	VAL	LYS	LYS	THR	THR	THR	THR	THR	THR	VAL	GLY	LEU	GLY	LYS	LYS	GLU	ASP	VAL	VAL	ALA	ALA	LYS	LEU	GLU	ALA	LYS	VAL	VAL	SER	SER	ALA	GLU	TVR	ALA	LYS	LYS	ARG	ALA
PHE	THR	LYS	LYS	VAL	ALA	SER	ALA	ASN	ALA	THR	ALA	ALA	GLU	SER	ASP	VAL	VAL	ALA	PRO	GLY	ARG	LYS	LEU	ALA	ALA	THR	THR	LEU	GLY	THR	LYS	LYS	TVR	GLU	ASP	VAL	VAL	ALA	ALA	LYS	LEU	GLU	VAL	SER	SER	ALA	GLU	TVR	ALA	LYS	LYS	ARG	ALA		

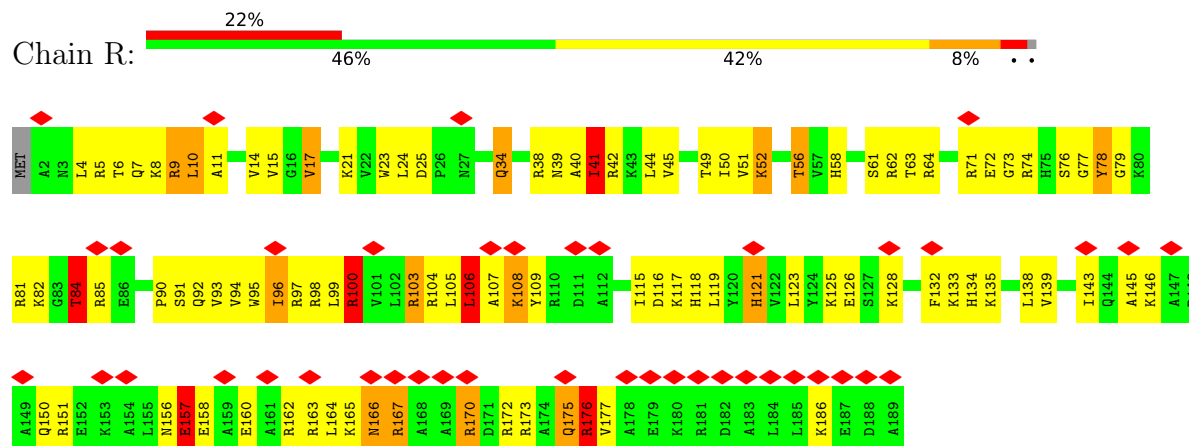
• Molecule 18: UL22



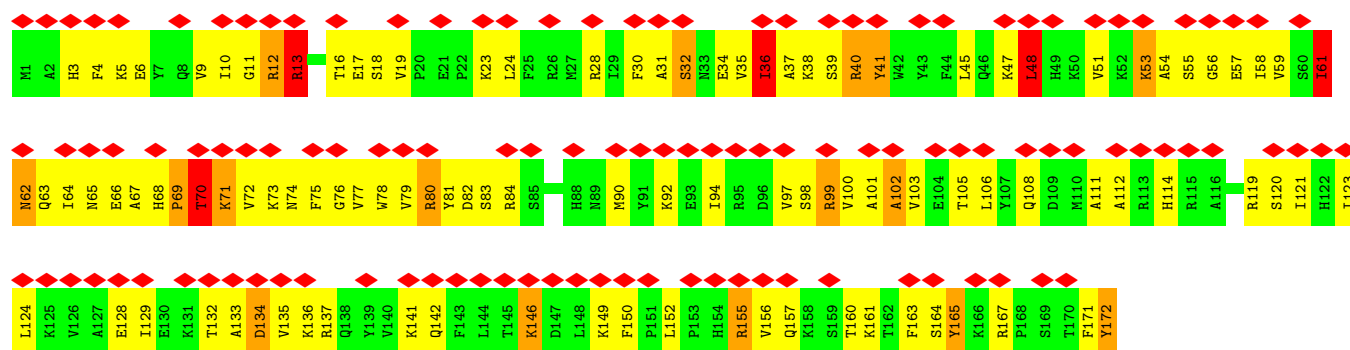
• Molecule 19: EL18



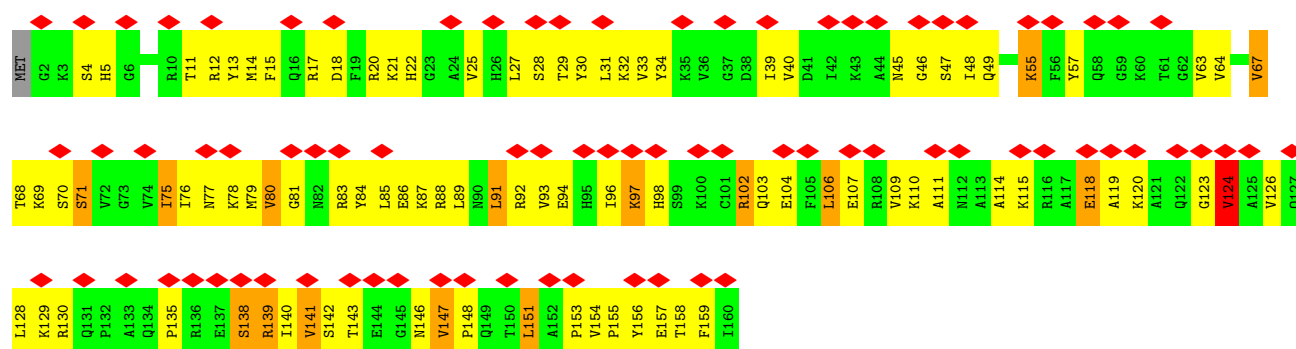
• Molecule 20: EL19



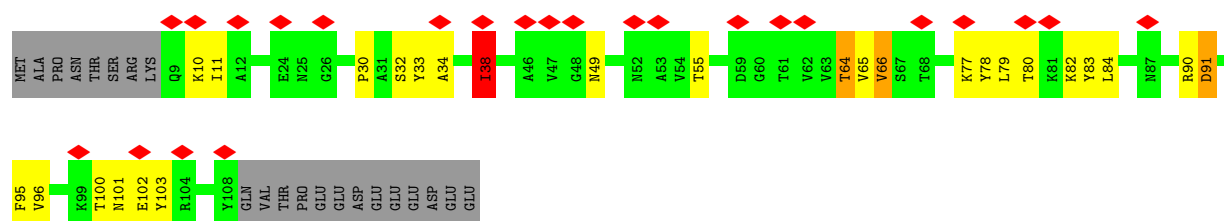
• Molecule 21: EL20



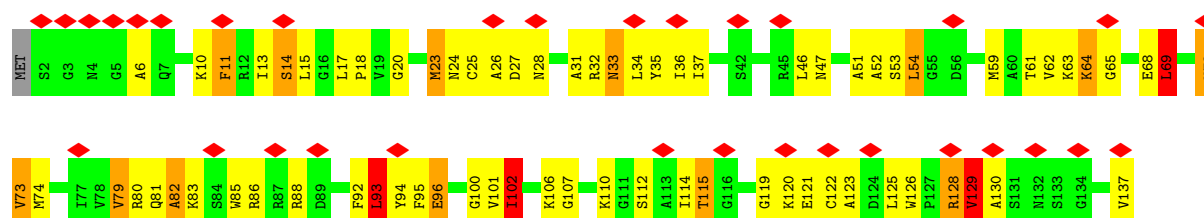
• Molecule 22: EL21



• Molecule 23: EL22

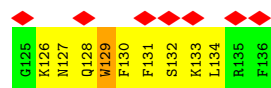


• Molecule 24: UL14



Chain W:

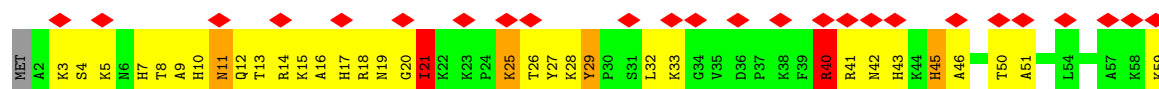
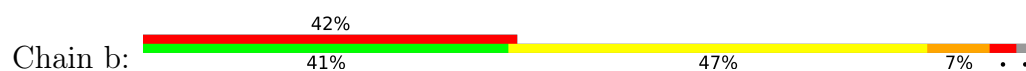




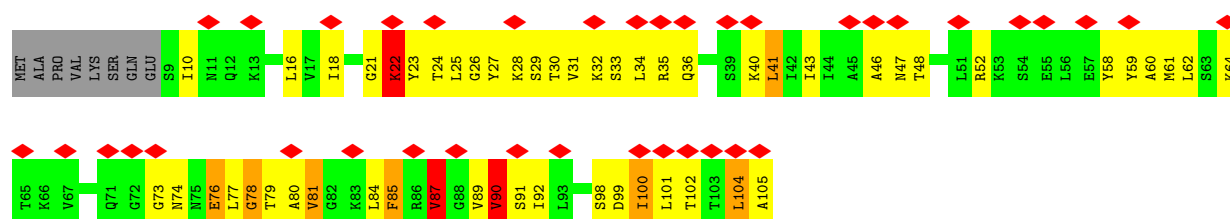
• Molecule 29: UL15



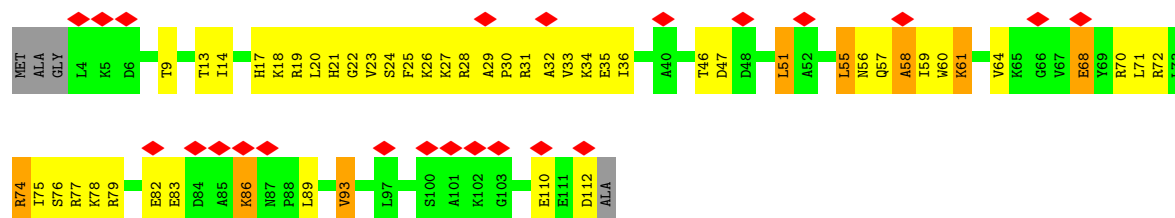
• Molecule 30: EL29



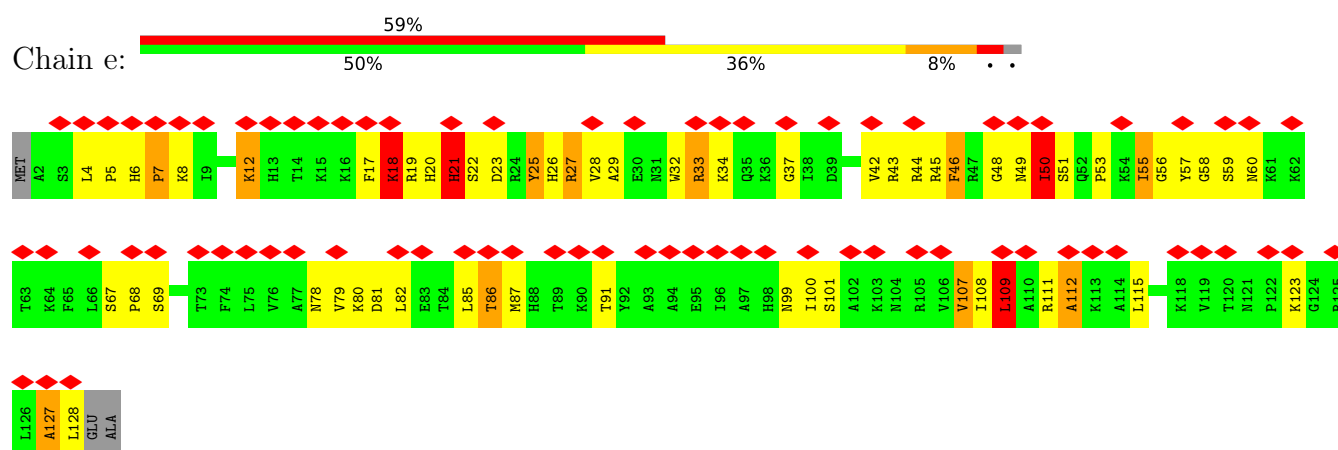
• Molecule 31: EL30



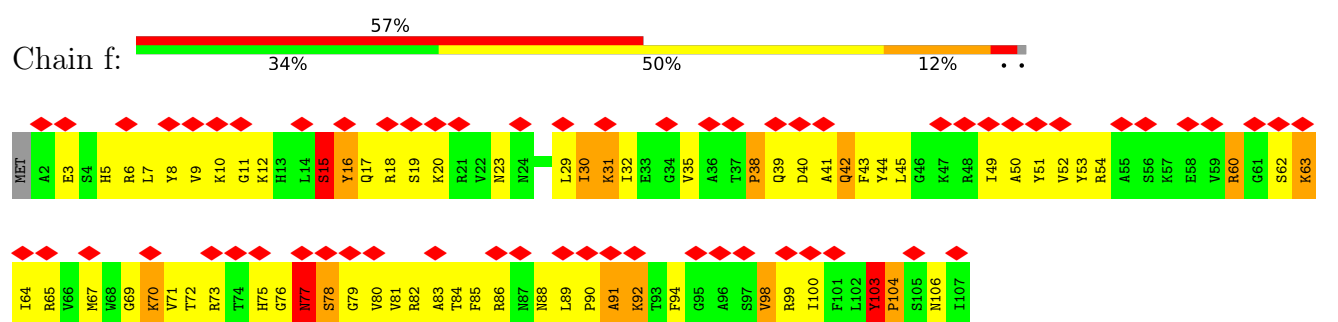
• Molecule 32: EL31



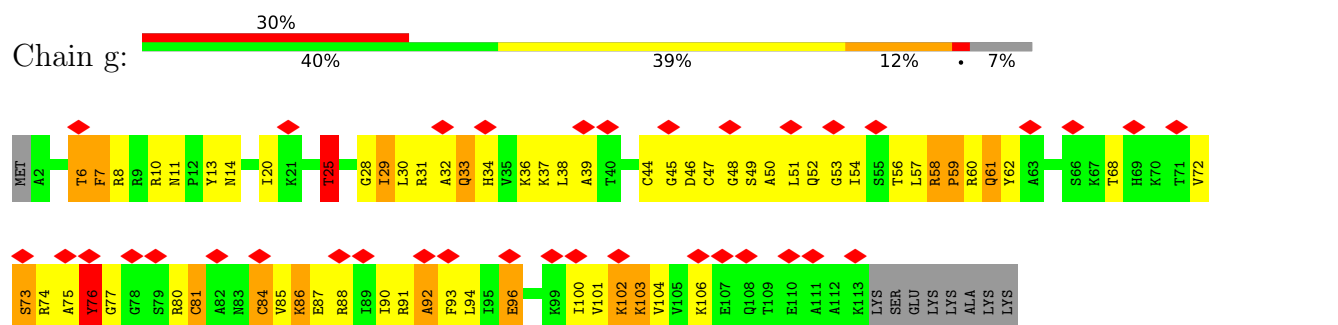
• Molecule 33: EL32



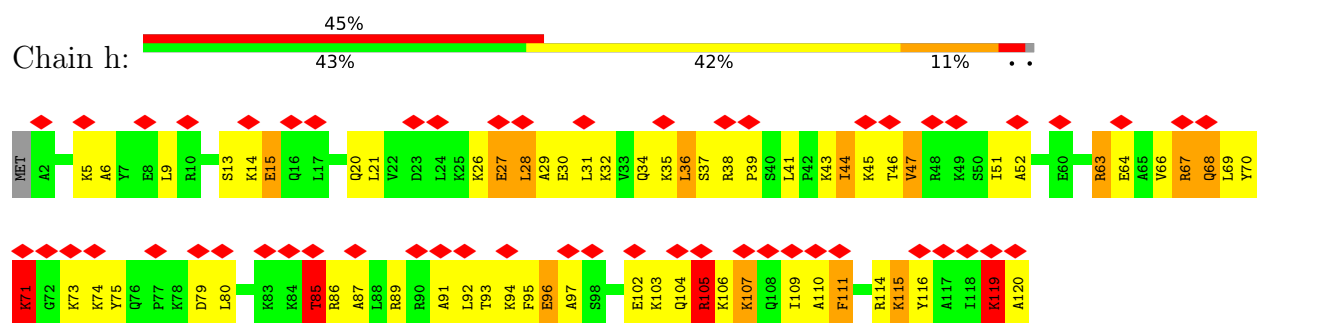
- Molecule 34: EL33



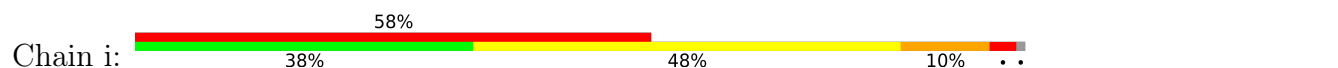
- Molecule 35: EL34



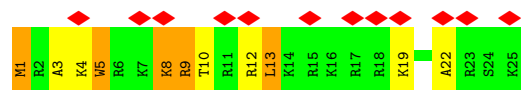
- Molecule 36: UL29



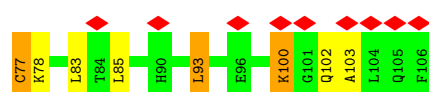
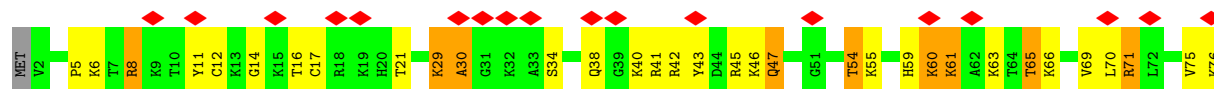
- Molecule 37: EL36



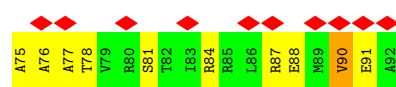
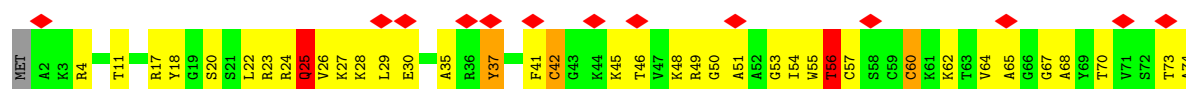
- Molecule 42: EL41



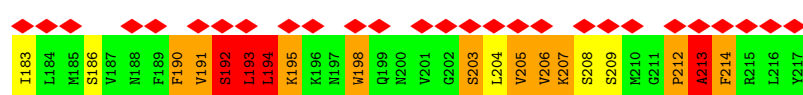
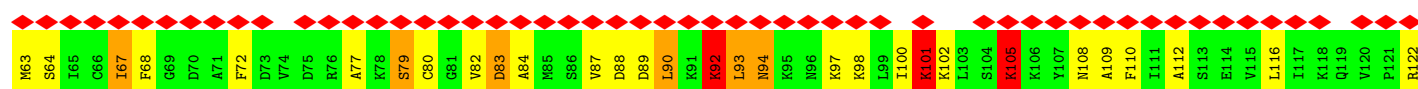
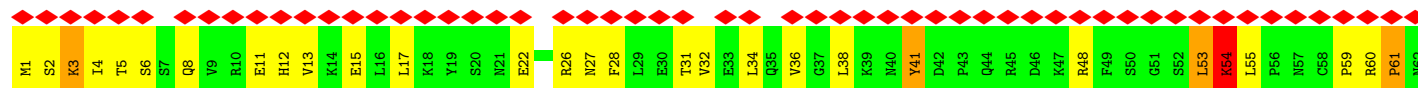
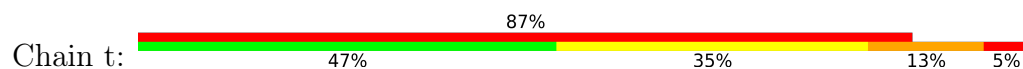
- Molecule 43: EL42



- Molecule 44: EL43



- Molecule 45: UL1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	18132	Depositor
Resolution determination method	Not provided	
CTF correction method	EACH PARTICLE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1.8	Depositor
Maximum defocus (nm)	3	Depositor
Magnification	47000	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	1.275	Depositor
Minimum map value	-0.841	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.050	Depositor
Recommended contour level	0.12	Depositor
Map size ($\text{\AA}$)	428.80002, 428.80002, 428.80002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.34, 1.34, 1.34	Depositor

5 Model quality

5.1 Standard geometry

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	1	0.77	28/76106 (0.0%)	1.41	1926/117228 (1.6%)
2	3	0.42	0/2857	1.43	74/4387 (1.7%)
3	4	1.07	3/3723 (0.1%)	1.46	104/5740 (1.8%)
4	A	0.46	0/1881	1.14	22/2416 (0.9%)
5	B	0.47	0/3064	1.24	45/3982 (1.1%)
6	C	0.47	1/2721 (0.0%)	1.11	36/3553 (1.0%)
7	D	0.46	0/2353	1.05	30/3055 (1.0%)
8	E	0.42	0/1233	1.08	17/1613 (1.1%)
9	F	0.43	0/1773	1.09	17/2307 (0.7%)
10	G	0.45	0/1771	1.03	23/2286 (1.0%)
11	H	0.43	0/1493	1.12	21/1935 (1.1%)
12	I	0.68	1/1690 (0.1%)	1.21	30/2182 (1.4%)
13	J	0.47	0/1339	1.22	20/1737 (1.2%)
14	L	1.39	1/1518 (0.1%)	1.25	22/1956 (1.1%)
15	M	0.47	0/1040	1.06	11/1354 (0.8%)
16	N	0.43	0/1706	1.10	17/2201 (0.8%)
17	O	3.46	23/1577 (1.5%)	6.37	89/2104 (4.2%)
18	P	0.44	0/1400	1.10	16/1815 (0.9%)
19	Q	0.43	0/1417	1.15	21/1821 (1.2%)
20	R	0.71	3/1492 (0.2%)	1.33	26/1912 (1.4%)
21	S	0.41	0/1435	1.08	17/1852 (0.9%)
22	T	0.44	0/1266	1.15	17/1641 (1.0%)
23	U	0.43	0/788	0.89	3/1027 (0.3%)
24	V	0.48	0/984	1.12	15/1267 (1.2%)
25	W	0.37	0/496	1.11	3/632 (0.5%)
26	X	0.40	0/957	0.96	8/1255 (0.6%)
27	Y	0.46	0/974	1.30	17/1251 (1.4%)
28	Z	0.44	0/1080	1.19	15/1383 (1.1%)
29	a	0.41	0/1163	1.04	10/1489 (0.7%)
30	b	0.41	0/456	1.21	4/578 (0.7%)
31	c	0.49	0/727	1.24	11/936 (1.2%)
32	d	0.42	0/867	1.07	9/1127 (0.8%)
33	e	0.42	0/1015	1.19	18/1316 (1.4%)
34	f	0.47	0/837	1.29	15/1075 (1.4%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	g	0.44	0/863	1.37	15/1108 (1.4%)
36	h	0.42	0/948	1.16	12/1211 (1.0%)
37	i	0.45	0/748	1.16	9/944 (1.0%)
38	j	0.45	0/674	1.18	7/857 (0.8%)
39	k	2.05	1/599 (0.2%)	1.26	9/769 (1.2%)
40	l	0.49	0/431	1.24	8/552 (1.4%)
41	m	0.40	0/409	0.81	2/520 (0.4%)
42	n	0.83	0/228	0.93	1/282 (0.4%)
43	o	0.44	0/843	1.27	14/1085 (1.3%)
44	p	0.43	0/684	0.97	5/883 (0.6%)
45	t	0.65	3/1692 (0.2%)	1.29	36/2183 (1.6%)
All	All	0.80	64/133318 (0.0%)	1.48	2847/192807 (1.5%)

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
1	1	103	0
2	3	1	0
3	4	4	0
4	A	7	0
5	B	11	3
6	C	11	3
7	D	6	0
8	E	3	0
9	F	5	0
10	G	6	0
11	H	5	0
12	I	4	0
13	J	3	0
14	L	6	1
15	M	2	0
16	N	2	0
17	O	3	16
18	P	5	0
19	Q	4	0
20	R	13	0
21	S	5	0
22	T	6	0
24	V	3	0

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Mol	Chain	#Chirality outliers	#Planarity outliers
25	W	2	0
26	X	2	0
27	Y	4	0
28	Z	2	0
29	a	3	0
30	b	2	0
31	c	3	0
32	d	3	0
33	e	2	0
34	f	4	2
35	g	4	0
36	h	4	0
37	i	2	0
38	j	3	1
40	l	3	0
43	o	7	0
44	p	1	0
45	t	8	5
All	All	277	31

All (64) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	O	143	THR	C-N	-58.80	0.46	1.33
14	L	57	VAL	C-N	51.17	2.00	1.33
39	k	51	LEU	C-N	48.62	2.00	1.33
17	O	171	LYS	C-N	42.61	1.94	1.33
17	O	67	THR	C-N	-41.99	0.74	1.33
17	O	189	ASP	C-N	40.99	1.83	1.34
1	1	41	G	O3'-P	39.42	2.20	1.61
1	1	1708	C	O3'-P	39.35	2.20	1.61
1	1	2361	A	O3'-P	39.23	2.19	1.61
1	1	554	A	O3'-P	39.01	2.19	1.61
1	1	968	G	O3'-P	38.75	2.19	1.61
1	1	1445	U	O3'-P	37.99	2.18	1.61
1	1	920	A	O3'-P	37.70	2.17	1.61
3	4	137	C	O3'-P	37.68	2.17	1.61
1	1	2812	C	O3'-P	37.41	2.17	1.61
1	1	1637	A	O3'-P	36.72	2.16	1.61
1	1	1162	U	O3'-P	36.42	2.15	1.61
1	1	1403	C	O3'-P	36.08	2.15	1.61
1	1	1390	A	O3'-P	35.87	2.15	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	268	A	O3'-P	35.87	2.15	1.61
1	1	2282	U	O3'-P	35.85	2.15	1.61
1	1	952	A	O3'-P	35.71	2.14	1.61
1	1	71	A	O3'-P	35.69	2.14	1.61
3	4	36	G	O3'-P	35.49	2.14	1.61
1	1	1101	G	O3'-P	34.82	2.13	1.61
17	O	80	PHE	C-N	34.59	1.82	1.33
1	1	1557	A	O3'-P	33.86	2.12	1.61
17	O	153	VAL	C-N	-32.86	0.89	1.33
1	1	913	A	O3'-P	32.85	2.10	1.61
17	O	167	TYR	C-N	32.35	1.78	1.33
1	1	858	A	O3'-P	32.31	2.09	1.61
1	1	17	G	O3'-P	32.23	2.09	1.61
1	1	2965	U	O3'-P	32.11	2.09	1.61
3	4	41	A	O3'-P	31.20	2.08	1.61
1	1	1931	U	O3'-P	30.28	2.06	1.61
1	1	2116	G	O3'-P	29.36	2.05	1.61
1	1	47	C	O3'-P	28.22	2.03	1.61
17	O	193	GLN	C-N	-27.62	0.98	1.33
17	O	128	ARG	C-N	27.36	1.71	1.33
1	1	2178	A	O3'-P	26.51	2.00	1.61
17	O	74	ARG	C-N	-25.81	0.80	1.33
17	O	190	VAL	C-N	25.32	1.67	1.33
1	1	2881	C	O3'-P	22.59	1.95	1.61
17	O	16	VAL	C-N	-22.33	1.00	1.33
17	O	90	HIS	C-N	22.30	1.65	1.33
17	O	72	HIS	C-N	21.66	1.63	1.33
12	I	95	HIS	C-N	21.57	1.97	1.33
17	O	115	LYS	C-N	21.52	1.64	1.33
17	O	49	ARG	C-N	19.66	1.61	1.33
17	O	95	GLY	C-N	19.03	1.56	1.33
1	1	2355	G	O3'-P	17.25	1.87	1.61
17	O	198	GLY	C-N	14.07	1.53	1.33
17	O	64	PHE	C-N	13.62	1.52	1.34
17	O	166	GLU	C-N	13.17	1.52	1.33
17	O	186	ALA	C-N	12.52	1.51	1.33
17	O	24	ALA	C-N	12.30	1.50	1.33
17	O	177	LYS	C-N	-11.08	1.18	1.33
20	R	165	LYS	CA-C	8.70	1.60	1.52
45	t	153	SER	CA-C	6.61	1.61	1.52
45	t	154	THR	CA-C	6.21	1.61	1.52
20	R	163	ARG	C-O	5.31	1.34	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	t	154	THR	N-CA	5.22	1.52	1.46
20	R	176	ARG	CA-C	5.09	1.57	1.53
6	C	222	VAL	CA-C	5.03	1.58	1.52

All (2847) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	O	153	VAL	O-C-N	-84.66	39.27	122.23
17	O	186	ALA	O-C-N	-83.55	23.52	122.11
17	O	72	HIS	O-C-N	-82.61	21.26	122.87
17	O	64	PHE	O-C-N	-73.33	26.36	122.42
17	O	125	ARG	O-C-N	-71.78	40.37	122.20
17	O	67	THR	O-C-N	-66.55	49.00	122.20
17	O	129	LEU	O-C-N	-66.23	32.21	122.94
17	O	16	VAL	O-C-N	-60.53	46.91	122.57
17	O	145	VAL	O-C-N	-58.90	48.94	122.57
17	O	160	ARG	O-C-N	-57.89	45.60	122.59
17	O	198	GLY	O-C-N	-53.87	52.67	122.70
17	O	167	TYR	O-C-N	-53.14	53.15	122.23
17	O	74	ARG	O-C-N	-48.41	74.35	121.79
17	O	177	LYS	O-C-N	-44.81	62.99	122.59
17	O	143	THR	O-C-N	-40.42	80.44	122.07
17	O	90	HIS	CA-C-N	-38.06	57.09	122.56
17	O	90	HIS	C-N-CA	-38.06	57.09	122.56
1	1	554	A	P-O3'-C3'	33.31	170.16	120.20
17	O	128	ARG	CA-C-N	-32.30	68.56	122.82
17	O	128	ARG	C-N-CA	-32.30	68.56	122.82
17	O	171	LYS	O-C-N	26.02	152.91	122.20
17	O	190	VAL	O-C-N	-25.97	96.23	122.20
17	O	24	ALA	CA-C-N	-25.50	72.83	121.54
17	O	24	ALA	C-N-CA	-25.50	72.83	121.54
17	O	36	VAL	O-C-N	-25.29	90.95	122.57
17	O	84	LEU	O-C-N	-25.05	91.86	122.17
17	O	190	VAL	CA-C-N	-24.49	83.47	122.65
17	O	190	VAL	C-N-CA	-24.49	83.47	122.65
17	O	171	LYS	CA-C-N	-24.48	81.96	122.11
17	O	171	LYS	C-N-CA	-24.48	81.96	122.11
17	O	153	VAL	CA-C-N	-22.95	85.94	122.65
17	O	153	VAL	C-N-CA	-22.95	85.94	122.65
17	O	128	ARG	O-C-N	20.42	149.75	122.59
17	O	24	ALA	O-C-N	19.96	149.13	122.59
1	1	920	A	P-O3'-C3'	19.70	149.75	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	O	193	GLN	O-C-N	19.49	149.16	122.46
17	O	36	VAL	CA-C-N	-18.98	85.29	121.54
17	O	36	VAL	C-N-CA	-18.98	85.29	121.54
17	O	84	LEU	CA-C-N	-17.92	87.31	121.54
17	O	84	LEU	C-N-CA	-17.92	87.31	121.54
3	4	137	C	O3'-P-O5'	-17.51	77.73	104.00
1	1	1493	G	C4'-C3'-O3'	17.19	135.18	109.40
17	O	125	ARG	CA-C-N	-16.82	91.69	121.97
17	O	125	ARG	C-N-CA	-16.82	91.69	121.97
17	O	193	GLN	CA-C-N	-16.80	97.78	120.63
17	O	193	GLN	C-N-CA	-16.80	97.78	120.63
1	1	1303	A	C4'-C3'-O3'	16.65	134.38	109.40
12	I	148	VAL	N-CA-C	16.03	126.90	110.23
1	1	2655	U	C2'-C3'-O3'	15.76	133.14	109.50
1	1	858	A	P-O3'-C3'	15.57	143.56	120.20
17	O	64	PHE	CA-C-N	-15.34	99.86	121.33
17	O	64	PHE	C-N-CA	-15.34	99.86	121.33
17	O	95	GLY	O-C-N	-15.16	102.99	122.70
1	1	2116	G	P-O3'-C3'	15.15	142.92	120.20
1	1	1557	A	P-O3'-C3'	15.02	142.73	120.20
14	L	112	ASN	N-CA-C	15.01	132.23	112.12
17	O	95	GLY	CA-C-N	-14.90	100.07	120.79
17	O	95	GLY	C-N-CA	-14.90	100.07	120.79
1	1	3242	G	C2'-C3'-O3'	14.87	131.81	109.50
1	1	2812	C	P-O3'-C3'	-14.84	97.95	120.20
1	1	2139	A	C2'-C3'-O3'	14.58	131.37	109.50
34	f	63	LYS	N-CA-C	14.46	127.04	111.28
1	1	1520	G	C1'-C2'-O2'	14.45	130.08	108.40
17	O	189	ASP	CA-C-N	-14.23	101.28	121.77
17	O	189	ASP	C-N-CA	-14.23	101.28	121.77
1	1	2625	C	C4'-C3'-O3'	14.14	130.61	109.40
3	4	20	U	C1'-C2'-O2'	13.87	129.21	108.40
1	1	1906	G	C2'-C3'-O3'	13.87	130.30	109.50
25	W	21	PHE	N-CA-C	13.82	128.02	108.54
17	O	143	THR	CA-C-N	13.80	147.36	122.38
17	O	143	THR	C-N-CA	13.80	147.36	122.38
1	1	387	A	C2'-C3'-O3'	13.80	134.40	113.70
1	1	835	G	C2'-C3'-O3'	13.76	130.14	109.50
16	N	102	ALA	N-CA-C	13.76	125.79	111.07
1	1	2731	U	C2'-C3'-O3'	13.75	134.32	113.70
1	1	1101	G	P-O3'-C3'	-13.63	99.75	120.20
3	4	10	A	C2'-C3'-O3'	13.60	134.10	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	S	40	ARG	N-CA-C	13.58	127.76	111.33
1	1	2116	G	O3'-P-O5'	-13.53	83.70	104.00
1	1	3176	G	C3'-C2'-O2'	13.50	130.95	110.70
1	1	2622	C	C1'-C2'-O2'	13.46	128.60	108.40
1	1	3279	A	C3'-C2'-O2'	13.40	130.80	110.70
1	1	3001	C	C1'-C2'-O2'	13.36	128.44	108.40
1	1	3292	A	C2'-C3'-O3'	13.35	133.73	113.70
1	1	2574	G	C3'-C2'-O2'	13.32	130.68	110.70
1	1	2711	C	C1'-C2'-O2'	13.32	128.38	108.40
1	1	2874	G	C3'-C2'-O2'	13.30	130.64	110.70
17	O	74	ARG	CA-C-N	13.28	154.21	121.80
17	O	74	ARG	C-N-CA	13.28	154.21	121.80
1	1	2416	U	C1'-C2'-O2'	13.26	128.29	108.40
1	1	639	G	C1'-C2'-O2'	13.25	128.28	108.40
1	1	2439	A	C1'-C2'-O2'	13.23	128.25	108.40
1	1	2156	C	C4'-C3'-O3'	13.23	132.84	113.00
1	1	1835	A	C3'-C2'-O2'	13.21	130.51	110.70
17	O	16	VAL	CA-C-N	-13.16	95.61	121.41
17	O	16	VAL	C-N-CA	-13.16	95.61	121.41
17	O	185	ALA	N-CA-C	13.16	127.09	111.82
1	1	2955	U	C2'-C3'-O3'	13.11	129.16	109.50
1	1	3216	G	C4'-C3'-O3'	13.10	129.05	109.40
1	1	765	C	C2'-C3'-O3'	13.09	129.14	109.50
1	1	897	U	C3'-C2'-O2'	13.07	130.31	110.70
27	Y	46	LYS	N-CA-C	13.06	125.21	110.97
1	1	196	G	C1'-C2'-O2'	13.06	127.99	108.40
15	M	90	VAL	N-CA-C	13.05	123.80	110.23
1	1	109	A	C4'-C3'-O3'	13.04	128.95	109.40
1	1	291	C	C3'-C2'-O2'	13.03	130.24	110.70
1	1	1186	G	C1'-C2'-O2'	13.00	127.91	108.40
1	1	1298	C	C1'-C2'-O2'	12.98	127.87	108.40
16	N	161	ALA	N-CA-C	12.97	126.63	111.71
1	1	2659	G	C2'-C3'-O3'	12.97	133.16	113.70
1	1	1711	C	C1'-C2'-O2'	12.96	127.84	108.40
1	1	3127	A	C3'-C2'-O2'	12.95	130.12	110.70
1	1	894	G	C2'-C3'-O3'	12.95	128.92	109.50
1	1	730	C	C3'-C2'-O2'	12.94	130.11	110.70
1	1	2956	A	C1'-C2'-O2'	12.93	127.80	108.40
1	1	415	G	C3'-C2'-O2'	12.93	130.09	110.70
1	1	3297	U	C3'-C2'-O2'	12.93	130.09	110.70
3	4	52	A	C3'-C2'-O2'	12.93	130.09	110.70
1	1	2150	G	C3'-C2'-O2'	12.92	130.08	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1296	C	C1'-C2'-O2'	12.92	127.78	108.40
17	O	80	PHE	O-C-N	-12.91	105.41	122.59
1	1	2721	A	C3'-C2'-O2'	12.90	130.06	110.70
1	1	167	U	C2'-C3'-O3'	12.89	133.03	113.70
1	1	288	C	C1'-C2'-O2'	12.88	127.72	108.40
2	3	61	G	C3'-C2'-O2'	12.88	130.02	110.70
3	4	63	G	C3'-C2'-O2'	12.88	130.02	110.70
1	1	1420	C	C3'-C2'-O2'	12.87	130.01	110.70
1	1	3391	A	C3'-C2'-O2'	12.88	130.01	110.70
1	1	549	U	C1'-C2'-O2'	12.87	127.70	108.40
1	1	2159	U	C4'-C3'-O3'	12.86	128.69	109.40
3	4	137	C	P-O3'-C3'	12.86	139.49	120.20
1	1	258	G	C3'-C2'-O2'	12.86	129.98	110.70
16	N	7	LEU	N-CA-C	12.86	126.89	111.33
1	1	132	C	C2'-C3'-O3'	12.83	128.75	109.50
1	1	759	U	C3'-C2'-O2'	12.83	129.94	110.70
1	1	652	G	C1'-C2'-O2'	12.83	127.64	108.40
1	1	84	U	C1'-C2'-O2'	12.81	127.61	108.40
1	1	1185	C	C1'-C2'-O2'	12.80	127.59	108.40
1	1	1942	U	C3'-C2'-O2'	12.80	129.89	110.70
1	1	514	G	C1'-C2'-O2'	12.78	127.57	108.40
25	W	41	LYS	N-CA-C	12.78	126.40	111.71
34	f	15	SER	N-CA-C	12.77	126.87	108.86
1	1	886	C	C1'-C2'-O2'	12.76	127.54	108.40
1	1	2126	A	C1'-C2'-O2'	12.76	127.54	108.40
1	1	364	G	C1'-C2'-O2'	12.75	127.53	108.40
1	1	2291	A	C3'-C2'-O2'	12.74	129.81	110.70
1	1	2587	U	C1'-C2'-O2'	12.74	127.50	108.40
1	1	141	C	C1'-C2'-O2'	12.73	127.50	108.40
1	1	2789	U	C3'-C2'-O2'	12.73	129.80	110.70
1	1	1533	U	C3'-C2'-O2'	12.73	129.79	110.70
1	1	2225	U	C1'-C2'-O2'	12.72	127.47	108.40
1	1	418	A	C3'-C2'-O2'	12.71	129.77	110.70
1	1	2945	G	C3'-C2'-O2'	12.71	129.77	110.70
1	1	616	G	C1'-C2'-O2'	12.71	127.47	108.40
1	1	1735	G	C1'-C2'-O2'	12.71	127.47	108.40
1	1	394	G	C1'-C2'-O2'	12.71	127.46	108.40
1	1	1400	G	C3'-C2'-O2'	12.70	129.76	110.70
1	1	1769	G	C1'-C2'-O2'	12.71	127.46	108.40
1	1	1519	G	C3'-C2'-O2'	12.69	129.74	110.70
38	j	63	ARG	N-CA-C	12.68	125.18	111.36
1	1	2316	G	C1'-C2'-O2'	12.68	127.42	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2149	A	C3'-C2'-O2'	12.68	129.72	110.70
2	3	27	A	C1'-C2'-O2'	12.67	127.41	108.40
1	1	379	C	C3'-C2'-O2'	12.65	129.67	110.70
1	1	1039	U	C3'-C2'-O2'	12.65	129.67	110.70
1	1	1785	U	C3'-C2'-O2'	12.64	129.67	110.70
1	1	2520	A	C3'-C2'-O2'	12.64	129.67	110.70
1	1	2601	A	C1'-C2'-O2'	12.64	127.36	108.40
2	3	11	A	C3'-C2'-O2'	12.63	129.65	110.70
1	1	237	G	C1'-C2'-O2'	12.62	127.33	108.40
1	1	2114	C	C1'-C2'-O2'	12.61	127.31	108.40
1	1	3253	G	C3'-C2'-O2'	12.60	129.61	110.70
1	1	1132	C	C3'-C2'-O2'	12.60	129.60	110.70
1	1	2108	C	C3'-C2'-O2'	12.60	129.59	110.70
1	1	2777	G	C1'-C2'-O2'	12.60	127.29	108.40
1	1	2610	G	C1'-C2'-O2'	12.59	127.29	108.40
1	1	2191	U	C3'-C2'-O2'	12.59	129.58	110.70
1	1	2288	G	C2'-C3'-O3'	12.59	132.58	113.70
1	1	2838	A	C1'-C2'-O2'	12.59	127.28	108.40
1	1	1278	A	C1'-C2'-O2'	12.58	130.67	111.80
9	F	101	LYS	N-CA-C	12.57	124.99	111.28
1	1	2308	C	C1'-C2'-O2'	12.57	127.26	108.40
36	h	9	LEU	N-CA-C	12.57	126.20	111.11
1	1	1892	G	C1'-C2'-O2'	12.57	127.26	108.40
29	a	144	VAL	N-CA-C	12.57	125.53	112.96
1	1	1705	U	C1'-C2'-O2'	12.57	127.25	108.40
1	1	1499	C	C3'-C2'-O2'	12.56	129.54	110.70
3	4	52	A	C1'-C2'-O2'	12.56	127.24	108.40
1	1	1448	U	C1'-C2'-O2'	12.56	127.23	108.40
1	1	1005	G	C1'-C2'-O2'	12.55	127.22	108.40
5	B	144	ILE	N-CA-C	12.55	124.68	111.00
1	1	565	U	C3'-C2'-O2'	12.54	129.52	110.70
1	1	763	G	C2'-C3'-O3'	12.54	132.51	113.70
1	1	1336	U	C3'-C2'-O2'	12.54	129.50	110.70
3	4	13	A	C1'-C2'-O2'	12.52	127.18	108.40
16	N	141	ALA	N-CA-C	12.52	127.66	112.38
3	4	107	G	C3'-C2'-O2'	12.52	129.47	110.70
1	1	549	U	C3'-C2'-O2'	12.51	129.47	110.70
1	1	2358	A	C3'-C2'-O2'	12.50	129.45	110.70
1	1	584	G	C1'-C2'-O2'	12.50	127.15	108.40
1	1	3308	C	C1'-C2'-O2'	12.49	127.14	108.40
1	1	3222	U	C3'-C2'-O2'	12.48	129.43	110.70
1	1	864	G	C1'-C2'-O2'	12.48	127.12	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	32	U	C3'-C2'-O2'	12.47	129.41	110.70
2	3	8	G	C1'-C2'-O2'	12.47	127.11	108.40
1	1	208	C	C1'-C2'-O2'	12.47	127.10	108.40
1	1	3304	U	C2'-C3'-O3'	12.47	128.21	109.50
1	1	2121	G	C3'-C2'-O2'	12.47	129.40	110.70
1	1	435	C	C3'-C2'-O2'	12.46	129.39	110.70
1	1	2314	U	C3'-C2'-O2'	12.46	129.39	110.70
1	1	390	G	C3'-C2'-O2'	12.45	129.38	110.70
1	1	1935	G	C1'-C2'-O2'	12.45	127.08	108.40
1	1	2826	U	C1'-C2'-O2'	12.45	127.08	108.40
1	1	1508	C	C3'-C2'-O2'	12.45	129.37	110.70
1	1	2623	G	C1'-C2'-O2'	12.45	127.07	108.40
1	1	371	G	C1'-C2'-O2'	12.44	127.06	108.40
1	1	864	G	C3'-C2'-O2'	12.44	129.36	110.70
1	1	1725	C	C3'-C2'-O2'	12.44	129.35	110.70
1	1	1547	G	C2'-C3'-O3'	12.43	128.15	109.50
1	1	2421	U	C1'-C2'-O2'	12.43	127.05	108.40
1	1	2833	A	C3'-C2'-O2'	12.43	129.34	110.70
17	O	189	ASP	O-C-N	-12.43	105.31	122.46
1	1	2777	G	C3'-C2'-O2'	12.43	129.34	110.70
1	1	2981	U	C3'-C2'-O2'	12.42	129.33	110.70
2	3	67	G	C1'-C2'-O2'	12.42	127.03	108.40
1	1	1839	A	C3'-C2'-O2'	12.42	129.33	110.70
1	1	358	G	C1'-C2'-O2'	12.41	127.02	108.40
1	1	241	G	C3'-C2'-O2'	12.41	129.31	110.70
1	1	1498	A	C3'-C2'-O2'	12.41	129.31	110.70
1	1	2104	A	C3'-C2'-O2'	12.40	129.31	110.70
1	1	232	G	C3'-C2'-O2'	12.40	129.30	110.70
3	4	121	U	C3'-C2'-O2'	12.39	129.29	110.70
1	1	1189	C	C4'-C3'-O3'	12.38	127.98	109.40
2	3	69	C	C1'-C2'-O2'	12.38	126.97	108.40
3	4	152	G	C1'-C2'-O2'	12.38	126.97	108.40
1	1	2158	A	C2'-C3'-O3'	12.37	128.06	109.50
1	1	2689	A	C4'-C3'-O3'	12.37	127.95	109.40
1	1	840	C	C1'-C2'-O2'	12.36	126.94	108.40
1	1	2558	U	C1'-C2'-O2'	12.36	126.94	108.40
1	1	1056	U	C4'-C3'-O3'	12.35	131.53	113.00
3	4	117	C	C3'-C2'-O2'	12.35	129.23	110.70
1	1	1466	G	C3'-C2'-O2'	12.35	129.22	110.70
1	1	2405	C	C3'-C2'-O2'	12.35	129.22	110.70
1	1	3329	U	C1'-C2'-O2'	12.35	126.93	108.40
1	1	2439	A	C3'-C2'-O2'	12.35	129.22	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	104	A	C1'-C2'-O2'	12.35	126.92	108.40
1	1	1737	U	C3'-C2'-O2'	12.34	129.21	110.70
3	4	30	C	C1'-C2'-O2'	12.34	126.91	108.40
1	1	275	U	C3'-C2'-O2'	12.34	129.20	110.70
1	1	426	G	C1'-C2'-O2'	12.34	126.90	108.40
1	1	311	C	C3'-C2'-O2'	12.33	129.20	110.70
1	1	2172	A	C3'-C2'-O2'	12.33	129.20	110.70
3	4	104	A	C1'-C2'-O2'	12.33	126.90	108.40
1	1	3222	U	C1'-C2'-O2'	12.33	126.89	108.40
1	1	2944	U	C1'-C2'-O2'	12.32	126.88	108.40
3	4	121	U	C1'-C2'-O2'	12.32	126.88	108.40
1	1	69	C	C1'-C2'-O2'	12.31	126.87	108.40
1	1	2405	C	C1'-C2'-O2'	12.31	126.87	108.40
1	1	2623	G	C3'-C2'-O2'	12.31	129.16	110.70
1	1	1631	C	C1'-C2'-O2'	12.30	126.85	108.40
1	1	95	A	C3'-C2'-O2'	12.30	129.14	110.70
1	1	1652	G	C2'-C3'-O3'	12.29	127.94	109.50
1	1	2564	G	C3'-C2'-O2'	12.30	129.14	110.70
1	1	1868	G	C1'-C2'-O2'	12.28	126.82	108.40
1	1	192	C	C3'-C2'-O2'	12.28	129.11	110.70
1	1	1360	C	C3'-C2'-O2'	12.28	129.12	110.70
1	1	2822	U	C1'-C2'-O2'	12.28	126.81	108.40
1	1	637	C	C2'-C3'-O3'	12.27	127.91	109.50
1	1	1264	G	C4'-C3'-O3'	12.27	127.81	109.40
1	1	2803	A	C4'-C3'-O3'	12.27	127.81	109.40
1	1	2218	G	C3'-C2'-O2'	12.27	129.10	110.70
1	1	1105	A	C3'-C2'-O2'	12.26	129.10	110.70
1	1	914	A	C2'-C3'-O3'	12.26	127.88	109.50
1	1	637	C	C4'-C3'-O3'	12.25	127.78	109.40
1	1	1384	U	C1'-C2'-O2'	12.25	126.78	108.40
43	o	29	LYS	N-CA-C	12.25	128.91	112.25
1	1	2501	U	C2'-C3'-O3'	12.25	127.87	109.50
3	4	104	A	C3'-C2'-O2'	12.24	129.06	110.70
1	1	51	A	C1'-C2'-O2'	12.24	126.75	108.40
1	1	2661	G	C2'-C3'-O3'	12.23	127.85	109.50
1	1	1797	A	C3'-C2'-O2'	12.23	129.05	110.70
2	3	88	G	C1'-C2'-O2'	12.23	126.74	108.40
1	1	1099	A	C1'-C2'-O2'	12.22	126.72	108.40
1	1	1272	C	C1'-C2'-O2'	12.22	126.72	108.40
1	1	1746	U	C1'-C2'-O2'	12.22	126.72	108.40
1	1	2789	U	C1'-C2'-O2'	12.21	126.72	108.40
1	1	3025	C	C3'-C2'-O2'	12.21	129.02	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3199	G	C3'-C2'-O2'	12.21	129.02	110.70
2	3	33	U	C1'-C2'-O2'	12.21	126.72	108.40
1	1	497	C	C1'-C2'-O2'	12.21	126.72	108.40
1	1	587	U	C3'-C2'-O2'	12.21	129.01	110.70
1	1	2835	U	C3'-C2'-O2'	12.20	129.00	110.70
1	1	334	A	C3'-C2'-O2'	12.20	129.00	110.70
1	1	1673	G	C2'-C3'-O3'	12.20	132.00	113.70
1	1	260	C	C3'-C2'-O2'	12.20	129.00	110.70
1	1	2149	A	C1'-C2'-O2'	12.20	126.70	108.40
1	1	2883	U	C3'-C2'-O2'	12.19	128.99	110.70
1	1	697	A	C3'-C2'-O2'	12.18	128.97	110.70
1	1	2902	A	C3'-C2'-O2'	12.18	128.97	110.70
1	1	334	A	C1'-C2'-O2'	12.18	126.67	108.40
1	1	1484	U	C2'-C3'-O3'	12.18	127.77	109.50
1	1	868	C	C3'-C2'-O2'	12.18	128.96	110.70
1	1	564	G	C1'-C2'-O2'	12.17	126.66	108.40
37	i	67	LYS	N-CA-C	12.17	124.55	111.28
1	1	2094	C	C1'-C2'-O2'	12.17	126.65	108.40
1	1	2297	U	C1'-C2'-O2'	12.17	126.65	108.40
1	1	813	G	C1'-C2'-O2'	12.16	126.65	108.40
1	1	90	C	C1'-C2'-O2'	12.16	126.64	108.40
1	1	3189	G	C3'-C2'-O2'	12.16	128.94	110.70
1	1	1933	A	C3'-C2'-O2'	12.16	128.94	110.70
1	1	2291	A	C1'-C2'-O2'	12.16	126.64	108.40
1	1	266	A	C3'-C2'-O2'	12.15	128.93	110.70
1	1	390	G	C1'-C2'-O2'	12.15	126.62	108.40
1	1	424	G	C2'-C3'-O3'	12.15	131.92	113.70
1	1	2358	A	C1'-C2'-O2'	12.15	126.62	108.40
2	3	43	U	C3'-C2'-O2'	12.15	128.92	110.70
1	1	2622	C	C3'-C2'-O2'	12.14	128.92	110.70
1	1	3161	C	C3'-C2'-O2'	12.14	128.91	110.70
1	1	123	A	C1'-C2'-O2'	12.14	126.61	108.40
1	1	260	C	C1'-C2'-O2'	12.14	126.61	108.40
1	1	405	U	C3'-C2'-O2'	12.14	128.91	110.70
1	1	1921	A	C3'-C2'-O2'	12.13	128.90	110.70
1	1	2194	G	C3'-C2'-O2'	12.13	128.90	110.70
3	4	13	A	C3'-C2'-O2'	12.13	128.90	110.70
3	4	30	C	C3'-C2'-O2'	12.13	128.90	110.70
1	1	2833	A	C1'-C2'-O2'	12.13	126.60	108.40
5	B	173	GLN	N-CA-C	12.13	126.89	111.24
1	1	1207	G	C1'-C2'-O2'	12.13	126.59	108.40
1	1	1700	G	C1'-C2'-O2'	12.13	126.59	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3355	U	C1'-C2'-O2'	12.13	126.59	108.40
3	4	10	A	C3'-C2'-O2'	12.13	128.89	110.70
1	1	418	A	C1'-C2'-O2'	12.12	126.59	108.40
1	1	696	C	C3'-C2'-O2'	12.12	128.88	110.70
1	1	813	G	C3'-C2'-O2'	12.12	128.88	110.70
1	1	595	G	C3'-C2'-O2'	12.11	128.86	110.70
1	1	868	C	C1'-C2'-O2'	12.11	126.56	108.40
1	1	1705	U	C3'-C2'-O2'	12.11	128.87	110.70
1	1	1746	U	C3'-C2'-O2'	12.11	128.86	110.70
1	1	699	A	C1'-C2'-O2'	12.11	126.56	108.40
1	1	1538	G	C3'-C2'-O2'	12.11	128.86	110.70
1	1	1942	U	C1'-C2'-O2'	12.10	126.56	108.40
1	1	1934	G	C1'-C2'-O2'	12.10	126.55	108.40
1	1	2922	G	C1'-C2'-O2'	12.10	126.55	108.40
1	1	1483	G	C1'-C2'-O2'	12.10	129.95	111.80
11	H	51	GLN	N-CA-C	12.10	127.14	112.38
1	1	2263	C	C1'-C2'-O2'	12.09	126.54	108.40
1	1	3240	C	C1'-C2'-O2'	12.09	126.54	108.40
1	1	3253	G	C1'-C2'-O2'	12.09	126.54	108.40
1	1	698	U	C1'-C2'-O2'	12.09	126.53	108.40
1	1	16	A	C3'-C2'-O2'	12.08	128.83	110.70
1	1	1099	A	C3'-C2'-O2'	12.08	128.82	110.70
1	1	1102	A	C3'-C2'-O2'	12.08	128.82	110.70
1	1	655	C	C1'-C2'-O2'	12.07	126.51	108.40
1	1	69	C	C3'-C2'-O2'	12.07	128.81	110.70
1	1	2350	C	C1'-C2'-O2'	12.07	126.51	108.40
1	1	3226	A	C1'-C2'-O2'	12.07	126.50	108.40
18	P	169	THR	N-CA-C	12.06	126.09	110.53
1	1	95	A	C1'-C2'-O2'	12.06	126.49	108.40
1	1	1182	A	C1'-C2'-O2'	12.06	126.48	108.40
1	1	944	C	C1'-C2'-O2'	12.05	126.48	108.40
1	1	2094	C	C3'-C2'-O2'	12.06	128.78	110.70
1	1	2378	C	C1'-C2'-O2'	12.05	126.48	108.40
1	1	432	G	C1'-C2'-O2'	12.05	126.48	108.40
1	1	237	G	C3'-C2'-O2'	12.05	128.77	110.70
5	B	14	LEU	N-CA-C	12.05	125.56	111.71
1	1	712	G	C3'-C2'-O2'	12.04	128.77	110.70
1	1	2619	G	C1'-C2'-O2'	12.04	126.46	108.40
1	1	266	A	C1'-C2'-O2'	12.04	126.45	108.40
1	1	3260	G	C1'-C2'-O2'	12.04	126.45	108.40
1	1	1797	A	C1'-C2'-O2'	12.03	126.45	108.40
1	1	3138	U	C3'-C2'-O2'	12.04	128.75	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1447	G	C4'-C3'-O3'	12.03	127.44	109.40
1	1	1359	C	C3'-C2'-O2'	12.01	128.72	110.70
1	1	652	G	C3'-C2'-O2'	12.01	128.71	110.70
1	1	1284	C	C1'-C2'-O2'	12.01	126.41	108.40
1	1	1422	G	C2'-C3'-O3'	12.01	127.51	109.50
1	1	1005	G	C3'-C2'-O2'	12.00	128.71	110.70
1	1	2881	C	O3'-P-O5'	-12.00	86.00	104.00
1	1	94	G	C1'-C2'-O2'	12.00	126.40	108.40
1	1	2593	A	C2'-C3'-O3'	11.99	127.49	109.50
1	1	2651	G	C4'-C3'-O3'	11.99	127.39	109.40
1	1	1769	G	C3'-C2'-O2'	11.99	128.68	110.70
2	3	43	U	C1'-C2'-O2'	11.99	126.39	108.40
27	Y	39	LEU	N-CA-C	11.99	127.09	111.75
1	1	993	G	C2'-C3'-O3'	11.99	127.48	109.50
1	1	3251	U	C3'-C2'-O2'	11.99	128.68	110.70
1	1	565	U	C1'-C2'-O2'	11.98	126.38	108.40
1	1	593	C	C3'-C2'-O2'	11.98	128.68	110.70
1	1	1216	C	C1'-C2'-O2'	11.98	126.38	108.40
1	1	1237	G	C1'-C2'-O2'	11.98	126.37	108.40
1	1	3158	G	C3'-C2'-O2'	11.97	128.66	110.70
1	1	1499	C	C1'-C2'-O2'	11.97	126.36	108.40
1	1	379	C	C1'-C2'-O2'	11.96	126.35	108.40
1	1	1658	G	C3'-C2'-O2'	11.96	128.65	110.70
1	1	1867	A	C1'-C2'-O2'	11.96	126.34	108.40
1	1	1937	U	C3'-C2'-O2'	11.96	128.64	110.70
1	1	361	A	C1'-C2'-O2'	11.96	126.33	108.40
1	1	1261	G	C1'-C2'-O2'	11.95	126.33	108.40
1	1	1941	C	C1'-C2'-O2'	11.95	126.33	108.40
1	1	2378	C	C3'-C2'-O2'	11.95	128.62	110.70
1	1	1182	A	C3'-C2'-O2'	11.94	128.61	110.70
1	1	192	C	C1'-C2'-O2'	11.94	126.31	108.40
1	1	1351	U	C2'-C3'-O3'	11.94	131.61	113.70
1	1	966	U	C1'-C2'-O2'	11.93	126.30	108.40
1	1	1229	G	C3'-C2'-O2'	11.93	128.60	110.70
1	1	1344	G	C3'-C2'-O2'	11.92	128.57	110.70
1	1	1359	C	C1'-C2'-O2'	11.92	126.28	108.40
1	1	2970	C	C3'-C2'-O2'	11.91	128.57	110.70
1	1	51	A	C3'-C2'-O2'	11.90	128.56	110.70
1	1	917	A	C2'-C3'-O3'	11.90	131.55	113.70
6	C	261	VAL	N-CA-C	11.90	124.19	110.62
1	1	362	U	C3'-C2'-O2'	11.90	128.55	110.70
1	1	2838	A	C3'-C2'-O2'	11.90	128.55	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	704	U	C3'-C2'-O2'	11.89	128.54	110.70
1	1	1150	A	C3'-C2'-O2'	11.89	128.54	110.70
1	1	1102	A	C1'-C2'-O2'	11.89	126.23	108.40
1	1	1298	C	C3'-C2'-O2'	11.89	128.53	110.70
2	3	19	C	C1'-C2'-O2'	11.89	126.23	108.40
1	1	1575	A	C3'-C2'-O2'	11.89	128.53	110.70
1	1	1945	A	C1'-C2'-O2'	11.88	126.22	108.40
2	3	27	A	C3'-C2'-O2'	11.88	128.52	110.70
1	1	1538	G	C1'-C2'-O2'	11.87	126.21	108.40
1	1	1600	U	C2'-C3'-O3'	11.87	127.30	109.50
1	1	3376	A	C3'-C2'-O2'	11.87	128.50	110.70
2	3	120	C	C1'-C2'-O2'	11.87	126.20	108.40
1	1	1003	A	C3'-C2'-O2'	11.87	128.50	110.70
1	1	426	G	C3'-C2'-O2'	11.87	128.50	110.70
1	1	1229	G	C1'-C2'-O2'	11.86	126.19	108.40
3	4	152	G	C3'-C2'-O2'	11.86	128.50	110.70
40	1	5	LYS	N-CA-C	11.87	125.00	110.41
1	1	704	U	C1'-C2'-O2'	11.86	126.19	108.40
1	1	208	C	C3'-C2'-O2'	11.86	128.49	110.70
1	1	811	U	C1'-C2'-O2'	11.86	126.19	108.40
5	B	76	VAL	N-CA-C	11.86	125.32	108.36
1	1	1328	C	C3'-C2'-O2'	11.86	128.48	110.70
1	1	2194	G	C1'-C2'-O2'	11.85	126.18	108.40
1	1	944	C	C3'-C2'-O2'	11.85	128.48	110.70
1	1	2826	U	C3'-C2'-O2'	11.85	128.48	110.70
1	1	1344	G	C1'-C2'-O2'	11.85	126.17	108.40
1	1	288	C	C3'-C2'-O2'	11.85	128.47	110.70
1	1	1451	C	C1'-C2'-O2'	11.85	126.17	108.40
1	1	1819	U	C3'-C2'-O2'	11.85	128.47	110.70
1	1	497	C	C3'-C2'-O2'	11.84	128.47	110.70
1	1	1629	U	C2'-C3'-O3'	11.84	127.26	109.50
1	1	3376	A	C1'-C2'-O2'	11.84	126.16	108.40
1	1	1575	A	C1'-C2'-O2'	11.83	126.15	108.40
17	O	189	ASP	N-CA-C	11.83	127.21	113.01
1	1	3025	C	C1'-C2'-O2'	11.83	126.14	108.40
2	3	69	C	C3'-C2'-O2'	11.83	128.44	110.70
1	1	2314	U	C1'-C2'-O2'	11.83	126.14	108.40
1	1	879	U	C3'-C2'-O2'	11.82	128.44	110.70
1	1	2160	G	C3'-C2'-O2'	11.82	128.44	110.70
1	1	2185	G	C3'-C2'-O2'	11.82	128.44	110.70
3	4	73	U	C1'-C2'-O2'	11.82	126.14	108.40
1	1	311	C	C1'-C2'-O2'	11.82	126.13	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1540	U	C3'-C2'-O2'	11.82	128.43	110.70
1	1	1174	G	C1'-C2'-O2'	11.82	126.13	108.40
1	1	1817	G	C2'-C3'-O3'	11.82	127.23	109.50
1	1	1174	G	C3'-C2'-O2'	11.82	128.42	110.70
1	1	1945	A	C3'-C2'-O2'	11.82	128.43	110.70
1	1	1162	U	P-O3'-C3'	-11.81	102.48	120.20
1	1	432	G	C3'-C2'-O2'	11.81	128.42	110.70
1	1	1122	U	C3'-C2'-O2'	11.81	128.41	110.70
1	1	362	U	C1'-C2'-O2'	11.81	126.11	108.40
2	3	23	A	C1'-C2'-O2'	11.81	126.11	108.40
1	1	3261	C	C1'-C2'-O2'	11.80	126.11	108.40
1	1	1941	C	C3'-C2'-O2'	11.80	128.40	110.70
1	1	548	G	C1'-C2'-O2'	11.79	126.09	108.40
1	1	1637	A	O3'-P-O5'	-11.79	86.31	104.00
1	1	2410	U	C1'-C2'-O2'	11.79	126.09	108.40
1	1	702	C	C2'-C3'-O3'	11.79	131.38	113.70
1	1	3251	U	C1'-C2'-O2'	11.79	126.08	108.40
2	3	120	C	C3'-C2'-O2'	11.78	128.38	110.70
1	1	2452	G	C1'-C2'-O2'	11.78	126.06	108.40
1	1	2150	G	C1'-C2'-O2'	11.77	126.06	108.40
1	1	1400	G	C1'-C2'-O2'	11.77	126.06	108.40
1	1	244	G	C2'-C3'-O3'	11.77	131.35	113.70
1	1	299	G	C3'-C2'-O2'	11.76	128.34	110.70
1	1	2195	C	C2'-C3'-O3'	11.76	127.14	109.50
1	1	381	U	C1'-C2'-O2'	11.75	126.03	108.40
1	1	1013	G	C3'-C2'-O2'	11.75	128.33	110.70
17	O	49	ARG	O-C-N	11.75	141.81	123.00
2	3	8	G	C3'-C2'-O2'	11.75	128.32	110.70
4	A	37	ARG	N-CA-C	11.75	125.45	111.82
1	1	1385	C	C1'-C2'-O2'	11.75	126.02	108.40
2	3	19	C	C3'-C2'-O2'	11.75	128.32	110.70
1	1	1859	A	C2'-C3'-O3'	11.74	131.31	113.70
1	1	1153	A	C2'-C3'-O3'	11.73	127.10	109.50
1	1	1819	U	C1'-C2'-O2'	11.73	126.00	108.40
1	1	1700	G	C3'-C2'-O2'	11.73	128.29	110.70
1	1	2172	A	C1'-C2'-O2'	11.73	125.99	108.40
1	1	2185	G	C1'-C2'-O2'	11.73	125.99	108.40
1	1	3161	C	C1'-C2'-O2'	11.72	125.99	108.40
13	J	34	SER	N-CA-C	11.72	125.52	111.33
35	g	84	CYS	N-CA-C	11.72	126.68	112.38
1	1	759	U	C1'-C2'-O2'	11.72	125.98	108.40
5	B	265	ALA	N-CA-C	11.71	127.61	108.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2883	U	C1'-C2'-O2'	11.70	125.95	108.40
1	1	639	G	C3'-C2'-O2'	11.70	128.25	110.70
1	1	1122	U	C1'-C2'-O2'	11.70	125.94	108.40
1	1	1602	A	C1'-C2'-O2'	11.69	125.94	108.40
1	1	1938	U	C1'-C2'-O2'	11.69	129.34	111.80
1	1	2218	G	C1'-C2'-O2'	11.69	125.94	108.40
1	1	2550	U	C1'-C2'-O2'	11.68	125.92	108.40
1	1	10	C	C1'-C2'-O2'	11.68	125.91	108.40
1	1	2452	G	C3'-C2'-O2'	11.68	128.21	110.70
1	1	1533	U	C1'-C2'-O2'	11.67	125.91	108.40
1	1	3138	U	C1'-C2'-O2'	11.67	125.91	108.40
1	1	2410	U	C3'-C2'-O2'	11.67	128.21	110.70
3	4	34	U	C3'-C2'-O2'	11.66	128.20	110.70
1	1	299	G	C1'-C2'-O2'	11.66	125.89	108.40
1	1	1921	A	C1'-C2'-O2'	11.66	125.89	108.40
1	1	734	C	C1'-C2'-O2'	11.66	125.89	108.40
1	1	2481	G	C3'-C2'-O2'	11.66	128.19	110.70
14	L	158	ALA	N-CA-C	11.65	127.44	109.96
1	1	739	G	C4'-C3'-O3'	11.65	130.47	113.00
1	1	1203	A	C3'-C2'-O2'	11.65	128.17	110.70
1	1	1658	G	C1'-C2'-O2'	11.65	125.87	108.40
1	1	700	C	C4'-C3'-O3'	11.64	126.86	109.40
1	1	2283	G	C1'-C2'-O2'	11.64	129.26	111.80
1	1	3335	A	C2'-C3'-O3'	11.64	126.97	109.50
29	a	58	MET	N-CA-C	11.64	127.42	110.42
1	1	2558	U	C3'-C2'-O2'	11.64	128.16	110.70
1	1	1892	G	C3'-C2'-O2'	11.64	128.16	110.70
1	1	3199	G	C1'-C2'-O2'	11.64	125.86	108.40
35	g	92	ALA	N-CA-C	11.64	127.23	112.92
1	1	2398	A	C3'-C2'-O2'	11.63	128.15	110.70
1	1	2481	G	C1'-C2'-O2'	11.63	125.85	108.40
1	1	811	U	C3'-C2'-O2'	11.63	128.14	110.70
1	1	1508	C	C1'-C2'-O2'	11.62	125.83	108.40
1	1	1563	C	C1'-C2'-O2'	11.62	125.83	108.40
1	1	1207	G	C3'-C2'-O2'	11.62	128.13	110.70
1	1	291	C	C1'-C2'-O2'	11.62	125.82	108.40
1	1	1540	U	C1'-C2'-O2'	11.61	125.82	108.40
1	1	2587	U	C3'-C2'-O2'	11.61	128.12	110.70
2	3	33	U	C3'-C2'-O2'	11.62	128.12	110.70
39	k	12	LEU	N-CA-C	11.61	125.06	111.71
1	1	2350	C	C3'-C2'-O2'	11.61	128.11	110.70
1	1	879	U	C1'-C2'-O2'	11.60	125.81	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1261	G	C3'-C2'-O2'	11.60	128.10	110.70
1	1	1448	U	C3'-C2'-O2'	11.60	128.10	110.70
1	1	1519	G	C1'-C2'-O2'	11.60	125.80	108.40
1	1	8	C	C3'-C2'-O2'	11.59	128.09	110.70
1	1	371	G	C3'-C2'-O2'	11.59	128.09	110.70
1	1	778	U	C2'-C3'-O3'	11.59	126.88	109.50
1	1	8	C	C1'-C2'-O2'	11.58	125.77	108.40
1	1	2398	A	C1'-C2'-O2'	11.58	125.77	108.40
17	O	115	LYS	CA-C-N	-11.58	98.76	122.03
17	O	115	LYS	C-N-CA	-11.58	98.76	122.03
1	1	2191	U	C1'-C2'-O2'	11.57	125.76	108.40
1	1	1216	C	C3'-C2'-O2'	11.56	128.05	110.70
1	1	2160	G	C1'-C2'-O2'	11.56	125.75	108.40
2	3	61	G	C1'-C2'-O2'	11.56	125.75	108.40
1	1	1185	C	C3'-C2'-O2'	11.56	128.04	110.70
1	1	195	U	C1'-C2'-O2'	11.56	125.73	108.40
2	3	23	A	C3'-C2'-O2'	11.55	128.03	110.70
3	4	34	U	C1'-C2'-O2'	11.55	125.72	108.40
1	1	655	C	C3'-C2'-O2'	11.55	128.02	110.70
1	1	2186	U	C3'-C2'-O2'	11.55	128.02	110.70
2	3	109	G	C1'-C2'-O2'	11.55	125.72	108.40
1	1	587	U	C1'-C2'-O2'	11.55	125.72	108.40
1	1	2922	G	C3'-C2'-O2'	11.54	128.02	110.70
1	1	712	G	C1'-C2'-O2'	11.54	125.71	108.40
3	4	22	U	C1'-C2'-O2'	11.54	129.10	111.80
3	4	116	G	C2'-C3'-O3'	11.53	126.80	109.50
17	O	191	ALA	N-CA-C	11.53	127.10	112.92
1	1	1435	A	C1'-C2'-O2'	11.53	125.69	108.40
1	1	1495	U	C1'-C2'-O2'	11.52	125.69	108.40
1	1	910	G	C1'-C2'-O2'	11.52	125.68	108.40
1	1	2970	C	C1'-C2'-O2'	11.52	125.68	108.40
1	1	94	G	C3'-C2'-O2'	11.51	127.96	110.70
1	1	239	G	C3'-C2'-O2'	11.51	127.96	110.70
1	1	2511	C	C2'-C3'-O3'	11.51	126.76	109.50
1	1	3273	A	C1'-C2'-O2'	11.51	125.66	108.40
1	1	910	G	C3'-C2'-O2'	11.49	127.94	110.70
2	3	11	A	C1'-C2'-O2'	11.48	125.62	108.40
1	1	1106	G	C4'-C3'-O3'	11.48	130.22	113.00
2	3	104	A	C3'-C2'-O2'	11.48	127.92	110.70
1	1	3329	U	C3'-C2'-O2'	11.47	127.91	110.70
1	1	141	C	C3'-C2'-O2'	11.47	127.91	110.70
1	1	699	A	C3'-C2'-O2'	11.47	127.91	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	232	G	C1'-C2'-O2'	11.47	125.61	108.40
1	1	1498	A	C1'-C2'-O2'	11.47	125.60	108.40
1	1	1272	C	C3'-C2'-O2'	11.46	127.89	110.70
1	1	1495	U	C3'-C2'-O2'	11.46	127.89	110.70
3	4	10	A	C1'-C2'-O2'	11.46	125.59	108.40
1	1	2981	U	C1'-C2'-O2'	11.46	125.59	108.40
14	L	38	ALA	N-CA-C	11.46	126.76	113.01
1	1	2835	U	C1'-C2'-O2'	11.46	125.59	108.40
13	J	82	ARG	N-CA-C	11.46	123.33	111.07
1	1	886	C	C3'-C2'-O2'	11.46	127.89	110.70
33	e	87	MET	N-CA-C	11.45	123.76	111.28
1	1	1455	U	C4'-C3'-O3'	11.45	126.57	109.40
1	1	1563	C	C3'-C2'-O2'	11.45	127.87	110.70
1	1	3240	C	C3'-C2'-O2'	11.44	127.86	110.70
1	1	3226	A	C3'-C2'-O2'	11.44	127.86	110.70
1	1	966	U	C3'-C2'-O2'	11.43	127.85	110.70
1	1	1802	C	C3'-C2'-O2'	11.43	127.85	110.70
1	1	3308	C	C3'-C2'-O2'	11.43	127.85	110.70
1	1	3189	G	C1'-C2'-O2'	11.43	125.55	108.40
1	1	195	U	C3'-C2'-O2'	11.43	127.84	110.70
1	1	3391	A	C1'-C2'-O2'	11.43	125.54	108.40
38	j	37	CYS	N-CA-C	11.43	124.85	111.71
1	1	1451	C	C3'-C2'-O2'	11.42	127.83	110.70
5	B	107	ALA	N-CA-C	11.42	125.61	110.53
1	1	2619	G	C3'-C2'-O2'	11.42	127.82	110.70
1	1	2468	A	C2'-C3'-O3'	11.41	126.61	109.50
1	1	1237	G	C3'-C2'-O2'	11.41	127.81	110.70
1	1	368	G	C2'-C3'-O3'	11.40	130.81	113.70
1	1	157	A	C1'-C2'-O2'	11.40	125.50	108.40
1	1	358	G	C3'-C2'-O2'	11.40	127.80	110.70
1	1	1934	G	C3'-C2'-O2'	11.40	127.81	110.70
1	1	2114	C	C3'-C2'-O2'	11.40	127.80	110.70
1	1	1425	U	C2'-C3'-O3'	11.40	130.80	113.70
1	1	364	G	C3'-C2'-O2'	11.39	127.79	110.70
1	1	1937	U	C1'-C2'-O2'	11.39	125.49	108.40
1	1	1003	A	C1'-C2'-O2'	11.38	125.47	108.40
20	R	21	LYS	N-CA-C	11.38	127.00	112.89
1	1	241	G	C1'-C2'-O2'	11.38	125.46	108.40
1	1	3260	G	C3'-C2'-O2'	11.38	127.76	110.70
1	1	381	U	C3'-C2'-O2'	11.37	127.76	110.70
1	1	1384	U	C3'-C2'-O2'	11.37	127.76	110.70
1	1	2308	C	C3'-C2'-O2'	11.37	127.75	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3273	A	C3'-C2'-O2'	11.37	127.75	110.70
2	3	67	G	C3'-C2'-O2'	11.37	127.75	110.70
1	1	361	A	C3'-C2'-O2'	11.36	127.75	110.70
1	1	1336	U	C1'-C2'-O2'	11.36	125.44	108.40
1	1	1385	C	C3'-C2'-O2'	11.36	127.74	110.70
1	1	1735	G	C3'-C2'-O2'	11.36	127.74	110.70
1	1	16	A	C1'-C2'-O2'	11.36	125.44	108.40
1	1	3261	C	C3'-C2'-O2'	11.35	127.73	110.70
1	1	2721	A	C1'-C2'-O2'	11.35	125.43	108.40
1	1	1578	C	C2'-C3'-O3'	11.34	130.72	113.70
39	k	28	ASN	N-CA-C	11.34	125.86	110.55
1	1	2130	G	C2'-C3'-O3'	11.34	130.71	113.70
1	1	2225	U	C3'-C2'-O2'	11.34	127.70	110.70
1	1	2843	U	C3'-C2'-O2'	11.34	127.70	110.70
28	Z	113	VAL	N-CA-C	11.33	125.26	111.09
1	1	32	U	C1'-C2'-O2'	11.32	125.39	108.40
1	1	435	C	C1'-C2'-O2'	11.32	125.39	108.40
1	1	734	C	C3'-C2'-O2'	11.32	127.68	110.70
1	1	335	G	C4'-C3'-O3'	11.32	129.98	113.00
1	1	157	A	C3'-C2'-O2'	11.32	127.67	110.70
1	1	595	G	C1'-C2'-O2'	11.32	125.38	108.40
3	4	81	U	C2'-C3'-O3'	11.31	126.47	109.50
1	1	1802	C	C1'-C2'-O2'	11.31	125.37	108.40
2	3	109	G	C3'-C2'-O2'	11.31	127.66	110.70
4	A	187	HIS	N-CA-C	11.30	126.22	111.75
13	J	35	LYS	N-CA-C	11.30	127.17	113.16
1	1	405	U	C1'-C2'-O2'	11.29	125.34	108.40
1	1	2601	A	C3'-C2'-O2'	11.29	127.64	110.70
1	1	1363	A	C2'-C3'-O3'	11.29	130.63	113.70
1	1	2316	G	C3'-C2'-O2'	11.29	127.63	110.70
26	X	59	SER	N-CA-C	11.29	124.69	111.71
1	1	2643	A	C2'-C3'-O3'	11.29	130.63	113.70
1	1	219	A	C2'-C3'-O3'	11.28	126.42	109.50
1	1	1048	A	C2'-C3'-O3'	11.28	126.42	109.50
1	1	2843	U	C1'-C2'-O2'	11.28	125.31	108.40
1	1	2550	U	C3'-C2'-O2'	11.27	127.61	110.70
1	1	1360	C	C1'-C2'-O2'	11.27	125.30	108.40
5	B	75	ALA	N-CA-C	11.26	126.76	108.41
1	1	1867	A	C3'-C2'-O2'	11.26	127.59	110.70
1	1	3333	G	C1'-C2'-O2'	11.26	128.69	111.80
3	4	135	G	C2'-C3'-O3'	11.25	126.38	109.50
3	4	117	C	C1'-C2'-O2'	11.25	125.27	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	584	G	C3'-C2'-O2'	11.24	127.57	110.70
1	1	2263	C	C3'-C2'-O2'	11.24	127.56	110.70
1	1	258	G	C1'-C2'-O2'	11.24	125.26	108.40
1	1	696	C	C1'-C2'-O2'	11.24	125.26	108.40
1	1	3134	A	C2'-C3'-O3'	11.24	126.36	109.50
1	1	1132	C	C1'-C2'-O2'	11.23	125.25	108.40
1	1	2902	A	C1'-C2'-O2'	11.23	125.25	108.40
30	b	40	ARG	N-CA-C	11.22	125.50	111.69
1	1	2416	U	C3'-C2'-O2'	11.22	127.52	110.70
1	1	1839	A	C1'-C2'-O2'	11.21	125.22	108.40
1	1	239	G	C1'-C2'-O2'	11.20	125.20	108.40
1	1	548	G	C3'-C2'-O2'	11.19	127.49	110.70
1	1	11	A	C2'-C3'-O3'	11.19	126.28	109.50
1	1	3297	U	C1'-C2'-O2'	11.18	125.17	108.40
1	1	2126	A	C3'-C2'-O2'	11.17	127.46	110.70
1	1	1039	U	C1'-C2'-O2'	11.17	125.15	108.40
1	1	3134	A	C4'-C3'-O3'	11.17	126.15	109.40
1	1	1821	U	C4'-C3'-O3'	11.16	126.14	109.40
1	1	115	A	C2'-C3'-O3'	11.16	130.43	113.70
4	A	239	ALA	N-CA-C	11.15	126.30	112.47
44	p	81	SER	N-CA-C	11.15	124.53	111.71
1	1	3001	C	C3'-C2'-O2'	11.14	127.42	110.70
1	1	1602	A	C3'-C2'-O2'	11.14	127.41	110.70
1	1	2165	G	C2'-C3'-O3'	11.14	126.20	109.50
1	1	3158	G	C1'-C2'-O2'	11.13	125.10	108.40
1	1	3205	G	C1'-C2'-O2'	11.13	128.50	111.80
1	1	2165	G	C4'-C3'-O3'	11.13	126.09	109.40
1	1	2772	C	C1'-C2'-O2'	11.13	128.49	111.80
1	1	1933	A	C1'-C2'-O2'	11.12	125.09	108.40
1	1	840	C	C3'-C2'-O2'	11.12	127.38	110.70
13	J	120	ILE	N-CA-C	11.12	121.79	110.23
1	1	730	C	C1'-C2'-O2'	11.12	125.07	108.40
1	1	1737	U	C1'-C2'-O2'	11.12	125.08	108.40
1	1	616	G	C3'-C2'-O2'	11.11	127.36	110.70
1	1	2803	A	C2'-C3'-O3'	11.10	126.15	109.50
1	1	700	C	C2'-C3'-O3'	11.10	126.15	109.50
1	1	1105	A	C1'-C2'-O2'	11.10	125.05	108.40
1	1	90	C	C3'-C2'-O2'	11.10	127.35	110.70
1	1	1186	G	C3'-C2'-O2'	11.09	127.34	110.70
1	1	1785	U	C1'-C2'-O2'	11.09	125.03	108.40
3	4	63	G	C1'-C2'-O2'	11.09	125.03	108.40
2	3	88	G	C3'-C2'-O2'	11.09	127.33	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1296	C	C3'-C2'-O2'	11.08	127.32	110.70
1	1	3152	U	C4'-C3'-O3'	11.07	126.01	109.40
45	t	15	GLU	N-CA-C	11.06	124.43	111.71
20	R	34	GLN	N-CA-C	11.06	124.71	111.33
1	1	2342	U	C4'-C3'-O3'	11.05	129.58	113.00
1	1	84	U	C3'-C2'-O2'	11.05	127.28	110.70
1	1	123	A	C3'-C2'-O2'	11.05	127.27	110.70
1	1	897	U	C1'-C2'-O2'	11.04	124.95	108.40
1	1	1631	C	C3'-C2'-O2'	11.04	127.25	110.70
1	1	2104	A	C1'-C2'-O2'	11.03	124.94	108.40
27	Y	91	ASN	N-CA-C	11.03	126.24	113.01
1	1	564	G	C3'-C2'-O2'	11.02	127.23	110.70
1	1	698	U	C3'-C2'-O2'	11.02	127.23	110.70
3	4	20	U	C3'-C2'-O2'	11.01	127.22	110.70
1	1	1725	C	C1'-C2'-O2'	11.01	124.91	108.40
5	B	246	LEU	N-CA-C	11.01	123.03	111.14
1	1	1284	C	C3'-C2'-O2'	11.01	127.21	110.70
1	1	415	G	C1'-C2'-O2'	11.00	124.90	108.40
1	1	1652	G	C4'-C3'-O3'	11.00	125.89	109.40
1	1	10	C	C3'-C2'-O2'	10.95	127.13	110.70
7	D	207	TYR	N-CA-C	10.94	124.51	111.82
1	1	3119	U	C4'-C3'-O3'	10.93	129.39	113.00
1	1	3127	A	C1'-C2'-O2'	10.93	124.79	108.40
43	o	63	LYS	N-CA-C	10.92	126.11	108.63
43	o	69	VAL	N-CA-C	10.92	123.54	107.37
1	1	1511	U	C1'-C2'-O2'	10.91	128.17	111.80
1	1	2108	C	C1'-C2'-O2'	10.91	124.77	108.40
1	1	2956	A	C3'-C2'-O2'	10.91	127.06	110.70
1	1	2564	G	C1'-C2'-O2'	10.90	124.75	108.40
5	B	215	ILE	N-CA-C	10.89	124.58	109.55
1	1	335	G	C3'-C2'-O2'	10.89	127.04	110.70
1	1	1466	G	C1'-C2'-O2'	10.89	124.74	108.40
1	1	1704	A	C1'-C2'-O2'	10.89	128.13	111.80
1	1	3176	G	C1'-C2'-O2'	10.89	124.73	108.40
1	1	1043	C	C4'-C3'-O3'	10.88	129.32	113.00
1	1	335	G	C1'-C2'-O2'	10.86	124.68	108.40
9	F	166	ASN	N-CA-C	10.85	124.46	111.33
1	1	2421	U	C3'-C2'-O2'	10.85	126.97	110.70
1	1	2186	U	C1'-C2'-O2'	10.84	124.65	108.40
35	g	73	SER	N-CA-C	10.84	126.43	112.34
1	1	1435	A	C3'-C2'-O2'	10.83	126.95	110.70
3	4	73	U	C3'-C2'-O2'	10.83	126.95	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2651	G	C2'-C3'-O3'	10.83	125.75	109.50
1	1	1711	C	C3'-C2'-O2'	10.82	126.93	110.70
9	F	140	SER	N-CA-C	10.82	125.15	110.55
1	1	593	C	C1'-C2'-O2'	10.81	124.62	108.40
34	f	77	ASN	N-CA-C	10.81	125.73	112.54
1	1	920	A	O3'-P-O5'	10.81	120.21	104.00
1	1	2121	G	C1'-C2'-O2'	10.80	124.60	108.40
1	1	2711	C	C3'-C2'-O2'	10.78	126.87	110.70
1	1	1558	A	C4'-C3'-O3'	10.78	125.57	109.40
6	C	50	TYR	N-CA-C	10.78	126.08	110.24
1	1	1150	A	C1'-C2'-O2'	10.77	124.56	108.40
1	1	1328	C	C1'-C2'-O2'	10.77	124.56	108.40
1	1	647	A	C2'-C3'-O3'	10.76	125.64	109.50
1	1	845	G	C2'-C3'-O3'	10.76	129.84	113.70
17	O	14	HIS	N-CA-C	10.76	127.37	111.02
1	1	2610	G	C3'-C2'-O2'	10.75	126.83	110.70
1	1	2520	A	C1'-C2'-O2'	10.74	124.51	108.40
14	L	164	GLU	N-CA-C	10.74	124.35	112.97
45	t	138	VAL	N-CA-C	10.74	123.14	108.11
1	1	914	A	C4'-C3'-O3'	10.73	125.50	109.40
1	1	1208	U	C1'-C2'-O2'	10.73	127.89	111.80
1	1	1835	A	C1'-C2'-O2'	10.73	124.49	108.40
1	1	2297	U	C3'-C2'-O2'	10.72	126.78	110.70
1	1	1885	U	C1'-C2'-O2'	10.69	127.84	111.80
3	4	107	G	C1'-C2'-O2'	10.69	124.43	108.40
1	1	3219	G	C1'-C2'-O2'	10.66	127.79	111.80
1	1	1838	G	C4'-C3'-O3'	10.66	128.99	113.00
1	1	697	A	C1'-C2'-O2'	10.64	124.37	108.40
1	1	2557	A	C1'-C2'-O2'	10.64	127.77	111.80
1	1	1848	G	C1'-C2'-O2'	10.64	127.75	111.80
1	1	3221	C	C2'-C3'-O3'	10.63	129.65	113.70
10	G	74	THR	N-CA-C	10.62	126.28	112.26
27	Y	41	ALA	N-CA-C	10.62	125.33	112.38
1	1	884	A	C1'-C2'-O2'	10.61	127.71	111.80
1	1	132	C	C4'-C3'-O3'	10.61	125.31	109.40
1	1	3205	G	C4'-C3'-O3'	10.60	125.31	109.40
1	1	2574	G	C1'-C2'-O2'	10.60	124.30	108.40
6	C	85	SER	N-CA-C	10.59	125.16	109.59
20	R	6	THR	N-CA-C	10.59	127.17	112.45
1	1	1582	C	C2'-C3'-O3'	10.57	129.56	113.70
33	e	18	LYS	N-CA-C	10.56	123.39	110.41
1	1	86	G	C1'-C2'-O2'	10.55	127.63	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	549	U	N1-C1'-C2'	10.55	127.83	112.00
1	1	1588	A	C1'-C2'-O2'	10.54	127.62	111.80
1	1	514	G	C3'-C2'-O2'	10.53	126.50	110.70
1	1	2511	C	C1'-C2'-O2'	10.53	127.60	111.80
14	L	57	VAL	CA-C-N	-10.52	108.76	123.17
14	L	57	VAL	C-N-CA	-10.52	108.76	123.17
1	1	322	U	C4'-C3'-O3'	10.50	128.75	113.00
1	1	1420	C	C1'-C2'-O2'	10.50	124.15	108.40
10	G	237	ILE	N-CA-C	10.50	124.11	107.73
7	D	3	PHE	N-CA-C	10.49	125.63	108.96
1	1	3057	U	C4'-C3'-O3'	10.48	125.12	109.40
3	4	116	G	C4'-C3'-O3'	10.48	125.13	109.40
1	1	1203	A	C1'-C2'-O2'	10.48	124.11	108.40
1	1	2175	U	C1'-C2'-O2'	10.48	127.52	111.80
1	1	961	C	C1'-C2'-O2'	10.47	127.51	111.80
1	1	1560	G	C2'-C3'-O3'	10.46	129.39	113.70
19	Q	130	ARG	N-CA-C	10.46	123.74	111.71
1	1	873	C	C4'-C3'-O3'	10.46	128.68	113.00
1	1	3368	U	C4'-C3'-O3'	10.45	125.07	109.40
1	1	3355	U	C3'-C2'-O2'	10.44	126.35	110.70
11	H	173	ARG	N-CA-C	10.43	125.26	112.54
1	1	936	A	C2'-C3'-O3'	10.42	129.34	113.70
1	1	1153	A	C4'-C3'-O3'	10.42	125.03	109.40
4	A	20	THR	N-CA-C	10.42	125.19	113.21
29	a	12	ARG	N-CA-C	10.41	125.52	108.96
1	1	2403	G	C1'-C2'-O2'	10.40	127.40	111.80
1	1	1935	G	C3'-C2'-O2'	10.38	126.27	110.70
27	Y	26	GLN	N-CA-C	10.37	125.31	112.87
13	J	112	LEU	N-CA-C	10.35	126.53	108.52
1	1	1868	G	C3'-C2'-O2'	10.34	126.22	110.70
1	1	1264	G	C2'-C3'-O3'	10.34	125.00	109.50
3	4	81	U	C4'-C3'-O3'	10.33	124.89	109.40
1	1	2273	G	C1'-C2'-O2'	10.32	127.29	111.80
1	1	1600	U	C4'-C3'-O3'	10.32	124.88	109.40
1	1	2152	A	C2'-C3'-O3'	10.32	129.18	113.70
1	1	2944	U	C3'-C2'-O2'	10.32	126.18	110.70
11	H	74	LEU	N-CA-C	10.32	122.53	111.28
22	T	78	LYS	N-CA-C	10.31	126.14	107.99
1	1	2696	A	C2'-C3'-O3'	10.31	129.16	113.70
1	1	1270	A	C2'-C3'-O3'	10.30	129.14	113.70
3	4	106	C	C1'-C2'-O2'	10.28	127.22	111.80
12	I	170	LYS	N-CA-C	10.28	125.73	110.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2996	U	C1'-C2'-O2'	10.27	127.21	111.80
1	1	2593	A	C4'-C3'-O3'	10.27	124.80	109.40
2	3	4	U	C2'-C3'-O3'	10.25	129.08	113.70
1	1	3209	A	C3'-C2'-O2'	10.25	129.98	114.60
1	1	275	U	C1'-C2'-O2'	10.24	123.76	108.40
1	1	1184	A	C2'-C3'-O3'	10.24	129.06	113.70
20	R	139	VAL	N-CA-C	10.23	120.15	110.53
1	1	1117	G	C2'-C3'-O3'	10.23	129.05	113.70
20	R	175	GLN	N-CA-C	10.22	123.47	111.71
1	1	2511	C	C4'-C3'-O3'	10.22	124.73	109.40
3	4	111	A	C1'-C2'-O2'	10.22	127.13	111.80
5	B	179	ALA	N-CA-C	10.22	127.17	109.80
32	d	51	LEU	N-CA-C	10.22	124.51	108.67
18	P	179	GLN	N-CA-C	10.20	128.20	111.37
1	1	3208	G	C1'-C2'-O2'	10.20	127.10	111.80
1	1	3241	G	C4'-C3'-O3'	10.20	128.30	113.00
1	1	2374	C	C1'-C2'-O2'	10.19	127.08	111.80
33	e	107	VAL	N-CA-C	10.18	121.05	110.36
1	1	1556	C	C1'-C2'-O2'	10.18	127.07	111.80
31	c	46	ALA	N-CA-C	10.17	126.69	112.04
1	1	834	U	C4'-C3'-O3'	10.17	128.25	113.00
1	1	2939	G	C2'-C3'-O3'	10.17	128.95	113.70
1	1	2110	G	C1'-C2'-O2'	10.17	127.05	111.80
1	1	1013	G	C1'-C2'-O2'	10.16	123.64	108.40
36	h	37	SER	N-CA-C	10.16	125.03	112.23
1	1	844	G	C2'-C3'-O3'	10.15	128.93	113.70
1	1	1323	G	C2'-C3'-O3'	10.13	128.90	113.70
1	1	3171	U	C3'-C2'-O2'	10.13	129.80	114.60
35	g	106	LYS	N-CA-C	10.13	123.36	111.71
17	O	129	LEU	CA-C-N	-10.12	90.83	120.69
17	O	129	LEU	C-N-CA	-10.12	90.83	120.69
1	1	677	A	C1'-C2'-O2'	10.12	126.98	111.80
1	1	726	G	C2'-C3'-O3'	10.12	128.88	113.70
23	U	30	PRO	N-CA-C	10.12	128.48	113.81
1	1	1740	U	C1'-C2'-O2'	10.11	126.97	111.80
1	1	1888	U	C4'-C3'-O3'	10.12	128.17	113.00
1	1	2501	U	C4'-C3'-O3'	10.12	124.57	109.40
1	1	1524	A	C3'-C2'-O2'	10.11	129.76	114.60
1	1	196	G	C3'-C2'-O2'	10.11	125.86	110.70
1	1	1348	U	C3'-C2'-O2'	10.11	129.76	114.60
1	1	1422	G	C4'-C3'-O3'	10.10	124.55	109.40
1	1	3205	G	C2'-C3'-O3'	10.08	124.62	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2822	U	C3'-C2'-O2'	10.08	125.82	110.70
1	1	2909	U	C4'-C3'-O3'	10.07	128.11	113.00
1	1	1580	A	C1'-C2'-O2'	10.07	126.90	111.80
1	1	1572	U	C2'-C3'-O3'	10.05	128.78	113.70
1	1	1882	G	C2'-C3'-O3'	10.05	128.77	113.70
1	1	857	G	C1'-C2'-O2'	10.04	126.86	111.80
1	1	3184	A	C2'-C3'-O3'	10.04	128.76	113.70
1	1	778	U	C4'-C3'-O3'	10.04	124.47	109.40
1	1	1464	G	C2'-C3'-O3'	10.03	128.75	113.70
1	1	3071	U	C4'-C3'-O3'	10.03	128.05	113.00
5	B	301	THR	N-CA-C	10.04	125.98	108.52
1	1	109	A	C2'-C3'-O3'	10.03	124.55	109.50
1	1	2874	G	C1'-C2'-O2'	10.03	123.45	108.40
1	1	647	A	C4'-C3'-O3'	10.03	124.44	109.40
1	1	2798	C	C2'-C3'-O3'	10.02	128.72	113.70
19	Q	135	GLN	N-CA-C	10.02	125.32	110.30
20	R	58	HIS	N-CA-C	10.02	123.33	109.11
1	1	3362	A	C4'-C3'-O3'	10.01	128.01	113.00
36	h	73	LYS	N-CA-C	10.00	126.39	108.69
31	c	52	ARG	N-CA-C	10.00	123.21	111.71
19	Q	91	ALA	N-CA-C	10.00	124.87	112.87
1	1	413	U	C2'-C3'-O3'	9.99	128.69	113.70
1	1	2178	A	C1'-C2'-O2'	9.99	126.79	111.80
1	1	3246	G	C1'-C2'-O2'	9.99	126.79	111.80
1	1	3390	G	C2'-C3'-O3'	9.98	128.68	113.70
24	V	93	LEU	N-CA-C	9.98	126.36	108.69
32	d	46	THR	N-CA-C	9.98	125.66	107.99
1	1	1027	A	C2'-C3'-O3'	9.98	128.66	113.70
1	1	913	A	O3'-P-O5'	9.97	118.96	104.00
1	1	1282	G	C2'-C3'-O3'	9.97	128.66	113.70
3	4	135	G	C4'-C3'-O3'	9.96	124.34	109.40
1	1	2362	C	C4'-C3'-O3'	9.96	127.94	113.00
1	1	2772	C	N1-C1'-C2'	9.96	128.94	114.00
1	1	427	C	C2'-C3'-O3'	9.96	128.64	113.70
1	1	2286	U	C1'-C2'-O2'	9.96	126.74	111.80
1	1	831	G	C2'-C3'-O3'	9.95	128.62	113.70
1	1	2955	U	C4'-C3'-O3'	9.95	124.32	109.40
1	1	3171	U	C1'-C2'-O2'	9.95	126.72	111.80
22	T	147	VAL	N-CA-C	9.94	123.41	107.71
1	1	2187	G	C1'-C2'-O2'	9.93	126.70	111.80
1	1	1447	G	C2'-C3'-O3'	9.93	124.39	109.50
28	Z	109	GLU	N-CA-C	9.93	123.12	111.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2461	A	C1'-C2'-O2'	9.92	126.69	111.80
18	P	120	ASN	N-CA-C	9.92	124.90	109.52
1	1	1520	G	C3'-C2'-O2'	9.92	125.57	110.70
1	1	1305	U	C2'-C3'-O3'	9.91	124.37	109.50
3	4	98	U	C2'-C3'-O3'	9.91	128.57	113.70
1	1	3375	A	C1'-C2'-O2'	9.91	126.67	111.80
1	1	2195	C	C4'-C3'-O3'	9.91	124.26	109.40
1	1	3335	A	C4'-C3'-O3'	9.91	124.26	109.40
20	R	125	LYS	N-CA-C	9.91	127.72	111.37
1	1	542	G	C2'-C3'-O3'	9.90	128.56	113.70
12	I	113	GLN	N-CA-C	9.90	123.60	110.53
1	1	3243	A	C3'-C2'-O2'	9.88	129.42	114.60
1	1	3279	A	C1'-C2'-O2'	9.88	123.21	108.40
1	1	1547	G	C4'-C3'-O3'	9.87	124.20	109.40
1	1	3389	U	C2'-C3'-O3'	9.87	128.50	113.70
1	1	2468	A	C4'-C3'-O3'	9.85	124.17	109.40
1	1	2657	A	C1'-C2'-O2'	9.85	126.57	111.80
1	1	1318	A	C1'-C2'-O2'	9.84	126.56	111.80
1	1	3071	U	C2'-C3'-O3'	9.84	128.46	113.70
1	1	3243	A	C1'-C2'-O2'	9.84	126.56	111.80
1	1	394	G	C3'-C2'-O2'	9.84	125.45	110.70
1	1	2486	A	C1'-C2'-O2'	9.84	126.55	111.80
1	1	92	G	C1'-C2'-O2'	9.83	126.55	111.80
1	1	1629	U	C4'-C3'-O3'	9.83	124.15	109.40
1	1	336	A	C4'-C3'-O3'	9.81	127.72	113.00
1	1	2832	C	C1'-C2'-O2'	9.80	126.51	111.80
1	1	181	U	C1'-C2'-O2'	9.80	126.49	111.80
1	1	996	A	C2'-C3'-O3'	9.79	128.39	113.70
1	1	2617	U	C1'-C2'-O2'	9.79	126.48	111.80
1	1	3334	U	C1'-C2'-O2'	9.78	126.47	111.80
1	1	2677	G	C1'-C2'-O2'	9.77	126.45	111.80
45	t	83	ASP	N-CA-C	9.77	124.90	108.20
34	f	78	SER	N-CA-C	9.76	126.41	113.72
1	1	320	G	C2'-C3'-O3'	9.76	128.34	113.70
1	1	249	U	C1'-C2'-O2'	9.76	126.44	111.80
18	P	39	TRP	N-CA-C	9.75	123.40	110.53
17	O	72	HIS	CA-C-N	-9.74	100.61	121.45
17	O	72	HIS	C-N-CA	-9.74	100.61	121.45
1	1	589	A	C1'-C2'-O2'	9.73	126.40	111.80
7	D	52	VAL	N-CA-C	9.73	121.47	109.30
1	1	2240	G	C2'-C3'-O3'	9.73	128.30	113.70
1	1	3119	U	C2'-C3'-O3'	9.73	128.29	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	93	C	C3'-C2'-O2'	9.71	129.16	114.60
1	1	1817	G	C4'-C3'-O3'	9.71	123.97	109.40
5	B	79	VAL	N-CA-C	9.71	122.01	107.15
1	1	832	G	C2'-C3'-O3'	9.71	128.26	113.70
1	1	583	G	C1'-C2'-O2'	9.69	126.33	111.80
1	1	3061	G	C2'-C3'-O3'	9.69	128.23	113.70
37	i	9	ILE	N-CA-C	9.68	123.04	109.29
1	1	760	G	C1'-C2'-O2'	9.68	126.32	111.80
12	I	9	TYR	N-CA-C	9.68	125.16	113.16
1	1	1048	A	C4'-C3'-O3'	9.67	123.91	109.40
1	1	2136	C	C4'-C3'-O3'	9.67	127.51	113.00
1	1	1623	G	C2'-C3'-O3'	9.67	128.20	113.70
1	1	2734	A	C2'-C3'-O3'	9.66	128.19	113.70
3	4	121	U	N1-C1'-C2'	9.66	126.50	112.00
11	H	54	LYS	N-CA-C	9.66	125.73	108.24
1	1	498	A	C4'-C3'-O3'	9.65	127.48	113.00
32	d	47	ASP	N-CA-C	9.65	124.32	112.54
1	1	1086	C	C2'-C3'-O3'	9.65	128.18	113.70
1	1	981	U	C2'-C3'-O3'	9.64	128.16	113.70
1	1	2139	A	C4'-C3'-O3'	9.64	123.86	109.40
1	1	273	A	C2'-C3'-O3'	9.63	128.15	113.70
1	1	2947	G	C2'-C3'-O3'	9.63	128.15	113.70
3	4	91	C	C2'-C3'-O3'	9.63	128.14	113.70
1	1	93	C	C1'-C2'-O2'	9.63	126.24	111.80
14	L	100	ARG	N-CA-C	9.63	124.85	113.20
1	1	282	G	C2'-C3'-O3'	9.62	128.12	113.70
1	1	598	A	C2'-C3'-O3'	9.59	128.08	113.70
1	1	2933	A	C2'-C3'-O3'	9.59	128.08	113.70
1	1	3368	U	N1-C1'-C2'	9.58	128.37	114.00
3	4	120	C	C2'-C3'-O3'	9.58	128.07	113.70
1	1	511	G	C1'-C2'-O2'	9.57	126.16	111.80
1	1	1367	G	C2'-C3'-O3'	9.56	128.04	113.70
1	1	1463	U	C2'-C3'-O3'	9.56	128.03	113.70
12	I	5	PRO	N-CA-C	9.55	126.82	111.26
5	B	285	VAL	N-CA-C	9.54	120.39	106.55
1	1	1203	A	C2'-C3'-O3'	9.54	128.01	113.70
1	1	2374	C	C3'-C2'-O2'	9.53	128.90	114.60
1	1	3122	A	C2'-C3'-O3'	9.53	128.00	113.70
1	1	2507	U	C2'-C3'-O3'	9.53	127.99	113.70
1	1	2945	G	C1'-C2'-O2'	9.53	122.69	108.40
1	1	2158	A	C4'-C3'-O3'	9.53	123.69	109.40
20	R	84	THR	N-CA-C	9.52	122.61	110.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3291	G	C2'-C3'-O3'	9.52	127.97	113.70
1	1	1289	G	C2'-C3'-O3'	9.51	127.97	113.70
1	1	2178	A	P-O3'-C3'	-9.51	105.94	120.20
1	1	3241	G	C2'-C3'-O3'	9.51	127.96	113.70
31	c	22	LYS	N-CA-C	9.50	125.34	109.76
1	1	331	G	C2'-C3'-O3'	9.49	127.94	113.70
1	1	1838	G	C2'-C3'-O3'	9.49	127.94	113.70
5	B	233	TRP	N-CA-C	9.47	125.61	112.45
12	I	180	GLU	N-CA-C	9.47	123.87	111.75
1	1	3375	A	C3'-C2'-O2'	9.46	128.79	114.60
1	1	1484	U	C4'-C3'-O3'	9.45	123.57	109.40
1	1	250	U	C2'-C3'-O3'	9.45	127.87	113.70
1	1	1556	C	C3'-C2'-O2'	9.45	128.77	114.60
1	1	200	C	C3'-C2'-O2'	9.44	128.76	114.60
1	1	25	U	C2'-C3'-O3'	9.43	127.84	113.70
1	1	2686	A	C2'-C3'-O3'	9.43	127.84	113.70
1	1	3046	A	C1'-C2'-O2'	9.43	125.94	111.80
1	1	11	A	C4'-C3'-O3'	9.42	123.53	109.40
1	1	3107	U	C2'-C3'-O3'	9.42	127.83	113.70
1	1	3313	U	C2'-C3'-O3'	9.42	127.83	113.70
34	f	30	ILE	N-CA-C	9.42	122.25	107.28
1	1	2187	G	C3'-C2'-O2'	9.42	128.72	114.60
21	S	62	ASN	N-CA-C	9.42	124.08	108.73
1	1	2676	A	C1'-C2'-O2'	9.41	125.92	111.80
1	1	3208	G	C3'-C2'-O2'	9.41	128.72	114.60
1	1	3152	U	C2'-C3'-O3'	9.41	123.61	109.50
1	1	2458	G	C1'-C2'-O2'	9.40	125.90	111.80
4	A	73	GLU	N-CA-C	9.40	124.05	110.24
24	V	128	ARG	N-CA-C	9.40	122.48	111.02
1	1	219	A	C4'-C3'-O3'	9.39	123.49	109.40
39	k	61	LYS	N-CA-C	9.39	123.84	112.38
1	1	588	G	C1'-C2'-O2'	9.39	125.89	111.80
1	1	2784	G	C2'-C3'-O3'	9.39	127.79	113.70
1	1	1257	C	C2'-C3'-O3'	9.37	127.76	113.70
1	1	276	U	C2'-C3'-O3'	9.37	127.75	113.70
1	1	1704	A	C3'-C2'-O2'	9.36	128.65	114.60
1	1	2657	A	C3'-C2'-O2'	9.36	128.65	114.60
28	Z	62	VAL	N-CA-C	9.36	121.29	110.62
43	o	11	TYR	N-CA-C	9.35	124.08	110.42
1	1	541	U	C2'-C3'-O3'	9.34	127.71	113.70
1	1	225	C	C2'-C3'-O3'	9.33	127.70	113.70
1	1	2096	A	C1'-C2'-O2'	9.32	125.79	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	632	G	C3'-C2'-O2'	9.32	128.58	114.60
1	1	127	G	C2'-C3'-O3'	9.32	127.67	113.70
1	1	2612	U	C4'-C3'-O3'	9.31	126.97	113.00
22	T	25	VAL	N-CA-C	9.31	121.58	109.58
1	1	1020	G	C2'-C3'-O3'	9.30	127.65	113.70
1	1	2650	U	C2'-C3'-O3'	9.30	127.65	113.70
1	1	92	G	C3'-C2'-O2'	9.29	128.54	114.60
16	N	133	ILE	N-CA-C	9.29	120.02	106.55
1	1	1156	C	C2'-C3'-O3'	9.29	127.63	113.70
13	J	20	ASN	N-CA-C	9.29	124.02	109.07
1	1	1462	A	C2'-C3'-O3'	9.28	127.62	113.70
21	S	165	TYR	N-CA-C	9.28	124.41	113.18
35	g	14	ASN	N-CA-C	9.28	125.82	113.20
1	1	345	G	C2'-C3'-O3'	9.27	127.61	113.70
1	1	2906	C	C2'-C3'-O3'	9.27	127.61	113.70
1	1	2661	G	C4'-C3'-O3'	9.27	123.30	109.40
12	I	95	HIS	CA-C-N	-9.27	105.66	122.43
12	I	95	HIS	C-N-CA	-9.27	105.66	122.43
1	1	1714	A	C3'-C2'-O2'	9.26	128.49	114.60
1	1	2368	A	C2'-C3'-O3'	9.26	127.59	113.70
36	h	63	ARG	N-CA-C	9.26	126.55	111.37
1	1	1393	A	C2'-C3'-O3'	9.25	127.58	113.70
1	1	2273	G	C3'-C2'-O2'	9.25	128.47	114.60
1	1	2331	C	C2'-C3'-O3'	9.23	127.55	113.70
1	1	9	U	C2'-C3'-O3'	9.23	127.55	113.70
1	1	322	U	C2'-C3'-O3'	9.22	127.53	113.70
1	1	3156	U	C1'-C2'-O2'	9.22	125.62	111.80
1	1	86	G	C3'-C2'-O2'	9.21	128.42	114.60
8	E	70	LYS	N-CA-C	9.21	124.07	113.01
1	1	1825	G	C2'-C3'-O3'	9.21	127.52	113.70
1	1	1821	U	C2'-C3'-O3'	9.20	123.30	109.50
1	1	2286	U	C3'-C2'-O2'	9.20	128.40	114.60
1	1	250	U	C4'-C3'-O3'	9.20	126.80	113.00
1	1	1714	A	C1'-C2'-O2'	9.19	125.59	111.80
1	1	1938	U	C3'-C2'-O2'	9.19	128.39	114.60
22	T	151	LEU	N-CA-C	9.19	124.08	110.48
1	1	551	A	C2'-C3'-O3'	9.19	127.49	113.70
1	1	1024	G	C2'-C3'-O3'	9.19	127.48	113.70
1	1	1816	A	C4'-C3'-O3'	9.19	126.78	113.00
1	1	2136	C	C2'-C3'-O3'	9.19	127.48	113.70
1	1	1451	C	C2'-C3'-O3'	9.18	127.47	113.70
1	1	1468	A	C1'-C2'-O2'	9.18	125.56	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1698	C	C2'-C3'-O3'	9.18	127.47	113.70
5	B	103	THR	N-CA-C	9.18	124.00	109.50
5	B	331	ASN	N-CA-C	9.17	125.62	108.65
1	1	3205	G	C3'-C2'-O2'	9.17	128.36	114.60
1	1	3094	A	C4'-C3'-O3'	9.16	126.74	113.00
1	1	1596	C	C4'-C3'-O3'	9.16	126.74	113.00
18	P	101	ASN	N-CA-C	9.16	124.00	113.01
14	L	68	LYS	N-CA-C	9.16	123.51	110.23
1	1	625	G	C4'-C3'-O3'	9.15	126.73	113.00
1	1	1013	G	C2'-C3'-O3'	9.15	127.43	113.70
1	1	2513	U	C2'-C3'-O3'	9.15	127.42	113.70
1	1	1305	U	C4'-C3'-O3'	9.14	123.12	109.40
1	1	2461	A	C3'-C2'-O2'	9.14	128.32	114.60
1	1	2765	C	C2'-C3'-O3'	9.13	127.39	113.70
1	1	3290	G	C2'-C3'-O3'	9.12	127.39	113.70
1	1	1013	G	C4'-C3'-O3'	9.12	126.69	113.00
22	T	67	VAL	N-CA-C	9.12	122.18	108.23
1	1	511	G	C3'-C2'-O2'	9.12	128.28	114.60
1	1	1451	C	C4'-C3'-O3'	9.12	126.67	113.00
1	1	1144	U	C1'-C2'-O2'	9.11	125.46	111.80
1	1	1773	C	C2'-C3'-O3'	9.10	127.36	113.70
24	V	96	GLU	N-CA-C	9.10	123.94	113.01
8	E	167	ASN	N-CA-C	9.10	123.95	110.30
3	4	53	A	C2'-C3'-O3'	9.10	127.34	113.70
1	1	1459	C	C2'-C3'-O3'	9.09	127.34	113.70
1	1	3200	G	C2'-C3'-O3'	9.09	127.34	113.70
1	1	301	G	C2'-C3'-O3'	9.09	127.33	113.70
1	1	1275	C	N1-C1'-C2'	9.09	125.63	112.00
3	4	42	G	C2'-C3'-O3'	9.09	127.33	113.70
1	1	857	G	C3'-C2'-O2'	9.08	128.22	114.60
1	1	1580	A	C3'-C2'-O2'	9.08	128.22	114.60
1	1	632	G	C1'-C2'-O2'	9.07	125.40	111.80
1	1	1189	C	C2'-C3'-O3'	9.07	123.10	109.50
1	1	1816	A	C2'-C3'-O3'	9.07	127.30	113.70
1	1	2996	U	C3'-C2'-O2'	9.06	128.20	114.60
1	1	2315	G	C1'-C2'-O2'	9.06	125.38	111.80
36	h	92	LEU	N-CA-C	9.05	123.03	110.35
1	1	2921	U	C2'-C3'-O3'	9.05	127.27	113.70
1	1	1686	U	C2'-C3'-O3'	9.04	127.27	113.70
37	i	98	ARG	N-CA-C	9.04	125.84	113.37
40	l	33	ASN	N-CA-C	9.04	124.72	110.17
1	1	3163	A	C2'-C3'-O3'	9.03	127.25	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2505	U	C2'-C3'-O3'	9.03	127.24	113.70
1	1	2406	C	C2'-C3'-O3'	9.03	127.24	113.70
22	T	20	ARG	N-CA-C	9.02	123.66	112.47
1	1	1349	G	C2'-C3'-O3'	9.02	127.23	113.70
19	Q	162	ALA	N-CA-C	9.02	129.74	109.81
1	1	722	G	C2'-C3'-O3'	9.02	127.22	113.70
1	1	1906	G	C4'-C3'-O3'	9.01	122.92	109.40
7	D	200	PHE	N-CA-C	9.01	124.11	113.20
45	t	152	ARG	N-CA-C	9.01	125.65	112.94
1	1	3057	U	C2'-C3'-O3'	9.01	123.01	109.50
1	1	2403	G	C3'-C2'-O2'	9.00	128.10	114.60
1	1	2772	C	C3'-C2'-O2'	9.00	128.10	114.60
1	1	862	U	C2'-C3'-O3'	8.99	127.19	113.70
1	1	1562	C	C2'-C3'-O3'	8.99	127.19	113.70
1	1	249	U	C3'-C2'-O2'	8.99	128.09	114.60
1	1	3104	U	C2'-C3'-O3'	8.99	127.19	113.70
18	P	14	SER	N-CA-C	8.98	123.69	109.50
1	1	2676	A	C3'-C2'-O2'	8.96	128.03	114.60
3	4	106	C	C3'-C2'-O2'	8.96	128.04	114.60
1	1	3046	A	C3'-C2'-O2'	8.96	128.03	114.60
1	1	552	G	C2'-C3'-O3'	8.95	127.12	113.70
1	1	2617	U	C3'-C2'-O2'	8.94	128.01	114.60
1	1	1375	G	C2'-C3'-O3'	8.94	127.11	113.70
1	1	588	G	C3'-C2'-O2'	8.94	128.01	114.60
1	1	1588	A	C3'-C2'-O2'	8.94	128.00	114.60
1	1	3349	C	C2'-C3'-O3'	8.93	127.09	113.70
1	1	1524	A	N9-C1'-C2'	8.92	127.38	114.00
1	1	1848	G	C3'-C2'-O2'	8.92	127.98	114.60
1	1	2178	A	C3'-C2'-O2'	8.91	127.97	114.60
1	1	3037	U	C4'-C3'-O3'	8.91	126.37	113.00
35	g	68	THR	N-CA-C	8.91	121.96	111.71
1	1	1885	U	C3'-C2'-O2'	8.91	127.96	114.60
1	1	3162	C	C2'-C3'-O3'	8.90	127.05	113.70
28	Z	51	LEU	N-CA-C	8.90	121.81	110.33
1	1	2096	A	C3'-C2'-O2'	8.90	127.94	114.60
1	1	200	C	C1'-C2'-O2'	8.89	125.14	111.80
1	1	2832	C	C3'-C2'-O2'	8.89	127.94	114.60
3	4	125	U	C2'-C3'-O3'	8.89	122.84	109.50
1	1	1353	U	N1-C1'-C2'	8.88	125.32	112.00
1	1	1740	U	C3'-C2'-O2'	8.88	127.92	114.60
1	1	3333	G	C3'-C2'-O2'	8.88	127.92	114.60
1	1	673	U	C2'-C3'-O3'	8.88	127.02	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1558	A	C2'-C3'-O3'	8.88	122.82	109.50
1	1	2304	C	C2'-C3'-O3'	8.88	127.02	113.70
1	1	583	G	C3'-C2'-O2'	8.87	127.91	114.60
1	1	2667	A	C2'-C3'-O3'	8.87	127.00	113.70
1	1	2650	U	C4'-C3'-O3'	8.86	126.29	113.00
1	1	2652	U	C4'-C3'-O3'	8.86	126.29	113.00
3	4	50	C	C4'-C3'-O3'	8.86	126.29	113.00
1	1	1620	U	C2'-C3'-O3'	8.86	126.99	113.70
22	T	91	LEU	N-CA-C	8.85	123.62	110.52
1	1	677	A	C3'-C2'-O2'	8.85	127.87	114.60
1	1	1623	G	C4'-C3'-O3'	8.84	126.25	113.00
1	1	2607	G	C2'-C3'-O3'	8.84	126.95	113.70
2	3	106	U	C4'-C3'-O3'	8.83	126.25	113.00
30	b	45	HIS	N-CA-C	8.83	123.05	111.75
39	k	51	LEU	CA-C-N	-8.83	102.79	121.32
39	k	51	LEU	C-N-CA	-8.83	102.79	121.32
1	1	1468	A	C3'-C2'-O2'	8.82	127.84	114.60
1	1	3099	C	C2'-C3'-O3'	8.82	126.93	113.70
4	A	120	PRO	N-CA-C	8.82	130.64	112.47
2	3	44	C	C2'-C3'-O3'	8.82	126.93	113.70
1	1	1144	U	C3'-C2'-O2'	8.82	127.83	114.60
3	4	111	A	C3'-C2'-O2'	8.81	127.82	114.60
41	m	103	LEU	N-CA-C	8.81	122.45	110.29
1	1	2513	U	C4'-C3'-O3'	8.81	126.21	113.00
1	1	2836	C	C2'-C3'-O3'	8.81	126.91	113.70
1	1	419	G	C2'-C3'-O3'	8.81	126.91	113.70
1	1	3266	G	N9-C1'-C2'	8.80	125.20	112.00
4	A	71	LEU	N-CA-C	8.80	121.88	110.53
1	1	2505	U	N1-C1'-C2'	8.80	125.19	112.00
1	1	1367	G	N9-C1'-C2'	8.79	125.19	112.00
1	1	2315	G	C3'-C2'-O2'	8.79	127.78	114.60
1	1	3116	G	N9-C1'-C2'	8.79	127.18	114.00
1	1	3285	C	C2'-C3'-O3'	8.78	126.88	113.70
1	1	2465	G	C2'-C3'-O3'	8.78	126.87	113.70
1	1	181	U	C3'-C2'-O2'	8.78	127.76	114.60
1	1	2960	C	C2'-C3'-O3'	8.78	126.86	113.70
5	B	150	ARG	N-CA-C	8.77	122.98	111.75
2	3	53	U	C2'-C3'-O3'	8.77	126.85	113.70
1	1	2110	G	C3'-C2'-O2'	8.77	127.75	114.60
35	g	81	CYS	N-CA-C	8.76	122.93	110.23
1	1	366	A	C2'-C3'-O3'	8.75	126.82	113.70
1	1	2552	C	C2'-C3'-O3'	8.75	126.82	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3165	A	C2'-C3'-O3'	8.75	126.82	113.70
1	1	589	A	C3'-C2'-O2'	8.74	127.72	114.60
1	1	345	G	C4'-C3'-O3'	8.74	126.11	113.00
45	t	105	LYS	N-CA-C	8.74	129.43	110.80
12	I	60	LEU	N-CA-C	8.73	123.06	109.96
1	1	2220	A	C2'-C3'-O3'	8.73	126.79	113.70
1	1	1691	U	C2'-C3'-O3'	8.72	126.78	113.70
1	1	1799	A	C2'-C3'-O3'	8.72	126.78	113.70
1	1	65	A	C2'-C3'-O3'	8.71	126.76	113.70
25	W	43	ARG	N-CA-C	8.71	123.49	111.74
1	1	3326	G	C2'-C3'-O3'	8.70	126.75	113.70
18	P	130	TYR	N-CA-C	8.70	122.42	108.41
1	1	573	C	C2'-C3'-O3'	8.70	126.75	113.70
1	1	845	G	C4'-C3'-O3'	8.70	126.04	113.00
1	1	902	G	C2'-C3'-O3'	8.68	126.73	113.70
1	1	996	A	C4'-C3'-O3'	8.68	126.02	113.00
1	1	373	A	C2'-C3'-O3'	8.67	126.70	113.70
11	H	166	ARG	N-CA-C	8.66	123.84	109.46
1	1	1224	C	C2'-C3'-O3'	8.65	126.68	113.70
1	1	190	U	C2'-C3'-O3'	8.65	126.67	113.70
45	t	92	LYS	N-CA-C	8.65	123.64	113.18
8	E	169	ASP	N-CA-C	8.64	122.93	109.96
1	1	1117	G	C4'-C3'-O3'	8.64	125.96	113.00
1	1	2511	C	N1-C1'-C2'	8.64	126.96	114.00
32	d	93	VAL	N-CA-C	8.63	121.20	107.73
1	1	2557	A	C3'-C2'-O2'	8.63	127.54	114.60
1	1	3362	A	C2'-C3'-O3'	8.63	126.64	113.70
1	1	1455	U	C2'-C3'-O3'	8.62	122.44	109.50
7	D	273	ARG	N-CA-C	8.62	123.46	109.59
1	1	1318	A	C3'-C2'-O2'	8.62	127.52	114.60
2	3	34	C	C2'-C3'-O3'	8.61	126.61	113.70
1	1	760	G	C3'-C2'-O2'	8.61	127.51	114.60
1	1	2987	A	C2'-C3'-O3'	8.61	126.61	113.70
1	1	1031	C	C2'-C3'-O3'	8.60	126.60	113.70
1	1	1724	U	C4'-C3'-O3'	8.60	122.30	109.40
1	1	530	G	C4'-C3'-O3'	8.59	125.89	113.00
1	1	3205	G	N9-C1'-C2'	8.59	126.89	114.00
1	1	541	U	C4'-C3'-O3'	8.59	125.89	113.00
21	S	102	ALA	N-CA-C	8.59	129.10	110.80
1	1	3290	G	C4'-C3'-O3'	8.59	125.88	113.00
22	T	97	LYS	N-CA-C	8.59	122.95	109.81
1	1	28	C	C2'-C3'-O3'	8.59	126.58	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	296	THR	N-CA-C	8.58	122.30	107.28
35	g	59	PRO	N-CA-C	8.58	130.15	112.47
1	1	879	U	N1-C1'-C2'	8.58	124.87	112.00
1	1	3054	U	C2'-C3'-O3'	8.58	126.56	113.70
1	1	3246	G	C3'-C2'-O2'	8.58	127.46	114.60
1	1	1100	U	C1'-C2'-O2'	8.57	124.66	111.80
24	V	115	THR	N-CA-C	8.57	122.32	110.24
1	1	884	A	C3'-C2'-O2'	8.57	127.45	114.60
1	1	3107	U	C4'-C3'-O3'	8.56	125.85	113.00
36	h	111	PHE	N-CA-C	8.56	128.73	109.81
1	1	2458	G	C3'-C2'-O2'	8.55	127.43	114.60
1	1	2948	C	C2'-C3'-O3'	8.54	126.51	113.70
1	1	3037	U	C2'-C3'-O3'	8.54	126.51	113.70
1	1	3209	A	C1'-C2'-O2'	8.54	124.61	111.80
1	1	1282	G	C4'-C3'-O3'	8.53	125.80	113.00
1	1	2298	U	N1-C1'-C2'	8.53	126.80	114.00
1	1	2311	G	C2'-C3'-O3'	8.53	126.50	113.70
1	1	3323	A	C2'-C3'-O3'	8.53	126.49	113.70
1	1	3156	U	C3'-C2'-O2'	8.53	127.39	114.60
8	E	67	GLY	N-CA-C	-8.52	101.77	112.00
1	1	993	G	C4'-C3'-O3'	8.52	122.18	109.40
1	1	2699	G	C2'-C3'-O3'	8.52	126.48	113.70
19	Q	16	ARG	N-CA-C	8.51	121.31	110.24
1	1	2486	A	C3'-C2'-O2'	8.51	127.36	114.60
1	1	2885	C	C4'-C3'-O3'	8.51	125.76	113.00
21	S	48	LEU	N-CA-C	8.51	124.04	112.90
1	1	1578	C	C4'-C3'-O3'	8.50	125.76	113.00
1	1	3075	G	C2'-C3'-O3'	8.50	126.46	113.70
1	1	3219	G	C3'-C2'-O2'	8.50	127.36	114.60
33	e	33	ARG	N-CA-C	8.50	123.16	107.60
1	1	133	U	C4'-C3'-O3'	8.50	125.74	113.00
1	1	2758	A	N9-C1'-C2'	8.49	124.74	112.00
1	1	3266	G	C4'-C3'-O3'	8.49	125.73	113.00
1	1	3295	A	C2'-C3'-O3'	8.48	126.42	113.70
1	1	2626	A	C2'-C3'-O3'	8.46	126.40	113.70
1	1	530	G	C2'-C3'-O3'	8.46	126.39	113.70
1	1	1023	C	C2'-C3'-O3'	8.46	126.39	113.70
28	Z	31	GLU	N-CA-C	8.46	123.28	108.56
3	4	158	U	C2'-C3'-O3'	8.46	126.39	113.70
2	3	37	G	C2'-C3'-O3'	8.45	126.38	113.70
1	1	3368	U	C2'-C3'-O3'	8.45	122.17	109.50
1	1	2329	C	C2'-C3'-O3'	8.44	126.36	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1151	U	N1-C1'-C2'	8.44	124.66	112.00
1	1	1324	U	C2'-C3'-O3'	8.44	126.36	113.70
1	1	1459	C	C4'-C3'-O3'	8.43	125.64	113.00
1	1	3118	C	C2'-C3'-O3'	8.43	126.34	113.70
1	1	3349	C	C4'-C3'-O3'	8.41	125.62	113.00
1	1	2677	G	C3'-C2'-O2'	8.41	127.21	114.60
1	1	3117	C	C2'-C3'-O3'	8.41	126.31	113.70
1	1	2791	G	C2'-C3'-O3'	8.40	126.30	113.70
1	1	1031	C	C4'-C3'-O3'	8.40	125.60	113.00
1	1	2718	U	C2'-C3'-O3'	8.40	126.30	113.70
1	1	2980	U	C2'-C3'-O3'	8.40	126.30	113.70
19	Q	150	VAL	N-CA-C	8.39	121.58	111.09
1	1	1531	C	C2'-C3'-O3'	8.38	126.27	113.70
1	1	336	A	C2'-C3'-O3'	8.38	126.27	113.70
1	1	303	G	C2'-C3'-O3'	8.38	126.26	113.70
26	X	33	ARG	N-CA-C	8.37	123.63	110.32
2	3	40	C	N1-C1'-C2'	8.37	124.55	112.00
1	1	1033	U	N1-C1'-C2'	8.35	124.53	112.00
1	1	3020	U	C2'-C3'-O3'	8.35	126.23	113.70
1	1	1149	G	C2'-C3'-O3'	8.35	126.22	113.70
1	1	1025	A	N9-C1'-C2'	8.34	124.51	112.00
16	N	15	GLN	N-CA-C	8.33	123.11	113.19
1	1	690	A	C2'-C3'-O3'	8.33	126.19	113.70
1	1	769	G	N9-C1'-C2'	8.33	124.50	112.00
1	1	1539	A	C2'-C3'-O3'	8.32	126.18	113.70
1	1	844	G	C4'-C3'-O3'	8.31	125.47	113.00
3	4	75	G	C2'-C3'-O3'	8.31	126.17	113.70
32	d	68	GLU	N-CA-C	8.31	121.96	110.24
4	A	243	THR	N-CA-C	8.31	123.02	110.14
1	1	335	G	C2'-C3'-O3'	8.29	126.14	113.70
1	1	1349	G	C4'-C3'-O3'	8.29	125.44	113.00
43	o	30	ALA	N-CA-C	8.29	128.46	110.80
1	1	1100	U	C3'-C2'-O2'	8.28	127.02	114.60
1	1	1208	U	C3'-C2'-O2'	8.27	127.00	114.60
12	I	4	ARG	N-CA-C	8.26	121.32	109.84
43	o	65	THR	N-CA-C	8.26	122.86	109.40
1	1	1524	A	C1'-C2'-O2'	8.25	124.18	111.80
1	1	2416	U	N1-C1'-C2'	8.25	124.38	112.00
1	1	498	A	C2'-C3'-O3'	8.24	126.06	113.70
1	1	829	U	C2'-C3'-O3'	8.24	126.07	113.70
1	1	2643	A	C4'-C3'-O3'	8.24	125.36	113.00
15	M	46	ILE	N-CA-C	8.24	126.48	109.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	282	G	C4'-C3'-O3'	8.24	125.36	113.00
1	1	2175	U	C3'-C2'-O2'	8.24	126.96	114.60
1	1	3256	G	N9-C1'-C2'	8.24	124.36	112.00
2	3	106	U	C2'-C3'-O3'	8.24	126.06	113.70
1	1	1027	A	C4'-C3'-O3'	8.24	125.36	113.00
1	1	2569	A	N9-C1'-C2'	8.23	126.35	114.00
1	1	3066	U	N1-C1'-C2'	8.23	124.34	112.00
1	1	702	C	C4'-C3'-O3'	8.22	125.33	113.00
1	1	2206	G	N9-C1'-C2'	8.22	126.33	114.00
1	1	3099	C	C4'-C3'-O3'	8.22	125.33	113.00
1	1	3266	G	C2'-C3'-O3'	8.22	126.03	113.70
1	1	3334	U	C3'-C2'-O2'	8.22	126.92	114.60
1	1	3106	A	C4'-C3'-O3'	8.22	125.32	113.00
1	1	1764	U	N1-C1'-C2'	8.21	124.32	112.00
1	1	3094	A	C2'-C3'-O3'	8.21	126.02	113.70
1	1	2895	G	C2'-C3'-O3'	8.21	126.02	113.70
1	1	1555	U	C2'-C3'-O3'	8.21	126.01	113.70
9	F	176	TYR	N-CA-C	8.21	121.15	111.71
5	B	187	SER	N-CA-C	8.21	128.28	110.80
1	1	672	A	C2'-C3'-O3'	8.20	126.00	113.70
3	4	158	U	N1-C1'-C2'	8.20	124.29	112.00
1	1	2787	G	C2'-C3'-O3'	8.19	125.99	113.70
2	3	49	G	N9-C1'-C2'	8.20	126.29	114.00
1	1	538	G	C2'-C3'-O3'	8.19	125.98	113.70
1	1	1462	A	C4'-C3'-O3'	8.18	125.27	113.00
1	1	2948	C	C4'-C3'-O3'	8.18	125.27	113.00
17	O	80	PHE	CA-C-N	-8.17	105.94	121.54
17	O	80	PHE	C-N-CA	-8.17	105.94	121.54
1	1	546	C	C2'-C3'-O3'	8.17	125.95	113.70
6	C	167	ALA	N-CA-C	8.16	128.19	110.80
1	1	1084	A	C2'-C3'-O3'	8.16	125.94	113.70
1	1	2696	A	C4'-C3'-O3'	8.16	125.24	113.00
1	1	806	A	N9-C1'-C2'	8.16	124.24	112.00
1	1	1107	C	N1-C1'-C2'	8.16	126.23	114.00
9	F	72	ALA	N-CA-C	8.14	128.15	110.80
1	1	561	C	C2'-C3'-O3'	8.14	125.91	113.70
1	1	1479	U	N1-C1'-C2'	8.13	124.20	112.00
1	1	2906	C	C4'-C3'-O3'	8.13	125.20	113.00
1	1	2094	C	N1-C1'-C2'	8.13	124.20	112.00
1	1	1254	C	N1-C1'-C2'	8.13	124.19	112.00
1	1	1905	G	C2'-C3'-O3'	8.11	125.87	113.70
9	F	171	ALA	N-CA-C	8.12	124.76	111.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1464	G	C4'-C3'-O3'	8.11	125.17	113.00
1	1	1421	G	C2'-C3'-O3'	8.11	125.86	113.70
2	3	115	G	C2'-C3'-O3'	8.11	125.86	113.70
1	1	643	U	C2'-C3'-O3'	8.11	125.86	113.70
1	1	1466	G	N9-C1'-C2'	8.11	124.16	112.00
1	1	2304	C	C4'-C3'-O3'	8.11	125.16	113.00
1	1	424	G	C4'-C3'-O3'	8.10	125.15	113.00
1	1	2487	U	C2'-C3'-O3'	8.10	121.64	109.50
1	1	301	G	C4'-C3'-O3'	8.10	125.14	113.00
1	1	862	U	N1-C1'-C2'	8.09	124.13	112.00
1	1	1425	U	C4'-C3'-O3'	8.08	125.12	113.00
3	4	50	C	C2'-C3'-O3'	8.08	125.82	113.70
1	1	2387	A	C4'-C3'-O3'	8.08	125.11	113.00
26	X	82	LEU	N-CA-C	8.08	122.08	109.96
1	1	2320	A	C2'-C3'-O3'	8.07	125.81	113.70
1	1	1024	G	C4'-C3'-O3'	8.07	125.10	113.00
6	C	27	SER	N-CA-C	8.07	122.69	113.01
5	B	181	ILE	N-CA-C	8.07	119.53	107.75
13	J	128	TYR	N-CA-C	8.07	124.53	107.67
1	1	1257	C	C4'-C3'-O3'	8.06	125.09	113.00
6	C	11	LEU	N-CA-C	8.06	127.97	110.80
35	g	96	GLU	N-CA-C	8.06	124.66	111.37
28	Z	52	LYS	N-CA-C	8.05	121.59	110.24
4	A	222	ALA	N-CA-C	8.04	127.93	110.80
17	O	136	THR	N-CA-C	8.03	127.91	110.80
1	1	2965	U	P-O3'-C3'	8.03	132.25	120.20
1	1	1278	A	C3'-C2'-O2'	8.03	126.64	114.60
1	1	511	G	N9-C1'-C2'	8.02	126.04	114.00
6	C	119	ARG	N-CA-C	8.02	127.89	110.80
33	e	55	ILE	N-CA-C	8.02	126.02	109.34
1	1	834	U	C2'-C3'-O3'	8.02	125.72	113.70
43	o	93	LEU	N-CA-C	8.02	126.56	113.89
22	T	138	SER	N-CA-C	8.02	127.87	110.80
1	1	2718	U	C4'-C3'-O3'	8.01	125.02	113.00
19	Q	25	TYR	N-CA-C	8.01	127.86	110.80
14	L	99	HIS	N-CA-C	8.01	127.85	110.80
1	1	2652	U	C2'-C3'-O3'	8.00	125.70	113.70
31	c	87	VAL	N-CA-C	8.00	125.98	109.34
1	1	1348	U	C1'-C2'-O2'	7.99	123.79	111.80
1	1	1247	U	C2'-C3'-O3'	7.99	125.68	113.70
1	1	2297	U	N1-C1'-C2'	7.97	123.96	112.00
13	J	17	LEU	N-CA-C	7.96	124.31	107.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	313	A	N9-C1'-C2'	7.96	123.94	112.00
1	1	673	U	C4'-C3'-O3'	7.96	124.94	113.00
1	1	2787	G	C4'-C3'-O3'	7.96	124.93	113.00
1	1	133	U	C2'-C3'-O3'	7.95	125.63	113.70
1	1	368	G	C4'-C3'-O3'	7.95	124.92	113.00
1	1	2310	U	N1-C1'-C2'	7.95	123.92	112.00
3	4	114	G	C2'-C3'-O3'	7.94	125.62	113.70
1	1	1429	G	N9-C1'-C2'	7.94	125.91	114.00
1	1	2472	C	N1-C1'-C2'	7.94	123.91	112.00
1	1	2283	G	C3'-C2'-O2'	7.94	126.50	114.60
7	D	292	ALA	N-CA-C	7.93	127.70	110.80
15	M	53	VAL	CB-CA-C	7.93	118.17	110.16
1	1	1031	C	N1-C1'-C2'	7.93	123.89	112.00
1	1	2152	A	C4'-C3'-O3'	7.92	124.88	113.00
1	1	856	G	N9-C1'-C2'	7.91	123.87	112.00
1	1	2503	U	N1-C1'-C2'	7.91	123.86	112.00
1	1	672	A	C4'-C3'-O3'	7.90	124.85	113.00
1	1	722	G	C4'-C3'-O3'	7.90	124.84	113.00
1	1	1239	C	N1-C1'-C2'	7.90	123.85	112.00
1	1	1623	G	N9-C1'-C2'	7.90	123.85	112.00
1	1	1247	U	C4'-C3'-O3'	7.89	124.84	113.00
1	1	2506	C	N1-C1'-C2'	7.89	123.84	112.00
20	R	9	ARG	N-CA-C	7.89	127.61	110.80
1	1	1773	C	C4'-C3'-O3'	7.89	124.83	113.00
1	1	961	C	C3'-C2'-O2'	7.89	126.43	114.60
1	1	1169	A	N9-C1'-C2'	7.88	123.83	112.00
1	1	3285	C	C4'-C3'-O3'	7.88	124.83	113.00
1	1	31	C	C4'-C3'-O3'	7.88	124.82	113.00
1	1	2452	G	N9-C1'-C2'	7.88	123.82	112.00
1	1	2625	C	C2'-C3'-O3'	7.88	121.32	109.50
1	1	2130	G	C4'-C3'-O3'	7.87	124.81	113.00
3	4	22	U	C3'-C2'-O2'	7.87	126.41	114.60
1	1	710	A	N9-C1'-C2'	7.86	123.79	112.00
1	1	2311	G	C4'-C3'-O3'	7.86	124.80	113.00
1	1	2776	C	N1-C1'-C2'	7.86	123.80	112.00
9	F	112	ASN	N-CA-C	7.86	127.54	110.80
1	1	2173	U	C2'-C3'-O3'	7.86	125.49	113.70
1	1	979	U	C2'-C3'-O3'	7.85	121.28	109.50
1	1	2596	U	C4'-C3'-O3'	7.84	124.77	113.00
1	1	643	U	C4'-C3'-O3'	7.84	124.76	113.00
1	1	3033	A	N9-C1'-C2'	7.83	123.75	112.00
1	1	981	U	C4'-C3'-O3'	7.83	124.75	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	B	329	PRO	N-CA-C	7.83	128.59	112.47
1	1	1046	A	N9-C1'-C2'	7.83	123.74	112.00
1	1	1110	U	C2'-C3'-O3'	7.83	125.44	113.70
1	1	677	A	N9-C1'-C2'	7.82	125.74	114.00
1	1	2222	A	N9-C1'-C2'	7.82	123.74	112.00
1	1	2279	A	C5'-C4'-C3'	7.82	126.93	115.20
1	1	2960	C	C4'-C3'-O3'	7.81	124.72	113.00
9	F	106	LEU	N-CA-C	7.81	121.91	112.38
1	1	2250	G	N9-C1'-C2'	7.81	123.72	112.00
22	T	135	PRO	N-CA-C	7.81	128.55	112.47
1	1	2181	C	N1-C1'-C2'	7.79	123.68	112.00
1	1	2885	C	C2'-C3'-O3'	7.79	125.38	113.70
21	S	41	TYR	N-CA-C	7.79	127.39	110.80
1	1	1287	A	N9-C1'-C2'	7.78	123.67	112.00
1	1	1555	U	C4'-C3'-O3'	7.78	124.67	113.00
12	I	212	GLU	N-CA-C	7.78	120.62	110.43
12	I	75	TYR	N-CA-C	7.77	124.19	111.37
1	1	1511	U	C3'-C2'-O2'	7.76	126.24	114.60
37	i	91	ASN	N-CA-C	7.76	121.69	111.75
1	1	765	C	C4'-C3'-O3'	7.76	121.04	109.40
40	l	36	ARG	N-CA-C	7.76	124.90	114.12
1	1	542	G	C4'-C3'-O3'	7.75	124.63	113.00
1	1	2475	G	N9-C1'-C2'	7.75	123.63	112.00
6	C	295	ILE	N-CA-C	7.74	118.28	110.23
27	Y	10	SER	N-CA-C	7.74	121.83	112.38
1	1	2511	C	C3'-C2'-O2'	7.74	126.21	114.60
19	Q	112	ALA	N-CA-C	7.73	127.27	110.80
1	1	2387	A	C2'-C3'-O3'	7.73	125.29	113.70
1	1	2348	A	N9-C1'-C2'	7.72	123.58	112.00
20	R	135	LYS	N-CA-C	7.71	124.02	111.37
1	1	1819	U	N1-C1'-C2'	7.71	123.57	112.00
1	1	551	A	C4'-C3'-O3'	7.71	124.56	113.00
1	1	820	A	N9-C1'-C2'	7.71	123.56	112.00
1	1	31	C	C2'-C3'-O3'	7.70	125.26	113.70
13	J	162	TRP	N-CA-C	7.70	127.20	110.80
4	A	218	HIS	N-CA-C	7.70	121.16	109.23
4	A	113	VAL	N-CA-C	7.69	121.02	109.17
3	4	75	G	C4'-C3'-O3'	7.69	124.54	113.00
1	1	538	G	C4'-C3'-O3'	7.69	124.53	113.00
1	1	3184	A	N9-C1'-C2'	7.69	123.53	112.00
6	C	299	ILE	N-CA-C	7.68	125.31	109.34
1	1	2766	U	N1-C1'-C2'	7.67	123.51	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1451	C	N1-C1'-C2'	7.67	123.51	112.00
1	1	291	C	N1-C1'-C2'	7.67	123.51	112.00
21	S	12	ARG	N-CA-C	7.67	127.14	110.80
21	S	71	LYS	N-CA-C	7.67	127.13	110.80
1	1	1462	A	N9-C1'-C2'	7.67	123.50	112.00
1	1	520	U	N1-C1'-C2'	7.66	125.49	114.00
1	1	1212	A	C4'-C3'-O3'	7.66	124.49	113.00
1	1	832	G	C4'-C3'-O3'	7.66	124.49	113.00
5	B	188	ILE	N-CA-C	7.65	125.26	109.34
1	1	952	A	O3'-P-O5'	-7.65	92.52	104.00
1	1	1162	U	O3'-P-O5'	-7.65	92.53	104.00
1	1	3343	G	N9-C1'-C2'	7.65	123.47	112.00
1	1	2288	G	C4'-C3'-O3'	7.64	124.46	113.00
1	1	625	G	C2'-C3'-O3'	7.64	125.16	113.70
24	V	14	SER	N-CA-C	7.64	127.07	110.80
1	1	1448	U	N1-C1'-C2'	7.64	123.45	112.00
1	1	2295	A	C2'-C3'-O3'	7.64	125.16	113.70
1	1	323	A	C2'-C3'-O3'	7.63	125.15	113.70
1	1	3218	A	C4'-C3'-O3'	7.63	120.85	109.40
1	1	1282	G	N9-C1'-C2'	7.63	123.45	112.00
1	1	1299	U	N1-C1'-C2'	7.63	123.45	112.00
18	P	146	ILE	CB-CA-C	7.63	121.81	111.28
1	1	2784	G	C4'-C3'-O3'	7.62	124.43	113.00
1	1	3216	G	C2'-C3'-O3'	7.61	120.92	109.50
4	A	96	LEU	N-CA-C	7.60	126.99	110.80
1	1	1390	A	C5'-C4'-C3'	7.59	126.59	115.20
3	4	158	U	C4'-C3'-O3'	7.59	124.38	113.00
1	1	3020	U	C4'-C3'-O3'	7.58	124.36	113.00
1	1	1363	A	C4'-C3'-O3'	7.57	124.36	113.00
1	1	2295	A	C4'-C3'-O3'	7.57	124.36	113.00
1	1	920	A	OP2-P-O3'	-7.57	85.30	108.00
3	4	120	C	C4'-C3'-O3'	7.56	124.35	113.00
6	C	295	ILE	CB-CA-C	7.56	121.38	111.70
1	1	3165	A	C4'-C3'-O3'	7.56	124.34	113.00
1	1	507	U	N1-C1'-C2'	7.56	123.34	112.00
4	A	26	ALA	N-CA-C	7.56	126.90	110.80
1	1	1698	C	C4'-C3'-O3'	7.56	124.33	113.00
1	1	2320	A	C4'-C3'-O3'	7.55	124.33	113.00
1	1	2655	U	C4'-C3'-O3'	7.55	120.73	109.40
36	h	105	ARG	N-CA-C	7.55	126.88	110.80
1	1	1483	G	C3'-C2'-O2'	7.54	125.92	114.60
39	k	18	ALA	N-CA-C	7.54	126.85	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2159	U	C2'-C3'-O3'	7.53	120.80	109.50
1	1	323	A	C4'-C3'-O3'	7.53	124.30	113.00
1	1	1596	C	C2'-C3'-O3'	7.53	125.00	113.70
1	1	573	C	C4'-C3'-O3'	7.52	124.28	113.00
1	1	2453	C	N1-C1'-C2'	7.51	125.27	114.00
1	1	2951	G	N9-C1'-C2'	7.51	123.27	112.00
1	1	2362	C	C2'-C3'-O3'	7.51	124.97	113.70
1	1	3228	C	N1-C1'-C2'	7.51	125.26	114.00
1	1	1224	C	C4'-C3'-O3'	7.51	124.26	113.00
1	1	894	G	C4'-C3'-O3'	7.51	120.66	109.40
1	1	2096	A	N9-C1'-C2'	7.51	125.26	114.00
1	1	3264	G	N9-C1'-C2'	7.50	123.25	112.00
4	A	32	LEU	N-CA-C	7.50	126.78	110.80
27	Y	119	ILE	N-CA-C	7.50	124.93	109.34
1	1	664	U	N1-C1'-C2'	7.49	125.24	114.00
14	L	61	PRO	N-CA-C	7.49	127.90	112.47
1	1	2969	A	N9-C1'-C2'	7.49	123.23	112.00
1	1	387	A	C4'-C3'-O3'	7.49	124.23	113.00
3	4	98	U	C4'-C3'-O3'	7.48	124.22	113.00
10	G	216	SER	N-CA-C	7.48	126.74	110.80
12	I	16	PRO	N-CA-C	7.48	127.88	112.47
2	3	57	G	C2'-C3'-O3'	7.47	124.91	113.70
33	e	25	TYR	N-CA-C	7.47	122.20	110.32
6	C	126	ILE	N-CA-C	7.47	124.87	109.34
1	1	1708	C	P-O3'-C3'	-7.47	109.00	120.20
43	o	77	CYS	N-CA-C	7.46	126.70	110.80
1	1	25	U	C4'-C3'-O3'	7.46	124.19	113.00
1	1	655	C	N1-C1'-C2'	7.45	123.18	112.00
1	1	2836	C	N1-C1'-C2'	7.45	123.18	112.00
1	1	3295	A	C4'-C3'-O3'	7.45	124.17	113.00
6	C	5	GLN	N-CA-C	7.45	126.67	110.80
1	1	2501	U	N1-C1'-C2'	7.45	125.17	114.00
1	1	1187	C	N1-C1'-C2'	7.44	123.16	112.00
1	1	1384	U	N1-C1'-C2'	7.44	123.16	112.00
3	4	53	A	C4'-C3'-O3'	7.44	124.16	113.00
7	D	109	THR	N-CA-C	7.44	126.64	110.80
1	1	297	G	N9-C1'-C2'	7.43	125.15	114.00
1	1	3163	A	C4'-C3'-O3'	7.43	124.15	113.00
1	1	1110	U	C4'-C3'-O3'	7.43	124.14	113.00
3	4	71	A	N9-C1'-C2'	7.42	125.14	114.00
1	1	2505	U	C4'-C3'-O3'	7.42	124.14	113.00
1	1	609	G	N9-C1'-C2'	7.42	123.13	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3387	U	N1-C1'-C2'	7.42	123.12	112.00
1	1	1806	A	C2'-C3'-O3'	7.41	124.82	113.70
1	1	190	U	C4'-C3'-O3'	7.40	124.11	113.00
1	1	1673	G	C4'-C3'-O3'	7.40	124.10	113.00
21	S	70	THR	N-CA-C	7.40	126.56	110.80
1	1	1229	G	N9-C1'-C2'	7.40	123.10	112.00
1	1	2667	A	C4'-C3'-O3'	7.40	124.10	113.00
15	M	53	VAL	N-CA-C	7.40	123.60	107.92
2	3	53	U	C4'-C3'-O3'	7.39	124.09	113.00
1	1	107	A	N9-C1'-C2'	7.39	123.09	112.00
1	1	3313	U	C4'-C3'-O3'	7.39	124.09	113.00
1	1	1324	U	C4'-C3'-O3'	7.39	124.08	113.00
1	1	2101	C	C2'-C3'-O3'	7.39	120.58	109.50
1	1	2612	U	C2'-C3'-O3'	7.39	124.78	113.70
1	1	91	G	C5'-C4'-C3'	7.38	127.06	116.00
1	1	1672	U	N1-C1'-C2'	7.37	123.06	112.00
1	1	1149	G	C4'-C3'-O3'	7.37	124.05	113.00
1	1	753	C	N1-C1'-C2'	7.37	123.05	112.00
1	1	189	G	C5'-C4'-C3'	7.37	126.25	115.20
1	1	931	C	N1-C1'-C2'	7.37	123.05	112.00
45	t	90	LEU	N-CA-C	7.37	126.49	110.80
1	1	2731	U	C4'-C3'-O3'	7.36	124.04	113.00
1	1	1568	U	N1-C1'-C2'	7.36	125.04	114.00
1	1	1926	C	N1-C1'-C2'	7.36	125.04	114.00
1	1	546	C	C4'-C3'-O3'	7.36	124.04	113.00
1	1	3204	C	N1-C1'-C2'	7.36	123.03	112.00
1	1	932	U	N1-C1'-C2'	7.34	125.02	114.00
1	1	543	C	C2'-C3'-O3'	7.34	124.70	113.70
31	c	43	ILE	N-CA-C	7.33	124.58	109.34
34	f	16	TYR	N-CA-C	7.33	120.20	110.53
3	4	146	U	N1-C1'-C2'	7.33	122.99	112.00
1	1	181	U	N1-C1'-C2'	7.32	124.98	114.00
2	3	57	G	C4'-C3'-O3'	7.32	123.98	113.00
1	1	2792	A	N9-C1'-C2'	7.31	122.97	112.00
1	1	3050	U	C4'-C3'-O3'	7.31	123.97	113.00
24	V	102	ILE	N-CA-C	7.30	119.95	109.51
2	3	115	G	C4'-C3'-O3'	7.30	123.95	113.00
5	B	104	THR	N-CA-C	7.30	122.36	107.69
1	1	522	A	N9-C1'-C2'	7.29	122.94	112.00
1	1	1270	A	C4'-C3'-O3'	7.29	123.94	113.00
45	t	153	SER	N-CA-C	7.29	122.31	113.41
1	1	2450	A	N9-C1'-C2'	7.29	124.93	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	13	A	N9-C1'-C2'	7.28	124.92	114.00
43	o	76	LYS	N-CA-C	7.28	126.31	110.80
1	1	1691	U	C4'-C3'-O3'	7.28	123.92	113.00
3	4	112	U	C5'-C4'-C3'	7.28	126.11	115.20
1	1	2906	C	N1-C1'-C2'	7.27	122.91	112.00
1	1	1106	G	C2'-C3'-O3'	7.27	124.60	113.70
3	4	82	U	C5'-C4'-C3'	7.27	126.90	116.00
1	1	3320	A	N9-C1'-C2'	7.27	122.90	112.00
1	1	3326	G	C4'-C3'-O3'	7.27	123.90	113.00
45	t	149	THR	N-CA-C	7.27	121.41	112.54
1	1	3258	U	N1-C1'-C2'	7.27	122.90	112.00
1	1	1086	C	C4'-C3'-O3'	7.26	123.89	113.00
15	M	85	TRP	N-CA-C	7.26	126.26	110.80
36	h	71	LYS	N-CA-C	7.26	126.26	110.80
22	T	49	GLN	N-CA-C	7.25	131.31	111.00
33	e	112	ALA	N-CA-C	7.25	123.34	111.37
1	1	1323	G	C4'-C3'-O3'	7.25	123.88	113.00
1	1	1769	G	N9-C1'-C2'	7.24	122.86	112.00
1	1	1918	C	N1-C1'-C2'	7.24	124.86	114.00
6	C	21	PRO	N-CA-C	7.24	130.20	112.10
5	B	379	PHE	N-CA-C	7.23	126.20	110.80
1	1	829	U	C4'-C3'-O3'	7.23	123.84	113.00
26	X	53	HIS	N-CA-C	7.22	126.19	110.80
1	1	1628	C	C5'-C4'-C3'	7.22	126.03	115.20
1	1	167	U	C4'-C3'-O3'	7.22	123.83	113.00
2	3	51	A	C2'-C3'-O3'	7.22	124.53	113.70
1	1	2763	U	N1-C1'-C2'	7.22	122.83	112.00
1	1	1806	A	C4'-C3'-O3'	7.21	123.82	113.00
1	1	1228	C	N1-C1'-C2'	7.21	124.81	114.00
1	1	760	G	N9-C1'-C2'	7.20	124.81	114.00
1	1	1905	G	C4'-C3'-O3'	7.20	123.80	113.00
1	1	1562	C	C4'-C3'-O3'	7.19	123.79	113.00
1	1	2895	G	C4'-C3'-O3'	7.19	123.79	113.00
12	I	5	PRO	CB-CA-C	7.19	120.78	111.64
1	1	1309	U	N1-C1'-C2'	7.19	122.79	112.00
31	c	90	VAL	N-CA-C	7.19	124.29	109.34
1	1	2901	G	N9-C1'-C2'	7.18	122.78	112.00
3	4	82	U	N1-C1'-C2'	7.18	122.78	112.00
15	M	90	VAL	N-CA-CB	7.18	118.17	110.62
5	B	363	SER	N-CA-C	7.18	126.10	110.80
8	E	34	LEU	N-CA-C	7.18	126.10	110.80
1	1	1023	C	C4'-C3'-O3'	7.18	123.77	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3323	A	C4'-C3'-O3'	7.18	123.77	113.00
1	1	2329	C	C4'-C3'-O3'	7.18	123.77	113.00
11	H	142	ASP	N-CA-C	7.18	126.09	110.80
1	1	2220	A	C4'-C3'-O3'	7.18	123.77	113.00
1	1	2178	A	OP2-P-O3'	-7.17	86.47	108.00
6	C	314	LYS	N-CA-C	7.17	126.08	110.80
27	Y	12	ARG	N-CA-C	7.17	126.08	110.80
1	1	109	A	N9-C1'-C2'	7.17	124.76	114.00
1	1	273	A	C4'-C3'-O3'	7.17	123.76	113.00
1	1	632	G	N9-C1'-C2'	7.17	124.76	114.00
1	1	552	G	C4'-C3'-O3'	7.17	123.75	113.00
1	1	2844	C	N1-C1'-C2'	7.17	122.75	112.00
1	1	3067	C	N1-C1'-C2'	7.17	122.75	112.00
2	3	44	C	C4'-C3'-O3'	7.17	123.75	113.00
1	1	1889	G	N9-C1'-C2'	7.16	124.74	114.00
1	1	2746	A	N9-C1'-C2'	7.16	122.74	112.00
29	a	148	ILE	N-CA-C	7.15	124.22	109.34
1	1	2552	C	C4'-C3'-O3'	7.15	123.73	113.00
2	3	81	U	N1-C1'-C2'	7.15	122.73	112.00
11	H	183	HIS	CB-CA-C	7.15	121.33	109.53
22	T	147	VAL	CB-CA-C	7.15	118.46	110.52
1	1	2836	C	C4'-C3'-O3'	7.15	123.72	113.00
20	R	100	ARG	N-CA-C	7.15	126.02	110.80
1	1	2331	C	C4'-C3'-O3'	7.14	123.71	113.00
1	1	2619	G	N9-C1'-C2'	7.14	122.71	112.00
1	1	241	G	N9-C1'-C2'	7.14	122.71	112.00
18	P	97	ASN	N-CA-C	7.14	126.00	110.80
1	1	419	G	C4'-C3'-O3'	7.14	123.70	113.00
1	1	619	A	N9-C1'-C2'	7.14	122.71	112.00
1	1	2881	C	OP2-P-O3'	7.14	129.41	108.00
1	1	975	C	N1-C1'-C2'	7.13	122.70	112.00
6	C	295	ILE	N-CA-CB	7.13	118.11	110.62
20	R	106	LEU	N-CA-C	7.13	125.98	110.80
1	1	1184	A	C4'-C3'-O3'	7.13	123.69	113.00
17	O	20	ALA	N-CA-C	7.13	125.98	110.80
24	V	54	LEU	N-CA-C	7.13	125.98	110.80
24	V	69	LEU	N-CA-C	7.12	125.97	110.80
1	1	2664	C	N1-C1'-C2'	7.12	122.68	112.00
1	1	2173	U	C4'-C3'-O3'	7.12	123.68	113.00
16	N	87	GLN	N-CA-C	7.12	125.96	110.80
2	3	51	A	C4'-C3'-O3'	7.12	123.67	113.00
1	1	690	A	C4'-C3'-O3'	7.11	123.67	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2659	G	C4'-C3'-O3'	7.11	123.67	113.00
1	1	218	G	N9-C1'-C2'	7.11	124.67	114.00
1	1	2947	G	C4'-C3'-O3'	7.11	123.66	113.00
38	j	27	PHE	N-CA-C	7.11	125.93	110.80
1	1	1812	G	N9-C1'-C2'	7.10	124.66	114.00
2	3	37	G	C4'-C3'-O3'	7.10	123.64	113.00
1	1	1885	U	N1-C1'-C2'	7.09	124.64	114.00
14	L	106	GLN	N-CA-C	7.09	125.90	110.80
3	4	118	C	N1-C1'-C2'	7.08	122.62	112.00
1	1	1686	U	C4'-C3'-O3'	7.08	123.61	113.00
15	M	113	THR	N-CA-C	7.07	121.20	109.95
1	1	988	U	N1-C1'-C2'	7.07	122.60	112.00
1	1	1744	G	N9-C1'-C2'	7.07	122.60	112.00
5	B	304	THR	N-CA-C	7.06	120.41	109.60
1	1	3348	G	N9-C1'-C2'	7.06	122.59	112.00
12	I	146	ASP	N-CA-C	7.06	125.84	110.80
1	1	2909	U	C2'-C3'-O3'	7.06	124.29	113.70
1	1	3200	G	C4'-C3'-O3'	7.06	123.59	113.00
17	O	41	LEU	N-CA-C	7.06	125.84	110.80
1	1	331	G	C4'-C3'-O3'	7.06	123.58	113.00
2	3	113	C	N1-C1'-C2'	7.06	122.59	112.00
1	1	589	A	N9-C1'-C2'	7.06	124.58	114.00
1	1	121	A	N9-C1'-C2'	7.05	124.58	114.00
19	Q	97	PRO	N-CA-C	7.05	126.99	112.47
1	1	850	U	N1-C1'-C2'	7.05	124.57	114.00
1	1	862	U	C4'-C3'-O3'	7.04	123.56	113.00
38	j	45	ARG	N-CA-C	7.04	125.80	110.80
27	Y	3	LYS	N-CA-C	7.04	125.80	110.80
1	1	3291	G	C4'-C3'-O3'	7.04	123.55	113.00
1	1	321	C	N1-C1'-C2'	7.03	124.54	114.00
1	1	3146	G	N9-C1'-C2'	7.03	122.54	112.00
1	1	994	G	N9-C1'-C2'	7.03	124.54	114.00
1	1	311	C	C5'-C4'-C3'	7.02	126.53	116.00
1	1	1560	G	C4'-C3'-O3'	7.02	123.53	113.00
17	O	177	LYS	CA-C-N	-7.02	109.34	121.97
17	O	177	LYS	C-N-CA	-7.02	109.34	121.97
1	1	32	U	N1-C1'-C2'	7.01	122.52	112.00
16	N	109	ARG	N-CA-C	7.01	125.73	110.80
23	U	38	ILE	N-CA-C	7.01	123.92	109.34
17	O	114	LYS	N-CA-C	7.01	125.72	110.80
1	1	835	G	C4'-C3'-O3'	7.00	119.91	109.40
27	Y	87	LYS	N-CA-C	7.00	125.72	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2773	C	N1-C1'-C2'	7.00	124.49	114.00
1	1	373	A	C4'-C3'-O3'	6.99	123.49	113.00
6	C	21	PRO	CB-CA-C	6.99	123.38	110.10
1	1	2791	G	C4'-C3'-O3'	6.99	123.48	113.00
1	1	1367	G	C4'-C3'-O3'	6.98	123.47	113.00
1	1	2240	G	C4'-C3'-O3'	6.98	123.47	113.00
1	1	2342	U	C2'-C3'-O3'	6.98	124.17	113.70
1	1	536	U	N1-C1'-C2'	6.98	124.47	114.00
1	1	1113	G	N9-C1'-C2'	6.98	122.47	112.00
3	4	151	C	N1-C1'-C2'	6.97	122.46	112.00
1	1	427	C	C4'-C3'-O3'	6.97	123.45	113.00
17	O	4	GLU	N-CA-C	6.97	125.22	109.81
1	1	1947	G	N9-C1'-C2'	6.97	122.45	112.00
1	1	3246	G	N9-C1'-C2'	6.96	124.45	114.00
12	I	46	PHE	N-CA-C	6.96	125.19	109.81
1	1	1020	G	C4'-C3'-O3'	6.96	123.43	113.00
1	1	1317	A	C5'-C4'-C3'	6.96	125.64	115.20
7	D	61	ILE	N-CA-C	6.96	123.81	109.34
1	1	1801	U	N1-C1'-C2'	6.95	122.43	112.00
1	1	598	A	C4'-C3'-O3'	6.95	123.42	113.00
1	1	3104	U	C4'-C3'-O3'	6.95	123.42	113.00
14	L	79	GLU	N-CA-C	6.95	125.59	110.80
1	1	1571	A	N9-C1'-C2'	6.94	122.42	112.00
1	1	1178	G	N9-C1'-C2'	6.94	122.41	112.00
3	4	21	C	N1-C1'-C2'	6.94	122.41	112.00
1	1	1363	A	N9-C1'-C2'	6.94	122.41	112.00
2	3	75	G	N9-C1'-C2'	6.94	122.41	112.00
3	4	44	A	N9-C1'-C2'	6.94	124.41	114.00
1	1	3275	U	N1-C1'-C2'	6.94	122.41	112.00
1	1	3304	U	C4'-C3'-O3'	6.93	119.80	109.40
1	1	127	G	C4'-C3'-O3'	6.93	123.40	113.00
5	B	146	ARG	N-CA-C	6.93	125.57	110.80
35	g	76	TYR	N-CA-C	6.93	125.56	110.80
1	1	1640	G	N9-C1'-C2'	6.93	124.39	114.00
1	1	2403	G	N9-C1'-C2'	6.93	124.39	114.00
1	1	1119	C	N1-C1'-C2'	6.92	122.39	112.00
1	1	2103	U	N1-C1'-C2'	6.92	122.39	112.00
1	1	3122	A	C4'-C3'-O3'	6.92	123.39	113.00
2	3	52	G	C2'-C3'-O3'	6.92	124.08	113.70
1	1	408	A	N9-C1'-C2'	6.92	122.38	112.00
1	1	1421	G	C4'-C3'-O3'	6.92	123.38	113.00
1	1	3242	G	C4'-C3'-O3'	6.91	119.77	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	303	G	C4'-C3'-O3'	6.91	123.36	113.00
1	1	561	C	C4'-C3'-O3'	6.91	123.36	113.00
1	1	1799	A	C4'-C3'-O3'	6.91	123.36	113.00
1	1	709	A	N9-C1'-C2'	6.90	122.35	112.00
20	R	41	ILE	N-CA-C	6.90	123.69	109.34
1	1	3050	U	C2'-C3'-O3'	6.90	124.04	113.70
1	1	1289	G	C4'-C3'-O3'	6.89	123.34	113.00
1	1	1538	G	N9-C1'-C2'	6.89	122.34	112.00
30	b	21	ILE	N-CA-C	6.89	123.68	109.34
1	1	1664	G	N9-C1'-C2'	6.89	122.34	112.00
20	R	157	GLU	N-CA-C	6.89	125.47	110.80
1	1	320	G	C4'-C3'-O3'	6.89	123.33	113.00
1	1	3118	C	C4'-C3'-O3'	6.88	123.33	113.00
3	4	136	G	N9-C1'-C2'	6.88	122.33	112.00
1	1	1520	G	N9-C1'-C2'	6.88	122.31	112.00
1	1	920	A	N9-C1'-C2'	6.87	124.31	114.00
1	1	1531	C	C4'-C3'-O3'	6.87	123.31	113.00
1	1	2137	U	N1-C1'-C2'	6.87	124.31	114.00
1	1	2191	U	N1-C1'-C2'	6.87	122.30	112.00
1	1	9	U	C4'-C3'-O3'	6.87	123.30	113.00
1	1	613	G	C5'-C4'-C3'	6.86	125.50	115.20
1	1	794	U	N1-C1'-C2'	6.86	124.29	114.00
1	1	3390	G	C4'-C3'-O3'	6.86	123.28	113.00
6	C	185	LYS	N-CA-C	6.85	125.40	110.80
14	L	171	ARG	N-CA-C	6.85	125.40	110.80
1	1	1100	U	C5'-C4'-C3'	6.85	125.47	115.20
1	1	2756	C	N1-C1'-C2'	6.84	122.26	112.00
1	1	1675	G	N9-C1'-C2'	6.83	122.25	112.00
3	4	51	G	N9-C1'-C2'	6.83	124.25	114.00
1	1	200	C	C5'-C4'-C3'	6.83	125.45	115.20
1	1	2671	A	N9-C1'-C2'	6.83	124.25	114.00
14	L	133	PRO	N-CA-C	6.83	126.54	112.47
1	1	2486	A	C5'-C4'-C3'	6.83	125.44	115.20
1	1	2919	A	N9-C1'-C2'	6.82	122.23	112.00
1	1	782	U	N1-C1'-C2'	6.81	122.22	112.00
1	1	773	G	N9-C1'-C2'	6.81	122.21	112.00
33	e	107	VAL	N-CA-CB	6.81	118.07	110.51
1	1	2333	C	N1-C1'-C2'	6.81	122.21	112.00
37	i	57	LEU	N-CA-C	6.81	125.30	110.80
1	1	2440	G	C5'-C4'-C3'	6.80	125.41	115.20
29	a	2	PRO	N-CA-C	6.80	129.11	112.10
1	1	2710	C	N1-C1'-C2'	6.80	122.20	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2720	G	N9-C1'-C2'	6.80	122.20	112.00
1	1	3084	C	N1-C1'-C2'	6.80	124.20	114.00
5	B	79	VAL	CB-CA-C	6.80	120.65	111.88
1	1	208	C	N1-C1'-C2'	6.80	122.19	112.00
1	1	1572	U	C4'-C3'-O3'	6.80	123.19	113.00
1	1	1524	A	C5'-C4'-C3'	6.79	125.39	115.20
19	Q	147	ARG	N-CA-C	6.79	125.27	110.80
1	1	2790	A	N9-C1'-C2'	6.79	122.19	112.00
1	1	2208	A	C5'-C4'-C3'	6.79	125.38	115.20
1	1	1554	U	N1-C1'-C2'	6.78	124.17	114.00
1	1	2511	C	C5'-C4'-C3'	6.78	125.37	115.20
1	1	2244	A	N9-C1'-C2'	6.77	122.16	112.00
3	4	114	G	C4'-C3'-O3'	6.77	123.16	113.00
1	1	27	C	N1-C1'-C2'	6.77	122.15	112.00
1	1	917	A	C4'-C3'-O3'	6.77	123.15	113.00
1	1	1527	C	N1-C1'-C2'	6.77	122.15	112.00
15	M	92	GLU	N-CA-C	6.76	120.79	112.54
5	B	255	TRP	N-CA-C	6.76	125.20	110.80
1	1	2247	G	N9-C1'-C2'	6.76	122.14	112.00
1	1	1112	A	N9-C1'-C2'	6.76	124.14	114.00
1	1	2607	G	C4'-C3'-O3'	6.75	123.13	113.00
1	1	2686	A	C4'-C3'-O3'	6.75	123.13	113.00
1	1	3363	U	N1-C1'-C2'	6.75	122.12	112.00
1	1	1682	U	N1-C1'-C2'	6.75	122.12	112.00
1	1	169	U	N1-C1'-C2'	6.74	124.10	114.00
1	1	206	G	N9-C1'-C2'	6.74	122.10	112.00
21	S	36	ILE	N-CA-C	6.73	123.34	109.34
11	H	183	HIS	N-CA-C	6.73	121.26	109.96
1	1	1430	U	N1-C1'-C2'	6.72	124.08	114.00
1	1	2340	U	N1-C1'-C2'	6.72	124.08	114.00
30	b	43	HIS	N-CA-C	6.72	125.11	110.80
1	1	87	U	N1-C1'-C2'	6.72	124.08	114.00
1	1	268	A	O3'-P-O5'	-6.71	93.93	104.00
1	1	3186	A	N9-C1'-C2'	6.71	124.07	114.00
10	G	185	ARG	N-CA-C	6.71	122.45	111.37
16	N	133	ILE	CB-CA-C	6.71	120.33	112.68
1	1	244	G	C4'-C3'-O3'	6.71	123.07	113.00
1	1	236	G	N9-C1'-C2'	6.71	122.06	112.00
1	1	971	G	N9-C1'-C2'	6.71	122.06	112.00
45	t	205	VAL	N-CA-C	6.71	118.72	109.46
4	A	33	ASP	N-CA-C	6.71	125.08	110.80
1	1	3117	C	C4'-C3'-O3'	6.70	123.05	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3162	C	C4'-C3'-O3'	6.70	123.05	113.00
1	1	583	G	N9-C1'-C2'	6.70	124.05	114.00
1	1	2537	U	C2'-C3'-O3'	6.69	119.53	109.50
1	1	2454	G	C5'-C4'-C3'	6.68	125.22	115.20
1	1	2282	U	C5'-C4'-C3'	6.68	125.22	115.20
1	1	2276	G	N9-C1'-C2'	6.68	122.02	112.00
1	1	2689	A	C2'-C3'-O3'	6.67	119.51	109.50
1	1	1506	A	N9-C1'-C2'	6.67	122.01	112.00
37	i	83	ALA	N-CA-C	6.67	129.67	111.00
16	N	59	PHE	N-CA-C	6.67	120.35	110.48
1	1	2943	G	N9-C1'-C2'	6.66	121.99	112.00
1	1	1620	U	C4'-C3'-O3'	6.65	122.98	113.00
2	3	9	C	N1-C1'-C2'	6.65	121.98	112.00
1	1	1827	C	N1-C1'-C2'	6.65	121.98	112.00
15	M	126	GLN	N-CA-C	6.65	124.96	110.80
1	1	2765	C	C4'-C3'-O3'	6.64	122.97	113.00
3	4	3	A	N9-C1'-C2'	6.64	121.97	112.00
34	f	98	VAL	N-CA-C	6.64	123.15	109.34
1	1	1770	G	N9-C1'-C2'	6.63	123.95	114.00
3	4	96	A	N9-C1'-C2'	6.63	121.95	112.00
20	R	139	VAL	CB-CA-C	6.63	120.71	112.02
1	1	565	U	N1-C1'-C2'	6.63	121.95	112.00
12	I	79	VAL	CB-CA-C	6.63	122.17	111.29
1	1	225	C	C4'-C3'-O3'	6.63	122.95	113.00
1	1	343	U	N1-C1'-C2'	6.63	123.94	114.00
1	1	2734	A	C4'-C3'-O3'	6.62	122.93	113.00
1	1	2699	G	C4'-C3'-O3'	6.62	122.92	113.00
33	e	109	LEU	N-CA-C	6.62	124.89	110.80
1	1	904	A	N9-C1'-C2'	6.61	121.92	112.00
38	j	26	SER	N-CA-C	6.61	124.87	110.80
1	1	1488	G	C5'-C4'-C3'	6.60	125.90	116.00
1	1	815	G	N9-C1'-C2'	6.59	121.89	112.00
1	1	2291	A	N9-C1'-C2'	6.59	121.89	112.00
1	1	1403	C	P-O3'-C3'	-6.59	110.32	120.20
1	1	2933	A	C4'-C3'-O3'	6.59	122.88	113.00
3	4	10	A	C4'-C3'-O3'	6.59	122.89	113.00
22	T	67	VAL	CB-CA-C	6.59	118.93	110.96
1	1	1043	C	C2'-C3'-O3'	6.58	123.57	113.70
1	1	2842	U	O4'-C1'-C2'	6.58	112.38	105.80
1	1	3134	A	C5'-C4'-C3'	6.58	125.07	115.20
27	Y	54	ASP	N-CA-C	6.58	124.81	110.80
44	p	25	GLN	N-CA-C	6.58	124.81	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2798	C	C4'-C3'-O3'	6.57	122.86	113.00
1	1	2355	G	OP2-P-O3'	6.57	127.71	108.00
1	1	1794	G	N9-C1'-C2'	6.56	123.84	114.00
10	G	81	THR	N-CA-C	6.56	124.78	110.80
1	1	1285	G	N9-C1'-C2'	6.56	123.84	114.00
17	O	55	HIS	N-CA-C	6.56	124.77	110.80
1	1	3152	U	C5'-C4'-C3'	6.55	125.03	115.20
1	1	2152	A	N9-C1'-C2'	6.55	121.83	112.00
1	1	2361	A	O3'-P-O5'	-6.55	94.17	104.00
1	1	2596	U	C2'-C3'-O3'	6.55	123.52	113.70
2	3	97	A	N9-C1'-C2'	6.55	121.82	112.00
1	1	1240	A	C5'-C4'-C3'	6.55	125.82	116.00
3	4	27	U	N1-C1'-C2'	6.54	123.82	114.00
1	1	543	C	C4'-C3'-O3'	6.54	122.81	113.00
1	1	1212	A	C2'-C3'-O3'	6.54	123.51	113.70
14	L	135	ALA	N-CA-C	6.54	129.30	111.00
1	1	1530	U	N1-C1'-C2'	6.53	121.80	112.00
34	f	60	ARG	N-CA-C	6.53	124.70	110.80
18	P	146	ILE	N-CA-C	6.52	118.48	109.80
1	1	3364	C	N1-C1'-C2'	6.52	123.78	114.00
5	B	285	VAL	CB-CA-C	6.52	120.11	112.68
24	V	73	VAL	N-CA-C	6.52	122.89	109.34
1	1	938	C	N1-C1'-C2'	6.51	121.77	112.00
10	G	27	THR	CB-CA-C	6.50	123.41	109.10
10	G	211	LEU	N-CA-C	6.50	124.65	110.80
1	1	2782	U	N1-C1'-C2'	6.50	121.75	112.00
1	1	892	U	C5'-C4'-C3'	6.50	125.75	116.00
1	1	403	C	O4'-C1'-C2'	6.50	112.30	105.80
2	3	114	U	C5'-C4'-C3'	6.50	125.74	116.00
5	B	193	ASP	N-CA-C	6.49	124.63	110.80
1	1	873	C	C2'-C3'-O3'	6.49	123.44	113.70
1	1	1547	G	C5'-C4'-C3'	6.49	124.93	115.20
1	1	1853	U	C5'-C4'-C3'	6.49	125.73	116.00
27	Y	105	VAL	N-CA-C	6.49	122.83	109.34
1	1	2383	C	N1-C1'-C2'	6.48	123.72	114.00
1	1	902	G	C4'-C3'-O3'	6.48	122.72	113.00
1	1	1844	C	N1-C1'-C2'	6.48	121.72	112.00
1	1	1463	U	C4'-C3'-O3'	6.48	122.71	113.00
43	o	8	ARG	N-CA-C	6.48	124.59	110.80
1	1	2542	U	N1-C1'-C2'	6.47	123.71	114.00
7	D	125	VAL	N-CA-C	6.47	122.81	109.34
34	f	38	PRO	N-CA-C	6.47	125.80	112.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	D	227	LEU	N-CA-C	6.47	124.58	110.80
1	1	961	C	N1-C1'-C2'	6.47	123.70	114.00
1	1	1944	U	N1-C1'-C2'	6.46	121.69	112.00
1	1	3278	C	C5'-C4'-C3'	6.46	124.89	115.20
1	1	2808	A	N9-C1'-C2'	6.46	123.69	114.00
2	3	34	C	C4'-C3'-O3'	6.46	122.68	113.00
18	P	89	LYS	N-CA-C	6.46	129.08	111.00
1	1	3293	U	N1-C1'-C2'	6.45	123.68	114.00
1	1	1336	U	N1-C1'-C2'	6.45	121.67	112.00
1	1	1832	C	N1-C1'-C2'	6.45	121.67	112.00
1	1	2987	A	C4'-C3'-O3'	6.45	122.67	113.00
1	1	2406	C	C4'-C3'-O3'	6.44	122.67	113.00
1	1	992	A	N9-C1'-C2'	6.44	121.66	112.00
1	1	1084	A	C4'-C3'-O3'	6.44	122.66	113.00
1	1	1906	G	C5'-C4'-C3'	6.43	124.85	115.20
1	1	82	C	N1-C1'-C2'	6.43	121.65	112.00
1	1	2955	U	C5'-C4'-C3'	6.43	124.85	115.20
14	L	71	ALA	N-CA-C	6.43	124.49	110.80
3	4	42	G	C4'-C3'-O3'	6.43	122.64	113.00
34	f	42	GLN	N-CA-C	6.42	124.48	110.80
1	1	1289	G	C5'-C4'-C3'	6.42	125.63	116.00
2	3	108	A	N9-C1'-C2'	6.42	121.62	112.00
33	e	21	HIS	N-CA-C	6.42	124.46	110.80
1	1	366	A	C4'-C3'-O3'	6.41	122.62	113.00
1	1	1582	C	C4'-C3'-O3'	6.41	122.62	113.00
45	t	157	PHE	CB-CA-C	6.41	119.11	111.22
1	1	2689	A	C5'-C4'-C3'	6.41	124.82	115.20
1	1	1812	G	C5'-C4'-C3'	6.41	124.81	115.20
1	1	411	U	C5'-C4'-C3'	6.40	125.61	116.00
1	1	1524	A	O4'-C1'-C2'	6.40	112.20	105.80
1	1	1841	A	O4'-C1'-C2'	6.40	112.20	105.80
1	1	2357	A	N9-C1'-C2'	6.39	121.59	112.00
1	1	3236	U	N1-C1'-C2'	6.39	121.59	112.00
5	B	113	GLU	N-CA-C	6.39	124.42	110.80
33	e	127	ALA	N-CA-C	6.39	124.42	110.80
1	1	2465	G	C4'-C3'-O3'	6.39	122.59	113.00
29	a	145	VAL	CB-CA-C	6.39	121.77	111.29
1	1	1814	A	C5'-C4'-C3'	6.38	124.77	115.20
6	C	322	GLN	N-CA-C	6.38	124.39	110.80
2	3	4	U	C4'-C3'-O3'	6.38	122.57	113.00
1	1	2734	A	C5'-C4'-C3'	6.37	125.56	116.00
1	1	1393	A	C4'-C3'-O3'	6.37	122.55	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	t	192	SER	N-CA-C	6.37	118.09	110.19
1	1	251	G	C5'-C4'-C3'	6.37	124.75	115.20
1	1	701	G	C5'-C4'-C3'	6.37	125.55	116.00
1	1	1888	U	C2'-C3'-O3'	6.37	123.25	113.70
33	e	25	TYR	CB-CA-C	6.37	120.40	109.51
1	1	2832	C	N1-C1'-C2'	6.36	123.54	114.00
6	C	296	GLN	N-CA-C	6.36	124.34	110.80
1	1	2180	G	N9-C1'-C2'	6.36	121.53	112.00
41	m	103	LEU	CB-CA-C	6.35	118.01	108.86
1	1	65	A	C4'-C3'-O3'	6.35	122.53	113.00
1	1	255	A	N9-C1'-C2'	6.35	123.52	114.00
1	1	2967	A	N9-C1'-C2'	6.35	121.52	112.00
6	C	222	VAL	CB-CA-C	6.34	122.90	111.36
1	1	1235	U	C5'-C4'-C3'	6.34	124.71	115.20
11	H	80	THR	N-CA-C	6.34	124.30	110.80
15	M	133	LYS	N-CA-C	6.34	124.30	110.80
1	1	925	A	C5'-C4'-C3'	6.33	124.70	115.20
1	1	1176	C	C5'-C4'-C3'	6.33	125.50	116.00
1	1	1483	G	C5'-C4'-C3'	6.33	124.70	115.20
1	1	2267	C	C5'-C4'-C3'	6.33	125.50	116.00
8	E	62	THR	N-CA-C	6.33	124.28	110.80
1	1	635	G	C5'-C4'-C3'	6.33	125.50	116.00
1	1	2385	G	C5'-C4'-C3'	6.33	124.69	115.20
1	1	837	A	N9-C1'-C2'	6.33	121.49	112.00
11	H	6	THR	N-CA-C	6.32	120.22	110.42
1	1	91	G	C5'-C4'-O4'	6.32	119.28	109.80
1	1	3075	G	C4'-C3'-O3'	6.32	122.48	113.00
1	1	3184	A	C4'-C3'-O3'	6.32	122.48	113.00
1	1	1673	G	C5'-C4'-C3'	6.32	125.48	116.00
1	1	1357	G	N9-C1'-C2'	6.32	121.48	112.00
1	1	1570	U	C5'-C4'-C3'	6.31	124.67	115.20
1	1	2368	A	C4'-C3'-O3'	6.31	122.47	113.00
2	3	56	A	C5'-C4'-C3'	6.31	125.47	116.00
3	4	80	A	C5'-C4'-C3'	6.31	124.67	115.20
1	1	1539	A	C4'-C3'-O3'	6.31	122.46	113.00
9	F	122	ALA	N-CA-C	6.31	128.66	111.00
17	O	198	GLY	CA-C-N	6.31	133.05	121.70
17	O	198	GLY	C-N-CA	6.31	133.05	121.70
19	Q	123	THR	OG1-CB-CG2	6.31	121.91	109.30
27	Y	70	ILE	N-CA-C	6.30	122.45	109.34
1	1	276	U	C4'-C3'-O3'	6.30	122.45	113.00
1	1	682	U	C5'-C4'-C3'	6.30	125.45	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	Z	129	TRP	N-CA-C	6.30	124.22	110.80
1	1	759	U	N1-C1'-C2'	6.30	121.45	112.00
1	1	2523	A	N9-C1'-C2'	6.29	123.43	114.00
1	1	2539	C	C5'-C4'-C3'	6.29	124.63	115.20
1	1	396	A	N9-C1'-C2'	6.29	123.43	114.00
45	t	213	ALA	N-CA-C	6.29	124.19	110.80
1	1	3232	G	C5'-C4'-C3'	6.28	125.42	116.00
1	1	1841	A	N9-C1'-C2'	6.28	123.42	114.00
1	1	1946	A	N9-C1'-C2'	6.28	121.42	112.00
11	H	27	VAL	N-CA-C	6.28	122.41	109.34
1	1	2446	A	C4'-C3'-O3'	-6.28	103.58	113.00
31	c	64	LYS	N-CA-C	6.27	124.17	110.80
1	1	2448	G	C2'-C3'-O3'	6.27	118.91	109.50
1	1	2604	U	N1-C1'-C2'	6.27	121.41	112.00
22	T	118	GLU	N-CA-C	6.27	124.16	110.80
14	L	2	ALA	N-CA-C	6.27	128.56	111.00
1	1	1179	A	N9-C1'-C2'	6.27	121.40	112.00
1	1	1377	G	N9-C1'-C2'	6.27	121.41	112.00
1	1	739	G	C2'-C3'-O3'	6.27	123.10	113.70
5	B	62	ARG	N-CA-C	6.27	123.66	109.81
1	1	191	U	C5'-C4'-C3'	6.26	125.40	116.00
1	1	981	U	C5'-C4'-C3'	6.26	125.39	116.00
1	1	1246	G	C5'-C4'-C3'	6.25	125.38	116.00
1	1	1629	U	N1-C1'-C2'	6.24	123.36	114.00
1	1	1402	C	N1-C1'-C2'	6.24	121.36	112.00
1	1	2320	A	C5'-C4'-C3'	6.24	125.36	116.00
1	1	2451	U	C5'-C4'-C3'	6.24	125.36	116.00
1	1	2507	U	C4'-C3'-O3'	6.24	122.36	113.00
6	C	218	ALA	N-CA-C	6.24	124.08	110.80
20	R	56	THR	CA-CB-CG2	6.24	121.10	110.50
1	1	735	A	C5'-C4'-C3'	6.24	125.35	116.00
1	1	2351	U	N1-C1'-C2'	6.24	121.35	112.00
43	o	103	ALA	N-CA-C	6.23	128.45	111.00
14	L	6	ASN	N-CA-C	6.23	124.07	110.80
1	1	1944	U	C5'-C4'-C3'	6.22	125.34	116.00
1	1	1535	A	C5'-C4'-C3'	6.22	124.53	115.20
1	1	2995	A	N9-C1'-C2'	6.22	123.33	114.00
27	Y	100	HIS	N-CA-C	6.22	123.56	109.81
1	1	2921	U	C4'-C3'-O3'	6.22	122.33	113.00
7	D	241	THR	N-CA-C	6.21	121.56	111.37
1	1	397	A	C5'-C4'-C3'	6.20	124.50	115.20
1	1	843	A	O4'-C4'-C3'	6.20	110.20	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	792	G	N9-C1'-C2'	6.20	121.30	112.00
1	1	824	C	N1-C1'-C2'	6.20	121.30	112.00
1	1	2378	C	N1-C1'-C2'	6.20	121.29	112.00
8	E	153	PRO	N-CA-C	6.20	127.59	112.10
45	t	172	VAL	N-CA-C	6.20	116.37	110.42
1	1	1770	G	O4'-C1'-C2'	6.19	111.99	105.80
1	1	2688	U	N1-C1'-C2'	6.18	123.28	114.00
1	1	2355	G	OP1-P-O3'	-6.18	89.45	108.00
1	1	831	G	C4'-C3'-O3'	6.18	122.27	113.00
1	1	718	G	C5'-C4'-C3'	6.18	124.47	115.20
1	1	883	A	N9-C1'-C2'	6.18	123.27	114.00
2	3	49	G	O4'-C1'-C2'	6.18	111.98	105.80
1	1	3226	A	C5'-C4'-C3'	6.18	125.27	116.00
1	1	2207	A	C5'-C4'-C3'	6.18	125.26	116.00
38	j	68	LYS	N-CA-C	6.18	123.95	110.80
1	1	1623	G	C5'-C4'-C3'	6.17	125.26	116.00
1	1	2842	U	N1-C1'-C2'	6.17	123.26	114.00
32	d	58	ALA	N-CA-C	6.17	128.28	111.00
1	1	560	G	C5'-C4'-C3'	6.17	125.25	116.00
1	1	1770	G	C5'-C4'-C3'	6.16	124.44	115.20
1	1	3292	A	C4'-C3'-O3'	6.16	122.24	113.00
19	Q	89	ASP	N-CA-C	6.16	123.92	110.80
1	1	2789	U	N1-C1'-C2'	6.16	121.24	112.00
1	1	1825	G	C4'-C3'-O3'	6.16	122.24	113.00
3	4	72	A	N9-C1'-C2'	6.16	123.24	114.00
1	1	1556	C	C4'-C3'-O3'	6.16	118.63	109.40
1	1	3046	A	C5'-C4'-C3'	6.15	124.43	115.20
40	l	2	ALA	N-CA-C	6.15	128.23	111.00
19	Q	148	GLU	N-CA-C	6.15	123.90	110.80
1	1	403	C	N1-C1'-C2'	6.15	123.22	114.00
1	1	1282	G	C5'-C4'-C3'	6.15	125.22	116.00
1	1	3319	U	C5'-C4'-C3'	6.15	125.22	116.00
1	1	1488	G	C5'-C4'-O4'	6.14	119.01	109.80
1	1	1599	G	N9-C1'-C2'	6.14	121.21	112.00
1	1	119	U	C5'-C4'-C3'	6.14	124.40	115.20
1	1	188	U	C5'-C4'-C3'	6.13	125.19	116.00
1	1	1854	C	N1-C1'-C2'	6.13	121.19	112.00
7	D	187	THR	OG1-CB-CG2	6.13	121.56	109.30
10	G	250	ALA	N-CA-C	6.12	128.14	111.00
1	1	2822	U	O4'-C4'-C3'	6.12	110.12	104.00
1	1	1285	G	C5'-C4'-C3'	6.12	124.38	115.20
1	1	3389	U	C4'-C3'-O3'	6.12	122.18	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	a	94	ALA	N-CA-C	6.12	128.13	111.00
1	1	2700	G	N9-C1'-C2'	6.12	121.17	112.00
1	1	413	U	C4'-C3'-O3'	6.11	122.17	113.00
24	V	129	VAL	N-CA-C	6.11	122.06	109.34
1	1	777	U	C5'-C4'-C3'	6.11	125.17	116.00
1	1	397	A	N9-C1'-C2'	6.11	123.17	114.00
1	1	1534	A	C5'-C4'-C3'	6.10	125.16	116.00
15	M	113	THR	CB-CA-C	6.10	120.54	109.37
39	k	75	VAL	N-CA-C	6.10	122.03	109.34
1	1	2661	G	C5'-C4'-C3'	6.10	124.35	115.20
1	1	1241	U	C4'-C3'-O3'	6.10	118.55	109.40
6	C	146	PRO	N-CA-C	6.10	125.04	112.47
1	1	1040	A	N9-C1'-C2'	6.10	121.15	112.00
1	1	1099	A	N9-C1'-C2'	6.10	121.15	112.00
21	S	146	LYS	N-CA-C	6.10	123.78	110.80
1	1	1545	A	N9-C1'-C2'	6.09	121.14	112.00
1	1	2156	C	C2'-C3'-O3'	6.09	122.84	113.70
33	e	7	PRO	N-CA-C	6.09	125.01	112.47
6	C	3	ARG	CA-C-N	6.09	127.45	119.84
6	C	3	ARG	C-N-CA	6.09	127.45	119.84
1	1	1382	G	C5'-C4'-C3'	6.08	125.12	116.00
1	1	2872	A	N9-C1'-C2'	6.08	123.12	114.00
3	4	106	C	N1-C1'-C2'	6.08	123.12	114.00
3	4	108	C	N1-C1'-C2'	6.08	121.12	112.00
7	D	197	SER	N-CA-C	6.08	121.40	111.37
1	1	676	G	N9-C1'-C2'	6.08	123.11	114.00
1	1	2945	G	C5'-C4'-C3'	6.08	125.11	116.00
1	1	2165	G	C5'-C4'-C3'	6.07	124.30	115.20
1	1	1301	A	C5'-C4'-C3'	6.06	124.29	115.20
1	1	680	G	N9-C1'-C2'	6.06	121.09	112.00
1	1	778	U	C5'-C4'-C3'	6.06	124.29	115.20
1	1	134	U	C5'-C4'-C3'	6.06	124.28	115.20
7	D	119	TYR	N-CA-C	6.05	123.69	110.80
1	1	1372	C	C5'-C4'-C3'	6.05	125.08	116.00
3	4	30	C	N1-C1'-C2'	6.05	121.08	112.00
1	1	2242	A	N9-C1'-C2'	6.05	121.07	112.00
1	1	572	A	C5'-C4'-C3'	6.05	125.07	116.00
1	1	219	A	C5'-C4'-C3'	6.05	124.27	115.20
1	1	2470	C	N1-C1'-C2'	6.04	121.06	112.00
1	1	3228	C	C2'-C3'-O3'	6.03	118.55	109.50
1	1	2493	C	O4'-C4'-C3'	6.03	110.03	104.00
29	a	140	ALA	N-CA-C	6.03	127.89	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2816	G	C5'-C4'-C3'	6.03	124.24	115.20
1	1	103	G	N9-C1'-C2'	6.03	121.04	112.00
1	1	1484	U	C5'-C4'-C3'	6.02	124.23	115.20
1	1	1126	G	N9-C1'-C2'	6.02	121.03	112.00
10	G	99	PRO	N-CA-C	6.02	127.15	112.10
36	h	120	ALA	N-CA-C	6.02	127.85	111.00
1	1	1429	G	C5'-C4'-C3'	6.01	124.22	115.20
1	1	949	C	N1-C1'-C2'	6.01	121.02	112.00
1	1	1138	U	N1-C1'-C2'	6.01	121.02	112.00
1	1	1203	A	C4'-C3'-O3'	6.01	122.01	113.00
1	1	3221	C	C4'-C3'-O3'	6.01	122.01	113.00
45	t	157	PHE	N-CA-C	6.01	120.89	112.72
1	1	3176	G	N9-C1'-C2'	6.00	121.00	112.00
1	1	3319	U	O4'-C4'-C3'	6.00	110.00	104.00
1	1	1773	C	C5'-C4'-C3'	6.00	125.00	116.00
1	1	2178	A	O3'-P-O5'	5.99	112.99	104.00
1	1	538	G	C5'-C4'-C3'	5.99	124.99	116.00
1	1	1565	G	C5'-C4'-C3'	5.99	124.98	116.00
4	A	204	MET	N-CA-C	5.99	123.55	110.80
1	1	2831	G	N9-C1'-C2'	5.98	120.98	112.00
1	1	2636	A	C5'-C4'-C3'	5.98	124.97	116.00
5	B	181	ILE	CB-CA-C	5.98	119.27	110.77
19	Q	56	LYS	N-CA-C	5.98	123.54	110.80
1	1	200	C	C5'-C4'-O4'	5.97	118.06	109.10
3	4	137	C	OP2-P-O3'	5.97	125.93	108.00
34	f	39	GLN	N-CA-C	5.97	127.73	111.00
1	1	71	A	O3'-P-O5'	-5.97	95.04	104.00
1	1	527	A	C5'-C4'-C3'	5.97	124.96	116.00
1	1	1816	A	N9-C1'-C2'	5.97	120.96	112.00
1	1	3051	U	C5'-C4'-C3'	5.97	124.95	116.00
1	1	1882	G	C4'-C3'-O3'	5.96	121.95	113.00
7	D	147	ASP	N-CA-C	5.96	123.51	110.80
1	1	936	A	O4'-C4'-C3'	5.96	109.96	104.00
1	1	2864	A	N9-C1'-C2'	5.96	120.94	112.00
32	d	68	GLU	CB-CA-C	5.96	119.30	109.70
7	D	4	GLN	N-CA-C	5.96	123.50	110.80
1	1	784	A	C5'-C4'-C3'	5.96	124.14	115.20
6	C	227	THR	OG1-CB-CG2	5.96	121.22	109.30
1	1	1612	A	N9-C1'-C2'	5.96	120.93	112.00
13	J	159	THR	OG1-CB-CG2	5.96	121.21	109.30
1	1	1504	A	C5'-C4'-C3'	5.95	124.93	116.00
1	1	2511	C	O4'-C1'-C2'	5.95	111.75	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	907	G	N9-C1'-C2'	5.95	122.92	114.00
1	1	2375	G	C5'-C4'-C3'	5.94	124.12	115.20
1	1	1351	U	C4'-C3'-O3'	5.94	121.91	113.00
1	1	2155	G	N9-C1'-C2'	5.93	120.90	112.00
11	H	172	ILE	CB-CA-C	5.93	121.02	111.29
7	D	254	LYS	N-CA-C	5.93	122.91	109.81
1	1	3140	G	C5'-C4'-C3'	5.92	124.09	115.20
31	c	90	VAL	CG1-CB-CG2	5.92	123.83	110.80
1	1	373	A	C5'-C4'-C3'	5.92	124.88	116.00
12	I	4	ARG	N-CA-CB	5.92	118.97	110.03
1	1	1502	C	C5'-C4'-C3'	5.92	124.08	115.20
1	1	2447	G	C5'-C4'-C3'	5.92	124.08	115.20
5	B	61	ASP	N-CA-C	5.92	123.40	110.80
3	4	104	A	N9-C1'-C2'	5.91	120.87	112.00
10	G	59	GLN	N-CA-C	5.91	127.56	111.00
21	S	61	ILE	CG1-CB-CG2	5.91	128.44	110.70
1	1	2690	G	C5'-C4'-C3'	5.91	124.86	116.00
26	X	142	ILE	CG1-CB-CG2	5.91	128.43	110.70
1	1	183	G	C5'-C4'-C3'	5.91	124.86	116.00
1	1	1654	A	C5'-C4'-C3'	5.90	124.86	116.00
34	f	30	ILE	CB-CA-C	5.90	118.66	110.99
45	t	54	LYS	N-CA-C	-5.90	100.71	109.86
45	t	208	SER	N-CA-C	5.90	127.52	111.00
1	1	547	G	C5'-C4'-C3'	5.90	124.85	116.00
13	J	147	THR	OG1-CB-CG2	5.90	121.09	109.30
1	1	741	U	C5'-C4'-C3'	5.89	124.84	116.00
1	1	2199	G	C5'-C4'-C3'	5.89	124.84	116.00
1	1	2245	C	N1-C1'-C2'	5.89	122.84	114.00
1	1	1451	C	C5'-C4'-C3'	5.89	124.84	116.00
1	1	373	A	O4'-C4'-C3'	5.89	109.89	104.00
1	1	1905	G	C5'-C4'-C3'	5.89	124.83	116.00
1	1	3061	G	C4'-C3'-O3'	5.88	121.83	113.00
2	3	49	G	C5'-C4'-C3'	5.88	124.02	115.20
1	1	1799	A	C5'-C4'-C3'	5.88	124.82	116.00
8	E	74	VAL	N-CA-C	5.88	121.58	108.88
1	1	1909	A	N9-C1'-C2'	5.88	120.82	112.00
11	H	41	ILE	N-CA-C	5.88	116.66	111.90
1	1	2812	C	OP2-P-O3'	5.88	125.62	108.00
1	1	2950	G	C5'-C4'-C3'	5.87	124.01	115.20
27	Y	85	VAL	CB-CA-C	5.87	120.92	111.29
1	1	3016	A	C5'-C4'-C3'	5.87	124.80	116.00
17	O	175	THR	OG1-CB-CG2	5.87	121.04	109.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	250	U	C5'-C4'-C3'	5.87	124.80	116.00
1	1	2182	A	C5'-C4'-C3'	5.87	124.80	116.00
1	1	2956	A	N9-C1'-C2'	5.87	120.80	112.00
10	G	102	ALA	N-CA-C	5.87	127.43	111.00
1	1	2776	C	C5'-C4'-C3'	5.87	124.80	116.00
1	1	2393	G	C5'-C4'-C3'	5.86	123.99	115.20
1	1	2427	U	C5'-C4'-C3'	5.86	124.79	116.00
1	1	2968	G	C5'-C4'-C3'	5.86	124.79	116.00
1	1	2678	A	C5'-C4'-C3'	5.86	124.78	116.00
3	4	49	G	C5'-C4'-C3'	5.86	124.78	116.00
3	4	63	G	N9-C1'-C2'	5.86	120.78	112.00
14	L	177	LYS	N-CA-C	5.86	123.27	110.80
18	P	161	ALA	N-CA-C	5.86	127.40	111.00
1	1	613	G	C5'-C4'-O4'	5.85	117.88	109.10
1	1	71	A	P-O3'-C3'	-5.85	111.42	120.20
1	1	2842	U	C5'-C4'-C3'	5.85	123.97	115.20
19	Q	33	TYR	N-CA-C	5.85	123.26	110.80
1	1	1824	U	C5'-C4'-C3'	5.85	124.77	116.00
33	e	7	PRO	CB-CA-C	5.85	121.21	111.56
1	1	2505	U	C5'-C4'-C3'	5.85	124.77	116.00
5	B	285	VAL	N-CA-CB	5.85	117.73	112.06
1	1	614	C	N1-C1'-C2'	5.84	120.77	112.00
28	Z	110	ALA	N-CA-C	5.84	127.36	111.00
1	1	3349	C	C5'-C4'-C3'	5.84	124.76	116.00
2	3	42	A	C5'-C4'-C3'	5.84	124.76	116.00
1	1	2215	A	C5'-C4'-C3'	5.84	124.75	116.00
11	H	6	THR	CB-CA-C	5.84	119.43	109.80
1	1	2787	G	C5'-C4'-C3'	5.83	124.75	116.00
1	1	2823	G	C5'-C4'-C3'	5.83	124.75	116.00
1	1	1351	U	C5'-C4'-C3'	5.83	124.75	116.00
1	1	3189	G	C5'-C4'-C3'	5.83	124.74	116.00
10	G	237	ILE	CG1-CB-CG2	5.83	128.18	110.70
35	g	25	THR	N-CA-C	5.82	124.60	107.37
1	1	2597	U	C5'-C4'-C3'	5.82	124.72	116.00
3	4	141	C	C5'-C4'-C3'	5.82	124.72	116.00
9	F	181	ILE	CG1-CB-CG2	5.82	128.15	110.70
29	a	88	ASP	N-CA-C	5.82	123.19	110.80
1	1	1948	G	N9-C1'-C2'	5.81	120.72	112.00
1	1	3293	U	O4'-C1'-C2'	5.81	111.61	105.80
1	1	2549	G	C5'-C4'-C3'	5.81	123.92	115.20
1	1	426	G	N9-C1'-C2'	5.81	120.71	112.00
1	1	1929	G	C5'-C4'-C3'	5.81	124.71	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2742	C	C5'-C4'-C3'	5.80	124.70	116.00
1	1	1297	C	C5'-C4'-C3'	5.80	124.69	116.00
2	3	61	G	N9-C1'-C2'	5.80	120.69	112.00
16	N	73	ARG	CA-C-N	5.80	127.09	119.84
16	N	73	ARG	C-N-CA	5.80	127.09	119.84
18	P	42	THR	OG1-CB-CG2	5.79	120.89	109.30
23	U	64	THR	OG1-CB-CG2	5.79	120.89	109.30
1	1	1556	C	N1-C1'-C2'	5.79	122.69	114.00
1	1	175	C	C5'-C4'-C3'	5.79	124.68	116.00
1	1	1788	C	N1-C1'-C2'	5.79	120.68	112.00
1	1	3054	U	C4'-C3'-O3'	5.79	121.68	113.00
32	d	93	VAL	CB-CA-C	5.79	118.60	111.25
1	1	3185	U	C5'-C4'-C3'	5.79	123.88	115.20
1	1	387	A	C5'-C4'-C3'	5.79	124.68	116.00
6	C	105	THR	OG1-CB-CG2	5.78	120.87	109.30
1	1	1637	A	OP1-P-O3'	5.78	125.35	108.00
1	1	2626	A	C4'-C3'-O3'	5.78	121.67	113.00
1	1	607	A	C5'-C4'-C3'	5.78	123.86	115.20
1	1	3023	U	C5'-C4'-C3'	5.78	124.67	116.00
1	1	2895	G	C5'-C4'-C3'	5.77	124.66	116.00
40	l	19	GLN	N-CA-C	5.77	127.17	111.00
1	1	1554	U	O4'-C1'-C2'	5.77	111.57	105.80
1	1	1246	G	O4'-C4'-C3'	5.77	109.77	104.00
1	1	2729	U	C5'-C4'-C3'	5.77	124.65	116.00
1	1	422	A	N9-C1'-C2'	5.77	120.65	112.00
1	1	1825	G	C5'-C4'-C3'	5.76	124.64	116.00
38	j	65	ARG	N-CA-C	5.76	127.12	111.00
1	1	504	A	C5'-C4'-C3'	5.75	124.63	116.00
1	1	1007	U	C5'-C4'-C3'	5.75	124.63	116.00
1	1	2369	G	O4'-C4'-C3'	5.75	109.75	104.00
1	1	2604	U	C5'-C4'-C3'	5.75	124.63	116.00
1	1	3117	C	O4'-C4'-C3'	5.75	109.75	104.00
1	1	938	C	C5'-C4'-C3'	5.75	124.62	116.00
1	1	1179	A	C5'-C4'-C3'	5.75	124.62	116.00
34	f	16	TYR	N-CA-CB	5.75	118.58	110.36
7	D	241	THR	OG1-CB-CG2	5.74	120.78	109.30
1	1	2778	G	C5'-C4'-C3'	5.74	124.60	116.00
1	1	3020	U	O4'-C4'-C3'	5.74	109.74	104.00
28	Z	62	VAL	CB-CA-C	5.74	119.55	112.04
1	1	411	U	C5'-C4'-O4'	5.73	118.40	109.80
45	t	205	VAL	CB-CA-C	5.73	120.91	112.03
16	N	46	ASP	N-CA-C	5.73	127.04	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	701	G	O4'-C4'-C3'	5.73	109.73	104.00
1	1	2853	A	N9-C1'-C2'	5.72	122.58	114.00
5	B	165	GLN	N-CA-C	5.72	122.99	110.80
43	o	54	THR	OG1-CB-CG2	5.72	120.75	109.30
3	4	97	A	N9-C1'-C2'	5.72	120.58	112.00
1	1	967	A	C5'-C4'-C3'	5.72	124.58	116.00
1	1	2103	U	C5'-C4'-C3'	5.72	124.57	116.00
1	1	1493	G	C2'-C3'-O3'	5.71	118.07	109.50
34	f	91	ALA	N-CA-C	5.71	127.00	111.00
1	1	920	A	C5'-C4'-C3'	5.71	123.77	115.20
4	A	8	GLN	N-CA-C	5.71	126.99	111.00
1	1	1329	U	C4'-C3'-O3'	5.71	117.96	109.40
35	g	6	THR	OG1-CB-CG2	5.70	120.71	109.30
1	1	1367	G	C5'-C4'-C3'	5.70	124.55	116.00
1	1	1440	G	N9-C1'-C2'	5.70	120.55	112.00
3	4	112	U	C5'-C4'-O4'	5.70	117.65	109.10
13	J	56	THR	OG1-CB-CG2	5.70	120.70	109.30
7	D	197	SER	CB-CA-C	5.70	120.20	110.74
20	R	6	THR	OG1-CB-CG2	5.70	120.70	109.30
36	h	85	THR	OG1-CB-CG2	5.70	120.69	109.30
1	1	420	G	C5'-C4'-C3'	5.70	123.74	115.20
1	1	2140	U	C5'-C4'-C3'	5.69	124.54	116.00
40	l	28	ARG	N-CA-C	5.69	122.92	110.80
1	1	119	U	C5'-C4'-O4'	5.69	117.63	109.10
1	1	280	U	O4'-C1'-C2'	5.69	111.49	105.80
1	1	3076	C	N1-C1'-C2'	5.69	120.53	112.00
1	1	790	U	C5'-C4'-C3'	5.69	124.53	116.00
24	V	128	ARG	N-CA-CB	5.69	118.46	109.82
2	3	13	A	O4'-C1'-C2'	5.68	111.48	105.80
1	1	996	A	O4'-C4'-C3'	5.67	109.67	104.00
29	a	145	VAL	N-CA-C	5.67	121.13	109.34
1	1	397	A	O4'-C1'-C2'	5.66	111.46	105.80
1	1	2734	A	C5'-C4'-O4'	5.66	118.29	109.80
21	S	53	LYS	N-CA-C	5.66	122.86	110.80
1	1	3106	A	C2'-C3'-O3'	5.66	122.19	113.70
1	1	3046	A	N9-C1'-C2'	5.66	122.48	114.00
1	1	235	A	C5'-C4'-C3'	5.65	124.48	116.00
1	1	2908	G	C5'-C4'-C3'	5.65	124.47	116.00
44	p	56	THR	OG1-CB-CG2	5.65	120.60	109.30
1	1	28	C	C4'-C3'-O3'	5.65	121.47	113.00
1	1	1535	A	N9-C1'-C2'	5.65	122.47	114.00
1	1	2523	A	O4'-C1'-C2'	5.64	111.44	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	3140	G	C5'-C4'-O4'	5.64	117.57	109.10
1	1	993	G	C5'-C4'-C3'	5.64	123.66	115.20
1	1	2651	G	C5'-C4'-C3'	5.64	123.66	115.20
5	B	242	THR	N-CA-C	5.64	117.57	110.24
8	E	172	HIS	N-CA-C	5.64	126.79	111.00
1	1	2945	G	O4'-C4'-C3'	5.64	109.64	104.00
1	1	1794	G	O4'-C1'-C2'	5.64	111.44	105.80
1	1	2782	U	C5'-C4'-C3'	5.63	124.45	116.00
3	4	53	A	C5'-C4'-C3'	5.63	124.45	116.00
13	J	120	ILE	CB-CA-C	5.63	118.91	111.70
1	1	2303	A	C5'-C4'-C3'	5.63	124.45	116.00
8	E	67	GLY	CA-C-N	-5.63	112.80	119.84
8	E	67	GLY	C-N-CA	-5.63	112.80	119.84
1	1	912	G	C5'-C4'-C3'	5.63	124.44	116.00
1	1	2209	U	C2'-C3'-O3'	5.63	117.94	109.50
1	1	726	G	O4'-C4'-C3'	5.62	109.62	104.00
1	1	726	G	C4'-C3'-O3'	5.62	121.43	113.00
14	L	154	VAL	CB-CA-C	5.62	120.51	111.29
1	1	972	A	C5'-C4'-C3'	5.62	124.43	116.00
1	1	2765	C	O4'-C4'-C3'	5.62	109.62	104.00
5	B	246	LEU	CB-CA-C	5.62	119.78	110.90
1	1	1156	C	C4'-C3'-O3'	5.62	121.43	113.00
1	1	2207	A	C5'-C4'-O4'	5.62	118.23	109.80
1	1	1281	G	C5'-C4'-C3'	5.62	124.42	116.00
1	1	1380	G	N9-C1'-C2'	5.62	120.42	112.00
1	1	1649	U	C5'-C4'-C3'	5.62	124.42	116.00
1	1	1825	G	O4'-C4'-C3'	5.62	109.61	104.00
1	1	670	C	C5'-C4'-C3'	5.61	124.42	116.00
1	1	345	G	C5'-C4'-C3'	5.61	124.41	116.00
1	1	1466	G	C5'-C4'-C3'	5.61	124.41	116.00
1	1	2300	G	N9-C1'-C2'	5.61	120.41	112.00
17	O	49	ARG	CA-C-N	-5.61	110.83	121.54
17	O	49	ARG	C-N-CA	-5.61	110.83	121.54
6	C	25	VAL	CB-CA-C	5.60	120.48	111.29
1	1	2541	U	C2'-C3'-O3'	5.60	117.90	109.50
13	J	62	ASN	N-CA-C	5.59	126.67	111.00
20	R	5	ARG	N-CA-C	5.59	126.66	111.00
1	1	243	G	C5'-C4'-C3'	5.59	124.39	116.00
1	1	2895	G	O4'-C4'-C3'	5.59	109.59	104.00
1	1	3332	U	C5'-C4'-C3'	5.59	124.39	116.00
21	S	119	ARG	N-CA-C	5.59	126.65	111.00
1	1	914	A	C5'-C4'-C3'	5.58	123.58	115.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2116	G	N9-C1'-C2'	5.58	122.38	114.00
1	1	2894	C	N1-C1'-C2'	5.58	120.38	112.00
1	1	2829	U	N1-C1'-C2'	5.58	120.38	112.00
1	1	3117	C	C5'-C4'-C3'	5.58	124.38	116.00
1	1	1094	U	C4'-C3'-O3'	5.58	117.77	109.40
1	1	1444	G	N9-C1'-C2'	5.58	122.37	114.00
1	1	2957	G	N9-C1'-C2'	5.58	120.37	112.00
28	Z	36	HIS	CA-C-N	5.58	126.81	119.84
28	Z	36	HIS	C-N-CA	5.58	126.81	119.84
7	D	52	VAL	N-CA-CB	5.58	117.17	110.31
19	Q	97	PRO	CB-CA-C	5.58	120.76	111.56
1	1	301	G	O4'-C4'-C3'	5.58	109.58	104.00
12	I	33	ILE	N-CA-C	5.58	120.94	109.34
1	1	1390	A	C5'-C4'-O4'	5.57	117.46	109.10
1	1	2493	C	C5'-C4'-C3'	5.57	124.36	116.00
1	1	2939	G	C4'-C3'-O3'	5.57	121.35	113.00
6	C	172	VAL	N-CA-C	5.57	126.59	111.00
1	1	276	U	C5'-C4'-C3'	5.57	124.35	116.00
1	1	1375	G	C4'-C3'-O3'	5.56	121.35	113.00
1	1	1531	C	O4'-C4'-C3'	5.56	109.56	104.00
12	I	33	ILE	CB-CA-C	5.56	120.41	111.29
1	1	3023	U	O4'-C4'-C3'	5.56	109.56	104.00
1	1	280	U	N1-C1'-C2'	5.56	122.34	114.00
31	c	76	GLU	N-CA-C	5.56	126.56	111.00
1	1	50	U	C5'-C4'-C3'	5.55	124.33	116.00
1	1	1184	A	C5'-C4'-C3'	5.55	124.33	116.00
13	J	120	ILE	N-CA-CB	5.55	116.45	110.62
45	t	198	TRP	N-CA-C	5.55	126.55	111.00
16	N	75	VAL	CG1-CB-CG2	5.55	123.02	110.80
1	1	1410	U	N1-C1'-C2'	5.55	120.33	112.00
1	1	821	U	N1-C1'-C2'	5.54	120.32	112.00
2	3	85	G	C5'-C4'-C3'	5.54	124.32	116.00
20	R	34	GLN	N-CA-CB	5.54	118.38	110.06
22	T	25	VAL	CB-CA-C	5.54	119.69	111.26
1	1	1531	C	C5'-C4'-C3'	5.54	124.31	116.00
1	1	3096	C	C5'-C4'-C3'	5.54	124.31	116.00
1	1	1859	A	C4'-C3'-O3'	5.53	121.30	113.00
28	Z	105	SER	N-CA-C	5.53	126.49	111.00
1	1	581	U	C5'-C4'-C3'	5.53	124.30	116.00
1	1	1285	G	O4'-C1'-C2'	5.53	111.33	105.80
1	1	1815	U	C2'-C3'-O3'	5.53	117.80	109.50
2	3	78	U	C5'-C4'-C3'	5.53	124.29	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2206	G	O4'-C1'-C2'	5.53	111.33	105.80
1	1	2428	U	C5'-C4'-C3'	5.53	124.29	116.00
1	1	1212	A	C5'-C4'-C3'	5.53	124.29	116.00
3	4	158	U	C5'-C4'-C3'	5.52	124.29	116.00
3	4	114	G	C5'-C4'-C3'	5.52	124.28	116.00
1	1	2111	G	C5'-C4'-C3'	5.52	123.48	115.20
28	Z	86	THR	OG1-CB-CG2	5.52	120.34	109.30
12	I	95	HIS	O-C-N	-5.52	115.51	123.07
40	l	33	ASN	CB-CA-C	5.51	118.82	109.50
1	1	276	U	O4'-C4'-C3'	5.51	109.51	104.00
1	1	3241	G	C3'-C2'-O2'	5.51	118.97	110.70
45	t	205	VAL	N-CA-CB	5.51	118.35	112.07
1	1	1686	U	O4'-C4'-C3'	5.51	109.51	104.00
9	F	24	GLU	N-CA-C	5.51	122.53	110.80
13	J	163	PHE	N-CA-C	5.51	126.42	111.00
7	D	52	VAL	CB-CA-C	5.50	119.53	111.33
1	1	3100	U	C5'-C4'-C3'	5.50	123.46	115.20
37	i	7	ILE	CG1-CB-CG2	5.50	127.21	110.70
1	1	1536	G	N9-C1'-C2'	5.50	120.25	112.00
6	C	195	ARG	N-CA-C	5.50	126.40	111.00
2	3	94	C	C5'-C4'-C3'	5.50	124.25	116.00
1	1	3195	U	C2'-C3'-O3'	5.50	117.75	109.50
24	V	102	ILE	N-CA-CB	5.50	118.99	110.14
1	1	996	A	C5'-C4'-C3'	5.49	124.24	116.00
1	1	2554	A	C2'-C3'-O3'	5.49	117.74	109.50
11	H	12	VAL	N-CA-C	5.49	120.75	108.88
1	1	1588	A	C5'-C4'-C3'	5.49	123.44	115.20
1	1	2453	C	O4'-C1'-C2'	5.49	111.29	105.80
1	1	3146	G	C5'-C4'-C3'	5.49	124.24	116.00
1	1	1618	G	C5'-C4'-C3'	5.49	124.23	116.00
7	D	293	LEU	N-CA-C	5.49	126.37	111.00
1	1	763	G	C4'-C3'-O3'	5.48	121.22	113.00
1	1	2262	A	C1'-C2'-O2'	5.48	116.62	108.40
1	1	2939	G	C5'-C4'-O4'	5.48	118.02	109.80
1	1	2734	A	O4'-C4'-C3'	5.48	109.48	104.00
7	D	273	ARG	CB-CA-C	5.48	119.24	109.38
1	1	1686	U	C5'-C4'-C3'	5.48	124.22	116.00
1	1	2619	G	C5'-C4'-C3'	5.47	124.21	116.00
43	o	11	TYR	CB-CA-C	5.47	117.32	109.71
26	X	93	TYR	N-CA-CB	5.47	119.74	110.49
2	3	114	U	C5'-C4'-O4'	5.47	118.00	109.80
1	1	916	G	C4'-C3'-O3'	5.46	121.20	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1888	U	C5'-C4'-C3'	5.46	124.20	116.00
1	1	2303	A	C5'-C4'-O4'	5.46	118.00	109.80
1	1	3303	G	C4'-C3'-O3'	5.46	117.60	109.40
45	t	93	LEU	N-CA-C	5.46	126.30	111.00
1	1	3285	C	C5'-C4'-C3'	5.46	124.19	116.00
3	4	133	G	N9-C1'-C2'	5.46	120.19	112.00
14	L	154	VAL	N-CA-C	5.46	120.70	109.34
1	1	3078	U	C2'-C3'-O3'	5.46	117.69	109.50
2	3	115	G	C5'-C4'-C3'	5.46	124.19	116.00
3	4	45	C	C5'-C4'-C3'	5.46	124.19	116.00
1	1	3373	U	N1-C1'-C2'	5.46	120.18	112.00
17	O	47	PHE	CG-CD1-CE1	5.46	129.97	120.70
1	1	1534	A	C5'-C4'-O4'	5.45	117.98	109.80
20	R	41	ILE	CG1-CB-CG2	5.45	127.06	110.70
2	3	4	U	C5'-C4'-C3'	5.45	124.18	116.00
9	F	61	ASN	N-CA-C	5.45	126.26	111.00
33	e	50	ILE	CG1-CB-CG2	5.45	127.05	110.70
45	t	101	LYS	N-CA-C	5.45	126.26	111.00
1	1	1438	U	C5'-C4'-C3'	5.45	124.17	116.00
3	4	158	U	O4'-C4'-C3'	5.45	109.45	104.00
1	1	313	A	C5'-C4'-C3'	5.45	124.17	116.00
1	1	3131	U	C5'-C4'-C3'	5.45	124.17	116.00
21	S	99	ARG	N-CA-C	5.45	126.25	111.00
42	n	1	MET	N-CA-C	5.45	126.25	111.00
1	1	2668	U	C5'-C4'-C3'	5.44	124.17	116.00
33	e	107	VAL	CB-CA-C	5.44	118.85	111.88
7	D	57	ASN	N-CA-C	5.44	122.39	110.80
2	3	106	U	C5'-C4'-C3'	5.44	124.16	116.00
8	E	169	ASP	CB-CA-C	5.44	118.59	109.89
1	1	1374	G	C5'-C4'-C3'	5.43	124.15	116.00
1	1	1544	G	C5'-C4'-C3'	5.43	124.15	116.00
1	1	3295	A	C5'-C4'-C3'	5.43	124.15	116.00
1	1	3358	U	C5'-C4'-C3'	5.43	124.15	116.00
2	3	24	A	C5'-C4'-C3'	5.43	124.15	116.00
1	1	1684	U	C5'-C4'-C3'	5.43	124.15	116.00
1	1	1483	G	C5'-C4'-O4'	5.43	117.24	109.10
2	3	106	U	O4'-C4'-C3'	5.43	109.43	104.00
20	R	104	ARG	N-CA-C	5.43	126.19	111.00
1	1	331	G	C5'-C4'-C3'	5.42	124.14	116.00
1	1	994	G	O4'-C1'-C2'	5.42	111.22	105.80
1	1	2451	U	O4'-C4'-C3'	5.42	109.42	104.00
24	V	115	THR	CB-CA-C	5.42	118.44	109.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	1389	G	N9-C1'-C2'	5.42	120.13	112.00
1	1	1576	G	O4'-C4'-C3'	5.42	109.42	104.00
4	A	119	LYS	N-CA-C	5.42	123.42	107.37
1	1	2945	G	N9-C1'-C2'	5.42	120.13	112.00
1	1	2803	A	C5'-C4'-C3'	5.42	123.33	115.20
1	1	2331	C	C5'-C4'-C3'	5.42	124.12	116.00
10	G	144	GLU	N-CA-C	5.42	126.16	111.00
1	1	2304	C	C5'-C4'-C3'	5.42	124.12	116.00
1	1	413	U	C5'-C4'-C3'	5.41	124.12	116.00
45	t	203	SER	N-CA-C	5.41	126.16	111.00
1	1	1541	G	C5'-C4'-C3'	5.41	124.12	116.00
44	p	37	TYR	CD1-CE1-CZ	5.41	129.34	119.60
31	c	85	PHE	CE1-CZ-CE2	5.41	129.73	120.00
39	k	69	LEU	N-CA-C	5.41	126.14	111.00
1	1	1667	A	C5'-C4'-C3'	5.41	124.11	116.00
1	1	1459	C	O4'-C4'-C3'	5.40	109.40	104.00
1	1	1342	C	N1-C1'-C2'	5.40	120.10	112.00
1	1	1640	G	O4'-C1'-C2'	5.40	111.20	105.80
1	1	1110	U	C5'-C4'-C3'	5.40	124.09	116.00
1	1	1273	A	C2'-C3'-O3'	5.40	121.79	113.70
13	J	59	ILE	CG1-CB-CG2	5.40	126.89	110.70
1	1	726	G	C5'-C4'-C3'	5.39	124.09	116.00
1	1	1289	G	C5'-C4'-O4'	5.39	117.89	109.80
5	B	123	TYR	CD1-CE1-CZ	5.39	129.31	119.60
1	1	1718	G	C5'-C4'-C3'	5.39	124.08	116.00
1	1	301	G	C5'-C4'-C3'	5.39	124.08	116.00
3	4	99	C	C5'-C4'-C3'	5.39	124.08	116.00
1	1	1941	C	C5'-C4'-C3'	5.38	124.08	116.00
1	1	2116	G	OP1-P-O3'	5.38	124.15	108.00
1	1	2939	G	O4'-C4'-C3'	5.38	109.38	104.00
7	D	53	VAL	CG1-CB-CG2	5.38	122.64	110.80
12	I	174	THR	OG1-CB-CG2	5.38	120.06	109.30
14	L	194	GLU	N-CA-C	5.38	126.06	111.00
1	1	88	A	C5'-C4'-C3'	5.38	124.07	116.00
6	C	146	PRO	CB-CA-C	5.37	120.42	111.56
45	t	2	SER	N-CA-C	5.37	126.04	111.00
1	1	251	G	C5'-C4'-O4'	5.37	117.16	109.10
3	4	91	C	C4'-C3'-O3'	5.37	121.06	113.00
9	F	101	LYS	N-CA-CB	5.37	118.02	110.12
19	Q	31	LYS	N-CA-C	5.37	122.24	110.80
36	h	85	THR	CA-CB-CG2	5.37	119.62	110.50
1	1	2908	G	C5'-C4'-O4'	5.37	117.85	109.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	V	102	ILE	CB-CA-C	5.37	120.36	111.51
44	p	90	VAL	N-CA-C	5.36	126.01	111.00
1	1	2816	G	C5'-C4'-O4'	5.36	117.14	109.10
21	S	94	ILE	CG1-CB-CG2	5.36	126.77	110.70
33	e	123	LYS	N-CA-C	5.36	126.00	111.00
1	1	1844	C	C5'-C4'-C3'	5.35	124.03	116.00
1	1	987	U	C5'-C4'-C3'	5.35	124.03	116.00
1	1	1222	G	C5'-C4'-C3'	5.35	123.22	115.20
9	F	26	VAL	CG1-CB-CG2	5.35	122.56	110.80
16	N	21	PHE	CE1-CZ-CE2	5.34	129.62	120.00
2	3	63	A	C5'-C4'-C3'	5.34	123.21	115.20
1	1	1110	U	O4'-C4'-C3'	5.34	109.34	104.00
1	1	32	U	C5'-C4'-C3'	5.34	124.01	116.00
1	1	702	C	C5'-C4'-C3'	5.34	124.01	116.00
1	1	168	U	C5'-C4'-C3'	5.33	124.00	116.00
1	1	331	G	O4'-C4'-C3'	5.33	109.33	104.00
37	i	45	ARG	CB-CA-C	5.33	121.03	110.42
1	1	41	G	P-O3'-C3'	-5.33	112.20	120.20
17	O	99	LEU	N-CA-C	5.33	122.15	110.80
1	1	1466	G	O4'-C4'-C3'	5.33	109.33	104.00
21	S	39	SER	N-CA-C	5.33	122.15	110.80
1	1	1812	G	O4'-C1'-C2'	5.33	111.13	105.80
1	1	2549	G	C5'-C4'-O4'	5.33	117.09	109.10
17	O	48	PHE	N-CA-C	5.33	125.91	111.00
33	e	12	LYS	N-CA-C	5.32	122.14	110.80
45	t	79	SER	N-CA-C	5.32	122.14	110.80
1	1	1543	G	C5'-C4'-C3'	5.32	123.98	116.00
19	Q	57	ILE	CG1-CB-CG2	5.32	126.66	110.70
1	1	2822	U	C5'-C4'-C3'	5.32	123.98	116.00
8	E	131	LYS	N-CA-C	5.32	125.89	111.00
3	4	36	G	P-O3'-C3'	-5.32	112.23	120.20
17	O	196	ALA	N-CA-C	-5.32	107.17	113.97
1	1	898	U	C5'-C4'-C3'	5.31	123.97	116.00
10	G	96	LYS	N-CA-C	5.31	125.88	111.00
17	O	54	TYR	CG-CD2-CE2	5.31	129.17	121.20
1	1	3016	A	C5'-C4'-O4'	5.31	117.77	109.80
45	t	138	VAL	CB-CA-C	5.31	118.48	110.63
1	1	2833	A	N9-C1'-C2'	5.30	119.95	112.00
6	C	222	VAL	N-CA-CB	5.30	118.62	111.21
1	1	1459	C	C5'-C4'-C3'	5.29	123.94	116.00
1	1	993	G	C5'-C4'-O4'	5.29	117.04	109.10
1	1	2563	G	C5'-C4'-C3'	5.29	123.94	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	t	134	PHE	CD1-CE1-CZ	5.29	129.52	120.00
1	1	849	C	C5'-C4'-C3'	5.29	123.93	116.00
1	1	1618	G	O4'-C4'-C3'	5.29	109.29	104.00
1	1	2511	C	C5'-C4'-O4'	5.29	117.03	109.10
45	t	68	PHE	CZ-CE2-CD2	5.29	129.52	120.00
1	1	1541	G	O4'-C4'-C3'	5.29	109.29	104.00
3	4	61	A	C5'-C4'-C3'	5.29	123.93	116.00
3	4	49	G	O4'-C4'-C3'	5.28	109.28	104.00
6	C	25	VAL	N-CA-C	5.28	120.33	109.34
12	I	174	THR	CA-CB-CG2	5.28	119.48	110.50
40	l	51	ILE	CG1-CB-CG2	5.28	126.55	110.70
1	1	1462	A	C5'-C4'-C3'	5.28	123.92	116.00
1	1	2486	A	C5'-C4'-O4'	5.28	117.02	109.10
1	1	718	G	C5'-C4'-O4'	5.28	117.02	109.10
11	H	172	ILE	N-CA-CB	5.28	119.94	111.23
1	1	295	A	C5'-C4'-C3'	5.28	123.92	116.00
1	1	1812	G	C5'-C4'-O4'	5.28	117.01	109.10
7	D	12	TYR	CZ-CE2-CD2	5.28	129.09	119.60
45	t	22	GLU	N-CA-C	5.28	125.77	111.00
1	1	1911	A	C5'-C4'-C3'	5.27	123.91	116.00
45	t	94	ASN	N-CA-C	5.27	125.76	111.00
6	C	199	TRP	CG-CD1-NE1	5.27	117.05	110.20
36	h	92	LEU	CB-CA-C	5.27	117.94	109.61
1	1	907	G	O4'-C1'-C2'	5.27	111.07	105.80
1	1	2980	U	C4'-C3'-O3'	5.27	120.90	113.00
1	1	536	U	O4'-C1'-C2'	5.26	111.06	105.80
1	1	1576	G	C5'-C4'-C3'	5.26	123.89	116.00
1	1	3075	G	C5'-C4'-C3'	5.26	123.90	116.00
5	B	314	TYR	CD1-CE1-CZ	5.26	129.08	119.60
19	Q	96	PHE	CZ-CE2-CD2	5.26	129.48	120.00
35	g	36	LYS	N-CA-C	5.26	122.01	110.80
1	1	2686	A	O4'-C4'-C3'	5.26	109.26	104.00
5	B	38	SER	CB-CA-C	5.26	120.09	110.10
9	F	222	HIS	N-CA-C	5.26	122.00	110.80
10	G	97	TYR	CZ-CE2-CD2	5.26	129.06	119.60
11	H	86	TYR	CD1-CE1-CZ	5.26	129.06	119.60
1	1	3295	A	O4'-C4'-C3'	5.25	109.25	104.00
1	1	2636	A	O4'-C4'-C3'	5.25	109.25	104.00
1	1	243	G	O4'-C4'-C3'	5.25	109.25	104.00
1	1	2199	G	C5'-C4'-O4'	5.25	117.67	109.80
16	N	133	ILE	N-CA-CB	5.25	117.15	112.06
20	R	78	TYR	CZ-CE2-CD2	5.25	129.04	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2349	U	C5'-C4'-C3'	5.24	123.86	116.00
1	1	3248	C	C5'-C4'-C3'	5.24	123.86	116.00
24	V	11	PHE	CE1-CZ-CE2	5.24	129.44	120.00
12	I	213	PHE	CZ-CE2-CD2	5.24	129.43	120.00
45	t	72	PHE	CD1-CE1-CZ	5.24	129.43	120.00
1	1	1629	U	O4'-C1'-C2'	5.24	111.04	105.80
45	t	186	SER	N-CA-C	5.24	125.66	111.00
18	P	42	THR	CA-CB-CG2	5.23	119.40	110.50
18	P	47	TYR	CZ-CE2-CD2	5.23	129.02	119.60
1	1	2671	A	O4'-C1'-C2'	5.23	111.03	105.80
39	k	63	LYS	N-CA-C	5.23	125.64	111.00
1	1	2203	U	C5'-C4'-C3'	5.23	123.84	116.00
10	G	78	PHE	CD1-CE1-CZ	5.23	129.41	120.00
10	G	219	ASP	N-CA-C	5.23	121.93	110.80
1	1	2208	A	C5'-C4'-O4'	5.22	116.93	109.10
1	1	1212	A	O4'-C4'-C3'	5.22	109.22	104.00
1	1	1929	G	O4'-C4'-C3'	5.22	109.22	104.00
1	1	2320	A	O4'-C4'-C3'	5.22	109.22	104.00
9	F	54	GLU	N-CA-C	5.21	125.60	111.00
45	t	6	SER	N-CA-C	5.21	125.60	111.00
1	1	1535	A	O4'-C1'-C2'	5.21	111.01	105.80
3	4	44	A	O4'-C1'-C2'	5.21	111.01	105.80
7	D	99	TYR	CZ-CE2-CD2	5.21	128.98	119.60
27	Y	85	VAL	N-CA-C	5.21	120.18	109.34
1	1	1544	G	C5'-C4'-O4'	5.21	117.61	109.80
1	1	1752	A	C5'-C4'-C3'	5.21	123.81	116.00
20	R	121	HIS	N-CA-C	5.21	121.89	110.80
1	1	1820	U	C2'-C3'-O3'	5.21	117.31	109.50
13	J	20	ASN	CB-CA-C	5.21	118.73	109.72
19	Q	34	THR	N-CA-C	5.20	125.57	111.00
1	1	701	G	C5'-C4'-O4'	5.20	117.60	109.80
1	1	2143	A	N9-C1'-C2'	5.20	119.80	112.00
11	H	175	PHE	CD1-CE1-CZ	5.20	129.36	120.00
18	P	52	LEU	N-CA-C	5.20	125.56	111.00
26	X	81	ILE	N-CA-C	5.20	115.39	108.11
12	I	60	LEU	N-CA-CB	5.20	117.59	109.85
1	1	413	U	O4'-C4'-C3'	5.19	109.19	104.00
22	T	143	THR	N-CA-C	5.19	121.86	110.80
32	d	112	ASP	N-CA-C	5.19	125.54	111.00
1	1	683	U	C5'-C4'-C3'	5.19	123.79	116.00
1	1	784	A	C5'-C4'-O4'	5.19	116.88	109.10
1	1	2695	A	O4'-C4'-C3'	5.18	109.18	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	E	153	PRO	CB-CA-C	5.18	119.95	110.10
13	J	82	ARG	CB-CA-C	5.18	119.02	110.88
1	1	115	A	C4'-C3'-O3'	5.18	120.77	113.00
27	Y	105	VAL	CB-CA-C	5.18	119.79	111.29
7	D	145	PHE	CZ-CE2-CD2	5.18	129.32	120.00
20	R	186	LYS	N-CA-C	5.18	125.50	111.00
1	1	2454	G	C5'-C4'-O4'	5.18	116.86	109.10
1	1	1107	C	O4'-C1'-C2'	5.17	110.97	105.80
4	A	9	ARG	N-CA-C	5.17	125.49	111.00
20	R	84	THR	N-CA-CB	5.17	117.33	110.29
1	1	2304	C	O4'-C4'-C3'	5.17	109.17	104.00
16	N	148	TYR	CZ-CE2-CD2	5.17	128.90	119.60
1	1	816	A	C5'-C4'-C3'	5.16	122.94	115.20
12	I	72	ALA	N-CA-C	5.16	121.79	110.80
1	1	843	A	C5'-C4'-C3'	5.16	123.73	116.00
19	Q	16	ARG	CB-CA-C	5.16	118.76	109.64
1	1	504	A	O4'-C4'-C3'	5.15	109.15	104.00
8	E	151	LYS	N-CA-C	5.15	125.43	111.00
12	I	212	GLU	N-CA-CB	5.15	117.63	110.26
37	i	63	ASN	N-CA-C	5.15	125.43	111.00
1	1	849	C	O4'-C4'-C3'	5.15	109.15	104.00
1	1	2700	G	C5'-C4'-C3'	5.15	123.73	116.00
1	1	809	G	N9-C1'-C2'	5.15	119.72	112.00
4	A	15	ILE	CG1-CB-CG2	5.15	126.14	110.70
10	G	65	LEU	N-CA-C	5.15	121.77	110.80
11	H	166	ARG	N-CA-CB	5.15	118.65	110.16
1	1	1687	U	C5'-C4'-C3'	5.14	123.71	116.00
35	g	13	TYR	CZ-CE2-CD2	5.14	128.85	119.60
1	1	1282	G	C5'-C4'-O4'	5.14	117.51	109.80
1	1	2465	G	C5'-C4'-C3'	5.14	123.71	116.00
12	I	4	ARG	CA-C-N	-5.14	114.43	119.93
12	I	4	ARG	C-N-CA	-5.14	114.43	119.93
26	X	93	TYR	N-CA-C	5.14	121.75	110.80
4	A	113	VAL	CB-CA-C	5.14	118.57	111.38
1	1	326	U	C5'-C4'-C3'	5.13	123.70	116.00
6	C	334	PHE	N-CA-C	5.13	121.74	110.80
1	1	1007	U	C5'-C4'-O4'	5.13	117.50	109.80
1	1	1931	U	P-O3'-C3'	5.13	127.90	120.20
1	1	3023	U	C5'-C4'-O4'	5.13	117.50	109.80
35	g	7	PHE	CD1-CE1-CZ	5.13	129.24	120.00
1	1	1100	U	C5'-C4'-O4'	5.13	116.79	109.10
1	1	1814	A	C5'-C4'-O4'	5.12	116.79	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2686	A	C5'-C4'-C3'	5.12	123.69	116.00
17	O	54	TYR	N-CA-C	5.12	119.77	111.37
20	R	167	ARG	N-CA-C	5.12	125.33	111.00
8	E	47	PHE	CD1-CE1-CZ	5.12	129.21	120.00
6	C	226	GLU	N-CA-C	5.11	125.31	111.00
10	G	237	ILE	N-CA-CB	5.11	117.60	111.31
1	1	91	G	O4'-C4'-C3'	5.11	109.11	104.00
1	1	2939	G	C5'-C4'-C3'	5.11	123.66	116.00
34	f	38	PRO	CB-CA-C	5.11	119.98	111.56
1	1	2765	C	C5'-C4'-C3'	5.10	123.65	116.00
1	1	1117	G	O4'-C4'-C3'	5.10	109.10	104.00
1	1	2140	U	C5'-C4'-O4'	5.09	117.44	109.80
1	1	3332	U	O4'-C4'-C3'	5.09	109.09	104.00
1	1	397	A	C5'-C4'-O4'	5.09	116.74	109.10
43	o	102	GLN	N-CA-C	5.09	125.26	111.00
6	C	164	GLU	N-CA-C	5.09	125.24	111.00
1	1	109	A	O4'-C1'-C2'	5.08	110.88	105.80
1	1	219	A	C5'-C4'-O4'	5.08	116.73	109.10
1	1	1097	G	C4'-C3'-O3'	5.08	117.02	109.40
3	4	80	A	C5'-C4'-O4'	5.08	116.72	109.10
28	Z	46	ILE	CG1-CB-CG2	5.08	125.94	110.70
10	G	99	PRO	CB-CA-C	5.08	119.75	110.10
7	D	125	VAL	CB-CA-C	5.08	119.62	111.29
1	1	2690	G	O4'-C4'-C3'	5.08	109.08	104.00
1	1	521	A	C5'-C4'-C3'	5.08	123.61	116.00
1	1	1547	G	C5'-C4'-O4'	5.08	116.71	109.10
1	1	2447	G	C5'-C4'-O4'	5.07	116.71	109.10
1	1	912	G	O4'-C4'-C3'	5.07	109.07	104.00
1	1	1352	A	C4'-C3'-O3'	5.07	117.00	109.40
1	1	2279	A	C5'-C4'-O4'	5.07	116.70	109.10
3	4	51	G	O4'-C1'-C2'	5.07	110.87	105.80
4	A	143	GLU	N-CA-C	5.07	125.18	111.00
1	1	1557	A	O3'-P-O5'	-5.06	96.41	104.00
11	H	74	LEU	N-CA-CB	5.06	117.56	110.12
28	Z	52	LYS	N-CA-CB	5.06	117.74	109.69
1	1	760	G	O4'-C1'-C2'	5.06	110.86	105.80
1	1	1184	A	C5'-C4'-O4'	5.06	117.39	109.80
1	1	1906	G	C5'-C4'-O4'	5.06	116.68	109.10
13	J	137	ARG	N-CA-C	5.06	125.16	111.00
1	1	244	G	C3'-C2'-O2'	5.05	118.28	110.70
1	1	150	A	C5'-C4'-C3'	5.05	123.58	116.00
5	B	349	LYS	N-CA-C	5.05	125.15	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	664	U	O4'-C1'-C2'	5.05	110.85	105.80
1	1	3131	U	O4'-C4'-C3'	5.05	109.05	104.00
10	G	104	GLU	N-CA-C	5.05	125.14	111.00
45	t	54	LYS	CB-CG-CD	5.05	122.91	111.30
1	1	2113	A	C5'-C4'-C3'	5.04	123.57	116.00
1	1	632	G	O4'-C1'-C2'	5.04	110.84	105.80
1	1	916	G	C2'-C3'-O3'	-5.04	106.14	113.70
3	4	53	A	C5'-C4'-O4'	5.04	117.36	109.80
1	1	2140	U	O4'-C4'-C3'	5.04	109.04	104.00
12	I	4	ARG	CB-CA-C	5.04	117.72	109.46
1	1	790	U	O4'-C4'-C3'	5.03	109.03	104.00
1	1	3221	C	C5'-C4'-C3'	5.03	123.55	116.00
1	1	335	G	C5'-C4'-C3'	5.03	123.55	116.00
3	4	41	A	OP1-P-O3'	5.03	123.10	108.00
1	1	925	A	C5'-C4'-O4'	5.03	116.64	109.10
1	1	676	G	O4'-C1'-C2'	5.03	110.83	105.80
1	1	2695	A	C5'-C4'-C3'	5.03	123.54	116.00
5	B	135	ALA	N-CA-C	5.02	125.07	111.00
11	H	150	SER	N-CA-C	5.02	125.07	111.00
1	1	794	U	O4'-C1'-C2'	5.02	110.82	105.80
7	D	256	THR	CB-CA-C	5.02	120.41	110.42
8	E	176	PHE	CG-CD2-CE2	5.02	129.24	120.70
9	F	148	VAL	N-CA-C	5.02	115.25	110.53
22	T	143	THR	CB-CA-C	5.02	120.41	110.42
1	1	326	U	O4'-C4'-C3'	5.02	109.02	104.00
1	1	560	G	O4'-C4'-C3'	5.02	109.02	104.00
2	3	94	C	O4'-C4'-C3'	5.02	109.02	104.00
31	c	79	THR	N-CA-C	5.02	121.48	110.80
1	1	713	U	N1-C1'-C2'	5.01	119.52	112.00
1	1	2940	A	C4'-C3'-O3'	-5.01	105.48	113.00
1	1	3020	U	C5'-C4'-C3'	5.01	123.52	116.00
1	1	188	U	O4'-C4'-C3'	5.01	109.01	104.00
45	t	54	LYS	CG-CD-CE	5.01	122.83	111.30
1	1	1246	G	C5'-C4'-O4'	5.01	117.32	109.80
5	B	144	ILE	CG1-CB-CG2	5.01	125.73	110.70
45	t	158	GLN	N-CA-C	5.01	117.98	109.76
10	G	155	ASN	CB-CA-C	5.01	119.61	110.10
1	1	2182	A	C5'-C4'-O4'	5.00	117.31	109.80
10	G	155	ASN	N-CA-CB	5.00	119.01	110.50
1	1	41	G	OP1-P-O3'	-5.00	93.00	108.00

All (277) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	1	69	C	C2'
1	1	92	G	C2'
1	1	95	A	C2'
1	1	109	A	C3'
1	1	167	U	C3'
1	1	244	G	C3'
1	1	250	U	C3'
1	1	258	G	C2'
1	1	282	G	C3'
1	1	322	U	C3'
1	1	335	G	C3'
1	1	336	A	C3'
1	1	345	G	C3'
1	1	368	G	C3'
1	1	379	C	C2'
1	1	387	A	C3'
1	1	418	A	C2'
1	1	424	G	C3'
1	1	498	A	C3'
1	1	549	U	C2'
1	1	637	C	C3'
1	1	652	G	C2'
1	1	702	C	C3'
1	1	739	G	C3'
1	1	763	G	C3'
1	1	813	G	C2'
1	1	834	U	C3'
1	1	845	G	C3'
1	1	864	G	C2'
1	1	884	A	C2'
1	1	917	A	C3'
1	1	996	A	C3'
1	1	1013	G	C3'
1	1	1024	G	C3'
1	1	1043	C	C3'
1	1	1056	U	C3'
1	1	1106	G	C3'
1	1	1117	G	C3'
1	1	1122	U	C2'
1	1	1264	G	C3'
1	1	1278	A	C2'
1	1	1282	G	C3'
1	1	1351	U	C3'

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Mol	Chain	Res	Type	Atom
1	1	1363	A	C3'
1	1	1425	U	C3'
1	1	1451	C	C3'
1	1	1459	C	C3'
1	1	1464	G	C3'
1	1	1533	U	C2'
1	1	1578	C	C3'
1	1	1623	G	C3'
1	1	1652	G	C3'
1	1	1673	G	C3'
1	1	1704	A	C2'
1	1	1705	U	C2'
1	1	1816	A	C3'
1	1	1835	A	C2'
1	1	1838	G	C3'
1	1	1839	A	C2'
1	1	1888	U	C3'
1	1	1906	G	C3'
1	1	1938	U	C2'
1	1	1942	U	C2'
1	1	2130	G	C3'
1	1	2136	C	C3'
1	1	2139	A	C3'
1	1	2149	A	C2'
1	1	2152	A	C3'
1	1	2156	C	C3'
1	1	2273	G	C2'
1	1	2288	G	C3'
1	1	2342	U	C3'
1	1	2362	C	C3'
1	1	2374	C	C2'
1	1	2403	G	C2'
1	1	2405	C	C2'
1	1	2439	A	C2'
1	1	2612	U	C3'
1	1	2622	C	C2'
1	1	2643	A	C3'
1	1	2650	U	C3'
1	1	2659	G	C3'
1	1	2696	A	C3'
1	1	2731	U	C3'
1	1	2777	G	C2'

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Mol	Chain	Res	Type	Atom
1	1	2826	U	C2'
1	1	2835	U	C2'
1	1	2874	G	C2'
1	1	2885	C	C3'
1	1	2909	U	C3'
1	1	3037	U	C3'
1	1	3071	U	C3'
1	1	3094	A	C3'
1	1	3099	C	C3'
1	1	3107	U	C3'
1	1	3119	U	C3'
1	1	3171	U	C2'
1	1	3241	G	C3'
1	1	3243	A	C2'
1	1	3292	A	C3'
1	1	3333	G	C2'
1	1	3362	A	C3'
1	1	3391	A	C2'
2	3	11	A	C2'
3	4	10	A	C3'
3	4	34	U	C2'
3	4	50	C	C3'
3	4	52	A	C2'
4	A	9	ARG	CA
4	A	32	LEU	CA
4	A	33	ASP	CA
4	A	37	ARG	CA
4	A	96	LEU	CA
4	A	143	GLU	CA
4	A	196	TRP	CA
5	B	38	SER	CA
5	B	61	ASP	CA
5	B	79	VAL	CA
5	B	104	THR	CA
5	B	144	ILE	CA
5	B	173	GLN	CA
5	B	246	LEU	CA
5	B	265	ALA	CA
5	B	285	VAL	CA
5	B	331	ASN	CA
5	B	349	LYS	CA
6	C	11	LEU	CA

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Mol	Chain	Res	Type	Atom
6	C	21	PRO	CA
6	C	27	SER	CA
6	C	85	SER	CA
6	C	172	VAL	CA
6	C	195	ARG	CA
6	C	222	VAL	CA
6	C	226	GLU	CA
6	C	296	GLN	CA
6	C	299	ILE	CA
6	C	314	LYS	CA
7	D	57	ASN	CA
7	D	109	THR	CA
7	D	125	VAL	CA
7	D	197	SER	CA
7	D	273	ARG	CA
7	D	293	LEU	CA
8	E	34	LEU	CA
8	E	169	ASP	CA
8	E	172	HIS	CA
9	F	92	ILE	CA
9	F	101	LYS	CA
9	F	106	LEU	CA
9	F	112	ASN	CA
9	F	122	ALA	CA
10	G	27	THR	CA
10	G	59	GLN	CA
10	G	74	THR	CA
10	G	96	LYS	CA
10	G	155	ASN	CA
10	G	211	LEU	CA
11	H	27	VAL	CA
11	H	51	GLN	CA
11	H	142	ASP	CA
11	H	150	SER	CA
11	H	172	ILE	CA
12	I	33	ILE	CA
12	I	75	TYR	CA
12	I	79	VAL	CA
12	I	146	ASP	CA
13	J	35	LYS	CA
13	J	62	ASN	CA
13	J	163	PHE	CA

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Mol	Chain	Res	Type	Atom
14	L	6	ASN	CA
14	L	71	ALA	CA
14	L	112	ASN	CA
14	L	135	ALA	CA
14	L	171	ARG	CA
14	L	194	GLU	CA
15	M	53	VAL	CA
15	M	90	VAL	CA
16	N	46	ASP	CA
16	N	109	ARG	CA
17	O	48	PHE	CA
17	O	114	LYS	CA
17	O	136	THR	CA
18	P	52	LEU	CA
18	P	89	LYS	CA
18	P	101	ASN	CA
18	P	120	ASN	CA
18	P	179	GLN	CA
19	Q	25	TYR	CA
19	Q	112	ALA	CA
19	Q	148	GLU	CA
19	Q	150	VAL	CA
20	R	5	ARG	CA
20	R	21	LYS	CA
20	R	34	GLN	CA
20	R	41	ILE	CA,CB
20	R	84	THR	CA
20	R	104	ARG	CA
20	R	106	LEU	CA
20	R	125	LYS	CA
20	R	128	LYS	CA
20	R	135	LYS	CA
20	R	175	GLN	CA
20	R	186	LYS	CA
21	S	12	ARG	CA
21	S	36	ILE	CA
21	S	61	ILE	CB
21	S	99	ARG	CA
21	S	119	ARG	CA
22	T	25	VAL	CA
22	T	49	GLN	CA
22	T	78	LYS	CA

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Mol	Chain	Res	Type	Atom
22	T	118	GLU	CA
22	T	138	SER	CA
22	T	147	VAL	CA
24	V	14	SER	CA
24	V	102	ILE	CA
24	V	128	ARG	CA
25	W	21	PHE	CA
25	W	41	LYS	CA
26	X	59	SER	CA
26	X	142	ILE	CB
27	Y	26	GLN	CA
27	Y	87	LYS	CA
27	Y	91	ASN	CA
27	Y	119	ILE	CA
28	Z	31	GLU	CA
28	Z	47	GLU	CA
29	a	88	ASP	CA
29	a	145	VAL	CA
29	a	148	ILE	CA
30	b	12	GLN	CA
30	b	41	ARG	CA
31	c	46	ALA	CA
31	c	64	LYS	CA
31	c	76	GLU	CA
32	d	46	THR	CA
32	d	47	ASP	CA
32	d	58	ALA	CA
33	e	25	TYR	CA
33	e	55	ILE	CA
34	f	15	SER	CA
34	f	39	GLN	CA
34	f	60	ARG	CA
34	f	77	ASN	CA
35	g	73	SER	CA
35	g	76	TYR	CA
35	g	84	CYS	CA
35	g	96	GLU	CA
36	h	71	LYS	CA
36	h	73	LYS	CA
36	h	105	ARG	CA
36	h	111	PHE	CA
37	i	45	ARG	CA

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Mol	Chain	Res	Type	Atom
37	i	83	ALA	CA
38	j	26	SER	CA
38	j	45	ARG	CA
38	j	65	ARG	CA
40	l	19	GLN	CA
40	l	28	ARG	CA
40	l	33	ASN	CA
43	o	29	LYS	CA
43	o	30	ALA	CA
43	o	76	LYS	CA
43	o	77	CYS	CA
43	o	93	LEU	CA
43	o	102	GLN	CA
43	o	103	ALA	CA
44	p	90	VAL	CA
45	t	4	ILE	CA
45	t	83	ASP	CA
45	t	93	LEU	CA
45	t	105	LYS	CA
45	t	138	VAL	CA
45	t	151	VAL	CA
45	t	152	ARG	CA
45	t	198	TRP	CA

All (31) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	B	17	LEU	Peptide
5	B	256	HIS	Peptide
5	B	36	ASP	Peptide
6	C	148	ILE	Peptide
6	C	226	GLU	Peptide
6	C	296	GLN	Peptide
14	L	56	PRO	Peptide
17	O	125	ARG	Mainchain
17	O	143	THR	Mainchain
17	O	145	VAL	Mainchain
17	O	153	VAL	Mainchain
17	O	16	VAL	Mainchain
17	O	160	ARG	Mainchain
17	O	186	ALA	Mainchain
17	O	198	GLY	Peptide,Mainchain

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Mol	Chain	Res	Type	Group
17	O	36	VAL	Mainchain
17	O	67	THR	Mainchain
17	O	72	HIS	Mainchain
17	O	74	ARG	Mainchain
17	O	84	LEU	Mainchain
17	O	90	HIS	Mainchain
17	O	95	GLY	Mainchain
34	f	103	TYR	Peptide
34	f	15	SER	Peptide
38	j	39	TYR	Peptide
45	t	150	ASP	Peptide
45	t	190	PHE	Peptide
45	t	191	VAL	Peptide
45	t	193	LEU	Peptide
45	t	92	LYS	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	1	68514	0	35042	1290	0
2	3	2579	0	1330	33	0
3	4	3353	0	1721	67	0
4	A	1914	0	1914	151	0
5	B	3075	0	3060	186	0
6	C	2748	0	2780	167	0
7	D	2375	0	2253	105	0
8	E	1239	0	1299	34	0
9	F	1784	0	1814	84	0
10	G	1804	0	1812	104	0
11	H	1518	0	1541	75	0
12	I	1705	0	1684	81	0
13	J	1353	0	1348	52	0
14	L	1543	0	1557	91	0
15	M	1053	0	1121	46	0
16	N	1720	0	1728	119	0
17	O	1555	0	1635	1	0
18	P	1420	0	1394	85	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	Q	1441	0	1495	76	0
20	R	1521	0	1571	77	0
21	S	1445	0	1441	83	0
22	T	1276	0	1289	61	0
23	U	796	0	788	15	0
24	V	1003	0	1014	64	0
25	W	500	0	508	21	0
26	X	964	0	1003	33	0
27	Y	993	0	1051	53	0
28	Z	1092	0	1117	52	0
29	a	1173	0	1174	82	0
30	b	462	0	474	23	0
31	c	743	0	773	36	0
32	d	876	0	889	34	0
33	e	1020	0	1064	52	0
34	f	850	0	849	61	0
35	g	880	0	918	57	0
36	h	969	0	1048	50	0
37	i	771	0	819	47	0
38	j	681	0	665	49	0
39	k	612	0	662	19	0
40	l	436	0	463	37	0
41	m	417	0	445	19	0
42	n	233	0	278	8	0
43	o	847	0	901	18	0
44	p	694	0	721	45	0
45	t	1718	0	1758	115	0
All	All	125665	0	90211	3851	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 18.

All (3851) 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)
12:I:95:HIS:C	12:I:96:VAL:N	1.97	1.23
45:t:54:LYS:HB2	45:t:153:SER:C	1.63	1.23
21:S:160:THR:HG1	21:S:161:LYS:N	1.36	1.21
1:1:2178:A:O3'	1:1:2179:C:P	2.00	1.20
39:k:51:LEU:C	39:k:52:TYR:N	2.00	1.18
31:c:24:THR:HG1	31:c:25:LEU:N	1.39	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:57:VAL:C	14:L:58:VAL:N	2.00	1.18
35:g:91:ARG:C	35:g:92:ALA:HA	1.68	1.18
20:R:132:PHE:C	20:R:133:LYS:N	2.03	1.16
21:S:64:ILE:C	21:S:65:ASN:N	2.03	1.16
4:A:40:TYR:C	4:A:41:ILE:N	2.03	1.16
1:1:47:C:O3'	1:1:48:A:P	2.03	1.16
26:X:94:GLN:C	26:X:95:ILE:N	2.03	1.15
9:F:144:ILE:C	9:F:145:ARG:N	2.04	1.15
1:1:2116:G:O3'	1:1:2117:A:P	2.05	1.15
38:j:54:LYS:C	38:j:55:ARG:N	2.05	1.15
1:1:1931:U:O3'	1:1:1932:A:P	2.06	1.13
3:4:41:A:O3'	3:4:42:G:P	2.08	1.12
43:o:40:LYS:C	43:o:41:ARG:N	2.07	1.12
1:1:17:G:O3'	1:1:18:G:P	2.09	1.11
4:A:88:ILE:C	4:A:89:TYR:N	2.08	1.11
38:j:59:THR:C	38:j:60:GLY:N	2.08	1.11
1:1:858:A:O3'	1:1:859:G:P	2.09	1.10
9:F:158:LYS:O	9:F:159:GLN:N	1.83	1.10
11:H:83:THR:HG1	11:H:84:LYS:N	1.48	1.10
1:1:2163:C:HO2'	4:A:11:GLY:N	1.50	1.10
1:1:2965:U:O3'	1:1:2966:G:P	2.09	1.10
5:B:54:THR:C	5:B:55:THR:N	2.10	1.09
5:B:249:VAL:C	5:B:250:ALA:N	2.11	1.09
9:F:146:GLN:C	9:F:147:LEU:N	2.10	1.09
5:B:84:VAL:C	5:B:85:VAL:N	2.11	1.09
12:I:87:LEU:C	12:I:88:ARG:N	2.11	1.09
1:1:913:A:O3'	1:1:914:A:P	2.10	1.08
5:B:275:ARG:C	5:B:276:THR:N	2.11	1.08
6:C:261:VAL:C	6:C:262:TRP:N	2.12	1.08
1:1:1557:A:O3'	1:1:1558:A:P	2.11	1.07
4:A:10:LYS:C	4:A:11:GLY:N	2.12	1.07
21:S:123:ILE:C	21:S:124:LEU:N	2.13	1.07
19:Q:140:LEU:C	19:Q:141:ARG:N	2.13	1.07
38:j:8:PHE:C	38:j:9:GLY:N	2.13	1.07
1:1:1101:G:O3'	1:1:1102:A:P	2.13	1.06
20:R:98:ARG:C	20:R:99:LEU:N	2.13	1.06
6:C:112:LYS:C	6:C:113:VAL:N	2.12	1.06
21:S:135:VAL:C	21:S:136:LYS:N	2.14	1.06
3:4:36:G:O3'	3:4:37:A:P	2.14	1.06
7:D:19:PRO:C	7:D:20:PHE:N	2.12	1.06
16:N:9:GLU:C	16:N:10:LEU:N	2.14	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:952:A:O3'	1:1:953:G:P	2.14	1.05
15:M:21:VAL:C	15:M:22:LEU:N	2.13	1.05
1:1:2282:U:O3'	1:1:2283:G:P	2.14	1.05
22:T:84:TYR:C	22:T:85:LEU:N	2.13	1.05
40:l:43:ASN:C	40:l:44:TRP:N	2.15	1.05
18:P:29:THR:C	18:P:30:ARG:N	2.15	1.05
1:1:268:A:O3'	1:1:269:G:P	2.14	1.05
1:1:1162:U:O3'	1:1:1163:A:P	2.15	1.04
1:1:1403:C:O3'	1:1:1404:G:P	2.15	1.04
24:V:34:LEU:C	24:V:35:TYR:N	2.15	1.04
1:1:71:A:O3'	1:1:72:C:P	2.14	1.04
24:V:14:SER:C	24:V:15:LEU:N	2.15	1.04
1:1:1637:A:O3'	1:1:1638:A:P	2.16	1.04
1:1:1390:A:O3'	1:1:1391:C:P	2.15	1.04
16:N:132:VAL:C	16:N:133:ILE:N	2.16	1.04
1:1:413:U:H3'	1:1:414:U:P	1.97	1.03
14:L:21:ARG:C	14:L:22:VAL:N	2.16	1.03
34:f:11:GLY:C	34:f:12:LYS:N	2.15	1.03
16:N:37:HIS:C	16:N:38:ARG:N	2.16	1.03
28:Z:14:VAL:C	28:Z:15:ARG:N	2.16	1.03
29:a:66:ALA:O	29:a:68:PHE:N	1.90	1.03
1:1:2812:C:O3'	1:1:2813:A:P	2.17	1.02
1:1:920:A:O3'	1:1:921:A:P	2.17	1.02
18:P:146:ILE:C	18:P:147:GLU:N	2.16	1.02
40:l:7:PHE:C	40:l:8:ARG:N	2.18	1.02
1:1:1445:U:O3'	1:1:1446:A:P	2.18	1.02
6:C:266:THR:HG1	6:C:267:VAL:N	1.56	1.02
1:1:1153:A:H3'	1:1:1154:A:P	2.00	1.01
6:C:208:VAL:C	6:C:209:TYR:N	2.18	1.01
27:Y:27:ARG:C	27:Y:28:ARG:N	2.18	1.01
13:J:128:TYR:HA	13:J:129:VAL:N	1.75	1.01
27:Y:58:VAL:C	27:Y:59:VAL:N	2.18	1.01
34:f:49:ILE:HD11	34:f:71:VAL:HG23	1.43	1.01
3:4:137:C:O3'	3:4:138:A:P	2.17	1.01
10:G:197:VAL:C	10:G:198:ALA:N	2.19	1.01
24:V:100:GLY:C	24:V:101:VAL:N	2.17	1.01
9:F:125:GLU:C	9:F:126:LEU:N	2.19	1.01
1:1:1048:A:H3'	1:1:1049:C:P	2.01	1.00
1:1:41:G:O3'	1:1:42:C:P	2.20	1.00
1:1:968:G:O3'	1:1:969:C:P	2.19	1.00
31:c:84:LEU:C	31:c:85:PHE:N	2.20	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:104:GLN:C	36:h:105:ARG:N	2.19	1.00
39:k:23:ALA:C	39:k:24:THR:N	2.19	1.00
1:1:2361:A:O3'	1:1:2362:C:P	2.20	1.00
4:A:187:HIS:C	4:A:188:LYS:N	2.19	1.00
6:C:133:SER:HG	6:C:134:LEU:N	1.58	1.00
4:A:207:VAL:C	4:A:208:ASP:N	2.20	0.99
19:Q:47:VAL:C	19:Q:48:VAL:N	2.20	0.99
1:1:554:A:O3'	1:1:555:U:P	2.19	0.99
25:W:46:PRO:C	25:W:47:ARG:N	2.21	0.99
1:1:1708:C:O3'	1:1:1709:C:P	2.20	0.99
11:H:25:VAL:C	11:H:26:LYS:N	2.19	0.99
1:1:1469:C:O3'	1:1:1470:U:P	2.20	0.99
6:C:35:VAL:C	6:C:36:HIS:N	2.19	0.98
1:1:784:A:O3'	1:1:785:G:P	2.20	0.98
1:1:217:U:O3'	1:1:218:G:P	2.21	0.98
31:c:47:ASN:C	31:c:48:THR:N	2.22	0.98
1:1:1940:G:O3'	1:1:1941:C:P	2.21	0.98
34:f:71:VAL:C	34:f:72:THR:N	2.21	0.98
10:G:132:VAL:C	10:G:133:LYS:N	2.22	0.98
37:i:42:SER:HG	37:i:43:LEU:N	1.60	0.98
2:3:10:C:O3'	2:3:11:A:P	2.21	0.98
4:A:226:SER:HG	4:A:227:ARG:N	1.62	0.98
26:X:28:THR:HG1	26:X:29:SER:N	1.60	0.98
1:1:83:U:HO2'	1:1:700:C:HO3'	1.07	0.97
1:1:872:U:O3'	1:1:873:C:P	2.22	0.97
28:Z:119:GLU:C	28:Z:120:GLU:N	2.20	0.97
43:o:42:ARG:C	43:o:43:TYR:N	2.22	0.97
9:F:204:PRO:C	9:F:205:PHE:N	2.21	0.97
15:M:127:LYS:C	15:M:128:ARG:N	2.20	0.97
3:4:44:A:H3'	3:4:45:C:P	2.03	0.97
8:E:21:THR:HG1	8:E:22:ARG:N	1.61	0.97
29:a:43:ILE:C	29:a:44:ASN:N	2.21	0.97
1:1:1322:U:H3'	1:1:1323:G:P	2.05	0.97
4:A:189:TYR:C	4:A:190:ARG:N	2.23	0.97
20:R:145:ALA:C	20:R:146:LYS:N	2.23	0.97
1:1:1376:C:O3'	1:1:1377:G:P	2.22	0.96
29:a:71:PRO:C	29:a:72:VAL:N	2.22	0.96
6:C:254:ALA:C	6:C:255:PHE:N	2.23	0.96
1:1:12:A:O3'	1:1:13:A:P	2.23	0.96
1:1:2986:U:O3'	1:1:2987:A:P	2.23	0.96
1:1:85:A:O3'	1:1:86:G:P	2.24	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2785:A:O3'	1:1:2786:G:P	2.23	0.96
1:1:3298:C:O3'	1:1:3299:A:P	2.24	0.96
5:B:77:THR:C	5:B:78:VAL:N	2.24	0.96
9:F:208:SER:C	9:F:209:ASN:N	2.23	0.96
1:1:362:U:O3'	1:1:363:G:P	2.23	0.95
5:B:327:CYS:HA	5:B:328:ILE:N	1.80	0.95
9:F:239:LEU:C	9:F:240:VAL:N	2.23	0.95
1:1:1793:C:O3'	1:1:1794:G:P	2.23	0.95
4:A:51:ASP:C	4:A:52:SER:N	2.25	0.95
1:1:1796:G:O3'	1:1:1797:A:P	2.25	0.95
6:C:235:LEU:C	6:C:236:LEU:N	2.23	0.95
5:B:191:LYS:C	5:B:192:VAL:N	2.25	0.95
5:B:336:VAL:C	5:B:337:THR:N	2.25	0.95
16:N:48:ALA:C	16:N:49:ARG:N	2.25	0.95
1:1:2865:U:O3'	1:1:2866:U:P	2.24	0.94
14:L:5:LYS:C	14:L:6:ASN:N	2.25	0.94
11:H:93:VAL:C	11:H:94:TYR:N	2.25	0.94
1:1:1159:A:OP2	9:F:92:ILE:N	1.99	0.94
4:A:99:GLY:C	4:A:100:ASN:N	2.25	0.94
26:X:101:GLU:C	26:X:102:LEU:N	2.25	0.94
1:1:376:G:O3'	1:1:377:A:P	2.24	0.94
21:S:23:LYS:C	21:S:24:LEU:N	2.25	0.94
28:Z:74:VAL:C	28:Z:75:VAL:N	2.24	0.94
9:F:201:PHE:C	9:F:202:LEU:N	2.25	0.94
26:X:73:MET:C	26:X:74:LYS:N	2.25	0.94
19:Q:132:PRO:C	19:Q:133:LYS:N	2.26	0.94
31:c:29:SER:C	31:c:30:THR:N	2.26	0.94
4:A:180:LEU:C	4:A:181:LYS:N	2.27	0.93
16:N:154:PRO:C	16:N:155:VAL:N	2.25	0.93
20:R:51:VAL:C	20:R:52:LYS:HA	1.92	0.93
36:h:51:ILE:C	36:h:52:ALA:N	2.26	0.93
3:4:91:C:HO2'	27:Y:25:SER:N	1.66	0.93
10:G:42:PRO:C	10:G:43:LYS:N	2.27	0.93
20:R:172:ARG:O	20:R:176:ARG:CZ	2.16	0.93
21:S:141:LYS:C	21:S:142:GLN:N	2.27	0.93
1:1:1428:A:O3'	1:1:1429:G:P	2.26	0.93
1:1:2717:U:O3'	1:1:2718:U:P	2.25	0.93
36:h:115:LYS:C	36:h:116:TYR:N	2.27	0.93
1:1:3147:G:O3'	1:1:3148:U:P	2.26	0.93
4:A:60:LYS:C	4:A:61:VAL:N	2.26	0.93
33:e:32:TRP:C	33:e:33:ARG:N	2.27	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:113:VAL:C	6:C:114:ASN:N	2.26	0.93
31:c:58:TYR:C	31:c:59:TYR:N	2.26	0.93
5:B:89:VAL:C	5:B:90:VAL:N	2.27	0.93
1:1:863:C:O3'	1:1:864:G:P	2.27	0.93
12:I:33:ILE:O	12:I:34:TYR:N	2.02	0.93
24:V:46:LEU:C	24:V:47:ASN:N	2.27	0.92
10:G:54:GLU:C	10:G:55:TYR:N	2.27	0.92
38:j:22:CYS:C	38:j:23:GLY:N	2.27	0.92
1:1:608:A:O3'	1:1:609:G:P	2.28	0.92
1:1:963:G:O3'	1:1:964:G:P	2.28	0.92
9:F:133:TYR:C	9:F:134:VAL:N	2.27	0.92
33:e:79:VAL:C	33:e:80:LYS:N	2.28	0.92
1:1:145:G:O3'	1:1:146:U:P	2.28	0.92
1:1:397:A:O3'	1:1:398:A:P	2.28	0.92
9:F:120:THR:HG1	9:F:121:LYS:N	1.68	0.92
16:N:6:TYR:C	16:N:7:LEU:N	2.28	0.91
29:a:128:ARG:C	29:a:129:PHE:N	2.28	0.91
9:F:157:ASN:C	9:F:158:LYS:C	2.38	0.91
4:A:146:THR:C	4:A:147:ARG:N	2.27	0.91
34:f:43:PHE:O	34:f:44:TYR:N	2.04	0.91
36:h:114:ARG:C	36:h:115:LYS:C	2.38	0.91
3:4:37:A:O3'	3:4:38:U:P	2.29	0.91
34:f:53:TYR:C	34:f:54:ARG:N	2.28	0.91
1:1:843:A:H3'	1:1:844:G:P	2.11	0.91
5:B:48:GLY:C	5:B:49:TYR:N	2.28	0.91
35:g:85:VAL:C	35:g:86:LYS:N	2.29	0.91
34:f:17:GLN:C	34:f:18:ARG:N	2.28	0.91
1:1:92:G:H3'	1:1:93:C:P	2.11	0.90
6:C:196:ASN:O	6:C:197:ARG:N	2.04	0.90
9:F:135:ALA:C	9:F:136:TYR:N	2.29	0.90
38:j:64:MET:C	38:j:65:ARG:N	2.29	0.90
19:Q:6:THR:N	19:Q:7:SER:HG	1.69	0.90
4:A:215:ASN:C	4:A:216:HIS:N	2.29	0.90
20:R:157:GLU:HA	20:R:160:GLU:HB2	1.50	0.90
31:c:27:TYR:C	31:c:28:LYS:N	2.30	0.90
6:C:49:ALA:C	6:C:50:TYR:N	2.30	0.90
15:M:45:LEU:C	15:M:46:ILE:N	2.30	0.89
3:4:60:U:O3'	3:4:61:A:P	2.29	0.89
1:1:1802:C:O2'	1:1:1803:C:O4'	1.90	0.89
10:G:165:PHE:C	10:G:166:LEU:N	2.30	0.89
24:V:53:SER:C	24:V:54:LEU:N	2.30	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:30:ARG:C	40:l:31:THR:N	2.30	0.89
1:1:3151:U:O3'	1:1:3152:U:P	2.30	0.89
18:P:59:PRO:C	18:P:60:PHE:N	2.31	0.89
28:Z:130:PHE:C	28:Z:131:PHE:N	2.31	0.89
1:1:934:G:O3'	1:1:935:U:P	2.30	0.89
5:B:86:VAL:C	5:B:87:VAL:N	2.30	0.89
1:1:29:C:O3'	1:1:30:G:P	2.30	0.89
3:4:80:A:H4'	3:4:81:U:OP1	1.73	0.89
45:t:54:LYS:HE3	45:t:151:VAL:C	1.98	0.89
16:N:114:ARG:C	16:N:115:VAL:N	2.31	0.89
23:U:77:LYS:C	23:U:78:TYR:N	2.31	0.88
6:C:89:ALA:C	6:C:90:PHE:N	2.31	0.88
18:P:49:GLU:C	18:P:50:GLN:N	2.32	0.88
19:Q:175:ALA:C	19:Q:176:ARG:N	2.31	0.88
1:1:407:A:O3'	1:1:408:A:P	2.32	0.88
1:1:2437:G:C4	1:1:2510:A:C2	2.61	0.88
45:t:54:LYS:HE2	45:t:153:SER:N	1.88	0.88
1:1:1747:G:O3'	1:1:1748:G:P	2.32	0.88
1:1:860:G:O3'	1:1:861:C:P	2.32	0.88
1:1:394:G:O2'	1:1:396:A:N7	2.05	0.88
6:C:148:ILE:HG23	6:C:149:PRO:HD2	1.54	0.88
45:t:54:LYS:HB2	45:t:154:THR:N	1.89	0.87
1:1:829:U:H3'	1:1:830:A:P	2.14	0.87
1:1:2169:G:O3'	1:1:2170:U:P	2.33	0.87
24:V:64:LYS:C	24:V:65:GLY:N	2.33	0.87
29:a:41:HIS:C	29:a:42:ARG:N	2.33	0.87
1:1:1553:U:O3'	1:1:1554:U:P	2.33	0.87
1:1:2174:G:O3'	1:1:2175:U:P	2.33	0.87
5:B:178:LEU:C	5:B:179:ALA:HA	2.00	0.87
6:C:121:ALA:C	6:C:122:THR:N	2.33	0.87
11:H:163:GLN:C	11:H:164:ILE:N	2.32	0.87
26:X:64:GLU:C	26:X:65:GLN:N	2.32	0.87
30:b:26:THR:HG1	30:b:27:TYR:N	1.72	0.87
6:C:162:THR:C	6:C:163:LYS:N	2.32	0.87
18:P:36:ILE:HD11	18:P:44:ALA:HB1	1.55	0.87
18:P:70:THR:HG1	18:P:71:ALA:N	1.73	0.87
45:t:54:LYS:N	45:t:154:THR:O	2.08	0.87
32:d:70:ARG:C	32:d:71:LEU:N	2.32	0.87
34:f:85:PHE:C	34:f:86:ARG:N	2.32	0.86
19:Q:93:ILE:C	19:Q:94:PHE:N	2.34	0.86
21:S:34:GLU:C	21:S:35:VAL:N	2.34	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:92:PHE:C	24:V:93:LEU:N	2.33	0.86
7:D:94:ASN:C	7:D:95:TRP:N	2.33	0.86
10:G:38:GLN:C	10:G:39:ALA:N	2.34	0.86
32:d:32:ALA:C	32:d:33:VAL:N	2.32	0.86
1:1:1111:U:O3'	1:1:1112:A:P	2.34	0.86
33:e:108:ILE:C	33:e:109:LEU:N	2.34	0.86
1:1:1908:A:O3'	1:1:1909:A:P	2.33	0.86
34:f:31:LYS:C	34:f:32:ILE:N	2.32	0.86
36:h:96:GLU:C	36:h:97:ALA:N	2.33	0.86
37:i:73:ALA:C	37:i:74:LYS:N	2.34	0.86
1:1:2325:G:O3'	1:1:2326:A:P	2.34	0.86
16:N:196:THR:C	16:N:197:LEU:N	2.34	0.86
16:N:201:ARG:C	16:N:202:TYR:N	2.33	0.86
45:t:54:LYS:HD3	45:t:155:ILE:N	1.90	0.86
1:1:341:G:O3'	1:1:342:A:P	2.34	0.86
9:F:153:PHE:C	9:F:154:GLY:N	2.34	0.86
1:1:2392:C:H3'	1:1:2393:G:P	2.15	0.86
1:1:1382:G:HO2'	6:C:241:GLY:N	1.74	0.85
26:X:54:TYR:C	26:X:55:ASN:N	2.33	0.85
32:d:57:GLN:C	32:d:58:ALA:N	2.34	0.85
11:H:39:LYS:C	11:H:40:HIS:N	2.34	0.85
32:d:21:HIS:C	32:d:22:GLY:N	2.34	0.85
1:1:1913:A:O3'	1:1:1914:G:P	2.34	0.85
1:1:2656:A:O3'	1:1:2657:A:P	2.33	0.85
4:A:97:ASN:C	4:A:98:VAL:N	2.35	0.85
6:C:127:ALA:C	6:C:128:ALA:N	2.34	0.85
10:G:78:PHE:O	10:G:80:TYR:N	2.09	0.85
20:R:81:ARG:C	20:R:82:LYS:N	2.35	0.85
29:a:55:LYS:C	29:a:56:VAL:HA	2.02	0.85
31:c:60:ALA:C	31:c:61:MET:N	2.34	0.85
19:Q:67:ILE:C	19:Q:68:ALA:N	2.35	0.85
22:T:87:LYS:C	22:T:88:ARG:N	2.35	0.85
16:N:174:ILE:C	16:N:175:ASN:N	2.35	0.85
10:G:26:LEU:HD13	28:Z:53:VAL:HG11	1.59	0.85
10:G:169:LEU:C	10:G:170:CYS:N	2.35	0.84
28:Z:37:PRO:C	28:Z:38:PHE:N	2.35	0.84
33:e:86:THR:HG23	33:e:115:LEU:HD12	1.58	0.84
29:a:104:THR:C	29:a:105:LEU:N	2.35	0.84
43:o:54:THR:C	43:o:55:LYS:N	2.35	0.84
6:C:102:PRO:HA	6:C:103:THR:N	1.92	0.84
1:1:3129:A:O3'	1:1:3130:A:P	2.36	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3265:C:C5	1:1:3265:C:N1	2.40	0.84
1:1:2641:U:O3'	1:1:2642:A:P	2.35	0.84
21:S:77:VAL:C	21:S:78:TRP:N	2.36	0.84
25:W:38:SER:C	25:W:39:LEU:N	2.35	0.84
1:1:959:C:O3'	1:1:960:U:OP2	1.96	0.84
9:F:89:ILE:C	9:F:90:LYS:N	2.36	0.84
11:H:65:VAL:C	11:H:66:ALA:N	2.35	0.84
29:a:78:LEU:C	29:a:79:TRP:N	2.36	0.84
27:Y:70:ILE:C	27:Y:71:SER:N	2.36	0.84
1:1:300:G:H3'	1:1:301:G:P	2.17	0.84
36:h:44:ILE:C	36:h:45:LYS:N	2.36	0.84
32:d:28:ARG:C	32:d:29:ALA:N	2.36	0.83
1:1:76:G:O2'	14:L:100:ARG:NH1	2.11	0.83
3:4:45:C:O3'	3:4:46:G:P	2.36	0.83
1:1:1437:C:O3'	1:1:1438:U:P	2.37	0.83
6:C:30:ILE:C	6:C:31:ARG:N	2.35	0.83
6:C:44:LYS:C	6:C:45:ASN:N	2.36	0.83
7:D:37:VAL:C	7:D:38:THR:N	2.36	0.83
10:G:58:VAL:C	10:G:59:GLN:N	2.35	0.83
19:Q:25:TYR:O	19:Q:26:LEU:N	2.11	0.83
28:Z:127:ASN:C	28:Z:128:GLN:N	2.36	0.83
3:4:27:U:H3'	3:4:28:C:P	2.19	0.83
41:m:94:SER:C	41:m:95:VAL:N	2.36	0.83
1:1:210:U:O3'	1:1:211:A:P	2.35	0.83
5:B:333:LYS:C	5:B:334:ARG:N	2.36	0.83
35:g:32:ALA:C	35:g:33:GLN:N	2.37	0.83
33:e:26:HIS:C	33:e:27:ARG:N	2.36	0.83
18:P:120:ASN:C	18:P:121:GLN:N	2.37	0.83
29:a:40:HIS:C	29:a:41:HIS:N	2.37	0.83
38:j:34:CYS:C	38:j:35:SER:N	2.35	0.83
10:G:75:ILE:O	10:G:77:GLN:N	2.12	0.83
21:S:80:ARG:C	21:S:81:TYR:N	2.37	0.83
24:V:23:MET:HE2	24:V:36:ILE:HD11	1.60	0.83
1:1:1464:G:O2'	1:1:1466:G:N7	2.12	0.82
5:B:102:LEU:C	5:B:103:THR:N	2.37	0.82
5:B:212:ASN:C	5:B:213:GLU:N	2.37	0.82
25:W:13:ILE:C	25:W:14:TYR:N	2.37	0.82
28:Z:79:HIS:C	28:Z:80:LEU:N	2.37	0.82
40:l:41:ARG:C	40:l:42:ARG:N	2.37	0.82
1:1:3136:G:O3'	1:1:3137:C:P	2.37	0.82
10:G:67:ILE:C	10:G:68:ARG:N	2.37	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:70:SER:N	22:T:71:SER:HG	1.78	0.82
25:W:52:THR:C	25:W:53:VAL:N	2.37	0.82
29:a:9:ARG:C	29:a:10:LYS:N	2.37	0.82
1:1:606:C:O3'	1:1:607:A:P	2.36	0.82
20:R:10:LEU:C	20:R:11:ALA:N	2.37	0.82
12:I:90:ARG:C	12:I:91:VAL:N	2.37	0.82
35:g:47:CYS:HG	35:g:49:SER:N	1.76	0.82
10:G:101:THR:HG1	10:G:102:ALA:N	1.77	0.82
16:N:31:ARG:C	16:N:32:GLN:N	2.38	0.82
16:N:135:VAL:C	16:N:136:ASP:N	2.36	0.82
6:C:256:THR:HG1	6:C:257:LYS:N	1.77	0.82
19:Q:124:LEU:C	19:Q:125:ASP:N	2.38	0.82
1:1:1313:G:O3'	1:1:1314:C:P	2.38	0.82
1:1:959:C:O3'	1:1:960:U:P	2.38	0.81
20:R:157:GLU:HA	20:R:160:GLU:CB	2.10	0.81
1:1:30:G:O3'	1:1:31:C:P	2.38	0.81
4:A:225:ILE:C	4:A:226:SER:N	2.38	0.81
11:H:41:ILE:HD11	11:H:67:ALA:HB1	1.62	0.81
38:j:66:TYR:C	38:j:67:LEU:N	2.38	0.81
14:L:123:ILE:C	14:L:124:ILE:N	2.38	0.81
1:1:2376:G:O3'	1:1:2377:G:P	2.39	0.81
14:L:13:HIS:O	14:L:14:PHE:N	2.13	0.81
16:N:127:TYR:C	16:N:128:LYS:N	2.38	0.81
16:N:182:ASN:C	16:N:183:THR:N	2.38	0.81
21:S:5:LYS:C	21:S:6:GLU:N	2.38	0.81
30:b:17:HIS:C	30:b:18:ARG:N	2.39	0.81
44:p:28:LYS:C	44:p:29:LEU:N	2.38	0.81
4:A:146:THR:O	4:A:147:ARG:N	2.14	0.81
10:G:160:ILE:C	10:G:161:GLU:N	2.38	0.81
45:t:53:LEU:C	45:t:154:THR:O	2.24	0.81
1:1:720:A:O3'	1:1:721:G:P	2.39	0.81
19:Q:54:LEU:C	19:Q:55:SER:N	2.38	0.81
9:F:85:PHE:C	9:F:86:VAL:N	2.38	0.81
19:Q:34:THR:HG1	19:Q:35:PHE:N	1.79	0.81
9:F:62:ILE:C	9:F:63:ILE:N	2.39	0.80
1:1:993:G:O3'	1:1:994:G:P	2.39	0.80
14:L:72:GLY:C	14:L:73:ARG:N	2.40	0.80
29:a:17:ALA:C	29:a:18:GLY:N	2.40	0.80
44:p:67:GLY:C	44:p:68:ALA:N	2.40	0.80
45:t:54:LYS:HG3	45:t:155:ILE:HB	1.61	0.80
1:1:344:A:O3'	1:1:345:G:P	2.38	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Z:19:ALA:O	28:Z:20:GLY:N	2.14	0.80
40:l:11:GLN:C	40:l:12:LYS:N	2.40	0.80
6:C:330:TYR:C	6:C:331:ALA:N	2.38	0.80
12:I:196:PHE:C	12:I:197:VAL:N	2.40	0.80
36:h:69:LEU:C	36:h:70:TYR:N	2.38	0.80
19:Q:43:PRO:C	19:Q:44:PHE:N	2.40	0.80
1:1:2757:U:O3'	1:1:2758:A:P	2.40	0.80
9:F:134:VAL:C	9:F:135:ALA:N	2.40	0.80
12:I:135:ILE:C	12:I:136:PHE:N	2.40	0.80
1:1:778:U:H3'	1:1:779:G:P	2.22	0.80
10:G:152:LEU:C	10:G:153:ILE:N	2.40	0.80
1:1:1584:U:O3'	1:1:1585:C:P	2.39	0.79
7:D:216:GLU:C	7:D:217:GLU:N	2.40	0.79
11:H:45:PHE:C	11:H:46:THR:N	2.39	0.79
16:N:65:ARG:O	16:N:66:VAL:N	2.15	0.79
29:a:30:GLY:C	29:a:31:GLY:N	2.41	0.79
4:A:181:LYS:C	4:A:182:ALA:N	2.41	0.79
27:Y:31:LEU:HD11	27:Y:78:PHE:HA	1.64	0.79
32:d:74:ARG:C	32:d:75:ILE:N	2.40	0.79
37:i:88:GLU:C	37:i:89:GLU:N	2.41	0.79
28:Z:83:THR:O	28:Z:84:ARG:N	2.16	0.79
1:1:156:G:O3'	1:1:157:A:P	2.41	0.79
28:Z:75:VAL:HG13	28:Z:80:LEU:HD21	1.63	0.79
32:d:23:VAL:C	32:d:24:SER:N	2.40	0.79
1:1:1676:A:O3'	1:1:1677:G:P	2.40	0.79
1:1:2298:U:O3'	1:1:2299:A:P	2.41	0.79
4:A:8:GLN:O	4:A:9:ARG:HA	1.83	0.79
22:T:30:TYR:C	22:T:31:LEU:N	2.41	0.79
1:1:3335:A:H3'	1:1:3336:A:P	2.23	0.79
5:B:313:HIS:C	5:B:314:TYR:HA	2.08	0.79
13:J:151:SER:C	13:J:152:HIS:N	2.41	0.79
38:j:75:LYS:O	38:j:76:ASN:N	2.15	0.79
1:1:1235:U:H4'	1:1:1236:G:H5'	1.63	0.79
1:1:1192:C:N4	1:1:1302:A:OP2	2.16	0.79
1:1:3392:U:O3'	1:1:3393:U:P	2.41	0.79
14:L:69:VAL:C	14:L:70:ARG:N	2.40	0.79
31:c:98:SER:HG	31:c:99:ASP:N	1.81	0.79
45:t:54:LYS:HE2	45:t:153:SER:H	1.47	0.79
16:N:65:ARG:C	16:N:66:VAL:N	2.41	0.78
34:f:72:THR:N	34:f:73:ARG:N	2.31	0.78
1:1:2336:U:O3'	1:1:2337:C:P	2.42	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:93:ASN:C	9:F:94:LYS:N	2.42	0.78
14:L:47:ALA:HB1	14:L:48:PRO:CD	2.14	0.78
34:f:7:LEU:N	34:f:8:TYR:N	2.30	0.78
1:1:3241:G:O2'	1:1:3242:G:H5''	1.84	0.78
1:1:2181:C:H3'	1:1:2182:A:P	2.23	0.78
20:R:117:LYS:C	20:R:118:HIS:N	2.41	0.78
4:A:231:SER:C	4:A:232:GLY:N	2.42	0.78
9:F:184:LEU:C	9:F:185:ILE:N	2.42	0.78
1:1:1222:G:HO2'	1:1:1285:G:H1	1.30	0.78
1:1:2162:U:O3'	1:1:2163:C:P	2.42	0.78
22:T:79:MET:C	22:T:80:VAL:N	2.42	0.78
1:1:729:C:O3'	1:1:730:C:P	2.41	0.78
1:1:2111:G:H4'	1:1:2112:U:OP2	1.80	0.78
6:C:116:ASN:C	6:C:117:GLU:N	2.42	0.78
10:G:73:PRO:O	10:G:74:THR:HA	1.83	0.78
45:t:54:LYS:HB2	45:t:153:SER:CA	2.13	0.78
24:V:106:LYS:C	24:V:107:GLY:N	2.42	0.78
35:g:74:ARG:C	35:g:75:ALA:CA	2.57	0.78
6:C:359:LEU:C	6:C:360:LYS:N	2.42	0.77
37:i:79:SER:C	37:i:80:PHE:N	2.42	0.77
14:L:99:HIS:C	14:L:100:ARG:HA	2.09	0.77
1:1:818:C:H3'	1:1:819:U:P	2.24	0.77
45:t:54:LYS:HB3	45:t:152:ARG:C	2.09	0.77
1:1:399:A:O3'	1:1:400:G:P	2.43	0.77
5:B:305:ILE:HD13	5:B:317:ILE:HG21	1.66	0.77
21:S:160:THR:OG1	21:S:161:LYS:N	2.16	0.77
35:g:52:GLN:C	35:g:53:GLY:N	2.43	0.77
40:l:8:ARG:C	40:l:9:ILE:N	2.43	0.77
20:R:93:VAL:C	20:R:94:VAL:N	2.43	0.77
33:e:22:SER:C	33:e:23:ASP:N	2.43	0.77
39:k:20:VAL:HG11	39:k:45:VAL:HG12	1.66	0.77
1:1:595:G:O3'	1:1:596:C:P	2.43	0.77
12:I:146:ASP:C	12:I:147:VAL:N	2.43	0.77
16:N:118:SER:C	16:N:119:TYR:N	2.43	0.77
29:a:122:PRO:C	29:a:123:VAL:N	2.43	0.77
1:1:2948:C:O3'	1:1:2949:U:OP2	2.03	0.77
2:3:48:U:O3'	2:3:49:G:P	2.43	0.77
44:p:17:ARG:C	44:p:18:TYR:N	2.43	0.77
1:1:3187:A:O3'	1:1:3188:G:P	2.43	0.76
4:A:70:ARG:C	4:A:71:LEU:HA	2.09	0.76
6:C:120:TYR:C	6:C:121:ALA:N	2.43	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1524:A:O2'	1:1:1526:U:OP2	2.03	0.76
5:B:267:ALA:C	5:B:268:GLY:N	2.43	0.76
12:I:29:SER:HG	12:I:30:LYS:N	1.83	0.76
20:R:40:ALA:C	20:R:41:ILE:N	2.43	0.76
1:1:326:U:H3'	1:1:327:A:P	2.25	0.76
1:1:2713:U:O3'	1:1:2714:G:P	2.44	0.76
1:1:3144:G:O3'	1:1:3145:C:P	2.44	0.76
16:N:112:ASN:C	16:N:113:LEU:N	2.43	0.76
18:P:91:VAL:C	18:P:92:GLN:N	2.44	0.76
36:h:45:LYS:O	36:h:47:VAL:N	2.19	0.76
6:C:286:VAL:C	6:C:287:THR:N	2.43	0.76
9:F:89:ILE:O	9:F:90:LYS:N	2.19	0.76
19:Q:22:ASP:C	19:Q:23:ASN:N	2.44	0.76
29:a:131:SER:C	29:a:132:LYS:N	2.44	0.76
5:B:317:ILE:C	5:B:318:LYS:N	2.44	0.76
24:V:74:MET:HE3	24:V:102:ILE:HD13	1.67	0.76
37:i:76:ARG:O	37:i:77:LEU:N	2.19	0.76
1:1:228:U:HO2'	27:Y:3:LYS:N	1.83	0.76
4:A:185:ALA:O	4:A:188:LYS:N	2.19	0.76
4:A:197:PRO:O	4:A:198:LYS:HA	1.86	0.76
33:e:55:ILE:C	33:e:56:GLY:N	2.43	0.76
36:h:106:LYS:O	36:h:107:LYS:N	2.19	0.76
14:L:172:LEU:C	14:L:173:ALA:N	2.44	0.76
18:P:51:VAL:O	18:P:53:ASP:N	2.19	0.75
1:1:691:A:O3'	1:1:692:A:P	2.45	0.75
24:V:34:LEU:O	24:V:35:TYR:N	2.19	0.75
1:1:2383:C:H3'	1:1:2384:A:P	2.27	0.75
6:C:71:VAL:C	6:C:72:ALA:N	2.45	0.75
41:m:121:LEU:C	41:m:122:ARG:N	2.45	0.75
1:1:2273:G:O3'	1:1:2274:U:C5'	2.34	0.75
18:P:66:SER:C	18:P:67:ILE:N	2.45	0.75
34:f:44:TYR:C	34:f:45:LEU:N	2.44	0.75
35:g:91:ARG:C	35:g:92:ALA:CA	2.56	0.75
1:1:1157:G:O3'	1:1:1158:A:OP1	2.03	0.75
42:n:12:ARG:O	42:n:13:LEU:N	2.19	0.75
1:1:2824:G:O3'	1:1:2825:C:P	2.44	0.75
3:4:23:U:O3'	3:4:24:G:P	2.44	0.75
22:T:4:SER:C	22:T:5:HIS:N	2.45	0.75
28:Z:25:ILE:C	28:Z:26:VAL:N	2.44	0.75
31:c:91:SER:C	31:c:92:ILE:N	2.45	0.75
6:C:35:VAL:HG21	6:C:244:LEU:HD21	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:76:THR:HG1	14:L:79:GLU:N	1.85	0.75
36:h:93:THR:C	36:h:94:LYS:N	2.44	0.75
1:1:818:C:O3'	1:1:819:U:P	2.44	0.75
14:L:174:ARG:C	14:L:175:SER:N	2.45	0.75
1:1:90:C:O3'	1:1:91:G:P	2.45	0.74
6:C:105:THR:O	6:C:106:TRP:N	2.20	0.74
8:E:42:LEU:O	8:E:49:GLY:N	2.20	0.74
16:N:90:ASN:C	16:N:91:GLU:N	2.45	0.74
12:I:132:GLY:C	12:I:133:GLN:N	2.46	0.74
1:1:315:C:O3'	1:1:316:U:P	2.45	0.74
1:1:2178:A:C3'	1:1:2179:C:P	2.76	0.74
1:1:2944:U:O2'	1:1:2947:G:N7	2.19	0.74
8:E:101:PHE:C	8:E:102:ASN:N	2.45	0.74
26:X:56:ARG:C	26:X:57:LEU:N	2.45	0.74
41:m:115:CYS:C	41:m:116:GLY:N	2.45	0.74
1:1:1312:C:O3'	1:1:1313:G:P	2.45	0.74
1:1:1535:A:H3'	1:1:1536:G:P	2.28	0.74
1:1:2812:C:C3'	1:1:2813:A:P	2.75	0.74
4:A:34:TYR:O	4:A:37:ARG:N	2.21	0.74
25:W:57:LYS:O	25:W:58:HIS:N	2.20	0.74
41:m:105:PRO:C	41:m:106:ARG:N	2.45	0.74
9:F:180:SER:C	9:F:181:ILE:N	2.45	0.74
22:T:76:ILE:C	22:T:77:ASN:HA	2.11	0.74
1:1:190:U:O2'	27:Y:60:ARG:NH2	2.20	0.74
3:4:72:A:H3'	3:4:73:U:P	2.28	0.74
7:D:84:PRO:C	7:D:85:ARG:N	2.45	0.74
31:c:24:THR:OG1	31:c:25:LEU:N	2.19	0.74
32:d:30:PRO:C	32:d:31:ARG:N	2.45	0.74
1:1:1125:U:H3'	1:1:1126:G:P	2.27	0.74
44:p:74:ALA:HB3	44:p:75:ALA:N	2.03	0.74
10:G:73:PRO:C	10:G:74:THR:HA	2.13	0.74
19:Q:25:TYR:C	19:Q:26:LEU:N	2.45	0.74
25:W:56:ARG:C	25:W:57:LYS:N	2.45	0.74
1:1:1419:A:O3'	1:1:1420:C:P	2.46	0.74
22:T:11:THR:C	22:T:12:ARG:N	2.45	0.74
1:1:1422:G:H3'	1:1:1423:C:P	2.28	0.73
6:C:151:VAL:C	6:C:152:VAL:N	2.45	0.73
21:S:70:THR:O	21:S:71:LYS:N	2.21	0.73
1:1:2556:C:O3'	1:1:2557:A:P	2.46	0.73
1:1:3217:C:O2	1:1:3217:C:H2'	1.86	0.73
22:T:14:MET:HE1	22:T:55:LYS:HA	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:31:C:OP2	16:N:188:ARG:NH2	2.21	0.73
39:k:45:VAL:C	39:k:46:ARG:N	2.46	0.73
1:1:1101:G:C3'	1:1:1102:A:P	2.75	0.73
11:H:142:ASP:C	11:H:143:GLU:N	2.47	0.73
25:W:35:LYS:C	25:W:36:SER:N	2.47	0.73
1:1:2123:G:O3'	1:1:2124:G:P	2.47	0.73
27:Y:35:LEU:C	27:Y:36:SER:N	2.46	0.73
10:G:139:VAL:C	10:G:140:VAL:N	2.46	0.73
14:L:8:PRO:C	14:L:9:ILE:HA	2.14	0.73
23:U:32:SER:C	23:U:33:TYR:N	2.46	0.73
24:V:17:LEU:O	24:V:52:ALA:N	2.21	0.73
1:1:850:U:H3'	1:1:851:C:P	2.29	0.73
1:1:1127:G:OP1	12:I:120:GLY:N	2.22	0.73
1:1:3009:G:O3'	1:1:3010:U:P	2.47	0.73
45:t:54:LYS:CE	45:t:154:THR:H	2.01	0.73
1:1:2869:U:O3'	1:1:2870:C:P	2.46	0.73
8:E:87:THR:HG1	8:E:89:THR:N	1.86	0.73
13:J:21:ILE:HG21	13:J:33:ALA:HB1	1.71	0.73
21:S:9:VAL:C	21:S:10:ILE:N	2.47	0.73
1:1:3357:U:H3'	1:1:3358:U:P	2.29	0.72
5:B:305:ILE:HD11	5:B:321:PHE:CE1	2.24	0.72
10:G:143:ILE:O	10:G:144:GLU:HA	1.89	0.72
13:J:41:SER:HG	13:J:42:GLY:N	1.86	0.72
37:i:73:ALA:HB3	37:i:83:ALA:HB1	1.71	0.72
1:1:239:G:O2'	1:1:241:G:N7	2.22	0.72
45:t:54:LYS:HG3	45:t:155:ILE:CB	2.19	0.72
1:1:2160:G:O3'	1:1:2161:G:P	2.47	0.72
6:C:82:THR:C	6:C:83:GLY:N	2.47	0.72
6:C:124:SER:C	6:C:125:ALA:N	2.47	0.72
9:F:210:PRO:C	9:F:211:SER:N	2.47	0.72
45:t:93:LEU:C	45:t:93:LEU:HD12	2.13	0.72
1:1:1585:C:O3'	1:1:1586:G:P	2.47	0.72
1:1:1661:G:H3'	1:1:1662:G:P	2.29	0.72
6:C:338:LYS:C	6:C:339:LEU:N	2.48	0.72
9:F:104:GLN:O	9:F:105:LEU:N	2.23	0.72
10:G:140:VAL:HG22	10:G:166:LEU:HD21	1.70	0.72
1:1:1449:A:O3'	1:1:1450:G:P	2.48	0.72
4:A:36:GLU:O	4:A:37:ARG:HA	1.90	0.72
5:B:223:GLY:C	5:B:224:HIS:N	2.47	0.72
9:F:179:LEU:C	9:F:180:SER:N	2.48	0.72
12:I:174:THR:C	12:I:175:ASN:N	2.48	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:347:G:O3'	1:1:348:A:P	2.48	0.72
1:1:842:G:H3'	1:1:843:A:P	2.30	0.72
1:1:1236:G:O2'	1:1:1237:G:OP1	2.04	0.72
37:i:42:SER:C	37:i:43:LEU:N	2.47	0.72
1:1:11:A:H3'	1:1:12:A:P	2.28	0.72
1:1:1203:A:O2'	1:1:1204:A:O4'	2.07	0.72
1:1:2872:A:O3'	1:1:2873:U:P	2.47	0.72
16:N:187:ARG:C	16:N:188:ARG:N	2.48	0.72
18:P:99:ALA:C	18:P:100:ALA:N	2.47	0.72
32:d:36:ILE:HD12	32:d:59:ILE:HD11	1.71	0.72
1:1:3294:A:O3'	1:1:3295:A:P	2.47	0.72
4:A:19:HIS:O	4:A:21:ARG:N	2.22	0.72
5:B:280:HIS:C	5:B:281:LYS:N	2.47	0.72
24:V:23:MET:C	24:V:24:ASN:N	2.48	0.72
6:C:299:ILE:C	6:C:300:ARG:N	2.47	0.71
15:M:106:ARG:C	15:M:107:GLU:N	2.48	0.71
18:P:20:SER:C	18:P:21:TYR:N	2.48	0.71
18:P:123:PRO:C	18:P:124:LYS:N	2.48	0.71
32:d:77:ARG:C	32:d:78:LYS:N	2.48	0.71
1:1:2447:G:H2'	1:1:2447:G:N3	2.04	0.71
5:B:217:ALA:CB	5:B:328:ILE:HD11	2.20	0.71
5:B:250:ALA:C	5:B:251:CYS:N	2.48	0.71
7:D:272:TYR:O	7:D:273:ARG:HA	1.90	0.71
11:H:83:THR:C	11:H:84:LYS:N	2.47	0.71
19:Q:180:ARG:O	19:Q:181:SER:N	2.23	0.71
1:1:1718:G:O3'	1:1:1719:G:P	2.49	0.71
1:1:2155:G:O2'	4:A:227:ARG:NH2	2.22	0.71
1:1:2853:A:H3'	1:1:2854:U:P	2.30	0.71
11:H:49:ASN:O	11:H:52:LEU:N	2.23	0.71
44:p:26:VAL:C	44:p:27:LYS:N	2.48	0.71
1:1:1371:G:O3'	1:1:1372:C:P	2.49	0.71
1:1:2511:C:C5	1:1:2512:C:C5	2.77	0.71
1:1:3270:U:O3'	1:1:3271:G:P	2.48	0.71
33:e:45:ARG:C	33:e:46:PHE:N	2.49	0.71
1:1:1146:C:O3'	1:1:1147:G:P	2.49	0.71
1:1:1937:U:O3'	1:1:1938:U:P	2.49	0.71
5:B:382:THR:HG1	5:B:383:LEU:N	1.87	0.71
5:B:370:PHE:C	5:B:371:GLN:N	2.48	0.71
11:H:51:GLN:C	11:H:52:LEU:N	2.48	0.71
25:W:41:LYS:C	25:W:42:GLN:N	2.48	0.71
1:1:265:A:O3'	1:1:266:A:P	2.47	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1149:G:H3'	1:1:1150:A:C5'	2.21	0.71
13:J:161:SER:C	13:J:162:TRP:N	2.48	0.71
19:Q:105:ARG:C	19:Q:106:PHE:N	2.49	0.71
27:Y:55:GLU:C	27:Y:56:VAL:N	2.49	0.71
34:f:69:GLY:C	34:f:70:LYS:N	2.49	0.71
1:1:85:A:HO3'	1:1:86:G:P	2.12	0.70
1:1:2430:A:H3'	1:1:2431:C:P	2.31	0.70
5:B:75:ALA:HA	5:B:76:VAL:N	2.06	0.70
5:B:362:ALA:C	5:B:363:SER:N	2.49	0.70
27:Y:71:SER:HG	27:Y:72:SER:N	1.89	0.70
29:a:39:HIS:C	29:a:40:HIS:N	2.49	0.70
1:1:1205:A:O3'	1:1:1206:G:P	2.49	0.70
1:1:2971:A:H3'	1:1:2971:A:N3	2.07	0.70
1:1:3084:C:H3'	1:1:3085:G:P	2.30	0.70
5:B:130:PHE:C	5:B:131:THR:N	2.49	0.70
1:1:350:C:O3'	1:1:351:A:P	2.49	0.70
1:1:883:A:O3'	1:1:884:A:P	2.49	0.70
1:1:2208:A:H4'	1:1:2209:U:OP1	1.91	0.70
38:j:74:PHE:C	38:j:75:LYS:N	2.49	0.70
1:1:335:G:O2'	1:1:336:A:O4'	2.09	0.70
4:A:121:GLY:C	4:A:122:ASP:N	2.50	0.70
11:H:83:THR:OG1	11:H:84:LYS:N	2.22	0.70
1:1:2996:U:O2	1:1:2996:U:H2'	1.90	0.70
1:1:364:G:O3'	1:1:365:A:P	2.49	0.70
20:R:99:LEU:HD11	20:R:103:ARG:CZ	2.21	0.70
33:e:43:ARG:C	33:e:44:ARG:N	2.50	0.70
45:t:54:LYS:HD3	45:t:154:THR:C	2.17	0.70
3:4:44:A:C3'	3:4:45:C:P	2.79	0.70
5:B:13:HIS:C	5:B:14:LEU:N	2.49	0.70
7:D:63:GLN:C	7:D:64:ILE:N	2.50	0.70
1:1:1013:G:O2'	1:1:1014:U:O4'	2.08	0.70
22:T:106:LEU:C	22:T:107:GLU:N	2.49	0.70
40:l:50:ASN:O	40:l:51:ILE:HG22	1.91	0.70
1:1:3110:C:HO2'	11:H:155:SER:HG	1.40	0.70
4:A:44:ILE:C	4:A:45:VAL:N	2.50	0.70
1:1:1098:A:O3'	1:1:1099:A:P	2.49	0.70
6:C:148:ILE:HG23	6:C:149:PRO:CD	2.21	0.70
10:G:171:LYS:C	10:G:172:LYS:N	2.50	0.70
14:L:97:VAL:C	14:L:98:ASP:N	2.50	0.70
36:h:31:LEU:HB2	36:h:44:ILE:HD12	1.74	0.70
1:1:2273:G:O3'	1:1:2274:U:H5'	1.90	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2502:G:O2'	1:1:2503:U:C2	2.45	0.69
1:1:2764:C:O3'	1:1:2765:C:P	2.50	0.69
2:3:11:A:O2'	2:3:13:A:OP2	2.10	0.69
4:A:58:LEU:C	4:A:59:ALA:N	2.50	0.69
38:j:26:SER:C	38:j:27:PHE:N	2.49	0.69
43:o:70:LEU:C	43:o:71:ARG:N	2.50	0.69
1:1:2437:G:C4	1:1:2510:A:H2	2.08	0.69
5:B:77:THR:HG23	5:B:326:GLY:O	1.90	0.69
6:C:215:ILE:C	6:C:216:VAL:N	2.50	0.69
10:G:59:GLN:N	10:G:60:ARG:N	2.39	0.69
34:f:79:GLY:C	34:f:80:VAL:N	2.50	0.69
4:A:34:TYR:O	4:A:35:ALA:N	2.25	0.69
5:B:297:SER:HG	5:B:298:PHE:N	1.90	0.69
40:l:9:ILE:HG22	40:l:13:MET:HE2	1.73	0.69
38:j:49:TRP:O	38:j:51:ALA:N	2.25	0.69
44:p:20:SER:O	44:p:24:ARG:N	2.25	0.69
8:E:60:ASP:O	8:E:62:THR:N	2.25	0.69
32:d:28:ARG:O	32:d:29:ALA:N	2.26	0.69
40:l:9:ILE:O	40:l:12:LYS:N	2.25	0.69
18:P:113:TYR:C	18:P:114:VAL:N	2.51	0.69
29:a:95:SER:HG	29:a:98:THR:N	1.90	0.69
37:i:49:GLY:C	37:i:50:LEU:N	2.51	0.69
14:L:117:LYS:C	14:L:118:GLU:N	2.51	0.69
33:e:99:ASN:C	33:e:100:ILE:N	2.50	0.69
34:f:72:THR:C	34:f:73:ARG:N	2.51	0.69
1:1:371:G:O2'	1:1:373:A:N7	2.25	0.69
1:1:2555:G:H5'	1:1:2555:G:H8	1.57	0.69
5:B:22:ALA:O	5:B:23:ALA:N	2.26	0.69
8:E:38:THR:C	8:E:39:VAL:N	2.51	0.69
16:N:159:ARG:C	16:N:160:GLU:N	2.50	0.69
19:Q:108:ALA:HB3	19:Q:109:GLY:N	2.07	0.69
35:g:10:ARG:C	35:g:11:ASN:N	2.50	0.69
36:h:79:ASP:C	36:h:80:LEU:N	2.51	0.69
37:i:76:ARG:C	37:i:77:LEU:N	2.50	0.69
1:1:545:U:O2	1:1:545:U:H2'	1.92	0.69
1:1:2389:C:O3'	1:1:2390:A:P	2.51	0.69
10:G:92:LYS:C	10:G:93:LEU:N	2.51	0.69
10:G:138:HIS:C	10:G:139:VAL:N	2.51	0.69
33:e:48:GLY:C	33:e:49:ASN:N	2.51	0.69
1:1:1649:U:H3'	1:1:1650:G:P	2.33	0.69
12:I:35:ASP:HA	12:I:36:LEU:N	2.08	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2444:C:O2	1:1:2444:C:H2'	1.93	0.68
1:1:2785:A:C3'	1:1:2786:G:P	2.81	0.68
12:I:189:GLU:C	12:I:190:VAL:N	2.51	0.68
27:Y:5:SER:HG	27:Y:6:LEU:N	1.91	0.68
1:1:818:C:C3'	1:1:819:U:P	2.82	0.68
1:1:2101:C:O2'	1:1:2102:U:O5'	2.11	0.68
1:1:2918:G:O3'	1:1:2919:A:P	2.50	0.68
1:1:3134:A:H3'	1:1:3135:U:P	2.33	0.68
18:P:95:LEU:HD23	18:P:148:LEU:HD13	1.75	0.68
29:a:77:LYS:O	29:a:79:TRP:N	2.26	0.68
34:f:82:ARG:C	34:f:83:ALA:HB2	2.19	0.68
36:h:85:THR:O	36:h:86:ARG:N	2.27	0.68
11:H:78:MET:C	11:H:79:ILE:N	2.51	0.68
21:S:23:LYS:O	21:S:24:LEU:N	2.25	0.68
5:B:217:ALA:HA	5:B:218:ILE:N	2.08	0.68
6:C:144:LYS:C	6:C:145:ILE:N	2.51	0.68
11:H:12:VAL:HG22	11:H:79:ILE:HD11	1.74	0.68
14:L:86:THR:HG1	14:L:88:ALA:N	1.91	0.68
1:1:2651:G:O3'	1:1:2652:U:P	2.51	0.68
7:D:96:ALA:C	7:D:97:ALA:N	2.51	0.68
9:F:91:GLY:C	9:F:92:ILE:HD12	2.19	0.68
4:A:15:ILE:O	4:A:16:PHE:N	2.27	0.68
16:N:140:LYS:C	16:N:141:ALA:N	2.51	0.68
23:U:95:PHE:C	23:U:96:VAL:N	2.52	0.68
34:f:62:SER:HG	34:f:64:ILE:N	1.92	0.68
5:B:21:ARG:C	5:B:22:ALA:N	2.52	0.68
5:B:85:VAL:C	5:B:86:VAL:C	2.62	0.68
28:Z:16:GLY:O	28:Z:18:TYR:N	2.26	0.68
35:g:53:GLY:N	35:g:54:ILE:N	2.41	0.68
1:1:79:U:O3'	1:1:80:G:P	2.52	0.68
4:A:183:GLY:O	4:A:186:PHE:N	2.26	0.68
16:N:146:ALA:C	16:N:147:ARG:N	2.52	0.68
26:X:114:VAL:C	26:X:115:ARG:N	2.52	0.68
28:Z:24:VAL:HG11	28:Z:87:LEU:HD23	1.74	0.68
34:f:90:PRO:C	34:f:91:ALA:N	2.52	0.68
45:t:102:LYS:HA	45:t:105:LYS:HE3	1.76	0.68
1:1:753:C:H3'	1:1:754:G:P	2.34	0.68
1:1:2163:C:O2'	4:A:11:GLY:N	2.26	0.68
1:1:2510:A:C5	1:1:2511:C:C5	2.81	0.68
7:D:163:LEU:HD23	7:D:173:VAL:HG11	1.75	0.68
1:1:621:A:O3'	1:1:622:A:P	2.52	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:105:VAL:HG11	5:B:148:LEU:HD13	1.76	0.67
29:a:100:PRO:C	29:a:101:VAL:N	2.51	0.67
1:1:1125:U:C3'	1:1:1126:G:P	2.82	0.67
14:L:135:ALA:HB3	14:L:136:GLU:N	2.08	0.67
16:N:156:HIS:C	16:N:157:LYS:N	2.51	0.67
24:V:18:PRO:HA	24:V:51:ALA:HB2	1.75	0.67
1:1:655:C:H2'	1:1:656:A:C8	2.29	0.67
5:B:7:GLU:O	5:B:8:ALA:N	2.28	0.67
1:1:2486:A:H4'	1:1:2487:U:OP1	1.92	0.67
5:B:86:VAL:HG22	5:B:160:VAL:HG11	1.77	0.67
6:C:54:GLU:C	6:C:55:LYS:N	2.52	0.67
4:A:231:SER:O	4:A:232:GLY:N	2.28	0.67
19:Q:179:ARG:C	19:Q:180:ARG:N	2.52	0.67
21:S:83:SER:C	21:S:84:ARG:N	2.52	0.67
21:S:155:ARG:NH1	21:S:171:PHE:O	2.28	0.67
1:1:1125:U:O3'	1:1:1126:G:P	2.53	0.67
1:1:1162:U:C3'	1:1:1163:A:P	2.82	0.67
1:1:2373:A:N3	1:1:2824:G:O2'	2.28	0.67
3:4:91:C:O2'	27:Y:25:SER:N	2.26	0.67
7:D:105:ILE:C	7:D:106:ALA:N	2.52	0.67
14:L:50:PRO:O	14:L:52:ASP:N	2.26	0.67
20:R:84:THR:HG1	20:R:85:ARG:N	1.93	0.67
22:T:46:GLY:C	22:T:47:SER:N	2.53	0.67
27:Y:77:LYS:C	27:Y:78:PHE:N	2.53	0.67
35:g:60:ARG:C	35:g:61:GLN:N	2.53	0.67
4:A:58:LEU:HD13	4:A:75:ILE:HG21	1.75	0.67
6:C:16:THR:O	6:C:18:ASN:N	2.28	0.67
1:1:362:U:C3'	1:1:363:G:P	2.83	0.67
1:1:1112:A:H3'	1:1:1113:G:P	2.35	0.67
1:1:2949:U:O3'	1:1:2950:G:P	2.53	0.67
9:F:190:THR:HG1	9:F:191:VAL:N	1.92	0.67
16:N:91:GLU:N	16:N:92:LEU:N	2.43	0.67
1:1:1814:A:H4'	1:1:1815:U:H5'	1.76	0.67
1:1:3362:A:H2'	1:1:3363:U:O4'	1.94	0.67
11:H:37:ASN:HD21	11:H:39:LYS:HG3	1.59	0.67
12:I:166:ILE:C	12:I:167:LEU:HA	2.20	0.67
31:c:40:LYS:C	31:c:41:LEU:N	2.53	0.67
1:1:1246:G:N3	1:1:1264:G:H2'	2.10	0.66
1:1:1724:U:H4'	1:1:1725:C:OP1	1.94	0.66
1:1:2437:G:N3	1:1:2510:A:C2	2.64	0.66
1:1:2511:C:C5	1:1:2512:C:C6	2.83	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:27:ALA:O	4:A:128:ARG:NH2	2.28	0.66
4:A:69:TYR:HA	4:A:70:ARG:N	2.10	0.66
7:D:247:ILE:C	7:D:248:ARG:N	2.53	0.66
12:I:146:ASP:O	12:I:147:VAL:N	2.28	0.66
19:Q:82:VAL:C	19:Q:83:VAL:N	2.53	0.66
25:W:49:ILE:C	25:W:50:ALA:N	2.53	0.66
29:a:45:MET:O	29:a:46:ASP:N	2.28	0.66
1:1:914:A:C8	4:A:199:THR:HG21	2.29	0.66
1:1:1146:C:H3'	1:1:1147:G:P	2.36	0.66
1:1:2162:U:H3'	1:1:2163:C:P	2.35	0.66
3:4:91:C:H3'	3:4:92:A:P	2.34	0.66
12:I:171:TRP:O	12:I:174:THR:HG22	1.96	0.66
19:Q:10:HIS:C	19:Q:11:LYS:N	2.53	0.66
29:a:72:VAL:C	29:a:73:LEU:N	2.53	0.66
1:1:280:U:H3'	1:1:281:G:P	2.35	0.66
1:1:946:U:O3'	1:1:947:G:P	2.54	0.66
1:1:1347:U:H3'	1:1:1348:U:P	2.36	0.66
1:1:1554:U:O3'	1:1:1555:U:P	2.54	0.66
1:1:1870:C:O3'	1:1:1871:U:P	2.54	0.66
6:C:86:GLY:C	6:C:87:GLN:N	2.53	0.66
22:T:69:LYS:C	22:T:70:SER:N	2.53	0.66
31:c:80:ALA:O	31:c:81:VAL:HG13	1.95	0.66
45:t:38:LEU:HB2	45:t:163:LEU:HD12	1.75	0.66
5:B:19:ARG:C	5:B:20:LYS:N	2.52	0.66
12:I:14:ASN:O	12:I:128:ARG:NH2	2.29	0.66
12:I:119:TRP:C	12:I:120:GLY:N	2.54	0.66
5:B:267:ALA:HA	5:B:268:GLY:N	2.09	0.66
35:g:84:CYS:C	35:g:85:VAL:N	2.53	0.66
5:B:331:ASN:C	5:B:332:ARG:N	2.54	0.66
10:G:27:THR:HG1	10:G:28:HIS:N	1.92	0.66
16:N:66:VAL:HG21	16:N:102:ALA:HB2	1.75	0.66
1:1:1493:G:C4	40:l:13:MET:SD	2.89	0.66
1:1:2673:A:HO2'	13:J:105:GLY:N	1.94	0.66
4:A:18:SER:C	4:A:19:HIS:N	2.54	0.66
8:E:92:SER:HG	8:E:94:GLU:N	1.94	0.66
16:N:154:PRO:O	16:N:157:LYS:N	2.29	0.66
10:G:167:PRO:C	10:G:168:ALA:N	2.54	0.66
21:S:3:HIS:HA	21:S:4:PHE:N	2.10	0.66
1:1:395:A:O3'	1:1:396:A:P	2.54	0.66
1:1:3152:U:H3'	1:1:3153:U:C5'	2.26	0.66
3:4:88:A:O3'	3:4:89:A:P	2.54	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:40:TYR:C	4:A:41:ILE:CA	2.69	0.66
12:I:40:LYS:C	12:I:41:ALA:N	2.53	0.66
14:L:184:GLU:C	14:L:185:LYS:N	2.54	0.66
20:R:15:VAL:HG13	20:R:17:VAL:HG23	1.77	0.66
12:I:50:VAL:HG22	12:I:167:LEU:HD22	1.77	0.65
1:1:2812:C:H3'	1:1:2813:A:P	2.35	0.65
4:A:64:ARG:C	4:A:65:ASP:N	2.54	0.65
10:G:162:LEU:HA	16:N:7:LEU:HD21	1.77	0.65
16:N:65:ARG:O	16:N:66:VAL:HG23	1.97	0.65
20:R:170:ARG:O	20:R:170:ARG:HG2	1.95	0.65
1:1:364:G:H3'	1:1:365:A:P	2.36	0.65
5:B:215:ILE:CG1	5:B:282:ILE:HD11	2.26	0.65
9:F:89:ILE:O	9:F:89:ILE:HG22	1.96	0.65
18:P:94:LEU:HB3	18:P:148:LEU:HD21	1.78	0.65
33:e:17:PHE:C	33:e:18:LYS:N	2.54	0.65
1:1:1614:C:O3'	1:1:1615:C:P	2.55	0.65
1:1:2162:U:C3'	1:1:2163:C:P	2.84	0.65
35:g:57:LEU:N	35:g:62:TYR:HH	1.93	0.65
1:1:901:G:O3'	1:1:902:G:P	2.54	0.65
13:J:49:LYS:HB3	13:J:50:ALA:N	2.12	0.65
18:P:139:TYR:C	18:P:140:GLU:N	2.55	0.65
45:t:54:LYS:HE3	45:t:152:ARG:N	2.11	0.65
1:1:1017:C:O2'	1:1:1018:G:OP1	2.12	0.65
1:1:2568:C:OP2	1:1:2570:U:O4	2.14	0.65
7:D:54:ARG:O	7:D:56:THR:N	2.30	0.65
21:S:18:SER:HG	21:S:19:VAL:N	1.95	0.65
21:S:90:MET:HE1	21:S:114:HIS:NE2	2.12	0.65
27:Y:34:PRO:C	27:Y:35:LEU:N	2.54	0.65
1:1:2768:U:O3'	1:1:2769:A:P	2.55	0.65
1:1:3217:C:O2	1:1:3217:C:C2'	2.43	0.65
1:1:124:U:O3'	1:1:125:C:P	2.55	0.65
1:1:212:G:O3'	1:1:213:A:P	2.54	0.65
1:1:790:U:H3'	1:1:791:A:P	2.36	0.65
1:1:1083:G:H3'	1:1:1084:A:P	2.37	0.65
3:4:139:U:O3'	3:4:140:G:P	2.54	0.65
15:M:32:LEU:C	15:M:33:ALA:N	2.55	0.65
18:P:51:VAL:HG22	18:P:56:ARG:O	1.95	0.65
27:Y:51:ARG:C	27:Y:52:ARG:N	2.55	0.65
38:j:39:TYR:CG	38:j:40:PRO:N	2.65	0.65
1:1:208:C:H2'	1:1:209:A:O4'	1.97	0.65
1:1:437:G:H2'	1:1:438:A:O4'	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:806:A:N3	1:1:2812:C:O2'	2.29	0.65
1:1:2315:G:H3'	1:1:2316:G:P	2.37	0.65
16:N:28:TRP:C	16:N:29:GLU:N	2.54	0.65
20:R:78:TYR:C	20:R:79:GLY:N	2.55	0.65
20:R:93:VAL:O	20:R:96:ILE:N	2.30	0.65
34:f:79:GLY:O	34:f:80:VAL:N	2.30	0.65
44:p:53:GLY:C	44:p:54:ILE:N	2.55	0.65
1:1:318:A:HO3'	1:1:319:A:P	2.20	0.65
1:1:1763:U:H3'	1:1:1764:U:C6	2.32	0.65
1:1:2947:G:N3	5:B:250:ALA:HB1	2.12	0.65
1:1:3136:G:C3'	1:1:3137:C:P	2.85	0.65
5:B:196:ARG:C	5:B:197:GLU:N	2.55	0.65
6:C:33:ASP:C	6:C:34:ILE:N	2.55	0.65
9:F:104:GLN:C	9:F:105:LEU:N	2.55	0.65
20:R:90:PRO:C	20:R:91:SER:N	2.55	0.65
33:e:17:PHE:C	33:e:18:LYS:HA	2.22	0.65
1:1:706:A:O3'	1:1:707:U:P	2.55	0.64
4:A:181:LYS:C	4:A:182:ALA:C	2.65	0.64
36:h:79:ASP:O	36:h:80:LEU:N	2.31	0.64
1:1:790:U:O3'	1:1:791:A:P	2.55	0.64
1:1:1056:U:O2'	1:1:1057:A:O4'	2.12	0.64
1:1:1601:U:O3'	1:1:1602:A:P	2.56	0.64
1:1:3308:C:HO2'	18:P:69:ARG:N	1.96	0.64
6:C:105:THR:C	6:C:106:TRP:N	2.55	0.64
7:D:145:PHE:HA	7:D:146:LEU:N	2.12	0.64
7:D:252:ALA:C	7:D:253:PHE:N	2.54	0.64
21:S:100:VAL:O	21:S:101:ALA:N	2.30	0.64
4:A:169:ILE:C	4:A:170:ALA:N	2.55	0.64
6:C:34:ILE:O	6:C:35:VAL:C	2.40	0.64
11:H:90:MET:C	11:H:91:ARG:HA	2.23	0.64
1:1:212:G:H3'	1:1:213:A:P	2.37	0.64
1:1:872:U:C3'	1:1:873:C:P	2.84	0.64
1:1:2982:A:O3'	1:1:2983:C:P	2.56	0.64
20:R:41:ILE:C	20:R:42:ARG:N	2.55	0.64
22:T:119:ALA:C	22:T:120:LYS:N	2.55	0.64
1:1:1134:G:O2'	1:1:2642:A:N3	2.28	0.64
1:1:1481:A:O2'	1:1:1858:A:N3	2.30	0.64
11:H:86:TYR:CE1	11:H:151:VAL:HG22	2.33	0.64
15:M:32:LEU:HD11	15:M:94:TRP:CG	2.32	0.64
27:Y:19:TYR:O	27:Y:20:PHE:N	2.31	0.64
33:e:100:ILE:C	33:e:101:SER:N	2.56	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:37:THR:HG1	37:i:38:LYS:N	1.96	0.64
1:1:3136:G:H3'	1:1:3137:C:P	2.37	0.64
7:D:8:LYS:C	7:D:9:SER:N	2.56	0.64
1:1:859:G:O3'	1:1:860:G:P	2.55	0.64
1:1:2510:A:C4	1:1:2511:C:C6	2.86	0.64
3:4:37:A:C3'	3:4:38:U:P	2.86	0.64
4:A:152:SER:OG	4:A:154:ALA:N	2.31	0.64
29:a:135:GLU:O	29:a:136:GLU:N	2.31	0.64
1:1:356:C:O3'	1:1:357:A:P	2.56	0.64
1:1:1236:G:N1	1:1:1244:A:OP1	2.30	0.64
1:1:2104:A:O2'	1:1:2105:G:O4'	2.14	0.64
1:1:2872:A:O3'	1:1:2873:U:O5'	2.16	0.64
7:D:48:LYS:HA	7:D:49:TYR:N	2.13	0.64
36:h:45:LYS:C	36:h:46:THR:N	2.56	0.64
6:C:271:LYS:C	6:C:272:VAL:HA	2.23	0.64
24:V:33:ASN:C	24:V:34:LEU:N	2.56	0.64
1:1:3098:G:O3'	1:1:3099:C:P	2.56	0.64
5:B:98:GLY:C	5:B:99:LEU:N	2.56	0.64
5:B:282:ILE:HA	5:B:283:TYR:N	2.13	0.64
7:D:284:ALA:C	7:D:285:ARG:N	2.55	0.64
19:Q:35:PHE:C	19:Q:36:LEU:N	2.56	0.64
21:S:105:THR:C	21:S:106:LEU:N	2.56	0.64
22:T:63:VAL:C	22:T:64:VAL:N	2.55	0.64
35:g:58:ARG:O	35:g:61:GLN:N	2.31	0.64
24:V:33:ASN:O	24:V:34:LEU:N	2.31	0.63
28:Z:12:VAL:C	28:Z:13:VAL:N	2.56	0.63
1:1:993:G:HO3'	1:1:994:G:P	2.21	0.63
6:C:57:GLY:C	6:C:58:HIS:N	2.56	0.63
16:N:109:ARG:O	16:N:110:ALA:N	2.31	0.63
34:f:29:LEU:C	34:f:30:ILE:N	2.56	0.63
1:1:1112:A:O2'	1:1:1370:G:O3'	2.16	0.63
1:1:2365:C:O3'	1:1:2366:C:P	2.57	0.63
4:A:137:ILE:C	4:A:138:GLY:N	2.56	0.63
22:T:141:VAL:C	22:T:142:SER:HA	2.23	0.63
29:a:135:GLU:HB3	29:a:136:GLU:N	2.13	0.63
1:1:372:A:O3'	1:1:373:A:P	2.57	0.63
1:1:554:A:HO3'	1:1:555:U:P	2.21	0.63
1:1:2510:A:C6	1:1:2511:C:C4	2.85	0.63
5:B:254:ALA:O	5:B:255:TRP:N	2.31	0.63
11:H:22:SER:HG	11:H:24:ILE:N	1.97	0.63
18:P:71:ALA:O	18:P:72:GLN:N	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1885:U:O3'	1:1:1886:A:P	2.56	0.63
1:1:1918:C:H3'	1:1:1919:G:P	2.38	0.63
1:1:2466:G:HO2'	45:t:209:SER:N	1.96	0.63
2:3:44:C:H3'	2:3:45:A:P	2.39	0.63
16:N:135:VAL:O	16:N:136:ASP:N	2.30	0.63
1:1:1057:A:O3'	1:1:1058:U:P	2.57	0.63
1:1:2468:A:N3	1:1:2469:G:H1'	2.13	0.63
6:C:184:SER:C	6:C:185:LYS:N	2.56	0.63
19:Q:14:GLY:C	19:Q:15:HIS:N	2.57	0.63
38:j:39:TYR:O	38:j:41:ALA:N	2.30	0.63
11:H:154:VAL:C	11:H:155:SER:N	2.56	0.63
16:N:96:ARG:C	16:N:97:SER:N	2.56	0.63
36:h:85:THR:C	36:h:86:ARG:N	2.57	0.63
45:t:53:LEU:HD13	45:t:154:THR:HG23	1.81	0.63
1:1:1444:G:O3'	1:1:1445:U:P	2.57	0.63
1:1:1921:A:O2'	1:1:1922:A:O4'	2.13	0.63
1:1:2902:A:O3'	1:1:2903:A:P	2.57	0.63
1:1:3106:A:H2'	1:1:3107:U:O4'	1.99	0.63
4:A:18:SER:HG	4:A:19:HIS:N	1.97	0.63
5:B:215:ILE:HG12	5:B:282:ILE:HD11	1.81	0.63
20:R:93:VAL:O	20:R:95:TRP:N	2.32	0.63
27:Y:31:LEU:C	27:Y:32:SER:N	2.57	0.63
1:1:1157:G:O3'	1:1:1158:A:P	2.56	0.63
1:1:1345:G:H3'	1:1:1346:G:P	2.39	0.63
6:C:178:LEU:HD21	6:C:222:VAL:CG2	2.28	0.63
7:D:272:TYR:C	7:D:273:ARG:N	2.57	0.63
20:R:38:ARG:C	20:R:39:ASN:N	2.57	0.63
21:S:18:SER:C	21:S:19:VAL:N	2.56	0.63
1:1:1718:G:C3'	1:1:1719:G:P	2.87	0.62
11:H:68:LEU:C	11:H:69:ARG:N	2.57	0.62
4:A:6:ARG:O	4:A:9:ARG:N	2.32	0.62
6:C:113:VAL:C	6:C:114:ASN:CA	2.71	0.62
9:F:134:VAL:C	9:F:135:ALA:CA	2.72	0.62
14:L:5:LYS:O	14:L:6:ASN:N	2.32	0.62
14:L:141:ALA:N	14:L:144:THR:HG1	1.97	0.62
15:M:24:LYS:C	15:M:25:LYS:N	2.57	0.62
24:V:94:TYR:HA	24:V:95:PHE:N	2.13	0.62
10:G:144:GLU:N	10:G:145:ASN:N	2.47	0.62
13:J:140:ARG:C	13:J:141:ARG:N	2.57	0.62
14:L:13:HIS:C	14:L:14:PHE:N	2.56	0.62
19:Q:53:PHE:O	19:Q:54:LEU:C	2.41	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:66:VAL:C	36:h:67:ARG:N	2.57	0.62
39:k:51:LEU:C	39:k:52:TYR:CA	2.72	0.62
1:1:583:G:H3'	1:1:584:G:P	2.40	0.62
1:1:643:U:O2'	1:1:1153:A:N1	2.33	0.62
1:1:2509:U:O2'	1:1:2510:A:OP2	2.17	0.62
26:X:60:TYR:C	26:X:61:LYS:N	2.58	0.62
1:1:1328:C:H2'	1:1:1329:U:C6	2.34	0.62
1:1:2947:G:O3'	1:1:2948:C:P	2.58	0.62
5:B:254:ALA:C	5:B:255:TRP:N	2.57	0.62
8:E:145:LEU:O	8:E:148:GLU:N	2.33	0.62
18:P:19:GLY:HA3	18:P:22:LEU:HD21	1.81	0.62
28:Z:37:PRO:O	28:Z:38:PHE:N	2.32	0.62
34:f:50:ALA:C	34:f:51:TYR:N	2.57	0.62
1:1:2278:C:C2'	1:1:2279:A:H5''	2.30	0.62
4:A:24:GLN:C	4:A:25:GLY:N	2.58	0.62
11:H:89:LYS:C	11:H:90:MET:N	2.58	0.62
16:N:112:ASN:O	16:N:113:LEU:N	2.32	0.62
21:S:11:GLY:N	21:S:41:TYR:HH	1.98	0.62
22:T:93:VAL:C	22:T:94:GLU:N	2.58	0.62
28:Z:46:ILE:HD11	28:Z:49:TYR:HA	1.80	0.62
32:d:76:SER:O	32:d:77:ARG:N	2.33	0.62
33:e:57:TYR:C	33:e:58:GLY:N	2.58	0.62
1:1:1710:C:O3'	1:1:1711:C:P	2.58	0.62
1:1:1793:C:C3'	1:1:1794:G:P	2.87	0.62
1:1:1802:C:H2'	1:1:1803:C:O4'	2.00	0.62
1:1:2447:G:O4'	1:1:2447:G:OP1	2.18	0.62
1:1:2932:U:O2	1:1:2934:A:H8	1.82	0.62
13:J:130:VAL:HA	13:J:131:MET:N	2.15	0.62
19:Q:3:ILE:C	19:Q:4:ASP:N	2.58	0.62
3:4:27:U:C3'	3:4:28:C:P	2.88	0.62
14:L:169:THR:C	14:L:170:LEU:N	2.57	0.62
1:1:546:C:O2	1:1:546:C:H2'	1.99	0.62
1:1:1347:U:O3'	1:1:1348:U:P	2.58	0.62
1:1:1468:A:O3'	1:1:1469:C:P	2.57	0.62
1:1:2434:U:C5	1:1:2594:C:OP2	2.53	0.62
1:1:2511:C:N4	1:1:2512:C:C4	2.67	0.62
7:D:68:THR:C	7:D:69:ILE:HA	2.25	0.62
9:F:227:GLY:C	9:F:228:SER:N	2.58	0.62
12:I:118:ALA:C	12:I:119:TRP:N	2.57	0.62
18:P:80:LYS:C	18:P:81:ALA:N	2.58	0.62
40:l:32:ASN:C	40:l:33:ASN:HA	2.24	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1054:A:O3'	1:1:1055:A:P	2.58	0.62
1:1:1424:C:O3'	1:1:1425:U:P	2.57	0.62
1:1:2982:A:C3'	1:1:2983:C:P	2.88	0.62
1:1:3240:C:O3'	1:1:3241:G:P	2.58	0.62
2:3:79:A:O3'	2:3:80:G:P	2.58	0.62
4:A:57:PRO:C	4:A:58:LEU:N	2.58	0.62
9:F:232:ARG:O	9:F:233:GLU:N	2.33	0.62
11:H:156:GLN:O	11:H:160:ASP:N	2.33	0.62
15:M:55:ARG:C	15:M:56:GLN:N	2.58	0.62
9:F:219:LYS:C	9:F:220:PHE:N	2.58	0.61
16:N:35:VAL:C	16:N:36:ILE:N	2.58	0.61
16:N:75:VAL:HG23	16:N:76:PRO:N	2.15	0.61
40:l:49:MET:O	40:l:50:ASN:C	2.42	0.61
1:1:110:G:O3'	1:1:111:C:P	2.58	0.61
1:1:948:C:O3'	1:1:949:C:P	2.58	0.61
1:1:1100:U:O2'	1:1:1101:G:O4'	2.13	0.61
1:1:1868:G:O3'	1:1:1869:C:P	2.58	0.61
2:3:49:G:H4'	2:3:50:U:P	2.40	0.61
19:Q:18:ALA:HB1	19:Q:19:PRO:HD2	1.81	0.61
26:X:38:LEU:HD22	26:X:39:LYS:N	2.15	0.61
26:X:94:GLN:C	26:X:95:ILE:CA	2.73	0.61
29:a:42:ARG:C	29:a:43:ILE:HA	2.26	0.61
45:t:4:ILE:HG12	45:t:204:LEU:HD12	1.81	0.61
1:1:1146:C:C3'	1:1:1147:G:P	2.88	0.61
1:1:2273:G:HO3'	1:1:2274:U:H5'	1.64	0.61
1:1:1347:U:C3'	1:1:1348:U:P	2.89	0.61
10:G:169:LEU:O	10:G:172:LYS:N	2.33	0.61
11:H:85:GLY:C	11:H:86:TYR:N	2.59	0.61
33:e:22:SER:HG	33:e:23:ASP:N	1.98	0.61
1:1:2419:A:O3'	1:1:2420:C:OP1	2.18	0.61
1:1:2606:G:H2'	1:1:2606:G:N3	2.15	0.61
1:1:2817:A:O3'	1:1:2818:U:P	2.58	0.61
11:H:65:VAL:C	11:H:66:ALA:CA	2.74	0.61
30:b:40:ARG:C	30:b:42:ASN:N	2.58	0.61
1:1:362:U:H3'	1:1:363:G:P	2.41	0.61
1:1:504:A:H3'	1:1:505:G:P	2.40	0.61
4:A:45:VAL:C	4:A:46:LYS:N	2.59	0.61
29:a:41:HIS:O	29:a:43:ILE:N	2.33	0.61
33:e:32:TRP:O	33:e:33:ARG:N	2.34	0.61
35:g:72:VAL:C	35:g:73:SER:HA	2.26	0.61
38:j:46:SER:C	38:j:47:TYR:N	2.58	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:985:U:O3'	1:1:986:U:P	2.58	0.61
1:1:1103:A:N6	1:1:1363:A:H1'	2.16	0.61
1:1:1320:C:H3'	1:1:1321:G:P	2.41	0.61
2:3:54:U:O3'	2:3:55:A:P	2.59	0.61
15:M:78:THR:C	15:M:79:ALA:N	2.58	0.61
1:1:1051:U:H3'	1:1:1052:U:P	2.41	0.61
1:1:2175:U:O3'	1:1:2176:U:P	2.59	0.61
1:1:2960:C:H2'	1:1:2961:G:C8	2.35	0.61
4:A:46:LYS:C	4:A:47:GLN:N	2.57	0.61
5:B:249:VAL:C	5:B:250:ALA:CA	2.73	0.61
5:B:327:CYS:CA	5:B:328:ILE:N	2.61	0.61
11:H:18:VAL:C	11:H:19:SER:N	2.58	0.61
18:P:18:ARG:C	18:P:19:GLY:N	2.59	0.61
4:A:47:GLN:C	4:A:48:ILE:HA	2.25	0.61
10:G:73:PRO:C	10:G:74:THR:CA	2.74	0.61
16:N:71:ARG:C	16:N:72:LYS:N	2.58	0.61
39:k:11:PHE:CD2	39:k:54:LEU:HD12	2.36	0.61
44:p:75:ALA:O	44:p:77:ALA:N	2.34	0.61
1:1:1329:U:O2'	1:1:1330:A:H5''	2.00	0.61
1:1:2166:A:O3'	1:1:2167:A:P	2.59	0.61
16:N:160:GLU:O	16:N:161:ALA:HA	2.00	0.61
35:g:50:ALA:C	35:g:51:LEU:N	2.59	0.61
1:1:664:U:O3'	1:1:665:A:P	2.59	0.60
1:1:1116:G:OP2	1:1:1117:G:OP2	2.19	0.60
1:1:2617:U:O2'	1:1:2620:G:OP2	2.18	0.60
6:C:112:LYS:C	6:C:113:VAL:CA	2.74	0.60
15:M:38:ILE:HD11	21:S:150:PHE:CE2	2.36	0.60
15:M:75:GLY:C	15:M:76:ALA:N	2.59	0.60
15:M:94:TRP:C	15:M:95:ALA:N	2.59	0.60
16:N:53:TYR:CD1	16:N:54:LYS:N	2.69	0.60
18:P:36:ILE:CD1	18:P:44:ALA:HB1	2.30	0.60
20:R:172:ARG:O	20:R:176:ARG:NH2	2.33	0.60
33:e:68:PRO:C	33:e:69:SER:N	2.59	0.60
1:1:1428:A:C3'	1:1:1429:G:P	2.88	0.60
1:1:2929:C:H3'	1:1:2930:A:P	2.41	0.60
4:A:195:SER:C	4:A:196:TRP:HA	2.24	0.60
6:C:102:PRO:CA	6:C:103:THR:N	2.62	0.60
6:C:334:PHE:HA	6:C:339:LEU:HD12	1.82	0.60
10:G:27:THR:HG23	10:G:28:HIS:N	2.16	0.60
29:a:12:ARG:HA	29:a:13:GLY:N	2.16	0.60
1:1:1636:U:HO2'	28:Z:76:ASN:N	1.98	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:163:PHE:C	21:S:164:SER:HA	2.26	0.60
31:c:30:THR:HG21	31:c:89:VAL:HG22	1.82	0.60
35:g:48:GLY:C	35:g:49:SER:N	2.60	0.60
1:1:2917:G:OP1	24:V:47:ASN:N	2.35	0.60
1:1:2982:A:H3'	1:1:2983:C:P	2.40	0.60
3:4:135:G:H3'	3:4:136:G:P	2.41	0.60
7:D:78:ALA:C	7:D:79:TYR:N	2.59	0.60
10:G:132:VAL:HG21	10:G:198:ALA:HB1	1.83	0.60
13:J:86:VAL:HG22	13:J:111:ASP:HB3	1.83	0.60
16:N:64:VAL:HG13	16:N:102:ALA:HB1	1.83	0.60
16:N:84:PRO:C	16:N:85:THR:N	2.59	0.60
27:Y:37:LYS:C	27:Y:38:GLU:N	2.59	0.60
27:Y:58:VAL:HG11	27:Y:63:LYS:HB2	1.83	0.60
45:t:34:LEU:HD21	45:t:204:LEU:HD13	1.82	0.60
1:1:1868:G:O2'	1:1:2118:C:O2'	2.17	0.60
1:1:2658:G:OP1	1:1:2755:C:OP2	2.19	0.60
5:B:77:THR:CA	5:B:78:VAL:N	2.65	0.60
12:I:66:GLU:C	12:I:67:ALA:N	2.59	0.60
12:I:88:ARG:N	12:I:137:SER:O	2.35	0.60
14:L:47:ALA:HB1	14:L:48:PRO:HD2	1.83	0.60
20:R:8:LYS:C	20:R:9:ARG:N	2.59	0.60
42:n:10:THR:O	42:n:13:LEU:N	2.35	0.60
1:1:1889:G:H3'	1:1:1890:U:P	2.41	0.60
1:1:2764:C:H3'	1:1:2765:C:P	2.41	0.60
4:A:62:VAL:HG11	4:A:71:LEU:HD23	1.82	0.60
4:A:82:VAL:O	44:p:65:ALA:N	2.34	0.60
7:D:34:LYS:HA	22:T:27:LEU:HD11	1.83	0.60
9:F:121:LYS:O	9:F:122:ALA:N	2.35	0.60
16:N:165:THR:HG1	16:N:167:THR:N	2.00	0.60
21:S:30:PHE:CG	21:S:103:VAL:HG21	2.36	0.60
21:S:56:GLY:C	21:S:57:GLU:N	2.60	0.60
24:V:74:MET:CE	24:V:102:ILE:HD13	2.31	0.60
35:g:29:ILE:HB	35:g:30:LEU:N	2.16	0.60
35:g:72:VAL:C	35:g:73:SER:N	2.60	0.60
37:i:51:SER:HG	37:i:53:TYR:N	1.99	0.60
1:1:670:C:OP1	19:Q:147:ARG:NH2	2.35	0.60
1:1:1107:C:H3'	1:1:1108:U:P	2.42	0.60
7:D:32:GLN:O	7:D:35:ARG:N	2.35	0.60
22:T:153:PRO:C	22:T:154:VAL:N	2.59	0.60
45:t:54:LYS:HE2	45:t:154:THR:H	1.66	0.60
6:C:51:ALA:C	6:C:52:VAL:N	2.60	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:184:SER:HG	6:C:185:LYS:N	1.99	0.60
7:D:69:ILE:HD13	22:T:28:SER:HB2	1.83	0.60
21:S:16:THR:HG1	21:S:19:VAL:N	2.00	0.60
5:B:178:LEU:C	5:B:179:ALA:CA	2.75	0.60
11:H:91:ARG:N	11:H:182:SER:HG	1.99	0.60
34:f:40:ASP:C	34:f:41:ALA:N	2.60	0.60
35:g:86:LYS:O	35:g:87:GLU:N	2.35	0.60
2:3:10:C:HO3'	2:3:11:A:P	2.22	0.60
5:B:78:VAL:HG22	5:B:323:MET:HG3	1.83	0.60
6:C:178:LEU:HD21	6:C:222:VAL:HG21	1.83	0.60
10:G:143:ILE:C	10:G:144:GLU:N	2.60	0.60
14:L:78:ALA:C	14:L:79:GLU:N	2.60	0.60
35:g:103:LYS:C	35:g:104:VAL:N	2.60	0.60
40:l:4:GLN:O	40:l:5:LYS:HA	2.02	0.60
45:t:12:HIS:CE1	45:t:206:VAL:HB	2.37	0.60
1:1:3356:G:H2'	1:1:3357:U:O4'	2.01	0.59
6:C:163:LYS:C	6:C:164:GLU:N	2.60	0.59
7:D:49:TYR:HB2	7:D:144:VAL:HG23	1.85	0.59
8:E:64:LEU:HD11	8:E:76:LEU:HD23	1.84	0.59
12:I:48:LEU:C	12:I:49:CYS:N	2.60	0.59
29:a:131:SER:O	29:a:132:LYS:N	2.34	0.59
40:l:4:GLN:C	40:l:5:LYS:N	2.60	0.59
1:1:770:G:O3'	1:1:771:A:P	2.60	0.59
1:1:2696:A:H2'	1:1:2697:A:C8	2.37	0.59
5:B:267:ALA:CA	5:B:268:GLY:N	2.65	0.59
9:F:147:LEU:HB3	9:F:205:PHE:CD1	2.37	0.59
20:R:170:ARG:O	20:R:170:ARG:CG	2.49	0.59
27:Y:103:LYS:C	27:Y:104:LEU:N	2.60	0.59
34:f:99:ARG:C	34:f:100:ILE:N	2.60	0.59
5:B:75:ALA:C	5:B:76:VAL:N	2.60	0.59
18:P:24:VAL:HG21	18:P:87:SER:HA	1.84	0.59
27:Y:21:THR:C	27:Y:22:ALA:N	2.60	0.59
37:i:61:ILE:C	37:i:62:ARG:N	2.59	0.59
1:1:195:U:H3'	1:1:196:G:P	2.43	0.59
3:4:143:U:H2'	3:4:144:G:O4'	2.03	0.59
16:N:160:GLU:N	16:N:160:GLU:OE1	2.35	0.59
16:N:198:SER:HG	16:N:199:LEU:N	2.00	0.59
18:P:15:ALA:HB3	18:P:150:VAL:HG12	1.84	0.59
29:a:122:PRO:CA	29:a:123:VAL:N	2.65	0.59
1:1:1729:A:N6	44:p:41:PHE:O	2.35	0.59
1:1:2651:G:HO3'	1:1:2652:U:P	2.24	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:61:SER:C	20:R:62:ARG:N	2.61	0.59
1:1:516:A:O3'	1:1:517:G:P	2.61	0.59
1:1:2184:U:HO3'	1:1:2185:G:P	2.25	0.59
1:1:2449:G:H2'	1:1:2450:A:O4'	2.03	0.59
1:1:3181:C:O2	1:1:3181:C:O4'	2.20	0.59
4:A:17:THR:C	4:A:18:SER:C	2.71	0.59
14:L:152:THR:HG1	14:L:153:ASP:N	1.99	0.59
16:N:53:TYR:HA	16:N:54:LYS:N	2.18	0.59
29:a:32:ARG:C	29:a:33:GLY:N	2.60	0.59
1:1:2138:A:HO2'	38:j:2:GLY:N	2.01	0.59
1:1:2965:U:HO3'	1:1:2966:G:P	2.25	0.59
10:G:101:THR:OG1	10:G:102:ALA:N	2.34	0.59
26:X:31:THR:C	26:X:32:PHE:N	2.61	0.59
34:f:6:ARG:C	34:f:7:LEU:N	2.61	0.59
45:t:54:LYS:HG2	45:t:152:ARG:HA	1.84	0.59
1:1:733:G:H2'	1:1:735:A:N7	2.18	0.59
1:1:2392:C:C3'	1:1:2393:G:P	2.90	0.59
1:1:3294:A:C3'	1:1:3295:A:P	2.91	0.59
5:B:191:LYS:C	5:B:192:VAL:CA	2.75	0.59
5:B:209:PHE:C	5:B:210:GLU:N	2.61	0.59
12:I:95:HIS:C	12:I:96:VAL:CA	2.74	0.59
15:M:130:THR:C	15:M:131:VAL:N	2.61	0.59
30:b:15:LYS:O	30:b:18:ARG:N	2.36	0.59
34:f:9:VAL:HG21	34:f:44:TYR:HE2	1.66	0.59
1:1:283:G:H3'	1:1:283:G:N3	2.18	0.59
1:1:2511:C:C4	1:1:2512:C:C4	2.91	0.59
7:D:260:PHE:C	7:D:261:THR:N	2.60	0.59
15:M:91:CYS:O	15:M:95:ALA:N	2.36	0.59
1:1:212:G:C3'	1:1:213:A:P	2.91	0.59
1:1:1049:C:O3'	1:1:1050:U:P	2.61	0.59
1:1:2109:U:O3'	1:1:2110:G:P	2.60	0.59
1:1:2430:A:C3'	1:1:2431:C:P	2.91	0.59
1:1:2895:G:H3'	1:1:2896:A:OP2	2.02	0.59
9:F:215:GLY:O	9:F:216:VAL:HG22	2.03	0.59
24:V:94:TYR:C	24:V:95:PHE:HA	2.28	0.59
44:p:17:ARG:O	44:p:18:TYR:N	2.34	0.59
45:t:13:VAL:HG22	45:t:206:VAL:HG11	1.85	0.59
1:1:326:U:C3'	1:1:327:A:P	2.91	0.58
1:1:1940:G:C3'	1:1:1941:C:P	2.90	0.58
1:1:2609:A:H3'	1:1:2610:G:P	2.43	0.58
6:C:190:GLY:O	6:C:191:LYS:N	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:4:ILE:HD11	21:S:150:PHE:CD2	2.38	0.58
14:L:93:ILE:C	14:L:94:GLY:N	2.61	0.58
24:V:69:LEU:HB3	24:V:74:MET:HE1	1.85	0.58
40:l:29:LEU:O	40:l:31:THR:N	2.36	0.58
45:t:36:VAL:HA	45:t:204:LEU:HD22	1.84	0.58
1:1:96:G:O3'	1:1:97:U:P	2.61	0.58
1:1:2655:U:O2'	1:1:2656:A:OP2	2.18	0.58
10:G:32:LYS:C	10:G:33:ASN:N	2.61	0.58
12:I:42:THR:C	12:I:43:VAL:HA	2.28	0.58
16:N:140:LYS:C	16:N:141:ALA:HA	2.28	0.58
18:P:97:ASN:C	18:P:98:ALA:N	2.61	0.58
29:a:123:VAL:O	29:a:144:VAL:N	2.36	0.58
34:f:100:ILE:N	34:f:100:ILE:HD12	2.18	0.58
1:1:1376:C:C3'	1:1:1377:G:P	2.91	0.58
1:1:2165:G:H3'	1:1:2166:A:P	2.44	0.58
19:Q:2:GLY:C	19:Q:3:ILE:HD13	2.28	0.58
22:T:129:LYS:C	22:T:130:ARG:N	2.61	0.58
1:1:632:G:H3'	1:1:633:C:P	2.43	0.58
3:4:37:A:H3'	3:4:38:U:P	2.43	0.58
8:E:61:ASN:C	8:E:62:THR:N	2.61	0.58
32:d:76:SER:C	32:d:77:ARG:N	2.61	0.58
1:1:1492:G:O3'	1:1:1493:G:P	2.61	0.58
1:1:1644:C:O3'	1:1:1645:U:P	2.61	0.58
1:1:2224:A:O3'	1:1:2225:U:P	2.61	0.58
6:C:153:SER:HG	6:C:154:THR:N	2.02	0.58
18:P:70:THR:HG1	18:P:72:GLN:N	2.02	0.58
18:P:70:THR:OG1	18:P:71:ALA:N	2.35	0.58
32:d:74:ARG:HA	32:d:75:ILE:N	2.19	0.58
45:t:192:SER:HB3	45:t:193:LEU:HD23	1.84	0.58
1:1:731:U:H2'	1:1:732:C:O4'	2.04	0.58
7:D:78:ALA:CA	7:D:79:TYR:N	2.67	0.58
15:M:108:ARG:NH1	17:O:196:ALA:O	2.36	0.58
19:Q:150:VAL:C	19:Q:152:HIS:N	2.62	0.58
23:U:83:TYR:O	23:U:84:LEU:N	2.37	0.58
1:1:3181:C:O3'	1:1:3182:G:P	2.62	0.58
6:C:315:LYS:HA	6:C:316:ASN:N	2.18	0.58
23:U:80:THR:HG21	23:U:95:PHE:CE2	2.38	0.58
30:b:19:ASN:C	30:b:20:GLY:N	2.62	0.58
1:1:2260:U:H2'	1:1:2261:G:O4'	2.04	0.58
6:C:274:TYR:HA	6:C:275:THR:N	2.19	0.58
11:H:142:ASP:O	11:H:143:GLU:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:76:THR:C	14:L:77:LEU:HA	2.29	0.58
16:N:104:GLU:O	16:N:108:ARG:N	2.37	0.58
18:P:21:TYR:C	18:P:22:LEU:N	2.62	0.58
22:T:12:ARG:HD3	22:T:13:TYR:CZ	2.39	0.58
22:T:96:ILE:C	22:T:97:LYS:N	2.62	0.58
30:b:13:THR:O	30:b:14:ARG:C	2.46	0.58
38:j:65:ARG:O	38:j:66:TYR:N	2.36	0.58
5:B:161:LEU:HD22	5:B:178:LEU:HD11	1.84	0.58
10:G:60:ARG:C	10:G:61:GLN:N	2.62	0.58
21:S:100:VAL:N	21:S:101:ALA:N	2.52	0.58
1:1:314:U:H2'	1:1:315:C:C6	2.39	0.57
1:1:587:U:H3'	1:1:588:G:P	2.44	0.57
1:1:3306:U:O2	1:1:3306:U:O5'	2.22	0.57
37:i:56:ARG:O	37:i:60:LEU:N	2.37	0.57
39:k:42:LYS:C	39:k:43:PHE:N	2.61	0.57
40:l:49:MET:O	40:l:51:ILE:N	2.37	0.57
1:1:254:A:H2'	1:1:255:A:O4'	2.04	0.57
1:1:2252:A:C2	1:1:2265:C:C2	2.92	0.57
8:E:170:LYS:O	8:E:173:MET:N	2.37	0.57
11:H:103:ILE:HA	11:H:104:VAL:N	2.19	0.57
12:I:33:ILE:C	12:I:34:TYR:N	2.62	0.57
14:L:47:ALA:CB	14:L:48:PRO:CD	2.82	0.57
45:t:169:VAL:HG23	45:t:179:LEU:HD11	1.87	0.57
1:1:1056:U:C2'	1:1:1057:A:O5'	2.53	0.57
1:1:2943:G:HO2'	5:B:255:TRP:N	2.01	0.57
7:D:109:THR:O	7:D:110:LEU:N	2.38	0.57
7:D:192:PRO:O	7:D:193:GLU:C	2.48	0.57
8:E:90:LYS:C	8:E:91:VAL:N	2.61	0.57
19:Q:179:ARG:O	19:Q:181:SER:N	2.37	0.57
23:U:79:LEU:C	23:U:80:THR:N	2.62	0.57
28:Z:114:VAL:C	28:Z:115:LYS:N	2.62	0.57
34:f:53:TYR:CE1	34:f:67:MET:HE3	2.38	0.57
36:h:104:GLN:O	36:h:105:ARG:N	2.37	0.57
1:1:313:A:H2'	1:1:314:U:O4'	2.04	0.57
1:1:640:U:OP1	29:a:21:ARG:NH2	2.38	0.57
4:A:17:THR:C	4:A:18:SER:CA	2.77	0.57
5:B:75:ALA:CA	5:B:76:VAL:N	2.67	0.57
6:C:266:THR:OG1	6:C:267:VAL:N	2.29	0.57
9:F:230:GLY:C	9:F:231:ASN:N	2.63	0.57
19:Q:106:PHE:C	19:Q:107:THR:N	2.63	0.57
45:t:41:TYR:CB	45:t:163:LEU:HD11	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:545:U:O2	1:1:545:U:C2'	2.52	0.57
1:1:1492:G:N7	40:l:2:ALA:CB	2.67	0.57
1:1:1913:A:C3'	1:1:1914:G:P	2.92	0.57
10:G:58:VAL:C	10:G:59:GLN:HA	2.30	0.57
10:G:134:TYR:CG	10:G:190:VAL:HG21	2.40	0.57
16:N:85:THR:C	16:N:86:ASN:N	2.62	0.57
39:k:40:GLN:C	39:k:41:THR:N	2.62	0.57
1:1:917:A:H2'	1:1:918:C:C6	2.40	0.57
1:1:2550:U:O2	1:1:2550:U:O4'	2.22	0.57
5:B:109:HIS:C	5:B:110:LEU:HA	2.30	0.57
18:P:84:PRO:C	18:P:85:ALA:N	2.62	0.57
29:a:71:PRO:C	29:a:72:VAL:CA	2.77	0.57
45:t:54:LYS:CB	45:t:153:SER:C	2.58	0.57
45:t:55:LEU:HD13	45:t:182:GLN:CG	2.35	0.57
1:1:1103:A:H1'	1:1:1104:G:P	2.44	0.57
1:1:1601:U:H3'	1:1:1602:A:P	2.44	0.57
1:1:1687:U:O3'	1:1:1688:U:P	2.63	0.57
1:1:2430:A:O3'	1:1:2431:C:P	2.63	0.57
2:3:94:C:H3'	2:3:95:A:P	2.45	0.57
18:P:141:SER:C	18:P:142:SER:N	2.63	0.57
18:P:174:GLY:C	18:P:175:ARG:N	2.62	0.57
44:p:42:CYS:SG	44:p:60:CYS:SG	3.02	0.57
44:p:75:ALA:O	44:p:78:THR:N	2.38	0.57
45:t:176:GLU:OE1	45:t:179:LEU:HB3	2.04	0.57
1:1:364:G:C3'	1:1:365:A:P	2.93	0.57
1:1:1297:C:O3'	1:1:1298:C:P	2.63	0.57
3:4:124:G:H3'	3:4:125:U:C5'	2.35	0.57
21:S:40:ARG:C	21:S:41:TYR:N	2.63	0.57
30:b:13:THR:O	30:b:16:ALA:N	2.38	0.57
39:k:55:VAL:C	39:k:56:ILE:N	2.63	0.57
1:1:1122:U:H3'	1:1:1123:U:P	2.45	0.57
1:1:1307:G:C2	1:1:1308:A:C2	2.93	0.57
1:1:2174:G:C3'	1:1:2175:U:P	2.92	0.57
1:1:2840:C:O3'	1:1:2841:G:P	2.62	0.57
4:A:101:VAL:O	4:A:101:VAL:HG22	2.05	0.57
6:C:30:ILE:O	6:C:31:ARG:N	2.37	0.57
20:R:99:LEU:HD11	20:R:103:ARG:NE	2.19	0.57
28:Z:17:ARG:HA	35:g:74:ARG:HA	1.87	0.57
31:c:26:GLY:O	31:c:30:THR:HG23	2.05	0.57
35:g:31:ARG:C	35:g:32:ALA:N	2.63	0.57
1:1:1930:A:O3'	1:1:1931:U:P	2.63	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2290:C:H3'	1:1:2291:A:P	2.45	0.57
4:A:95:SER:C	4:A:96:LEU:N	2.63	0.57
35:g:56:THR:C	35:g:57:LEU:N	2.63	0.57
38:j:21:ARG:NH2	38:j:41:ALA:O	2.38	0.57
45:t:54:LYS:HG3	45:t:155:ILE:CG1	2.34	0.57
1:1:664:U:H3'	1:1:665:A:P	2.45	0.56
1:1:1241:U:O2	1:1:1241:U:O4'	2.23	0.56
1:1:2238:G:O3'	1:1:2239:G:P	2.63	0.56
1:1:2991:A:O3'	1:1:2992:U:P	2.63	0.56
1:1:3083:G:H2'	1:1:3084:C:O4'	2.04	0.56
5:B:218:ILE:HG12	5:B:276:THR:HG23	1.86	0.56
5:B:282:ILE:C	5:B:283:TYR:N	2.62	0.56
6:C:62:ALA:HB3	6:C:90:PHE:CE2	2.40	0.56
18:P:88:VAL:O	18:P:92:GLN:N	2.38	0.56
38:j:39:TYR:CD2	38:j:40:PRO:HD3	2.40	0.56
44:p:27:LYS:O	44:p:30:GLU:N	2.38	0.56
44:p:53:GLY:O	44:p:54:ILE:HA	2.05	0.56
45:t:151:VAL:C	45:t:152:ARG:HD3	2.29	0.56
45:t:168:ALA:HA	45:t:169:VAL:N	2.20	0.56
1:1:607:A:O3'	1:1:608:A:P	2.63	0.56
1:1:655:C:H2'	1:1:656:A:H8	1.70	0.56
1:1:1547:G:H3'	1:1:1548:C:P	2.45	0.56
19:Q:184:PHE:C	19:Q:185:LYS:N	2.62	0.56
24:V:10:LYS:C	24:V:11:PHE:N	2.63	0.56
44:p:53:GLY:CA	44:p:54:ILE:N	2.68	0.56
45:t:67:ILE:HD11	45:t:77:ALA:HB2	1.86	0.56
1:1:145:G:C3'	1:1:146:U:P	2.93	0.56
1:1:284:A:OP2	43:o:41:ARG:NH1	2.35	0.56
1:1:780:A:O4'	19:Q:162:ALA:HB2	2.05	0.56
1:1:959:C:O2	1:1:2614:G:O2'	2.14	0.56
1:1:1871:U:O3'	1:1:1872:C:P	2.63	0.56
1:1:3261:C:O2	1:1:3261:C:H2'	2.04	0.56
5:B:217:ALA:CA	5:B:218:ILE:N	2.68	0.56
6:C:274:TYR:CG	6:C:275:THR:N	2.74	0.56
7:D:177:GLU:C	7:D:178:ASN:N	2.64	0.56
10:G:192:GLN:C	10:G:193:LYS:N	2.63	0.56
12:I:43:VAL:HG23	12:I:181:TYR:OH	2.05	0.56
18:P:91:VAL:C	18:P:92:GLN:CA	2.78	0.56
20:R:8:LYS:O	20:R:11:ALA:N	2.38	0.56
20:R:38:ARG:O	20:R:41:ILE:N	2.37	0.56
22:T:79:MET:HE1	22:T:81:GLY:O	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:b:41:ARG:N	30:b:42:ASN:N	2.53	0.56
38:j:18:LEU:HD21	40:l:51:ILE:HG21	1.88	0.56
40:l:43:ASN:CA	40:l:44:TRP:N	2.68	0.56
44:p:27:LYS:O	44:p:28:LYS:C	2.48	0.56
44:p:48:LYS:O	44:p:56:THR:N	2.38	0.56
1:1:916:G:H5'	1:1:917:A:OP1	2.05	0.56
1:1:2093:A:H3'	1:1:2093:A:N3	2.21	0.56
2:3:94:C:O3'	2:3:95:A:P	2.63	0.56
31:c:80:ALA:O	31:c:81:VAL:HG22	2.06	0.56
1:1:946:U:H3'	1:1:947:G:P	2.45	0.56
1:1:1366:A:OP1	1:1:1367:G:OP2	2.24	0.56
1:1:1608:C:O3'	1:1:1609:C:OP1	2.23	0.56
1:1:2205:U:C3'	1:1:2206:G:H5'	2.35	0.56
1:1:2437:G:C2	1:1:2510:A:C2	2.93	0.56
1:1:2947:G:H3'	1:1:2948:C:OP2	2.06	0.56
7:D:68:THR:HG23	7:D:69:ILE:N	2.20	0.56
9:F:91:GLY:C	9:F:92:ILE:HA	2.30	0.56
9:F:120:THR:OG1	9:F:121:LYS:N	2.35	0.56
11:H:174:LYS:C	11:H:175:PHE:N	2.64	0.56
16:N:92:LEU:C	16:N:93:LYS:HA	2.31	0.56
24:V:92:PHE:O	24:V:93:LEU:HB3	2.04	0.56
34:f:88:ASN:C	34:f:89:LEU:N	2.63	0.56
45:t:59:PRO:C	45:t:61:PRO:HD3	2.30	0.56
1:1:280:U:C3'	1:1:281:G:P	2.93	0.56
1:1:1598:G:O3'	1:1:1599:G:P	2.64	0.56
1:1:3140:G:H3'	1:1:3141:A:P	2.45	0.56
8:E:131:LYS:O	8:E:132:ALA:N	2.38	0.56
19:Q:23:ASN:C	19:Q:24:VAL:N	2.64	0.56
24:V:85:TRP:C	24:V:86:ARG:HA	2.30	0.56
28:Z:54:THR:O	28:Z:55:LYS:C	2.48	0.56
31:c:34:LEU:C	31:c:35:ARG:N	2.64	0.56
1:1:952:A:O3'	1:1:968:G:N2	2.39	0.56
4:A:244:GLY:C	4:A:245:LEU:N	2.64	0.56
5:B:107:ALA:HB2	5:B:199:PHE:CD2	2.41	0.56
6:C:63:GLU:C	6:C:64:SER:N	2.64	0.56
10:G:141:ALA:O	10:G:144:GLU:N	2.38	0.56
26:X:135:ILE:C	26:X:136:ALA:N	2.63	0.56
1:1:230:U:H2'	1:1:231:G:O4'	2.06	0.56
1:1:932:U:O3'	1:1:933:A:P	2.63	0.56
4:A:8:GLN:C	4:A:9:ARG:HA	2.31	0.56
5:B:305:ILE:HD11	5:B:321:PHE:CZ	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:163:PHE:C	8:E:164:SER:N	2.64	0.56
16:N:45:PRO:O	16:N:49:ARG:N	2.39	0.56
1:1:16:A:H2'	1:1:17:G:O4'	2.06	0.56
1:1:1747:G:C3'	1:1:1748:G:P	2.94	0.56
1:1:2890:A:O2'	1:1:2933:A:N3	2.38	0.56
5:B:47:LEU:HD12	5:B:335:ILE:HD11	1.87	0.56
5:B:221:THR:HA	5:B:330:GLY:HA2	1.88	0.56
7:D:78:ALA:N	7:D:79:TYR:N	2.54	0.56
14:L:22:VAL:C	14:L:23:LYS:N	2.64	0.56
25:W:13:ILE:HA	25:W:14:TYR:N	2.21	0.56
36:h:69:LEU:C	36:h:69:LEU:HD12	2.31	0.56
41:m:82:LEU:C	41:m:83:LYS:N	2.64	0.56
1:1:196:G:H3'	1:1:197:G:P	2.46	0.56
1:1:790:U:C3'	1:1:791:A:P	2.94	0.56
1:1:1588:A:H4'	1:1:1589:A:OP2	2.06	0.56
5:B:20:LYS:O	5:B:22:ALA:N	2.39	0.56
5:B:102:LEU:O	5:B:103:THR:HG23	2.06	0.56
11:H:149:ASN:C	11:H:150:SER:HA	2.31	0.56
18:P:20:SER:O	18:P:22:LEU:N	2.38	0.56
18:P:91:VAL:C	18:P:92:GLN:HA	2.31	0.56
22:T:57:TYR:CD1	22:T:89:LEU:HD11	2.41	0.56
26:X:45:LYS:C	26:X:46:TYR:N	2.63	0.56
34:f:29:LEU:O	34:f:30:ILE:N	2.39	0.56
34:f:38:PRO:HD3	34:f:77:ASN:O	2.06	0.56
1:1:392:G:O2'	27:Y:90:VAL:HG11	2.06	0.55
1:1:2520:A:O2'	1:1:2521:U:O4'	2.15	0.55
1:1:2923:U:O3'	1:1:2924:U:P	2.64	0.55
4:A:36:GLU:C	4:A:37:ARG:HA	2.30	0.55
4:A:51:ASP:C	4:A:52:SER:CA	2.79	0.55
6:C:181:VAL:O	6:C:182:LEU:HB2	2.05	0.55
9:F:98:LYS:HB3	9:F:99:PRO:HD3	1.88	0.55
10:G:158:ASP:HB3	10:G:159:PRO:HD3	1.88	0.55
16:N:184:LYS:HB3	16:N:185:ALA:N	2.21	0.55
1:1:787:G:H3'	1:1:788:C:P	2.45	0.55
1:1:1101:G:H3'	1:1:1102:A:P	2.45	0.55
1:1:3198:U:H3'	1:1:3199:G:H5'	1.87	0.55
4:A:36:GLU:C	4:A:37:ARG:N	2.64	0.55
6:C:311:HIS:HA	6:C:312:VAL:N	2.22	0.55
16:N:64:VAL:CG1	16:N:102:ALA:HB1	2.36	0.55
25:W:13:ILE:CA	25:W:14:TYR:N	2.69	0.55
37:i:47:ILE:C	37:i:48:ALA:N	2.64	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:34:A:O3'	1:1:35:A:P	2.65	0.55
1:1:394:G:O3'	1:1:395:A:P	2.65	0.55
1:1:1317:A:O2'	1:1:1318:A:H3'	2.06	0.55
1:1:2397:A:O3'	1:1:2398:A:P	2.65	0.55
1:1:2792:A:H3'	1:1:2793:G:P	2.45	0.55
1:1:3241:G:O2'	1:1:3242:G:C5'	2.54	0.55
7:D:205:SER:O	7:D:208:MET:N	2.39	0.55
16:N:145:ASP:OD1	16:N:147:ARG:N	2.39	0.55
25:W:6:ASP:OD1	25:W:7:SER:N	2.39	0.55
35:g:86:LYS:C	35:g:87:GLU:N	2.64	0.55
1:1:157:A:H2'	1:1:158:G:O4'	2.06	0.55
1:1:199:A:O3'	1:1:200:C:P	2.64	0.55
1:1:1484:U:O3'	1:1:1485:G:P	2.65	0.55
1:1:2684:C:O3'	1:1:2685:C:P	2.65	0.55
1:1:2865:U:C3'	1:1:2866:U:P	2.94	0.55
1:1:3051:U:O3'	1:1:3052:G:P	2.65	0.55
6:C:119:ARG:O	6:C:122:THR:N	2.39	0.55
16:N:78:GLY:O	16:N:79:ALA:C	2.50	0.55
20:R:4:LEU:HD13	20:R:24:LEU:HD23	1.88	0.55
23:U:33:TYR:C	23:U:34:ALA:N	2.64	0.55
29:a:79:TRP:CE3	29:a:82:ILE:HD12	2.40	0.55
34:f:29:LEU:C	34:f:30:ILE:HD13	2.31	0.55
35:g:32:ALA:O	35:g:33:GLN:N	2.39	0.55
45:t:77:ALA:HB1	45:t:84:ALA:HB2	1.88	0.55
1:1:300:G:C3'	1:1:301:G:P	2.94	0.55
1:1:1017:C:O2	1:1:1017:C:O4'	2.21	0.55
1:1:1864:A:OP1	20:R:82:LYS:N	2.39	0.55
1:1:2923:U:HO3'	1:1:2924:U:P	2.29	0.55
5:B:17:LEU:HB3	5:B:18:PRO:CD	2.36	0.55
12:I:30:LYS:N	12:I:62:SER:HG	2.04	0.55
13:J:84:LEU:HD11	13:J:163:PHE:HE2	1.71	0.55
18:P:54:HIS:N	18:P:55:GLN:N	2.54	0.55
20:R:97:ARG:O	20:R:100:ARG:N	2.40	0.55
22:T:94:GLU:N	22:T:94:GLU:OE1	2.40	0.55
40:l:9:ILE:CG2	40:l:13:MET:HE2	2.36	0.55
1:1:1938:U:HO3'	20:R:79:GLY:N	2.05	0.55
6:C:314:LYS:O	6:C:316:ASN:N	2.40	0.55
15:M:45:LEU:O	15:M:46:ILE:N	2.38	0.55
32:d:74:ARG:CA	32:d:75:ILE:N	2.70	0.55
33:e:44:ARG:C	33:e:45:ARG:C	2.74	0.55
36:h:28:LEU:O	36:h:30:GLU:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:m:87:SER:O	41:m:88:LYS:C	2.49	0.55
45:t:93:LEU:HB3	45:t:100:ILE:HD11	1.89	0.55
1:1:1322:U:C3'	1:1:1323:G:P	2.86	0.55
3:4:72:A:C3'	3:4:73:U:P	2.95	0.55
4:A:20:THR:C	4:A:21:ARG:N	2.65	0.55
5:B:282:ILE:CA	5:B:283:TYR:N	2.70	0.55
6:C:254:ALA:C	6:C:257:LYS:N	2.65	0.55
9:F:91:GLY:O	9:F:92:ILE:HA	2.06	0.55
14:L:140:SER:HG	14:L:143:ALA:N	2.05	0.55
21:S:9:VAL:CG1	21:S:58:ILE:HD12	2.37	0.55
21:S:30:PHE:C	21:S:31:ALA:N	2.64	0.55
31:c:77:LEU:HD13	31:c:90:VAL:CG2	2.37	0.55
1:1:804:C:H4'	6:C:93:MET:HE1	1.89	0.55
1:1:1516:C:H3'	1:1:1517:G:P	2.47	0.55
1:1:1888:U:O2'	1:1:1889:G:O4'	2.24	0.55
1:1:2273:G:O3'	1:1:2274:U:H5''	2.06	0.55
16:N:85:THR:N	16:N:86:ASN:N	2.55	0.55
20:R:115:ILE:C	20:R:116:ASP:N	2.65	0.55
24:V:119:GLY:HA2	24:V:137:VAL:HG22	1.87	0.55
32:d:27:LYS:C	32:d:28:ARG:N	2.65	0.55
41:m:80:PRO:C	41:m:81:SER:N	2.65	0.55
45:t:138:VAL:HG21	45:t:144:LEU:HD11	1.89	0.55
1:1:355:A:N6	1:1:364:G:O2'	2.39	0.55
1:1:794:U:H3'	1:1:795:G:P	2.47	0.55
1:1:1935:G:O3'	1:1:1936:A:P	2.65	0.55
3:4:41:A:C3'	3:4:42:G:P	2.94	0.55
28:Z:44:ALA:CB	28:Z:114:VAL:HG11	2.37	0.55
42:n:3:ALA:O	42:n:5:TRP:N	2.40	0.55
1:1:798:G:OP1	29:a:33:GLY:N	2.39	0.55
1:1:1718:G:H3'	1:1:1719:G:P	2.46	0.55
1:1:2476:C:H2'	1:1:2477:G:O4'	2.07	0.55
1:1:2996:U:O2	1:1:2996:U:C2'	2.55	0.55
4:A:145:LYS:HA	4:A:146:THR:N	2.22	0.55
5:B:296:THR:O	5:B:299:ASP:N	2.39	0.55
7:D:36:LEU:C	7:D:37:VAL:N	2.65	0.55
8:E:107:ALA:O	8:E:108:LYS:N	2.41	0.55
8:E:153:PRO:C	8:E:154:LEU:HB2	2.32	0.55
14:L:95:ILE:HD11	14:L:119:TYR:CD2	2.42	0.55
14:L:181:GLY:C	14:L:182:ILE:N	2.65	0.55
23:U:80:THR:HG21	23:U:95:PHE:CD2	2.42	0.55
31:c:35:ARG:N	31:c:36:GLN:N	2.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:g:25:THR:O	35:g:28:GLY:N	2.38	0.55
38:j:8:PHE:C	38:j:9:GLY:CA	2.80	0.55
1:1:749:C:OP1	30:b:32:LEU:N	2.40	0.54
1:1:1157:G:O2'	1:1:1169:A:N3	2.32	0.54
1:1:2131:A:H3'	1:1:2132:C:P	2.47	0.54
1:1:2764:C:C3'	1:1:2765:C:P	2.96	0.54
6:C:296:GLN:HA	6:C:296:GLN:HE21	1.73	0.54
10:G:225:LYS:C	10:G:226:TYR:N	2.66	0.54
16:N:94:TYR:C	16:N:95:GLN:N	2.65	0.54
36:h:14:LYS:C	36:h:15:GLU:N	2.65	0.54
1:1:356:C:H3'	1:1:357:A:P	2.48	0.54
1:1:2109:U:H3'	1:1:2110:G:P	2.47	0.54
1:1:2510:A:H2'	1:1:2511:C:C1'	2.36	0.54
1:1:2952:G:O3'	1:1:2953:U:P	2.66	0.54
5:B:13:HIS:C	5:B:14:LEU:HA	2.32	0.54
5:B:205:VAL:HG11	5:B:322:ILE:HD11	1.88	0.54
6:C:181:VAL:O	6:C:182:LEU:CB	2.54	0.54
24:V:72:LYS:C	24:V:73:VAL:N	2.66	0.54
29:a:39:HIS:O	29:a:40:HIS:N	2.40	0.54
34:f:51:TYR:C	34:f:52:VAL:N	2.65	0.54
1:1:44:U:H3'	1:1:45:A:P	2.47	0.54
1:1:612:U:H3'	1:1:613:G:P	2.47	0.54
1:1:1878:G:H3'	1:1:1878:G:N3	2.23	0.54
4:A:77:ILE:C	4:A:78:ALA:N	2.65	0.54
4:A:104:LEU:HD22	4:A:158:ILE:HD11	1.90	0.54
4:A:197:PRO:O	4:A:198:LYS:CA	2.55	0.54
6:C:289:ILE:N	6:C:290:ILE:N	2.56	0.54
7:D:25:GLU:C	7:D:26:GLY:N	2.65	0.54
10:G:88:ALA:C	10:G:89:GLU:N	2.65	0.54
11:H:23:ARG:C	11:H:24:ILE:N	2.65	0.54
15:M:60:LEU:C	15:M:61:GLY:N	2.65	0.54
24:V:51:ALA:HA	24:V:52:ALA:N	2.22	0.54
27:Y:60:ARG:C	27:Y:61:GLY:N	2.65	0.54
37:i:42:SER:OG	37:i:43:LEU:N	2.36	0.54
1:1:766:U:H4'	1:1:767:U:O4'	2.08	0.54
9:F:232:ARG:C	9:F:233:GLU:N	2.65	0.54
14:L:28:GLN:HB3	16:N:201:ARG:HD3	1.88	0.54
15:M:120:VAL:C	15:M:121:MET:N	2.66	0.54
19:Q:108:ALA:O	19:Q:109:GLY:N	2.40	0.54
27:Y:11:ASP:O	27:Y:12:ARG:N	2.40	0.54
32:d:31:ARG:O	32:d:34:LYS:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:57:LEU:C	37:i:58:ILE:HA	2.32	0.54
1:1:326:U:O3'	1:1:327:A:P	2.65	0.54
1:1:1676:A:C3'	1:1:1677:G:P	2.95	0.54
1:1:1721:U:O4	20:R:128:LYS:NZ	2.37	0.54
1:1:2765:C:H2'	1:1:2766:U:C6	2.42	0.54
1:1:3307:A:O3'	1:1:3308:C:P	2.65	0.54
1:1:3327:G:O3'	1:1:3328:G:P	2.66	0.54
5:B:331:ASN:HB2	5:B:332:ARG:N	2.22	0.54
6:C:30:ILE:CA	6:C:31:ARG:N	2.70	0.54
19:Q:161:LYS:O	19:Q:162:ALA:HB3	2.08	0.54
24:V:33:ASN:O	24:V:33:ASN:ND2	2.39	0.54
31:c:27:TYR:O	31:c:31:VAL:HG23	2.08	0.54
34:f:44:TYR:C	34:f:45:LEU:CA	2.81	0.54
43:o:43:TYR:O	43:o:47:GLN:N	2.40	0.54
1:1:632:G:H3'	1:1:633:C:OP2	2.08	0.54
1:1:1106:G:O2'	1:1:1107:C:O4'	2.24	0.54
1:1:1743:G:O3'	1:1:1744:G:P	2.65	0.54
1:1:2511:C:C4	1:1:2512:C:C5	2.95	0.54
3:4:73:U:H3'	3:4:74:U:P	2.47	0.54
16:N:35:VAL:C	16:N:36:ILE:HA	2.32	0.54
20:R:167:ARG:HD3	20:R:170:ARG:NH2	2.22	0.54
35:g:38:LEU:C	35:g:39:ALA:C	2.76	0.54
36:h:103:LYS:O	36:h:106:LYS:N	2.40	0.54
1:1:506:U:H2'	1:1:507:U:O4'	2.08	0.54
5:B:313:HIS:C	5:B:314:TYR:CA	2.80	0.54
6:C:161:LYS:O	6:C:162:THR:C	2.51	0.54
8:E:21:THR:OG1	8:E:22:ARG:N	2.35	0.54
13:J:14:ILE:HG12	13:J:131:MET:HE1	1.90	0.54
29:a:123:VAL:C	29:a:124:ILE:HA	2.32	0.54
33:e:17:PHE:O	33:e:18:LYS:HA	2.08	0.54
34:f:83:ALA:C	34:f:84:THR:N	2.66	0.54
44:p:73:THR:O	44:p:74:ALA:C	2.51	0.54
1:1:2444:C:O2	1:1:2444:C:C2'	2.55	0.54
1:1:2853:A:C3'	1:1:2854:U:P	2.95	0.54
6:C:225:VAL:HA	6:C:226:GLU:N	2.22	0.54
13:J:87:LYS:O	13:J:89:TYR:N	2.41	0.54
15:M:10:SER:HA	15:M:11:ASN:N	2.23	0.54
26:X:115:ARG:NH1	26:X:119:THR:OG1	2.41	0.54
35:g:88:ARG:O	35:g:92:ALA:N	2.41	0.54
37:i:19:SER:C	37:i:20:MET:N	2.66	0.54
45:t:55:LEU:HD13	45:t:182:GLN:HG3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:221:A:C2	1:1:224:C:C5	2.95	0.54
1:1:1629:U:O3'	1:1:1630:U:P	2.66	0.54
1:1:2491:A:H5'	45:t:213:ALA:HB2	1.90	0.54
1:1:2524:A:O3'	1:1:2525:G:P	2.65	0.54
4:A:41:ILE:N	4:A:90:ALA:O	2.41	0.54
4:A:58:LEU:HD13	4:A:75:ILE:CG2	2.38	0.54
4:A:218:HIS:C	4:A:219:ILE:CA	2.81	0.54
10:G:90:THR:HA	10:G:214:LEU:HD21	1.90	0.54
10:G:130:TYR:O	10:G:131:ALA:N	2.41	0.54
22:T:39:ILE:C	22:T:40:VAL:N	2.66	0.54
28:Z:24:VAL:CG1	28:Z:87:LEU:HD23	2.38	0.54
33:e:32:TRP:CZ2	33:e:53:PRO:HD2	2.43	0.54
35:g:31:ARG:C	35:g:32:ALA:HA	2.32	0.54
35:g:76:TYR:HB3	35:g:85:VAL:HG21	1.90	0.54
1:1:265:A:O3'	16:N:5:LYS:NZ	2.41	0.54
1:1:714:G:H4'	1:1:753:C:O3'	2.08	0.54
1:1:1398:U:H3'	1:1:1399:A:P	2.47	0.54
6:C:119:ARG:O	6:C:121:ALA:N	2.41	0.54
21:S:155:ARG:HD3	21:S:172:TYR:CD1	2.43	0.54
37:i:79:SER:HB2	37:i:81:THR:HG22	1.89	0.54
38:j:18:LEU:HD21	40:l:51:ILE:CG2	2.38	0.54
39:k:72:THR:HG1	39:k:73:LEU:N	2.06	0.54
45:t:101:LYS:O	45:t:105:LYS:HG2	2.08	0.54
1:1:32:U:OP1	16:N:95:GLN:N	2.41	0.53
1:1:716:A:C2	1:1:720:A:O4'	2.61	0.53
1:1:1162:U:H3'	1:1:1163:A:P	2.48	0.53
1:1:3276:G:O6	18:P:171:ARG:NH1	2.41	0.53
14:L:113:VAL:C	14:L:114:GLN:N	2.66	0.53
16:N:63:ARG:C	16:N:64:VAL:N	2.66	0.53
18:P:97:ASN:O	18:P:100:ALA:N	2.41	0.53
18:P:102:ALA:C	18:P:103:GLU:N	2.66	0.53
29:a:19:LYS:HB3	29:a:25:HIS:HB2	1.89	0.53
35:g:6:THR:HB	35:g:7:PHE:N	2.23	0.53
35:g:31:ARG:C	35:g:32:ALA:CA	2.81	0.53
39:k:49:SER:O	39:k:50:SER:OG	2.20	0.53
1:1:280:U:O3'	1:1:281:G:P	2.67	0.53
1:1:589:A:H3'	1:1:590:G:P	2.48	0.53
1:1:1495:U:H2'	1:1:1842:A:C2	2.43	0.53
1:1:1796:G:C3'	1:1:1797:A:P	2.95	0.53
1:1:2610:G:H2'	1:1:2611:U:O4'	2.08	0.53
6:C:35:VAL:CG2	6:C:244:LEU:HD21	2.36	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:56:ARG:C	18:P:57:ALA:N	2.65	0.53
43:o:5:PRO:C	43:o:6:LYS:N	2.66	0.53
1:1:982:C:O3'	1:1:983:A:P	2.67	0.53
1:1:1371:G:C3'	1:1:1372:C:P	2.96	0.53
1:1:2510:A:H2'	1:1:2511:C:H1'	1.90	0.53
1:1:2689:A:C8	1:1:2702:A:C6	2.96	0.53
20:R:167:ARG:HA	20:R:170:ARG:HB3	1.91	0.53
24:V:114:ILE:HD11	24:V:129:VAL:HG22	1.89	0.53
40:l:32:ASN:O	40:l:33:ASN:HA	2.08	0.53
1:1:44:U:H4'	43:o:54:THR:HG22	1.91	0.53
1:1:560:G:OP1	15:M:83:LYS:NZ	2.41	0.53
5:B:18:PRO:O	5:B:19:ARG:C	2.50	0.53
5:B:217:ALA:HB3	5:B:328:ILE:HD11	1.89	0.53
12:I:87:LEU:HG	12:I:138:VAL:HG22	1.90	0.53
45:t:12:HIS:C	45:t:13:VAL:N	2.67	0.53
45:t:54:LYS:CB	45:t:152:ARG:C	2.82	0.53
1:1:1381:A:C2	1:1:1426:C:C2	2.96	0.53
1:1:1403:C:C3'	1:1:1404:G:P	2.96	0.53
1:1:1449:A:C2	1:1:2356:A:C4	2.96	0.53
4:A:47:GLN:C	4:A:48:ILE:CA	2.80	0.53
5:B:376:LYS:O	5:B:380:MET:N	2.42	0.53
10:G:166:LEU:N	10:G:167:PRO:CD	2.72	0.53
12:I:17:TYR:O	12:I:96:VAL:N	2.41	0.53
31:c:76:GLU:OE1	31:c:76:GLU:N	2.41	0.53
36:h:5:LYS:O	36:h:6:ALA:C	2.51	0.53
1:1:1481:A:H3'	1:1:1482:A:P	2.49	0.53
1:1:1913:A:C5	1:1:2120:A:C2	2.96	0.53
1:1:2443:A:N6	1:1:2503:U:O4	2.42	0.53
1:1:2511:C:C6	1:1:2512:C:C6	2.97	0.53
1:1:2832:C:H3'	1:1:2833:A:P	2.48	0.53
6:C:105:THR:N	6:C:106:TRP:N	2.57	0.53
6:C:254:ALA:O	6:C:255:PHE:N	2.40	0.53
7:D:36:LEU:O	7:D:37:VAL:C	2.51	0.53
22:T:109:VAL:C	22:T:110:LYS:N	2.67	0.53
29:a:14:HIS:O	29:a:16:SER:N	2.41	0.53
31:c:77:LEU:O	31:c:78:GLY:C	2.50	0.53
33:e:67:SER:HG	33:e:69:SER:N	2.06	0.53
45:t:98:LYS:O	45:t:101:LYS:N	2.42	0.53
1:1:2564:G:H2'	1:1:2565:U:O4'	2.09	0.53
1:1:3147:G:C3'	1:1:3148:U:P	2.97	0.53
5:B:207:SER:C	5:B:208:VAL:N	2.67	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:250:ALA:HB3	5:B:251:CYS:N	2.23	0.53
1:1:974:G:O3'	1:1:975:C:P	2.67	0.53
1:1:1017:C:O2'	1:1:1018:G:P	2.67	0.53
1:1:2714:G:O6	1:1:2741:C:N3	2.42	0.53
7:D:153:THR:HG23	7:D:160:PHE:HZ	1.73	0.53
14:L:4:SER:C	14:L:5:LYS:N	2.67	0.53
30:b:8:THR:C	30:b:9:ALA:N	2.66	0.53
44:p:42:CYS:SG	44:p:57:CYS:SG	3.05	0.53
1:1:71:A:C3'	1:1:72:C:P	2.97	0.53
1:1:1371:G:H3'	1:1:1372:C:P	2.49	0.53
1:1:1868:G:H3'	1:1:1869:C:P	2.48	0.53
1:1:2109:U:C3'	1:1:2110:G:P	2.96	0.53
1:1:2445:A:H5'	1:1:2446:A:O5'	2.09	0.53
9:F:141:TYR:HA	9:F:189:ILE:HD12	1.91	0.53
13:J:161:SER:HG	13:J:162:TRP:N	2.06	0.53
20:R:132:PHE:O	20:R:134:HIS:N	2.42	0.53
38:j:84:SER:O	38:j:85:LYS:HB2	2.08	0.53
44:p:26:VAL:O	44:p:29:LEU:N	2.42	0.53
1:1:989:A:H2'	1:1:990:U:O4'	2.09	0.53
1:1:1222:G:O2'	1:1:1285:G:N1	2.26	0.53
1:1:2747:A:H2'	1:1:2748:A:C8	2.43	0.53
1:1:3144:G:C3'	1:1:3145:C:P	2.97	0.53
15:M:83:LYS:C	15:M:84:LYS:N	2.67	0.53
29:a:2:PRO:HG2	29:a:5:PHE:CE2	2.43	0.53
37:i:72:VAL:O	37:i:73:ALA:C	2.52	0.53
1:1:196:G:O2'	1:1:198:A:N7	2.38	0.52
1:1:397:A:C3'	1:1:398:A:P	2.97	0.52
1:1:698:U:H2'	1:1:699:A:O4'	2.08	0.52
1:1:1197:A:O3'	1:1:1198:C:P	2.67	0.52
1:1:1535:A:C3'	1:1:1536:G:P	2.95	0.52
5:B:107:ALA:HB2	5:B:199:PHE:HB3	1.91	0.52
8:E:43:LEU:HD11	8:E:85:ILE:HG13	1.91	0.52
11:H:41:ILE:HD11	11:H:67:ALA:CB	2.38	0.52
12:I:19:LYS:C	12:I:20:SER:N	2.67	0.52
15:M:15:VAL:HG12	15:M:65:LEU:HD11	1.90	0.52
31:c:21:GLY:O	31:c:22:LYS:HA	2.09	0.52
33:e:32:TRP:CA	33:e:33:ARG:N	2.72	0.52
43:o:40:LYS:O	43:o:41:ARG:N	2.41	0.52
44:p:25:GLN:O	44:p:26:VAL:C	2.52	0.52
44:p:75:ALA:O	44:p:76:ALA:C	2.52	0.52
1:1:568:G:H2'	1:1:569:A:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1099:A:H2'	1:1:1100:U:O4'	2.09	0.52
1:1:3274:A:O3'	1:1:3275:U:P	2.67	0.52
13:J:40:LEU:HD23	13:J:114:ILE:HD13	1.90	0.52
33:e:43:ARG:C	33:e:44:ARG:CA	2.82	0.52
1:1:318:A:O3'	1:1:319:A:P	2.67	0.52
1:1:1361:U:H3'	1:1:1362:G:P	2.48	0.52
1:1:1614:C:H3'	1:1:1615:C:P	2.50	0.52
1:1:2510:A:C2	1:1:2511:C:C2	2.97	0.52
1:1:2918:G:N2	1:1:2929:C:C2	2.78	0.52
3:4:113:U:O2	3:4:113:U:O4'	2.28	0.52
6:C:11:LEU:HA	6:C:12:THR:N	2.24	0.52
6:C:35:VAL:CA	6:C:36:HIS:N	2.72	0.52
6:C:310:THR:O	6:C:311:HIS:C	2.52	0.52
9:F:227:GLY:HA3	9:F:228:SER:N	2.24	0.52
10:G:187:GLY:C	10:G:188:THR:N	2.67	0.52
23:U:80:THR:O	23:U:82:LYS:N	2.40	0.52
31:c:25:LEU:HD23	31:c:90:VAL:HG13	1.91	0.52
35:g:76:TYR:HA	35:g:77:GLY:HA2	1.90	0.52
40:l:10:LYS:O	40:l:11:GLN:C	2.51	0.52
1:1:34:A:H3'	1:1:35:A:P	2.50	0.52
1:1:275:U:H3'	1:1:276:U:P	2.49	0.52
1:1:824:C:O2'	1:1:1534:A:N3	2.43	0.52
1:1:2257:C:O2	1:1:2257:C:O4'	2.22	0.52
6:C:237:GLN:C	6:C:238:LEU:N	2.67	0.52
9:F:113:SER:C	9:F:114:GLY:N	2.67	0.52
9:F:186:HIS:O	9:F:186:HIS:CG	2.63	0.52
18:P:109:ALA:HA	18:P:112:LEU:HD22	1.91	0.52
20:R:51:VAL:C	20:R:52:LYS:N	2.68	0.52
20:R:173:ARG:O	20:R:177:VAL:HG23	2.09	0.52
27:Y:58:VAL:C	27:Y:59:VAL:CA	2.82	0.52
36:h:46:THR:C	36:h:47:VAL:N	2.67	0.52
1:1:932:U:H4'	1:1:933:A:P	2.49	0.52
1:1:1495:U:H5	1:1:1835:A:N1	2.07	0.52
1:1:1577:G:C6	1:1:1578:C:C4	2.98	0.52
1:1:1804:A:O3'	1:1:1805:C:P	2.67	0.52
1:1:2419:A:O3'	1:1:2420:C:P	2.68	0.52
1:1:2853:A:O3'	1:1:2854:U:P	2.68	0.52
4:A:225:ILE:HG22	4:A:226:SER:C	2.34	0.52
7:D:119:TYR:CE1	7:D:135:VAL:HG23	2.45	0.52
10:G:96:LYS:O	10:G:97:TYR:N	2.42	0.52
12:I:125:LEU:C	12:I:126:ALA:N	2.67	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:96:PHE:CD2	13:J:160:VAL:HG12	2.45	0.52
14:L:67:ARG:HG2	29:a:105:LEU:HD22	1.91	0.52
22:T:57:TYR:CG	22:T:89:LEU:HD11	2.45	0.52
1:1:946:U:C3'	1:1:947:G:P	2.98	0.52
1:1:2173:U:HO2'	1:1:2181:C:HO3'	1.57	0.52
1:1:3153:U:O2	1:1:3153:U:O4'	2.26	0.52
7:D:244:HIS:C	7:D:245:GLU:N	2.67	0.52
16:N:183:THR:HG23	16:N:183:THR:O	2.10	0.52
20:R:105:LEU:HD11	20:R:109:TYR:CE1	2.44	0.52
28:Z:6:LYS:O	28:Z:7:ALA:C	2.52	0.52
35:g:53:GLY:C	35:g:54:ILE:N	2.67	0.52
1:1:1595:U:O2'	1:1:1606:U:O2	2.25	0.52
1:1:1793:C:H3'	1:1:1794:G:P	2.49	0.52
1:1:2184:U:O3'	1:1:2185:G:P	2.68	0.52
4:A:216:HIS:O	4:A:218:HIS:N	2.43	0.52
12:I:64:ALA:C	12:I:65:LEU:N	2.68	0.52
12:I:99:ILE:HG23	12:I:99:ILE:O	2.09	0.52
13:J:18:VAL:HG22	13:J:70:THR:HG22	1.91	0.52
13:J:21:ILE:HG21	13:J:33:ALA:CB	2.39	0.52
16:N:170:LYS:C	16:N:171:SER:N	2.68	0.52
19:Q:43:PRO:O	19:Q:44:PHE:N	2.42	0.52
35:g:93:PHE:O	35:g:96:GLU:N	2.43	0.52
36:h:26:LYS:O	36:h:27:GLU:C	2.53	0.52
1:1:3034:C:N3	11:H:121:LYS:N	2.57	0.52
5:B:14:LEU:HD22	5:B:17:LEU:HD21	1.90	0.52
6:C:166:VAL:C	6:C:167:ALA:N	2.68	0.52
6:C:274:TYR:CA	6:C:275:THR:N	2.73	0.52
6:C:347:THR:O	6:C:349:THR:N	2.42	0.52
11:H:20:ILE:HG23	11:H:25:VAL:HA	1.92	0.52
14:L:8:PRO:C	14:L:10:LEU:N	2.68	0.52
20:R:97:ARG:O	20:R:98:ARG:C	2.53	0.52
30:b:4:SER:O	30:b:5:LYS:C	2.52	0.52
45:t:54:LYS:HB3	45:t:152:ARG:O	2.10	0.52
1:1:101:G:H3'	1:1:102:C:P	2.50	0.52
1:1:699:A:H2'	1:1:700:C:O4'	2.09	0.52
1:1:2185:G:C5	1:1:2186:U:C5	2.98	0.52
1:1:2609:A:O3'	1:1:2610:G:P	2.68	0.52
5:B:291:GLU:O	5:B:292:ALA:HB3	2.10	0.52
24:V:51:ALA:C	24:V:52:ALA:N	2.68	0.52
29:a:36:GLY:O	29:a:37:GLY:C	2.51	0.52
1:1:403:C:H3'	1:1:404:G:P	2.50	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1056:U:O2'	1:1:1057:A:O5'	2.28	0.52
1:1:1240:A:H3'	1:1:1241:U:C5'	2.40	0.52
1:1:1460:A:H2'	1:1:1461:A:O4'	2.11	0.52
1:1:2512:C:C4	1:1:2513:U:C4	2.98	0.52
1:1:2835:U:H3'	1:1:2836:C:P	2.50	0.52
1:1:3151:U:C3'	1:1:3152:U:P	2.98	0.52
1:1:3367:C:H3'	1:1:3368:U:P	2.49	0.52
4:A:197:PRO:C	4:A:198:LYS:N	2.68	0.52
4:A:198:LYS:O	4:A:200:ARG:N	2.43	0.52
5:B:206:ASP:C	5:B:207:SER:N	2.68	0.52
6:C:49:ALA:O	6:C:50:TYR:N	2.43	0.52
6:C:144:LYS:O	6:C:145:ILE:N	2.43	0.52
9:F:43:ILE:N	9:F:44:ILE:N	2.58	0.52
12:I:65:LEU:C	12:I:66:GLU:N	2.68	0.52
14:L:95:ILE:HD11	14:L:119:TYR:CE2	2.45	0.52
18:P:120:ASN:C	18:P:121:GLN:CA	2.83	0.52
26:X:95:ILE:O	26:X:96:LYS:C	2.53	0.52
45:t:193:LEU:O	45:t:195:LYS:N	2.43	0.52
1:1:36:C:H3'	1:1:37:U:O5'	2.10	0.51
1:1:284:A:N1	1:1:2784:G:O2'	2.44	0.51
1:1:607:A:H4'	1:1:608:A:OP2	2.09	0.51
1:1:1117:G:H2'	1:1:1118:C:C6	2.45	0.51
1:1:2588:U:H3'	1:1:2589:G:P	2.50	0.51
1:1:3051:U:H3'	1:1:3052:G:P	2.50	0.51
6:C:89:ALA:O	6:C:90:PHE:N	2.43	0.51
6:C:205:PRO:O	6:C:226:GLU:N	2.44	0.51
16:N:182:ASN:N	16:N:183:THR:HG22	2.25	0.51
21:S:65:ASN:C	21:S:66:GLU:N	2.68	0.51
22:T:158:THR:O	22:T:159:PHE:C	2.53	0.51
30:b:3:LYS:C	30:b:4:SER:N	2.68	0.51
37:i:26:ILE:N	37:i:26:ILE:HD12	2.25	0.51
45:t:64:SER:O	45:t:109:ALA:HB3	2.10	0.51
45:t:148:VAL:O	45:t:152:ARG:NH1	2.42	0.51
1:1:516:A:O3'	9:F:60:ARG:NH2	2.44	0.51
1:1:1526:U:H5''	1:1:1594:A:C6	2.44	0.51
1:1:2511:C:O2	1:1:2511:C:H2'	2.10	0.51
3:4:36:G:C3'	3:4:37:A:P	2.98	0.51
5:B:215:ILE:HG13	5:B:282:ILE:HD11	1.93	0.51
6:C:111:VAL:O	6:C:112:LYS:C	2.53	0.51
18:P:126:ARG:HA	18:P:140:GLU:HG2	1.91	0.51
26:X:99:VAL:C	26:X:100:LYS:N	2.68	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:77:LYS:O	27:Y:78:PHE:N	2.43	0.51
28:Z:45:GLY:C	28:Z:46:ILE:N	2.69	0.51
1:1:110:G:H3'	1:1:111:C:P	2.50	0.51
1:1:860:G:OP1	44:p:17:ARG:NH1	2.44	0.51
1:1:1149:G:H3'	1:1:1150:A:H5''	1.92	0.51
1:1:1481:A:O2'	1:1:1858:A:H1'	2.10	0.51
1:1:2372:A:O3'	1:1:2373:A:P	2.68	0.51
1:1:2785:A:H3'	1:1:2786:G:P	2.49	0.51
1:1:3314:A:O3'	1:1:3315:G:P	2.68	0.51
4:A:132:ASN:HB3	4:A:133:TYR:N	2.26	0.51
4:A:151:PRO:O	4:A:152:SER:C	2.52	0.51
5:B:77:THR:HA	5:B:78:VAL:N	2.26	0.51
5:B:178:LEU:C	5:B:179:ALA:N	2.68	0.51
5:B:195:ALA:O	5:B:196:ARG:C	2.51	0.51
8:E:108:LYS:O	8:E:109:GLU:C	2.53	0.51
9:F:156:ILE:O	9:F:157:ASN:HB2	2.10	0.51
10:G:155:ASN:OD1	10:G:155:ASN:N	2.43	0.51
19:Q:115:VAL:O	19:Q:116:LYS:C	2.53	0.51
24:V:36:ILE:C	24:V:37:ILE:N	2.68	0.51
31:c:31:VAL:C	31:c:32:LYS:N	2.68	0.51
37:i:25:LYS:C	37:i:26:ILE:HA	2.36	0.51
38:j:26:SER:O	38:j:27:PHE:N	2.43	0.51
45:t:54:LYS:C	45:t:55:LEU:HG	2.36	0.51
1:1:36:C:O3'	1:1:37:U:P	2.68	0.51
1:1:664:U:C3'	1:1:665:A:P	2.99	0.51
1:1:2295:A:H5'	24:V:61:THR:HG21	1.93	0.51
1:1:2555:G:H1'	35:g:92:ALA:HB2	1.92	0.51
1:1:2947:G:C4	5:B:250:ALA:HB1	2.44	0.51
7:D:34:LYS:C	7:D:35:ARG:N	2.69	0.51
7:D:55:PHE:HA	7:D:56:THR:N	2.26	0.51
19:Q:122:ILE:HG23	19:Q:126:GLN:HB2	1.91	0.51
29:a:60:TYR:CD1	29:a:63:LYS:HB2	2.45	0.51
31:c:24:THR:N	31:c:91:SER:C	2.68	0.51
44:p:49:ARG:HA	44:p:55:TRP:CE3	2.45	0.51
1:1:83:U:H2'	1:1:84:U:O4'	2.10	0.51
1:1:1584:U:C3'	1:1:1585:C:P	2.98	0.51
1:1:1672:U:H1'	1:1:1776:G:N2	2.25	0.51
1:1:2888:U:C6	1:1:2911:A:N6	2.78	0.51
4:A:57:PRO:CG	4:A:170:ALA:HB3	2.41	0.51
5:B:4:ARG:C	5:B:5:LYS:N	2.68	0.51
7:D:34:LYS:C	7:D:35:ARG:HA	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:84:ARG:C	10:G:85:ASN:C	2.78	0.51
15:M:127:LYS:O	15:M:130:THR:N	2.44	0.51
21:S:62:ASN:C	21:S:63:GLN:N	2.68	0.51
1:1:1614:C:C3'	1:1:1615:C:P	2.99	0.51
1:1:2181:C:C3'	1:1:2182:A:P	2.97	0.51
1:1:2676:A:O3'	1:1:2677:G:P	2.68	0.51
1:1:2757:U:C3'	1:1:2758:A:P	2.99	0.51
4:A:184:ARG:O	4:A:185:ALA:N	2.43	0.51
5:B:89:VAL:CA	5:B:90:VAL:N	2.74	0.51
6:C:196:ASN:C	6:C:197:ARG:N	2.67	0.51
7:D:129:TYR:HA	7:D:130:GLU:N	2.26	0.51
7:D:236:LEU:C	7:D:237:GLU:N	2.69	0.51
8:E:88:SER:HG	8:E:89:THR:N	2.08	0.51
12:I:12:GLN:C	12:I:13:LYS:HA	2.36	0.51
12:I:76:MET:HE1	12:I:138:VAL:HG11	1.92	0.51
14:L:57:VAL:C	14:L:58:VAL:CA	2.82	0.51
14:L:124:ILE:N	14:L:124:ILE:HD13	2.25	0.51
20:R:76:SER:C	20:R:77:GLY:N	2.69	0.51
20:R:84:THR:C	20:R:85:ARG:N	2.69	0.51
21:S:132:THR:O	21:S:133:ALA:HB3	2.11	0.51
28:Z:68:ILE:C	28:Z:69:LYS:N	2.69	0.51
28:Z:101:PHE:O	28:Z:102:GLU:CB	2.58	0.51
29:a:42:ARG:HB3	29:a:43:ILE:HG13	1.92	0.51
45:t:34:LEU:N	45:t:167:VAL:O	2.43	0.51
1:1:194:U:H3'	1:1:195:U:P	2.51	0.51
1:1:1351:U:O2'	1:1:1352:A:H5'	2.10	0.51
1:1:2325:G:C3'	1:1:2326:A:P	2.98	0.51
5:B:25:ILE:HD13	5:B:25:ILE:H	1.76	0.51
10:G:53:PRO:O	10:G:54:GLU:C	2.54	0.51
34:f:82:ARG:C	34:f:83:ALA:N	2.68	0.51
45:t:31:THR:HA	45:t:171:ASN:HB2	1.92	0.51
45:t:53:LEU:HA	45:t:154:THR:O	2.11	0.51
45:t:54:LYS:H	45:t:154:THR:HA	1.75	0.51
1:1:826:G:O3'	1:1:827:A:P	2.69	0.51
1:1:1601:U:C3'	1:1:1602:A:P	2.99	0.51
1:1:1652:G:O3'	35:g:45:GLY:CA	2.58	0.51
1:1:1708:C:C3'	1:1:1709:C:P	2.98	0.51
1:1:2947:G:C2	5:B:250:ALA:HB1	2.46	0.51
2:3:8:G:OP2	7:D:30:TYR:OH	2.27	0.51
4:A:97:ASN:C	4:A:98:VAL:CA	2.83	0.51
6:C:30:ILE:HA	6:C:31:ARG:N	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:121:LYS:N	9:F:122:ALA:N	2.59	0.51
10:G:162:LEU:HD23	16:N:7:LEU:HD21	1.93	0.51
24:V:81:GLN:O	24:V:82:ALA:CB	2.59	0.51
24:V:120:LYS:O	24:V:123:ALA:N	2.44	0.51
35:g:20:ILE:HD12	35:g:32:ALA:HB1	1.93	0.51
37:i:55:ARG:C	37:i:56:ARG:N	2.69	0.51
37:i:77:LEU:HD11	37:i:86:LYS:HB2	1.93	0.51
45:t:54:LYS:CG	45:t:152:ARG:HA	2.41	0.51
1:1:1420:C:O2'	1:1:1421:G:O5'	2.23	0.51
1:1:2336:U:C3'	1:1:2337:C:P	2.99	0.51
1:1:3359:A:C5	1:1:3360:C:C5	2.98	0.51
11:H:24:ILE:HD11	11:H:37:ASN:HD22	1.75	0.51
11:H:90:MET:N	11:H:144:ILE:O	2.43	0.51
24:V:25:CYS:HA	24:V:26:ALA:N	2.26	0.51
29:a:45:MET:C	29:a:46:ASP:N	2.69	0.51
34:f:69:GLY:CA	34:f:70:LYS:N	2.73	0.51
36:h:31:LEU:CB	36:h:44:ILE:HD12	2.41	0.51
43:o:45:ARG:O	43:o:46:LYS:C	2.54	0.51
44:p:64:VAL:C	44:p:65:ALA:N	2.69	0.51
45:t:193:LEU:HG	45:t:194:LEU:N	2.25	0.51
1:1:30:G:C3'	1:1:31:C:P	2.99	0.51
1:1:2954:U:H4'	1:1:2955:U:H5'	1.93	0.51
4:A:143:GLU:O	4:A:145:LYS:HG2	2.10	0.51
5:B:286:GLY:HA3	5:B:321:PHE:CE1	2.45	0.51
10:G:166:LEU:CD1	10:G:197:VAL:HG11	2.40	0.51
13:J:102:PHE:CE2	13:J:129:VAL:HG21	2.45	0.51
18:P:53:ASP:O	18:P:55:GLN:N	2.44	0.51
43:o:59:HIS:O	43:o:61:LYS:N	2.44	0.51
1:1:1520:G:O2'	1:1:1603:A:N1	2.43	0.50
3:4:70:G:O2'	3:4:87:G:N2	2.44	0.50
4:A:37:ARG:C	4:A:38:HIS:N	2.68	0.50
4:A:44:ILE:C	4:A:45:VAL:HA	2.36	0.50
6:C:327:LEU:O	6:C:328:ASN:C	2.54	0.50
9:F:229:PHE:CD1	9:F:229:PHE:C	2.88	0.50
19:Q:93:ILE:O	19:Q:94:PHE:N	2.44	0.50
21:S:75:PHE:C	21:S:76:GLY:N	2.69	0.50
22:T:156:TYR:C	22:T:157:GLU:N	2.68	0.50
32:d:29:ALA:N	32:d:30:PRO:CD	2.74	0.50
38:j:22:CYS:HB3	38:j:37:CYS:HB3	1.92	0.50
1:1:298:U:H2'	1:1:298:U:O2	2.10	0.50
1:1:1349:G:H2'	1:1:1349:G:N3	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:332:ARG:N	5:B:332:ARG:HD3	2.26	0.50
20:R:115:ILE:HD11	20:R:119:LEU:HG	1.94	0.50
21:S:102:ALA:C	21:S:103:VAL:N	2.69	0.50
28:Z:2:ALA:HB1	28:Z:3:LYS:N	2.27	0.50
29:a:63:LYS:C	29:a:64:GLN:N	2.70	0.50
1:1:1902:G:O3'	1:1:1903:U:H5'	2.11	0.50
1:1:2164:A:H3'	1:1:2165:G:P	2.51	0.50
1:1:2494:C:O2	1:1:2494:C:H2'	2.10	0.50
1:1:2983:C:O2	1:1:2983:C:O4'	2.27	0.50
1:1:2985:C:H2'	1:1:2986:U:O4'	2.11	0.50
1:1:3196:U:O2	1:1:3196:U:O4'	2.29	0.50
3:4:91:C:O3'	3:4:92:A:P	2.69	0.50
4:A:13:GLY:C	4:A:14:SER:N	2.69	0.50
7:D:16:PHE:C	7:D:17:GLN:CA	2.84	0.50
7:D:58:LYS:HD3	7:D:58:LYS:N	2.27	0.50
9:F:186:HIS:C	9:F:187:GLU:N	2.68	0.50
9:F:219:LYS:C	9:F:220:PHE:HA	2.37	0.50
11:H:29:GLY:N	11:H:32:GLY:O	2.44	0.50
27:Y:77:LYS:O	27:Y:78:PHE:C	2.54	0.50
1:1:768:C:O3'	1:1:769:G:P	2.70	0.50
1:1:1159:A:O3'	1:1:1160:C:P	2.69	0.50
1:1:1553:U:C3'	1:1:1554:U:P	2.99	0.50
1:1:1659:U:H2'	1:1:1660:C:C6	2.46	0.50
1:1:1661:G:C3'	1:1:1662:G:P	2.99	0.50
1:1:1747:G:H3'	1:1:1748:G:P	2.51	0.50
1:1:2195:C:H3'	1:1:2196:C:P	2.52	0.50
1:1:2931:C:OP1	24:V:59:MET:HE3	2.12	0.50
2:3:11:A:N1	2:3:67:G:O2'	2.42	0.50
4:A:57:PRO:O	4:A:78:ALA:N	2.44	0.50
6:C:64:SER:HA	6:C:75:PRO:HA	1.92	0.50
6:C:126:ILE:O	6:C:127:ALA:C	2.53	0.50
6:C:156:LEU:HD22	6:C:159:ILE:HD12	1.94	0.50
6:C:161:LYS:O	6:C:163:LYS:N	2.45	0.50
7:D:69:ILE:C	7:D:69:ILE:HD12	2.36	0.50
7:D:97:ALA:O	7:D:100:ALA:N	2.45	0.50
7:D:244:HIS:HA	7:D:247:ILE:HD12	1.93	0.50
18:P:72:GLN:N	18:P:73:GLY:N	2.59	0.50
29:a:86:LYS:HB3	29:a:90:TYR:CE2	2.46	0.50
1:1:661:G:OP2	29:a:12:ARG:NH2	2.44	0.50
1:1:912:G:C2	1:1:914:A:C2	2.99	0.50
1:1:2846:U:O2	1:1:2846:U:O4'	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:143:GLU:O	4:A:144:ASN:C	2.55	0.50
16:N:48:ALA:CA	16:N:49:ARG:N	2.75	0.50
21:S:10:ILE:C	21:S:11:GLY:N	2.70	0.50
24:V:125:LEU:C	24:V:126:TRP:N	2.69	0.50
34:f:103:TYR:HB2	34:f:104:PRO:CD	2.42	0.50
1:1:993:G:H3'	1:1:994:G:OP2	2.11	0.50
1:1:1203:A:N3	1:1:2855:U:O2'	2.43	0.50
1:1:2447:G:N3	1:1:2447:G:C2'	2.74	0.50
4:A:218:HIS:C	4:A:219:ILE:N	2.70	0.50
19:Q:44:PHE:CD1	19:Q:139:ILE:HD11	2.47	0.50
35:g:51:LEU:HA	35:g:52:GLN:N	2.27	0.50
39:k:32:ASN:N	39:k:36:LYS:O	2.45	0.50
45:t:54:LYS:CD	45:t:155:ILE:N	2.70	0.50
1:1:17:G:C3'	1:1:18:G:P	2.98	0.50
1:1:504:A:C2	1:1:588:G:C2	2.99	0.50
1:1:1428:A:H3'	1:1:1429:G:P	2.51	0.50
1:1:1604:G:H4'	1:1:1835:A:H4'	1.94	0.50
1:1:2434:U:O2	1:1:2434:U:O4'	2.30	0.50
1:1:2803:A:H4'	1:1:2804:A:OP1	2.11	0.50
4:A:211:HIS:C	4:A:212:GLY:N	2.70	0.50
14:L:97:VAL:O	14:L:98:ASP:N	2.44	0.50
20:R:40:ALA:C	20:R:42:ARG:N	2.70	0.50
32:d:17:HIS:O	32:d:19:ARG:N	2.45	0.50
1:1:41:G:N2	1:1:2803:A:N7	2.57	0.50
1:1:1381:A:OP1	6:C:197:ARG:NH1	2.40	0.50
1:1:2899:C:O2'	1:1:2901:G:OP2	2.29	0.50
3:4:140:G:O2'	16:N:109:ARG:O	2.30	0.50
5:B:314:TYR:HB3	5:B:315:GLY:O	2.11	0.50
6:C:352:ALA:O	6:C:353:ALA:C	2.54	0.50
13:J:110:ILE:C	13:J:111:ASP:N	2.69	0.50
31:c:73:GLY:C	31:c:74:ASN:N	2.70	0.50
1:1:878:G:O3'	1:1:879:U:OP2	2.29	0.50
1:1:1426:C:O3'	1:1:1427:U:P	2.70	0.50
1:1:2365:C:HO3'	1:1:2366:C:P	2.33	0.50
1:1:2736:A:H2'	1:1:2737:C:O4'	2.11	0.50
5:B:49:TYR:OH	5:B:177:HIS:ND1	2.45	0.50
22:T:110:LYS:O	22:T:111:ALA:C	2.54	0.50
25:W:20:LEU:HD23	25:W:20:LEU:C	2.36	0.50
31:c:24:THR:C	31:c:25:LEU:N	2.70	0.50
32:d:36:ILE:HD11	32:d:71:LEU:CD1	2.42	0.50
34:f:63:LYS:O	34:f:64:ILE:N	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:27:GLU:O	36:h:28:LEU:N	2.44	0.50
38:j:56:ARG:O	38:j:61:THR:HG21	2.11	0.50
1:1:353:G:N7	38:j:55:ARG:HD2	2.26	0.49
1:1:3139:A:OP1	5:B:274:SER:N	2.44	0.49
4:A:183:GLY:O	4:A:184:ARG:C	2.55	0.49
6:C:274:TYR:C	6:C:275:THR:N	2.70	0.49
7:D:30:TYR:O	7:D:31:TYR:C	2.54	0.49
10:G:101:THR:C	10:G:102:ALA:HA	2.36	0.49
16:N:54:LYS:O	16:N:56:LYS:N	2.45	0.49
27:Y:18:ALA:C	27:Y:19:TYR:N	2.70	0.49
32:d:75:ILE:HG23	32:d:93:VAL:HG22	1.94	0.49
44:p:23:ARG:C	44:p:24:ARG:N	2.70	0.49
1:1:47:C:C3'	1:1:48:A:P	2.98	0.49
1:1:187:A:N1	1:1:211:A:O2'	2.38	0.49
1:1:1039:U:H2'	1:1:1040:A:C8	2.46	0.49
1:1:1547:G:H3'	1:1:1548:C:OP2	2.12	0.49
1:1:1652:G:O3'	35:g:45:GLY:HA2	2.12	0.49
1:1:2510:A:C6	1:1:2511:C:C5	3.00	0.49
6:C:113:VAL:HG12	6:C:114:ASN:N	2.27	0.49
8:E:140:VAL:C	8:E:141:VAL:N	2.70	0.49
12:I:64:ALA:O	12:I:67:ALA:N	2.45	0.49
25:W:41:LYS:O	25:W:42:GLN:N	2.44	0.49
27:Y:17:LYS:O	27:Y:18:ALA:C	2.55	0.49
36:h:114:ARG:C	36:h:115:LYS:CA	2.85	0.49
45:t:192:SER:CB	45:t:193:LEU:HD23	2.42	0.49
1:1:71:A:HO3'	1:1:72:C:P	2.30	0.49
1:1:281:G:C6	1:1:282:G:C6	3.00	0.49
1:1:1262:G:H2'	1:1:1264:G:C8	2.48	0.49
1:1:2184:U:H3'	1:1:2185:G:OP2	2.12	0.49
1:1:2709:C:O3'	1:1:2710:C:P	2.71	0.49
1:1:2940:A:N7	5:B:2:SER:N	2.59	0.49
1:1:2947:G:H2'	1:1:2948:C:H5'	1.93	0.49
1:1:2949:U:O3'	1:1:2950:G:O5'	2.29	0.49
1:1:3214:U:O2	1:1:3214:U:O4'	2.27	0.49
4:A:60:LYS:O	4:A:61:VAL:N	2.44	0.49
5:B:182:GLN:HA	5:B:183:LEU:N	2.26	0.49
5:B:370:PHE:CD1	5:B:370:PHE:N	2.80	0.49
13:J:165:GLN:C	13:J:166:LYS:N	2.70	0.49
33:e:33:ARG:O	33:e:34:LYS:C	2.56	0.49
34:f:43:PHE:O	34:f:44:TYR:CA	2.60	0.49
34:f:64:ILE:C	34:f:65:ARG:N	2.71	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:g:76:TYR:HA	35:g:77:GLY:CA	2.42	0.49
44:p:76:ALA:C	44:p:77:ALA:N	2.71	0.49
45:t:54:LYS:HD3	45:t:154:THR:CA	2.42	0.49
1:1:655:C:O2'	1:1:656:A:O4'	2.25	0.49
1:1:836:A:O3'	1:1:837:A:P	2.70	0.49
1:1:2437:G:C5	1:1:2510:A:N1	2.80	0.49
1:1:2746:A:C8	7:D:153:THR:HG21	2.48	0.49
7:D:53:VAL:HG13	7:D:62:CYS:SG	2.53	0.49
13:J:52:TYR:C	13:J:53:THR:N	2.70	0.49
24:V:25:CYS:SG	24:V:27:ASP:OD1	2.70	0.49
24:V:53:SER:C	24:V:54:LEU:CA	2.84	0.49
24:V:62:VAL:HG23	24:V:74:MET:HE2	1.94	0.49
28:Z:83:THR:HG21	28:Z:85:TYR:HB2	1.94	0.49
34:f:41:ALA:O	34:f:44:TYR:N	2.45	0.49
1:1:1019:G:H2'	1:1:1020:G:O4'	2.12	0.49
1:1:2136:C:H2'	1:1:2142:A:N6	2.28	0.49
1:1:2634:U:H3'	1:1:2635:A:P	2.53	0.49
3:4:33:A:O3'	3:4:34:U:P	2.70	0.49
11:H:49:ASN:O	11:H:50:ASN:C	2.55	0.49
12:I:76:MET:CE	12:I:148:VAL:HG22	2.42	0.49
21:S:6:GLU:OE2	21:S:28:ARG:NE	2.41	0.49
21:S:111:ALA:C	21:S:112:ALA:N	2.71	0.49
27:Y:100:HIS:O	27:Y:102:SER:N	2.46	0.49
29:a:63:LYS:HA	29:a:64:GLN:N	2.28	0.49
30:b:46:ALA:O	30:b:50:THR:HG23	2.12	0.49
1:1:1072:G:O3'	1:1:1073:U:P	2.70	0.49
1:1:1122:U:O3'	1:1:1123:U:P	2.71	0.49
1:1:3144:G:H3'	1:1:3145:C:P	2.53	0.49
1:1:3257:C:H2'	1:1:3258:U:O4'	2.13	0.49
5:B:137:TYR:CZ	5:B:144:ILE:HG21	2.48	0.49
6:C:174:ALA:O	6:C:175:HIS:C	2.55	0.49
6:C:205:PRO:HB3	6:C:247:PHE:CD2	2.47	0.49
8:E:165:LEU:C	8:E:166:LYS:N	2.70	0.49
10:G:26:LEU:HD21	28:Z:66:THR:HG21	1.95	0.49
11:H:134:ILE:HD12	11:H:134:ILE:N	2.27	0.49
13:J:30:LEU:O	13:J:30:LEU:HD13	2.11	0.49
27:Y:11:ASP:C	27:Y:12:ARG:N	2.71	0.49
1:1:1051:U:O3'	1:1:1052:U:P	2.70	0.49
1:1:1745:C:O3'	1:1:1746:U:P	2.71	0.49
1:1:2550:U:C5	10:G:37:GLY:HA3	2.48	0.49
1:1:3152:U:C3'	1:1:3153:U:C5'	2.90	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3360:C:H6	1:1:3360:C:O5'	1.95	0.49
4:A:15:ILE:HD11	4:A:16:PHE:CZ	2.48	0.49
5:B:138:ALA:HB3	5:B:139:GLN:N	2.27	0.49
5:B:152:LYS:HE3	5:B:192:VAL:HG13	1.95	0.49
6:C:132:ALA:O	6:C:133:SER:C	2.55	0.49
7:D:78:ALA:HB3	7:D:105:ILE:HG12	1.95	0.49
11:H:18:VAL:HG12	11:H:27:VAL:HG13	1.95	0.49
11:H:21:LYS:O	11:H:24:ILE:N	2.45	0.49
14:L:170:LEU:O	14:L:173:ALA:N	2.45	0.49
14:L:171:ARG:O	14:L:175:SER:N	2.46	0.49
19:Q:151:ARG:C	19:Q:152:HIS:HA	2.38	0.49
45:t:54:LYS:CB	45:t:153:SER:CA	2.87	0.49
1:1:34:A:C6	1:1:35:A:C6	3.00	0.49
1:1:321:C:O3'	1:1:322:U:P	2.70	0.49
1:1:438:A:H3'	1:1:439:C:H5''	1.94	0.49
1:1:2846:U:H3'	1:1:2847:A:P	2.53	0.49
1:1:2938:G:C2	1:1:2939:G:C8	3.00	0.49
1:1:3347:A:C2	1:1:3359:A:C6	3.01	0.49
3:4:27:U:O3'	3:4:28:C:P	2.71	0.49
4:A:47:GLN:C	4:A:48:ILE:N	2.71	0.49
4:A:88:ILE:C	4:A:89:TYR:CA	2.84	0.49
5:B:151:ILE:O	5:B:152:LYS:C	2.56	0.49
5:B:275:ARG:C	5:B:276:THR:CA	2.85	0.49
8:E:169:ASP:HB3	8:E:174:LEU:HD11	1.94	0.49
16:N:6:TYR:CE1	37:i:40:VAL:HG22	2.48	0.49
16:N:16:SER:CB	37:i:48:ALA:HB1	2.43	0.49
16:N:53:TYR:CG	16:N:54:LYS:N	2.80	0.49
38:j:46:SER:C	38:j:47:TYR:CA	2.86	0.49
1:1:149:U:OP2	16:N:49:ARG:NH2	2.38	0.49
1:1:561:C:H3'	1:1:562:C:OP2	2.12	0.49
1:1:824:C:H2'	1:1:825:U:C6	2.48	0.49
1:1:838:G:O6	44:p:4:ARG:NH2	2.46	0.49
1:1:883:A:H3'	1:1:884:A:P	2.52	0.49
1:1:2164:A:H3'	1:1:2165:G:OP2	2.13	0.49
1:1:2970:C:O3'	1:1:2971:A:P	2.71	0.49
4:A:44:ILE:C	4:A:45:VAL:CA	2.86	0.49
6:C:256:THR:C	6:C:257:LYS:N	2.71	0.49
6:C:315:LYS:O	6:C:316:ASN:N	2.45	0.49
28:Z:11:ALA:HB3	28:Z:23:VAL:HG23	1.95	0.49
29:a:101:VAL:HG22	29:a:124:ILE:HB	1.95	0.49
32:d:31:ARG:O	32:d:32:ALA:C	2.55	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:e:50:ILE:C	33:e:51:SER:HA	2.37	0.49
45:t:67:ILE:CD1	45:t:77:ALA:HB2	2.42	0.49
45:t:174:MET:HG2	45:t:178:VAL:HG21	1.95	0.49
1:1:1820:U:O4'	1:1:1820:U:O2	2.29	0.49
1:1:2328:U:H2'	1:1:2329:C:O4'	2.13	0.49
1:1:2336:U:H3'	1:1:2337:C:P	2.53	0.49
1:1:2502:G:O2'	1:1:2503:U:N3	2.44	0.49
1:1:2824:G:C3'	1:1:2825:C:P	3.01	0.49
9:F:190:THR:C	9:F:191:VAL:N	2.70	0.49
10:G:135:GLY:O	10:G:139:VAL:N	2.45	0.49
15:M:97:SER:HG	15:M:100:ALA:N	2.11	0.49
16:N:181:ASN:C	16:N:182:ASN:N	2.71	0.49
21:S:16:THR:C	21:S:17:GLU:N	2.70	0.49
24:V:14:SER:C	24:V:15:LEU:CA	2.85	0.49
26:X:28:THR:OG1	26:X:29:SER:N	2.37	0.49
1:1:883:A:C3'	1:1:884:A:P	3.01	0.48
1:1:1106:G:O2'	1:1:1107:C:O5'	2.31	0.48
1:1:1237:G:H2'	1:1:1237:G:N3	2.28	0.48
1:1:1724:U:OP2	20:R:128:LYS:NZ	2.44	0.48
1:1:1868:G:C3'	1:1:1869:C:P	3.01	0.48
1:1:2947:G:C2'	1:1:2948:C:H5'	2.43	0.48
1:1:3001:C:H2'	1:1:3002:C:O4'	2.11	0.48
1:1:3152:U:H3'	1:1:3153:U:H5'	1.92	0.48
1:1:3341:U:O2'	1:1:3342:A:H5'	2.13	0.48
4:A:45:VAL:HG11	4:A:82:VAL:CG1	2.42	0.48
4:A:101:VAL:HA	4:A:102:LEU:HD12	1.95	0.48
7:D:76:ALA:C	7:D:77:ALA:N	2.71	0.48
7:D:252:ALA:O	7:D:253:PHE:N	2.46	0.48
14:L:165:SER:O	14:L:166:ALA:HB2	2.12	0.48
15:M:107:GLU:C	15:M:108:ARG:N	2.71	0.48
16:N:53:TYR:CA	16:N:54:LYS:N	2.76	0.48
16:N:201:ARG:C	16:N:202:TYR:CA	2.86	0.48
18:P:56:ARG:C	18:P:57:ALA:HA	2.38	0.48
27:Y:19:TYR:O	27:Y:22:ALA:N	2.46	0.48
1:1:1383:G:O3'	6:C:138:ARG:NH2	2.46	0.48
1:1:2649:A:O2'	1:1:2758:A:N1	2.40	0.48
5:B:317:ILE:C	5:B:318:LYS:CA	2.86	0.48
7:D:78:ALA:O	7:D:79:TYR:N	2.45	0.48
7:D:232:ASP:O	7:D:235:SER:OG	2.30	0.48
10:G:50:VAL:CG2	10:G:52:TRP:CE2	2.96	0.48
11:H:154:VAL:C	11:H:155:SER:CA	2.86	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:9:ILE:HG23	14:L:10:LEU:N	2.29	0.48
18:P:14:SER:OG	18:P:151:THR:HG23	2.13	0.48
27:Y:50:ILE:C	27:Y:51:ARG:N	2.71	0.48
27:Y:58:VAL:HA	27:Y:104:LEU:HD23	1.95	0.48
27:Y:71:SER:N	27:Y:72:SER:N	2.61	0.48
28:Z:82:PRO:HA	28:Z:83:THR:N	2.27	0.48
28:Z:116:LYS:C	28:Z:117:ALA:N	2.71	0.48
36:h:29:ALA:O	36:h:30:GLU:N	2.46	0.48
1:1:1444:G:H2'	1:1:1445:U:O4'	2.14	0.48
1:1:1724:U:H1'	1:1:1725:C:C6	2.48	0.48
1:1:1881:A:O3'	1:1:1882:G:P	2.71	0.48
1:1:2764:C:OP1	29:a:55:LYS:N	2.46	0.48
1:1:3286:G:C6	1:1:3287:U:C5	3.01	0.48
5:B:244:ARG:C	5:B:245:GLY:N	2.71	0.48
11:H:144:ILE:HD13	11:H:161:LEU:HD11	1.95	0.48
16:N:92:LEU:C	16:N:93:LYS:HG2	2.38	0.48
27:Y:50:ILE:C	27:Y:51:ARG:HA	2.38	0.48
29:a:54:GLY:C	29:a:55:LYS:N	2.71	0.48
34:f:32:ILE:HG23	34:f:100:ILE:HD13	1.95	0.48
34:f:51:TYR:HB3	34:f:89:LEU:HD22	1.95	0.48
36:h:74:LYS:C	36:h:75:TYR:N	2.70	0.48
37:i:43:LEU:HD13	37:i:43:LEU:C	2.38	0.48
45:t:3:LYS:HA	45:t:4:ILE:N	2.28	0.48
45:t:155:ILE:HG22	45:t:167:VAL:HG12	1.93	0.48
1:1:844:G:C2'	1:1:845:G:O5'	2.62	0.48
5:B:347:SER:OG	5:B:349:LYS:N	2.47	0.48
6:C:119:ARG:C	6:C:120:TYR:C	2.82	0.48
6:C:190:GLY:C	6:C:191:LYS:N	2.72	0.48
7:D:191:ASP:O	7:D:194:LEU:N	2.46	0.48
11:H:12:VAL:HG22	11:H:79:ILE:CD1	2.41	0.48
15:M:98:SER:O	15:M:99:TRP:C	2.55	0.48
19:Q:47:VAL:C	19:Q:48:VAL:CA	2.87	0.48
29:a:43:ILE:O	29:a:44:ASN:N	2.45	0.48
33:e:4:LEU:O	33:e:6:HIS:N	2.46	0.48
41:m:78:ILE:O	41:m:79:GLU:C	2.56	0.48
43:o:42:ARG:O	43:o:43:TYR:N	2.46	0.48
1:1:299:G:H2'	1:1:300:G:O4'	2.13	0.48
1:1:2178:A:H3'	1:1:2179:C:P	2.52	0.48
1:1:2526:C:C2	10:G:48:ARG:NH2	2.82	0.48
1:1:2625:C:H4'	1:1:2626:A:O5'	2.13	0.48
3:4:42:G:OP1	38:j:60:GLY:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:11:GLY:O	4:A:12:ALA:C	2.57	0.48
5:B:14:LEU:HD13	5:B:262:TRP:CH2	2.49	0.48
6:C:34:ILE:O	6:C:36:HIS:N	2.46	0.48
6:C:35:VAL:HA	6:C:121:ALA:HB1	1.95	0.48
7:D:40:HIS:CD2	7:D:42:ALA:HB3	2.49	0.48
14:L:46:ILE:O	14:L:47:ALA:HB3	2.14	0.48
22:T:114:ALA:C	22:T:115:LYS:N	2.71	0.48
29:a:14:HIS:C	29:a:15:VAL:N	2.72	0.48
29:a:122:PRO:HA	29:a:123:VAL:N	2.28	0.48
1:1:634:C:O3'	1:1:635:G:P	2.71	0.48
1:1:1492:G:N7	40:l:2:ALA:HB3	2.28	0.48
1:1:1881:A:H3'	1:1:1882:G:P	2.53	0.48
1:1:2117:A:H2'	1:1:2118:C:O4'	2.14	0.48
1:1:2245:C:H3'	1:1:2246:G:OP2	2.13	0.48
1:1:2490:C:O3'	45:t:212:PRO:HA	2.12	0.48
1:1:2786:G:H3'	1:1:2787:G:P	2.54	0.48
1:1:2793:G:O3'	1:1:2794:G:P	2.72	0.48
9:F:64:GLN:O	9:F:65:ALA:C	2.56	0.48
10:G:163:VAL:O	10:G:166:LEU:N	2.47	0.48
16:N:186:GLY:O	16:N:187:ARG:C	2.56	0.48
19:Q:87:VAL:O	19:Q:107:THR:N	2.46	0.48
25:W:14:TYR:HB3	25:W:15:PRO:HD2	1.96	0.48
33:e:28:VAL:HA	33:e:29:ALA:N	2.29	0.48
34:f:16:TYR:C	34:f:17:GLN:N	2.72	0.48
45:t:53:LEU:CA	45:t:154:THR:O	2.62	0.48
45:t:142:ASP:O	45:t:143:ASP:C	2.56	0.48
1:1:353:G:O2'	1:1:364:G:O6	2.25	0.48
1:1:619:A:O3'	1:1:620:U:P	2.72	0.48
1:1:1508:C:OP1	18:P:127:ARG:NH2	2.47	0.48
1:1:2470:C:OP2	45:t:26:ARG:HB3	2.14	0.48
1:1:2935:U:O3'	1:1:2936:A:P	2.71	0.48
1:1:2949:U:C3'	1:1:2950:G:O5'	2.62	0.48
4:A:10:LYS:C	4:A:11:GLY:CA	2.84	0.48
4:A:19:HIS:C	4:A:20:THR:N	2.72	0.48
5:B:217:ALA:C	5:B:218:ILE:N	2.72	0.48
15:M:7:VAL:O	15:M:8:LYS:C	2.56	0.48
18:P:22:LEU:HD12	18:P:146:ILE:HG13	1.94	0.48
37:i:59:ASP:C	37:i:60:LEU:N	2.71	0.48
40:l:41:ARG:O	40:l:42:ARG:N	2.45	0.48
45:t:100:ILE:HD12	45:t:124:LEU:HD22	1.95	0.48
1:1:119:U:H3'	1:1:120:G:P	2.53	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:436:A:H2'	1:1:437:G:O4'	2.13	0.48
6:C:119:ARG:C	6:C:120:TYR:N	2.71	0.48
11:H:158:ALA:O	11:H:159:ALA:C	2.57	0.48
14:L:106:GLN:O	14:L:107:GLU:N	2.46	0.48
15:M:72:LEU:HD23	15:M:73:PRO:HD2	1.95	0.48
22:T:39:ILE:HD12	22:T:102:ARG:HD3	1.96	0.48
26:X:115:ARG:N	26:X:119:THR:O	2.46	0.48
1:1:591:G:N2	1:1:612:U:OP1	2.39	0.48
1:1:1558:A:O2'	26:X:34:LEU:HG	2.13	0.48
1:1:2573:G:H2'	1:1:2574:G:O4'	2.13	0.48
1:1:2634:U:O3'	1:1:2635:A:P	2.72	0.48
5:B:323:MET:O	5:B:324:VAL:N	2.47	0.48
6:C:45:ASN:C	6:C:46:LYS:N	2.72	0.48
6:C:142:VAL:HG13	6:C:142:VAL:O	2.13	0.48
19:Q:12:ARG:O	19:Q:13:SER:C	2.56	0.48
21:S:54:ALA:HB3	21:S:55:SER:N	2.29	0.48
24:V:123:ALA:HB1	24:V:130:ALA:HB2	1.95	0.48
40:l:19:GLN:O	40:l:20:ASN:N	2.47	0.48
41:m:87:SER:O	41:m:90:ASN:N	2.47	0.48
1:1:197:G:O3'	1:1:198:A:P	2.72	0.48
1:1:1204:A:O3'	1:1:1205:A:P	2.71	0.48
1:1:3354:U:O2	1:1:3354:U:O4'	2.31	0.48
1:1:3364:C:H3'	1:1:3365:U:P	2.54	0.48
2:3:88:G:H3'	2:3:89:G:P	2.54	0.48
10:G:214:LEU:N	10:G:215:VAL:N	2.61	0.48
12:I:65:LEU:HD11	12:I:127:ALA:HB2	1.95	0.48
12:I:118:ALA:HB3	12:I:119:TRP:N	2.29	0.48
14:L:133:PRO:O	14:L:134:GLU:C	2.57	0.48
16:N:39:ALA:C	16:N:40:ALA:N	2.72	0.48
16:N:67:ARG:C	16:N:68:ARG:N	2.71	0.48
18:P:18:ARG:C	18:P:19:GLY:CA	2.87	0.48
18:P:70:THR:C	18:P:71:ALA:N	2.72	0.48
19:Q:2:GLY:O	19:Q:3:ILE:HD13	2.14	0.48
19:Q:184:PHE:C	19:Q:185:LYS:HA	2.38	0.48
41:m:89:TYR:C	41:m:90:ASN:N	2.72	0.48
45:t:193:LEU:HG	45:t:194:LEU:H	1.79	0.48
1:1:356:C:C3'	1:1:357:A:P	3.02	0.47
1:1:404:G:O3'	1:1:405:U:P	2.72	0.47
1:1:1326:A:H2'	1:1:1327:C:O4'	2.14	0.47
1:1:1492:G:H1'	1:1:1843:C:H5''	1.95	0.47
1:1:2245:C:H3'	1:1:2246:G:P	2.54	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3133:C:H2'	1:1:3134:A:O4'	2.14	0.47
1:1:3315:G:C5	5:B:123:TYR:CE1	3.02	0.47
1:1:3350:C:O2'	1:1:3351:U:O5'	2.32	0.47
4:A:34:TYR:C	4:A:35:ALA:N	2.71	0.47
9:F:202:LEU:C	9:F:203:TRP:N	2.72	0.47
10:G:211:LEU:O	10:G:211:LEU:HD12	2.14	0.47
11:H:154:VAL:HG12	11:H:155:SER:HA	1.96	0.47
12:I:26:VAL:HG23	12:I:27:PRO:O	2.14	0.47
13:J:43:GLN:C	13:J:44:THR:N	2.72	0.47
14:L:130:GLY:O	14:L:132:ALA:N	2.47	0.47
16:N:7:LEU:C	16:N:8:GLU:N	2.72	0.47
16:N:48:ALA:N	16:N:49:ARG:N	2.62	0.47
21:S:10:ILE:C	21:S:59:VAL:HB	2.39	0.47
21:S:67:ALA:C	21:S:68:HIS:N	2.72	0.47
36:h:13:SER:HG	36:h:15:GLU:N	2.12	0.47
38:j:52:LYS:O	38:j:55:ARG:N	2.47	0.47
39:k:13:GLU:C	39:k:14:LEU:N	2.72	0.47
1:1:872:U:H3'	1:1:873:C:P	2.54	0.47
1:1:2175:U:O3'	1:1:2176:U:OP1	2.32	0.47
1:1:2206:G:H5''	1:1:2207:A:OP2	2.15	0.47
1:1:3301:U:O3'	1:1:3302:U:P	2.72	0.47
3:4:78:G:H2'	3:4:79:A:C8	2.49	0.47
14:L:89:TYR:C	14:L:90:ALA:N	2.72	0.47
36:h:32:LYS:HG3	36:h:44:ILE:HD11	1.97	0.47
1:1:341:G:C3'	1:1:342:A:P	3.03	0.47
1:1:724:U:H3'	1:1:725:G:P	2.55	0.47
1:1:1437:C:O3'	1:1:1438:U:O5'	2.31	0.47
1:1:2108:C:H1'	1:1:3344:A:H8	1.79	0.47
1:1:2140:U:H3'	1:1:2141:U:P	2.54	0.47
1:1:2272:G:O3'	1:1:2273:G:OP2	2.33	0.47
1:1:2278:C:O2'	1:1:2279:A:H5''	2.13	0.47
1:1:2315:G:C3'	1:1:2316:G:P	3.02	0.47
1:1:2897:A:OP2	41:m:124:LYS:NZ	2.47	0.47
5:B:85:VAL:HG13	5:B:163:HIS:NE2	2.29	0.47
6:C:162:THR:O	6:C:165:ALA:N	2.47	0.47
7:D:39:GLN:O	7:D:40:HIS:C	2.57	0.47
9:F:56:GLU:C	9:F:57:THR:N	2.73	0.47
14:L:53:LEU:C	14:L:54:LEU:N	2.72	0.47
19:Q:3:ILE:O	19:Q:4:ASP:N	2.47	0.47
33:e:85:LEU:O	33:e:86:THR:C	2.56	0.47
34:f:5:HIS:O	34:f:6:ARG:C	2.58	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:51:ILE:C	36:h:52:ALA:CA	2.87	0.47
1:1:403:C:C3'	1:1:404:G:P	3.02	0.47
1:1:637:C:C2	1:1:638:C:C5	3.02	0.47
1:1:1556:C:O4'	1:1:1556:C:O2	2.30	0.47
1:1:1765:U:OP1	1:1:1765:U:H4'	2.14	0.47
1:1:2295:A:OP1	24:V:63:LYS:NZ	2.43	0.47
1:1:2421:U:H2'	1:1:2422:C:O4'	2.15	0.47
1:1:2471:G:OP2	45:t:26:ARG:HB2	2.15	0.47
1:1:2485:A:H4'	45:t:130:LYS:HD2	1.96	0.47
2:3:44:C:OP2	13:J:137:ARG:NH2	2.47	0.47
2:3:56:A:HO3'	13:J:149:GLY:H	1.63	0.47
6:C:300:ARG:HB2	6:C:301:PRO:CD	2.45	0.47
7:D:25:GLU:O	7:D:26:GLY:N	2.47	0.47
9:F:195:PHE:O	9:F:196:LYS:C	2.57	0.47
9:F:203:TRP:CD1	9:F:204:PRO:HD2	2.49	0.47
12:I:68:ALA:O	12:I:71:CYS:O	2.32	0.47
12:I:82:ARG:C	12:I:83:ASP:N	2.72	0.47
14:L:172:LEU:C	14:L:173:ALA:CA	2.87	0.47
21:S:36:ILE:N	21:S:36:ILE:HD12	2.29	0.47
27:Y:23:PRO:O	27:Y:24:SER:C	2.56	0.47
35:g:90:ILE:O	35:g:94:LEU:N	2.47	0.47
36:h:96:GLU:O	36:h:97:ALA:N	2.46	0.47
45:t:32:VAL:O	45:t:169:VAL:N	2.47	0.47
1:1:340:C:O2'	1:1:344:A:N3	2.46	0.47
1:1:501:A:C2	1:1:613:G:C2	3.02	0.47
1:1:776:U:H5	1:1:2719:U:O2	1.97	0.47
1:1:2836:C:O2	1:1:2836:C:O4'	2.28	0.47
1:1:2882:U:H2'	1:1:2883:U:O4'	2.14	0.47
5:B:3:HIS:C	5:B:4:ARG:N	2.72	0.47
5:B:135:ALA:HB3	5:B:136:LYS:N	2.30	0.47
6:C:133:SER:OG	6:C:134:LEU:N	2.37	0.47
7:D:90:HIS:HB2	7:D:226:TYR:CZ	2.49	0.47
10:G:72:PRO:HA	10:G:233:TRP:CE3	2.49	0.47
12:I:87:LEU:C	12:I:88:ARG:CA	2.85	0.47
12:I:198:LYS:C	12:I:199:PHE:N	2.73	0.47
16:N:138:GLN:HA	16:N:143:ARG:HD2	1.96	0.47
18:P:177:ALA:C	18:P:178:ALA:N	2.73	0.47
19:Q:81:VAL:HA	19:Q:82:VAL:N	2.29	0.47
20:R:44:LEU:C	20:R:45:VAL:N	2.72	0.47
22:T:76:ILE:O	22:T:77:ASN:HA	2.14	0.47
24:V:51:ALA:CA	24:V:52:ALA:N	2.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:68:GLU:C	24:V:69:LEU:N	2.72	0.47
24:V:120:LYS:C	24:V:121:GLU:N	2.73	0.47
28:Z:8:GLY:C	28:Z:9:LYS:N	2.72	0.47
1:1:314:U:OP1	14:L:104:ARG:NH1	2.47	0.47
1:1:358:G:O2'	1:1:360:G:N7	2.45	0.47
1:1:812:G:O2'	38:j:49:TRP:NE1	2.42	0.47
1:1:1214:U:OP2	21:S:137:ARG:NH2	2.47	0.47
1:1:2137:U:OP2	1:1:2142:A:N6	2.47	0.47
1:1:2162:U:OP1	4:A:234:LYS:NZ	2.47	0.47
4:A:31:THR:C	4:A:32:LEU:N	2.73	0.47
10:G:60:ARG:O	10:G:63:LYS:N	2.45	0.47
10:G:145:ASN:N	10:G:145:ASN:HD22	2.13	0.47
12:I:42:THR:C	12:I:43:VAL:CA	2.88	0.47
12:I:48:LEU:C	12:I:48:LEU:HD13	2.39	0.47
15:M:21:VAL:CG1	15:M:65:LEU:HD23	2.45	0.47
18:P:94:LEU:O	18:P:98:ALA:N	2.46	0.47
18:P:94:LEU:HD23	18:P:146:ILE:HG22	1.96	0.47
22:T:4:SER:O	22:T:5:HIS:N	2.47	0.47
25:W:6:ASP:C	25:W:7:SER:N	2.73	0.47
27:Y:59:VAL:N	27:Y:103:LYS:O	2.47	0.47
45:t:12:HIS:HB3	45:t:13:VAL:HG23	1.97	0.47
1:1:44:U:C3'	1:1:45:A:P	3.03	0.47
1:1:236:G:H2'	1:1:237:G:O4'	2.15	0.47
1:1:690:A:H3'	1:1:690:A:OP2	2.14	0.47
1:1:1596:C:H2'	1:1:1597:C:C6	2.50	0.47
1:1:2437:G:C5	1:1:2510:A:C2	3.01	0.47
2:3:17:A:OP1	7:D:2:ALA:N	2.48	0.47
2:3:94:C:C3'	2:3:95:A:P	3.03	0.47
5:B:223:GLY:CA	5:B:224:HIS:N	2.78	0.47
6:C:71:VAL:C	6:C:72:ALA:CA	2.87	0.47
6:C:219:LEU:C	6:C:220:ARG:N	2.72	0.47
6:C:314:LYS:O	6:C:314:LYS:HG2	2.14	0.47
10:G:107:GLU:C	10:G:108:ARG:N	2.72	0.47
12:I:206:LEU:O	12:I:207:GLU:C	2.57	0.47
13:J:12:LEU:HD12	13:J:131:MET:HG3	1.96	0.47
13:J:156:LYS:O	13:J:160:VAL:N	2.48	0.47
14:L:47:ALA:HB1	14:L:48:PRO:HD3	1.93	0.47
16:N:35:VAL:C	16:N:36:ILE:CA	2.88	0.47
19:Q:102:ALA:C	19:Q:103:ALA:N	2.73	0.47
20:R:11:ALA:O	20:R:15:VAL:HG12	2.14	0.47
20:R:92:GLN:O	20:R:96:ILE:HB	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:45:LEU:C	21:S:47:LYS:H	2.23	0.47
27:Y:63:LYS:O	27:Y:64:LYS:C	2.58	0.47
30:b:14:ARG:O	30:b:15:LYS:N	2.48	0.47
34:f:75:HIS:O	34:f:76:GLY:N	2.47	0.47
38:j:66:TYR:O	38:j:67:LEU:N	2.47	0.47
41:m:85:LEU:HB3	41:m:86:ALA:N	2.29	0.47
45:t:48:ARG:CZ	45:t:160:LYS:HA	2.44	0.47
1:1:965:A:HO2'	29:a:44:ASN:N	2.13	0.47
1:1:1494:U:OP1	40:l:44:TRP:HB3	2.15	0.47
1:1:2253:G:H2'	1:1:2254:U:O4'	2.14	0.47
1:1:2653:C:O3'	1:1:2654:C:P	2.73	0.47
1:1:2792:A:O3'	1:1:2793:G:P	2.72	0.47
1:1:3056:U:C2	32:d:25:PHE:CE1	3.03	0.47
1:1:3073:A:H3'	1:1:3074:G:P	2.55	0.47
1:1:3261:C:O2	1:1:3261:C:C2'	2.63	0.47
6:C:195:ARG:O	6:C:196:ASN:CB	2.62	0.47
13:J:160:VAL:O	13:J:161:SER:C	2.58	0.47
19:Q:83:VAL:HG12	19:Q:85:GLY:N	2.30	0.47
21:S:132:THR:O	21:S:134:ASP:N	2.48	0.47
26:X:38:LEU:HD11	26:X:40:LEU:HD13	1.97	0.47
27:Y:17:LYS:O	27:Y:20:PHE:N	2.48	0.47
31:c:23:TYR:C	31:c:24:THR:N	2.73	0.47
34:f:35:VAL:HG13	34:f:40:ASP:HB3	1.97	0.47
35:g:93:PHE:C	35:g:94:LEU:N	2.73	0.47
1:1:132:C:H3'	1:1:133:U:P	2.55	0.47
1:1:835:G:O2'	1:1:836:A:OP2	2.28	0.47
1:1:1604:G:OP1	1:1:1605:A:OP2	2.33	0.47
4:A:211:HIS:C	4:A:212:GLY:HA2	2.40	0.47
5:B:8:ALA:HB1	5:B:9:PRO:HD2	1.97	0.47
7:D:109:THR:C	7:D:110:LEU:N	2.73	0.47
9:F:135:ALA:C	9:F:136:TYR:CA	2.88	0.47
10:G:65:LEU:O	10:G:65:LEU:HD13	2.14	0.47
14:L:78:ALA:O	14:L:79:GLU:HA	2.15	0.47
15:M:21:VAL:HG12	15:M:65:LEU:HD23	1.96	0.47
16:N:84:PRO:O	16:N:86:ASN:N	2.48	0.47
18:P:75:GLU:C	18:P:76:PHE:N	2.73	0.47
21:S:13:ARG:HG2	21:S:51:VAL:HG12	1.97	0.47
21:S:36:ILE:O	21:S:38:LYS:N	2.48	0.47
28:Z:55:LYS:HG2	28:Z:56:LYS:N	2.30	0.47
28:Z:89:VAL:HG23	28:Z:92:PHE:CE2	2.50	0.47
34:f:15:SER:HA	34:f:94:PHE:CE1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1525:G:H2'	1:1:1525:G:N3	2.30	0.47
1:1:1640:G:H3'	1:1:1641:U:P	2.54	0.47
1:1:2151:C:H2'	1:1:2152:A:O4'	2.15	0.47
1:1:2176:U:O3'	1:1:2177:G:P	2.73	0.47
7:D:246:ALA:O	7:D:250:ASP:N	2.48	0.47
12:I:132:GLY:CA	12:I:133:GLN:N	2.77	0.47
13:J:41:SER:O	13:J:42:GLY:N	2.48	0.47
18:P:97:ASN:C	18:P:98:ALA:HA	2.40	0.47
18:P:123:PRO:CA	18:P:124:LYS:N	2.78	0.47
1:1:85:A:O3'	1:1:86:G:O5'	2.24	0.46
1:1:2483:G:N2	1:1:2485:A:H3'	2.30	0.46
1:1:2953:U:H2'	1:1:2954:U:H2'	1.97	0.46
1:1:3277:U:O2	1:1:3277:U:O4'	2.31	0.46
1:1:3304:U:O2'	5:B:334:ARG:NH2	2.45	0.46
5:B:56:ILE:HD13	5:B:76:VAL:HG22	1.98	0.46
6:C:204:GLY:O	6:C:246:ARG:NH1	2.48	0.46
29:a:20:GLY:C	29:a:21:ARG:N	2.73	0.46
37:i:16:LYS:O	37:i:17:VAL:HG23	2.16	0.46
44:p:51:ALA:O	44:p:54:ILE:N	2.48	0.46
1:1:631:U:O2'	34:f:91:ALA:O	2.32	0.46
1:1:1394:A:N3	3:4:19:C:O2'	2.47	0.46
1:1:2257:C:H2'	1:1:2258:U:O4'	2.15	0.46
1:1:2445:A:N6	1:1:2447:G:O6	2.47	0.46
1:1:3214:U:OP2	15:M:128:ARG:NH2	2.48	0.46
1:1:3379:C:O3'	1:1:3380:U:P	2.73	0.46
2:3:121:U:O2	2:3:121:U:O4'	2.31	0.46
4:A:19:HIS:O	4:A:20:THR:N	2.48	0.46
5:B:166:ILE:O	5:B:169:THR:HG22	2.15	0.46
10:G:189:LEU:C	10:G:189:LEU:HD12	2.40	0.46
11:H:122:LYS:C	11:H:123:ILE:HA	2.40	0.46
19:Q:64:VAL:HA	19:Q:67:ILE:HD12	1.97	0.46
24:V:79:VAL:HG23	24:V:80:ARG:HG3	1.97	0.46
26:X:49:LYS:O	26:X:51:VAL:N	2.48	0.46
30:b:28:LYS:O	30:b:29:TYR:HB2	2.15	0.46
31:c:27:TYR:O	31:c:30:THR:N	2.47	0.46
44:p:49:ARG:O	44:p:50:GLY:N	2.48	0.46
1:1:145:G:H3'	1:1:146:U:P	2.55	0.46
1:1:411:U:C2	3:4:13:A:C2	3.03	0.46
1:1:534:U:O3'	1:1:535:G:P	2.74	0.46
1:1:608:A:C3'	1:1:609:G:P	3.03	0.46
1:1:1433:A:O4'	33:e:27:ARG:HD2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1445:U:HO3'	1:1:1446:A:P	2.30	0.46
1:1:1649:U:C3'	1:1:1650:G:P	3.03	0.46
1:1:2550:U:C6	10:G:37:GLY:HA3	2.50	0.46
1:1:2609:A:C3'	1:1:2610:G:P	3.02	0.46
1:1:3009:G:C3'	1:1:3010:U:P	3.03	0.46
1:1:3009:G:H3'	1:1:3010:U:P	2.55	0.46
1:1:3085:G:O3'	1:1:3086:A:O5'	2.29	0.46
4:A:51:ASP:HB2	4:A:58:LEU:HG	1.96	0.46
5:B:206:ASP:OD1	5:B:206:ASP:N	2.43	0.46
5:B:296:THR:O	5:B:298:PHE:N	2.48	0.46
5:B:305:ILE:CD1	5:B:317:ILE:HG21	2.41	0.46
8:E:5:LYS:O	8:E:6:ALA:HB2	2.16	0.46
9:F:154:GLY:N	9:F:161:VAL:O	2.48	0.46
13:J:159:THR:C	13:J:160:VAL:N	2.74	0.46
15:M:45:LEU:HD22	21:S:72:VAL:HG23	1.97	0.46
15:M:68:LEU:C	15:M:69:THR:N	2.74	0.46
19:Q:18:ALA:HB1	19:Q:19:PRO:CD	2.45	0.46
19:Q:36:LEU:O	19:Q:37:ALA:N	2.49	0.46
32:d:20:LEU:HD13	32:d:28:ARG:HB3	1.96	0.46
32:d:55:LEU:C	32:d:56:ASN:N	2.74	0.46
45:t:41:TYR:CG	45:t:163:LEU:HD11	2.50	0.46
1:1:361:A:O3'	38:j:45:ARG:NH2	2.48	0.46
1:1:711:A:H3'	1:1:712:G:P	2.55	0.46
1:1:799:G:O2'	14:L:18:TRP:NE1	2.48	0.46
1:1:895:A:C6	1:1:897:U:C4	3.02	0.46
1:1:1001:G:O2'	1:1:1041:U:OP2	2.34	0.46
1:1:1192:C:O2	1:1:1192:C:C2'	2.63	0.46
1:1:1802:C:HO2'	1:1:1803:C:C4'	2.17	0.46
1:1:2261:G:O2'	1:1:2263:C:N4	2.49	0.46
1:1:2479:C:OP1	45:t:105:LYS:HD2	2.16	0.46
12:I:189:GLU:O	12:I:190:VAL:N	2.49	0.46
14:L:165:SER:O	14:L:166:ALA:CB	2.62	0.46
16:N:4:TYR:O	16:N:7:LEU:N	2.49	0.46
20:R:51:VAL:O	20:R:52:LYS:HA	2.15	0.46
20:R:172:ARG:CA	20:R:173:ARG:N	2.79	0.46
28:Z:101:PHE:O	28:Z:102:GLU:HB3	2.15	0.46
29:a:40:HIS:O	29:a:41:HIS:N	2.48	0.46
38:j:46:SER:C	38:j:47:TYR:HA	2.41	0.46
43:o:38:GLN:OE1	43:o:41:ARG:NH1	2.47	0.46
1:1:77:A:H5'	14:L:100:ARG:NH1	2.31	0.46
1:1:119:U:O3'	1:1:120:G:P	2.74	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:370:U:C4	1:1:371:G:C6	3.04	0.46
1:1:587:U:O3'	1:1:588:G:P	2.74	0.46
1:1:2138:A:OP1	1:1:2141:U:OP2	2.33	0.46
1:1:2404:A:H2'	1:1:2404:A:N3	2.29	0.46
1:1:3362:A:C2	1:1:3363:U:C2	3.03	0.46
5:B:204:ALA:O	5:B:207:SER:N	2.48	0.46
5:B:295:ALA:C	5:B:296:THR:N	2.74	0.46
9:F:91:GLY:HA3	9:F:92:ILE:N	2.31	0.46
19:Q:52:LEU:C	19:Q:53:PHE:N	2.73	0.46
44:p:53:GLY:N	44:p:54:ILE:N	2.63	0.46
1:1:293:C:H2'	1:1:294:U:O4'	2.16	0.46
1:1:1328:C:O2'	1:1:1329:U:O5'	2.28	0.46
1:1:1520:G:H2'	1:1:1521:G:O4'	2.14	0.46
1:1:3017:A:C2	1:1:3038:U:O2	2.69	0.46
1:1:3268:A:C8	8:E:130:ILE:HD11	2.51	0.46
2:3:67:G:H2'	2:3:68:C:H6	1.81	0.46
5:B:291:GLU:O	5:B:292:ALA:CB	2.63	0.46
6:C:112:LYS:C	6:C:113:VAL:HA	2.41	0.46
7:D:20:PHE:O	7:D:23:ARG:N	2.49	0.46
8:E:52:VAL:HG11	8:E:65:ILE:HG13	1.97	0.46
10:G:178:ALA:C	10:G:179:ILE:N	2.74	0.46
11:H:117:PHE:O	11:H:120:ASP:N	2.49	0.46
14:L:142:ALA:C	14:L:143:ALA:N	2.73	0.46
18:P:54:HIS:CD2	18:P:83:TRP:CD2	3.04	0.46
21:S:48:LEU:HD13	21:S:48:LEU:N	2.30	0.46
24:V:6:ALA:HB1	24:V:125:LEU:HD11	1.98	0.46
29:a:9:ARG:O	29:a:11:HIS:N	2.49	0.46
30:b:10:HIS:O	30:b:11:ASN:HB3	2.15	0.46
45:t:54:LYS:HE2	45:t:154:THR:N	2.30	0.46
1:1:2464:U:H2'	1:1:2465:G:C8	2.51	0.46
1:1:3051:U:C3'	1:1:3052:G:P	3.04	0.46
1:1:3115:C:O2	1:1:3117:C:N4	2.48	0.46
6:C:57:GLY:N	6:C:58:HIS:N	2.64	0.46
6:C:136:LEU:O	6:C:136:LEU:HD13	2.16	0.46
7:D:143:LYS:HA	7:D:144:VAL:N	2.30	0.46
9:F:177:GLY:O	9:F:178:ILE:C	2.58	0.46
10:G:29:SER:C	10:G:30:THR:N	2.74	0.46
12:I:193:ASP:O	12:I:194:GLY:C	2.58	0.46
19:Q:125:ASP:N	19:Q:125:ASP:OD1	2.49	0.46
20:R:150:GLN:O	20:R:151:ARG:N	2.49	0.46
24:V:122:CYS:C	24:V:123:ALA:N	2.74	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:e:20:HIS:CG	33:e:42:VAL:HG21	2.51	0.46
34:f:51:TYR:O	34:f:52:VAL:N	2.49	0.46
36:h:43:LYS:O	36:h:44:ILE:C	2.58	0.46
36:h:119:LYS:HE2	36:h:119:LYS:HA	1.98	0.46
45:t:54:LYS:CD	45:t:154:THR:N	2.79	0.46
1:1:212:G:O3'	1:1:213:A:O5'	2.32	0.46
1:1:2633:U:O3'	1:1:2634:U:P	2.74	0.46
1:1:2861:U:O3'	1:1:2862:U:P	2.73	0.46
1:1:2949:U:C5	1:1:2950:G:C6	3.04	0.46
1:1:2974:U:H2'	1:1:2975:U:C6	2.51	0.46
5:B:325:LYS:CG	5:B:326:GLY:N	2.78	0.46
6:C:130:ALA:O	6:C:131:VAL:HB	2.16	0.46
6:C:287:THR:O	6:C:288:ARG:C	2.57	0.46
11:H:4:ILE:N	21:S:142:GLN:OE1	2.49	0.46
12:I:31:ILE:C	12:I:32:ARG:HA	2.41	0.46
14:L:56:PRO:HB2	14:L:112:ASN:HD21	1.81	0.46
15:M:32:LEU:HD11	15:M:94:TRP:CD1	2.51	0.46
21:S:12:ARG:O	21:S:13:ARG:CB	2.64	0.46
33:e:44:ARG:N	33:e:45:ARG:N	2.64	0.46
1:1:1522:U:H4'	1:1:1523:U:OP2	2.16	0.46
1:1:1575:A:C6	1:1:1576:G:C5	3.04	0.46
1:1:1881:A:C3'	1:1:1882:G:P	3.04	0.46
1:1:2108:C:H1'	1:1:3344:A:C8	2.51	0.46
1:1:2177:G:OP2	4:A:128:ARG:NH1	2.49	0.46
1:1:2340:U:H3'	1:1:2341:A:P	2.56	0.46
4:A:185:ALA:O	4:A:186:PHE:C	2.59	0.46
5:B:62:ARG:O	5:B:63:PRO:C	2.59	0.46
5:B:201:LYS:C	5:B:202:THR:N	2.74	0.46
6:C:63:GLU:O	6:C:64:SER:N	2.49	0.46
7:D:163:LEU:C	7:D:163:LEU:HD22	2.41	0.46
12:I:76:MET:HE3	12:I:148:VAL:HG22	1.97	0.46
13:J:63:GLU:O	13:J:64:LYS:HB2	2.16	0.46
18:P:123:PRO:HA	18:P:124:LYS:N	2.31	0.46
21:S:156:VAL:HA	21:S:157:GLN:N	2.30	0.46
22:T:64:VAL:HG11	22:T:67:VAL:CG2	2.45	0.46
29:a:75:LEU:O	29:a:76:ASP:C	2.58	0.46
37:i:17:VAL:HG22	37:i:18:THR:H	1.81	0.46
1:1:41:G:C3'	1:1:42:C:P	3.03	0.46
1:1:993:G:C4	1:1:2637:A:C2	3.04	0.46
1:1:1051:U:C3'	1:1:1052:U:P	3.04	0.46
1:1:1125:U:O2'	1:1:2643:A:N1	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2208:A:O2'	1:1:2209:U:C4	2.67	0.46
1:1:2311:G:C2'	1:1:2312:A:O5'	2.64	0.46
1:1:2444:C:O3'	1:1:2445:A:C5'	2.64	0.46
1:1:3176:G:H1'	34:f:3:GLU:CD	2.41	0.46
3:4:36:G:C5	36:h:86:ARG:HD3	2.51	0.46
3:4:79:A:C6	3:4:80:A:N1	2.84	0.46
4:A:112:ILE:HG23	4:A:133:TYR:CD2	2.51	0.46
4:A:225:ILE:N	4:A:225:ILE:HD12	2.31	0.46
6:C:317:PRO:O	6:C:319:LYS:N	2.49	0.46
7:D:53:VAL:HA	7:D:54:ARG:N	2.30	0.46
11:H:114:VAL:C	11:H:115:ARG:N	2.74	0.46
12:I:177:ASP:N	12:I:177:ASP:OD1	2.49	0.46
14:L:9:ILE:N	14:L:9:ILE:HD12	2.31	0.46
22:T:92:ARG:O	22:T:93:VAL:C	2.58	0.46
45:t:34:LEU:HD23	45:t:183:ILE:HG13	1.98	0.46
1:1:30:G:H3'	1:1:31:C:P	2.56	0.45
1:1:952:A:C3'	1:1:953:G:P	3.03	0.45
1:1:1638:A:O2'	35:g:52:GLN:NE2	2.49	0.45
1:1:1764:U:H3'	1:1:1765:U:C5'	2.46	0.45
1:1:2118:C:O3'	1:1:2119:A:P	2.74	0.45
1:1:2995:A:H4'	3:4:1:A:C2	2.51	0.45
3:4:38:U:C4	36:h:89:ARG:HD2	2.51	0.45
5:B:85:VAL:HA	5:B:86:VAL:N	2.30	0.45
6:C:194:TYR:C	6:C:195:ARG:HG3	2.41	0.45
10:G:143:ILE:CD1	10:G:151:VAL:HG21	2.47	0.45
10:G:162:LEU:HD23	16:N:7:LEU:CD2	2.46	0.45
14:L:113:VAL:O	14:L:114:GLN:N	2.49	0.45
16:N:113:LEU:C	16:N:114:ARG:N	2.74	0.45
18:P:129:THR:HG21	18:P:139:TYR:CD2	2.52	0.45
19:Q:121:CYS:C	19:Q:122:ILE:HD12	2.42	0.45
21:S:81:TYR:C	21:S:82:ASP:N	2.74	0.45
22:T:139:ARG:HA	22:T:140:ILE:N	2.31	0.45
27:Y:68:GLY:HA3	27:Y:69:LYS:N	2.31	0.45
45:t:8:GLN:O	45:t:12:HIS:HB2	2.15	0.45
1:1:271:C:H2'	1:1:272:G:O4'	2.15	0.45
1:1:1493:G:C5	40:l:13:MET:SD	3.10	0.45
1:1:2093:A:O5'	20:R:143:ILE:HD11	2.16	0.45
1:1:2219:A:O3'	1:1:2220:A:P	2.74	0.45
1:1:2969:A:H2'	1:1:2970:C:O4'	2.16	0.45
4:A:80:GLU:OE2	44:p:73:THR:HG22	2.17	0.45
5:B:325:LYS:HG2	5:B:326:GLY:N	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:215:ILE:C	6:C:216:VAL:CA	2.90	0.45
6:C:280:ILE:O	19:Q:123:THR:HG22	2.16	0.45
7:D:37:VAL:HG11	22:T:27:LEU:HD12	1.98	0.45
7:D:169:GLY:C	7:D:170:GLY:N	2.74	0.45
7:D:171:LEU:C	7:D:172:TYR:N	2.73	0.45
10:G:150:LEU:HD11	10:G:152:LEU:HD13	1.99	0.45
12:I:140:THR:HB	12:I:141:LYS:N	2.32	0.45
14:L:27:ASP:O	14:L:28:GLN:C	2.59	0.45
14:L:105:ASN:O	14:L:107:GLU:N	2.49	0.45
16:N:84:PRO:O	16:N:85:THR:C	2.60	0.45
21:S:48:LEU:HD23	22:T:151:LEU:HD13	1.97	0.45
24:V:53:SER:C	24:V:54:LEU:C	2.84	0.45
1:1:793:C:H2'	1:1:794:U:O4'	2.16	0.45
1:1:819:U:H3'	1:1:820:A:OP2	2.16	0.45
1:1:987:U:C2	1:1:1098:A:C2	3.04	0.45
1:1:1566:A:N3	1:1:1573:G:O6	2.49	0.45
1:1:2561:A:C4	10:G:32:LYS:HD3	2.52	0.45
1:1:3348:G:H2'	1:1:3349:C:C6	2.51	0.45
2:3:80:G:H2'	2:3:81:U:O4'	2.17	0.45
3:4:59:A:C2	3:4:61:A:C2	3.05	0.45
4:A:126:LEU:HD13	4:A:150:LEU:HD21	1.98	0.45
5:B:317:ILE:C	5:B:318:LYS:HA	2.41	0.45
6:C:207:VAL:HG21	6:C:219:LEU:HD13	1.98	0.45
9:F:37:ASN:O	9:F:41:ARG:N	2.49	0.45
11:H:57:VAL:HG23	11:H:68:LEU:HD23	1.99	0.45
16:N:187:ARG:HB3	16:N:188:ARG:N	2.31	0.45
23:U:82:LYS:O	23:U:83:TYR:C	2.59	0.45
29:a:66:ALA:C	29:a:67:HIS:N	2.74	0.45
34:f:90:PRO:O	34:f:92:LYS:N	2.50	0.45
37:i:25:LYS:C	37:i:26:ILE:CA	2.89	0.45
38:j:17:THR:HG22	38:j:18:LEU:H	1.82	0.45
38:j:52:LYS:O	38:j:53:ALA:C	2.59	0.45
1:1:597:G:C2	1:1:608:A:H1'	2.52	0.45
1:1:800:G:H2'	1:1:801:A:C8	2.51	0.45
1:1:948:C:O3'	1:1:949:C:OP1	2.35	0.45
1:1:2228:A:H2'	1:1:2229:A:C8	2.51	0.45
1:1:2278:C:H2'	1:1:2279:A:H5''	1.97	0.45
1:1:2321:A:O3'	1:1:2322:C:P	2.74	0.45
1:1:2376:G:C3'	1:1:2377:G:P	3.04	0.45
1:1:2571:U:O2	1:1:2571:U:C2'	2.64	0.45
1:1:2727:A:OP2	1:1:2728:G:N2	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2757:U:H3'	1:1:2758:A:P	2.56	0.45
1:1:2948:C:H2'	1:1:2949:U:O4'	2.17	0.45
14:L:53:LEU:N	14:L:53:LEU:HD23	2.31	0.45
25:W:36:SER:C	25:W:37:ALA:N	2.74	0.45
27:Y:68:GLY:CA	27:Y:69:LYS:N	2.80	0.45
27:Y:105:VAL:O	27:Y:106:ILE:C	2.59	0.45
32:d:36:ILE:CD1	32:d:59:ILE:HD11	2.45	0.45
33:e:32:TRP:CG	33:e:33:ARG:N	2.84	0.45
39:k:14:LEU:C	39:k:15:THR:N	2.74	0.45
1:1:606:C:C3'	1:1:607:A:P	3.04	0.45
1:1:934:G:C3'	1:1:935:U:P	3.05	0.45
1:1:2173:U:OP1	4:A:18:SER:N	2.49	0.45
5:B:204:ALA:O	5:B:205:VAL:C	2.60	0.45
9:F:186:HIS:O	9:F:187:GLU:HA	2.16	0.45
10:G:161:GLU:N	10:G:161:GLU:OE1	2.50	0.45
10:G:187:GLY:HA2	10:G:190:VAL:HG12	1.99	0.45
12:I:23:ASN:O	12:I:25:ALA:N	2.50	0.45
15:M:125:LYS:C	15:M:126:GLN:N	2.75	0.45
16:N:45:PRO:O	16:N:47:LYS:N	2.49	0.45
16:N:172:ARG:NE	16:N:174:ILE:HD11	2.31	0.45
19:Q:22:ASP:O	19:Q:23:ASN:N	2.50	0.45
21:S:124:LEU:HD13	22:T:155:PRO:HB3	1.99	0.45
28:Z:55:LYS:CG	28:Z:56:LYS:HA	2.46	0.45
45:t:54:LYS:CE	45:t:154:THR:N	2.75	0.45
1:1:68:C:H3'	1:1:69:C:OP2	2.17	0.45
1:1:268:A:C3'	1:1:269:G:P	3.02	0.45
1:1:696:C:O2'	1:1:697:A:O4'	2.33	0.45
1:1:1376:C:H3'	1:1:1377:G:P	2.57	0.45
1:1:2295:A:N3	1:1:2929:C:O2'	2.44	0.45
1:1:2376:G:N1	1:1:2377:G:C6	2.85	0.45
4:A:101:VAL:CA	4:A:102:LEU:HD12	2.46	0.45
5:B:251:CYS:SG	5:B:253:GLY:O	2.74	0.45
5:B:363:SER:OG	5:B:364:LYS:N	2.50	0.45
9:F:227:GLY:CA	9:F:228:SER:N	2.79	0.45
12:I:34:TYR:O	12:I:35:ASP:N	2.50	0.45
34:f:7:LEU:CA	34:f:8:TYR:N	2.80	0.45
45:t:54:LYS:HD3	45:t:155:ILE:H	1.75	0.45
1:1:1616:U:O3'	1:1:1617:G:P	2.74	0.45
1:1:1667:A:H61	1:1:1782:U:H3	1.63	0.45
1:1:2712:U:H2'	1:1:2713:U:C6	2.51	0.45
1:1:2991:A:H3'	1:1:2992:U:P	2.57	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:112:ILE:N	4:A:112:ILE:HD12	2.32	0.45
5:B:323:MET:C	5:B:324:VAL:N	2.75	0.45
6:C:240:PRO:C	6:C:241:GLY:N	2.74	0.45
11:H:134:ILE:HA	11:H:135:GLU:N	2.31	0.45
14:L:53:LEU:HD22	14:L:94:GLY:HA2	1.99	0.45
15:M:54:PRO:HA	15:M:55:ARG:N	2.32	0.45
15:M:116:GLU:O	15:M:120:VAL:HG13	2.17	0.45
20:R:61:SER:O	20:R:63:THR:N	2.49	0.45
20:R:63:THR:O	20:R:64:ARG:C	2.59	0.45
20:R:156:ASN:O	20:R:157:GLU:CB	2.64	0.45
21:S:108:GLN:O	21:S:112:ALA:N	2.49	0.45
23:U:90:ARG:O	23:U:91:ASP:CB	2.65	0.45
24:V:13:ILE:HD11	24:V:54:LEU:O	2.16	0.45
28:Z:26:VAL:HG12	28:Z:89:VAL:HG21	1.97	0.45
28:Z:132:SER:C	28:Z:133:LYS:N	2.75	0.45
39:k:49:SER:O	39:k:50:SER:CB	2.65	0.45
1:1:952:A:HO3'	1:1:953:G:P	2.31	0.45
1:1:1225:A:C2	1:1:3116:G:C4	3.05	0.45
1:1:1278:A:O2'	1:1:1279:C:C6	2.70	0.45
1:1:2737:C:H4'	22:T:68:THR:OG1	2.17	0.45
1:1:3363:U:H2'	1:1:3364:C:O4'	2.17	0.45
2:3:47:C:OP1	7:D:95:TRP:N	2.50	0.45
2:3:55:A:H2'	2:3:56:A:O4'	2.17	0.45
5:B:114:VAL:HG22	5:B:163:HIS:CD2	2.52	0.45
5:B:279:ASN:OD1	5:B:279:ASN:N	2.50	0.45
7:D:83:LEU:N	7:D:84:PRO:CD	2.80	0.45
9:F:147:LEU:HD21	9:F:240:VAL:HG13	1.99	0.45
11:H:150:SER:OG	11:H:151:VAL:N	2.49	0.45
13:J:84:LEU:HD11	13:J:163:PHE:CE2	2.51	0.45
22:T:45:ASN:HB3	22:T:48:ILE:HG12	1.98	0.45
22:T:68:THR:OG1	22:T:69:LYS:N	2.48	0.45
27:Y:101:PRO:O	27:Y:104:LEU:N	2.50	0.45
27:Y:114:ASP:O	27:Y:118:LEU:N	2.50	0.45
1:1:126:U:H2'	1:1:127:G:O4'	2.17	0.45
1:1:160:G:N2	1:1:262:U:O2	2.50	0.45
1:1:637:C:H1'	1:1:638:C:C6	2.51	0.45
1:1:641:C:H2'	1:1:642:U:O4'	2.17	0.45
1:1:913:A:C3'	1:1:914:A:P	3.05	0.45
1:1:1003:A:H3'	1:1:1004:U:P	2.57	0.45
1:1:1245:A:C3'	1:1:1246:G:H5''	2.47	0.45
1:1:1565:G:N2	1:1:1566:A:H1'	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1764:U:H3'	1:1:1765:U:H5''	1.99	0.45
12:I:12:GLN:C	12:I:13:LYS:N	2.75	0.45
13:J:92:ARG:NH2	13:J:173:ASP:OD2	2.46	0.45
14:L:57:VAL:HG12	14:L:147:ILE:HD12	1.99	0.45
16:N:75:VAL:HG21	16:N:78:GLY:C	2.42	0.45
16:N:198:SER:O	16:N:199:LEU:N	2.49	0.45
18:P:106:GLY:C	18:P:107:LEU:N	2.75	0.45
20:R:96:ILE:HG22	20:R:97:ARG:N	2.31	0.45
26:X:60:TYR:C	26:X:61:LYS:CA	2.90	0.45
28:Z:18:TYR:O	28:Z:21:LYS:HB2	2.17	0.45
33:e:100:ILE:O	33:e:101:SER:N	2.49	0.45
1:1:575:G:C6	1:1:576:C:C4	3.05	0.45
1:1:1493:G:O6	40:l:2:ALA:HB2	2.17	0.45
1:1:2541:U:O2	1:1:2541:U:C2'	2.65	0.45
1:1:2574:G:N7	28:Z:56:LYS:HB3	2.32	0.45
1:1:2733:A:H2'	1:1:2734:A:O4'	2.17	0.45
1:1:2773:C:H3'	1:1:2774:C:P	2.57	0.45
4:A:181:LYS:C	4:A:183:GLY:N	2.75	0.45
5:B:19:ARG:O	5:B:20:LYS:N	2.50	0.45
9:F:157:ASN:HD22	9:F:157:ASN:N	2.15	0.45
9:F:196:LYS:O	9:F:197:GLN:N	2.50	0.45
12:I:176:LEU:HD11	12:I:199:PHE:CE1	2.52	0.45
19:Q:81:VAL:HG22	19:Q:101:VAL:HG22	1.98	0.45
21:S:3:HIS:CG	21:S:4:PHE:N	2.85	0.45
21:S:62:ASN:HA	21:S:63:GLN:N	2.31	0.45
27:Y:111:LEU:C	27:Y:112:ASP:N	2.75	0.45
34:f:30:ILE:N	34:f:81:VAL:O	2.50	0.45
1:1:678:G:H2'	1:1:679:U:O4'	2.16	0.44
1:1:952:A:OP1	30:b:14:ARG:NH2	2.50	0.44
1:1:1431:G:OP2	29:a:9:ARG:NH2	2.45	0.44
1:1:1637:A:C3'	1:1:1638:A:P	3.05	0.44
1:1:1926:C:H4'	1:1:1927:G:C4	2.52	0.44
1:1:2213:A:H2'	1:1:2214:A:C8	2.52	0.44
1:1:2574:G:C2	1:1:2575:G:N7	2.85	0.44
1:1:2620:G:O3'	1:1:2621:G:P	2.75	0.44
1:1:2821:C:O3'	1:1:2822:U:P	2.75	0.44
3:4:85:G:O3'	3:4:86:U:P	2.75	0.44
5:B:257:PRO:O	5:B:259:HIS:N	2.47	0.44
7:D:16:PHE:C	7:D:17:GLN:HA	2.42	0.44
10:G:186:LEU:HB2	10:G:195:SER:HB3	1.97	0.44
12:I:19:LYS:C	12:I:20:SER:HA	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:80:LEU:HD22	13:J:84:LEU:HD12	1.99	0.44
16:N:64:VAL:N	16:N:130:PHE:O	2.49	0.44
18:P:68:GLY:O	18:P:69:ARG:HA	2.18	0.44
29:a:72:VAL:CA	29:a:73:LEU:N	2.79	0.44
37:i:54:GLU:HB3	37:i:90:MET:HE3	1.98	0.44
45:t:212:PRO:O	45:t:214:PHE:N	2.50	0.44
1:1:546:C:C6	1:1:546:C:H5'	2.52	0.44
1:1:687:U:OP2	14:L:36:ARG:NH2	2.50	0.44
1:1:819:U:O3'	1:1:820:A:P	2.75	0.44
1:1:826:G:OP1	1:1:1590:G:O2'	2.29	0.44
1:1:916:G:N1	4:A:207:VAL:HG21	2.32	0.44
1:1:1263:A:H2'	1:1:1263:A:N3	2.32	0.44
1:1:2835:U:H2'	1:1:2836:C:O2	2.17	0.44
1:1:2941:A:C8	5:B:255:TRP:CD2	3.05	0.44
4:A:207:VAL:C	4:A:208:ASP:CA	2.89	0.44
4:A:215:ASN:O	4:A:216:HIS:N	2.50	0.44
9:F:208:SER:HG	9:F:209:ASN:N	2.15	0.44
10:G:213:LYS:C	10:G:214:LEU:N	2.75	0.44
11:H:159:ALA:C	11:H:162:GLN:HB3	2.43	0.44
12:I:76:MET:HG2	12:I:147:VAL:HG12	1.98	0.44
16:N:38:ARG:N	16:N:62:TYR:CE2	2.85	0.44
18:P:72:GLN:C	18:P:73:GLY:N	2.75	0.44
18:P:94:LEU:CB	18:P:148:LEU:HD21	2.47	0.44
19:Q:163:PRO:HA	19:Q:164:ARG:N	2.32	0.44
24:V:28:ASN:HD21	24:V:112:SER:H	1.65	0.44
26:X:31:THR:HA	26:X:32:PHE:N	2.33	0.44
29:a:3:SER:O	29:a:6:THR:HG22	2.17	0.44
1:1:587:U:C3'	1:1:588:G:P	3.05	0.44
1:1:632:G:O2'	34:f:23:ASN:ND2	2.50	0.44
1:1:900:G:H1'	1:1:1589:A:N6	2.32	0.44
1:1:1049:C:H2'	1:1:1050:U:H6	1.82	0.44
1:1:1913:A:C4	1:1:2120:A:C2	3.05	0.44
1:1:2465:G:H4'	45:t:166:ALA:CB	2.47	0.44
1:1:2585:G:H2'	1:1:2585:G:N3	2.32	0.44
1:1:2873:U:O2	1:1:2873:U:O4'	2.36	0.44
1:1:3014:U:H3'	1:1:3015:G:OP2	2.17	0.44
4:A:17:THR:C	4:A:18:SER:HA	2.43	0.44
5:B:9:PRO:C	5:B:10:ARG:N	2.76	0.44
7:D:94:ASN:OD1	7:D:97:ALA:N	2.50	0.44
7:D:205:SER:HB3	7:D:236:LEU:HD12	1.99	0.44
11:H:83:THR:O	11:H:84:LYS:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:184:LYS:H	16:N:185:ALA:N	2.14	0.44
38:j:39:TYR:CD2	38:j:40:PRO:CD	3.00	0.44
1:1:639:G:OP1	33:e:37:GLY:HA3	2.17	0.44
1:1:802:C:O3'	1:1:803:C:P	2.75	0.44
1:1:1673:G:H2'	1:1:1674:G:O5'	2.17	0.44
1:1:2617:U:O2	1:1:2617:U:H2'	2.17	0.44
1:1:2895:G:O2'	41:m:100:TYR:O	2.29	0.44
1:1:3280:U:O2'	1:1:3281:U:H5'	2.18	0.44
2:3:67:G:O2'	2:3:68:C:O4'	2.34	0.44
3:4:125:U:O2'	3:4:126:A:O5'	2.35	0.44
4:A:211:HIS:C	4:A:212:GLY:CA	2.90	0.44
5:B:260:VAL:HG11	5:B:266:ARG:NH1	2.32	0.44
5:B:305:ILE:HG12	5:B:321:PHE:CE2	2.52	0.44
16:N:155:VAL:O	16:N:162:ARG:NH2	2.50	0.44
18:P:48:LEU:HD13	18:P:88:VAL:HG13	2.00	0.44
18:P:137:ASN:C	18:P:138:LYS:HA	2.42	0.44
29:a:12:ARG:C	29:a:13:GLY:N	2.75	0.44
30:b:17:HIS:C	30:b:18:ARG:CA	2.90	0.44
32:d:30:PRO:O	32:d:31:ARG:N	2.49	0.44
35:g:72:VAL:O	35:g:73:SER:HA	2.17	0.44
45:t:12:HIS:CE1	45:t:214:PHE:HB3	2.52	0.44
1:1:110:G:C3'	1:1:111:C:P	3.05	0.44
1:1:350:C:C3'	1:1:351:A:P	3.05	0.44
1:1:844:G:H2'	1:1:845:G:O5'	2.18	0.44
1:1:1320:C:C3'	1:1:1321:G:P	3.06	0.44
1:1:1445:U:C3'	1:1:1446:A:P	3.05	0.44
1:1:1605:A:O2'	1:1:1607:U:OP2	2.35	0.44
1:1:2530:G:H2'	1:1:2531:C:O4'	2.18	0.44
1:1:2770:G:O3'	1:1:2771:U:P	2.75	0.44
1:1:2824:G:H3'	1:1:2825:C:P	2.58	0.44
1:1:2943:G:H2'	1:1:2944:U:O4'	2.17	0.44
5:B:38:SER:HB2	5:B:39:LYS:N	2.32	0.44
6:C:163:LYS:O	6:C:164:GLU:N	2.51	0.44
11:H:133:THR:N	11:H:147:SER:O	2.51	0.44
13:J:167:TYR:C	13:J:168:ASP:N	2.76	0.44
21:S:105:THR:HG1	21:S:106:LEU:N	2.16	0.44
22:T:29:THR:O	22:T:30:TYR:N	2.51	0.44
32:d:86:LYS:N	32:d:86:LYS:HE3	2.33	0.44
33:e:21:HIS:O	33:e:22:SER:C	2.59	0.44
43:o:54:THR:C	43:o:55:LYS:HG2	2.43	0.44
44:p:28:LYS:O	44:p:29:LEU:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:883:A:O4'	18:P:133:HIS:HA	2.18	0.44
1:1:1046:A:H2'	1:1:1049:C:C5	2.52	0.44
5:B:137:TYR:CE2	5:B:144:ILE:HD13	2.53	0.44
10:G:167:PRO:C	10:G:169:LEU:N	2.76	0.44
11:H:45:PHE:C	11:H:46:THR:CA	2.91	0.44
11:H:120:ASP:C	11:H:121:LYS:N	2.75	0.44
12:I:197:VAL:HA	12:I:198:LYS:N	2.31	0.44
14:L:108:ILE:O	14:L:109:PHE:C	2.60	0.44
16:N:68:ARG:C	16:N:69:GLY:N	2.76	0.44
28:Z:25:ILE:HA	28:Z:43:VAL:HG12	1.99	0.44
28:Z:26:VAL:HG21	28:Z:96:VAL:HB	1.99	0.44
32:d:28:ARG:O	32:d:29:ALA:C	2.61	0.44
45:t:87:VAL:C	45:t:88:ASP:N	2.76	0.44
1:1:59:G:H2'	3:4:33:A:H2'	1.99	0.44
1:1:153:U:C2'	1:1:154:U:H5'	2.48	0.44
1:1:654:C:OP1	33:e:27:ARG:NH2	2.51	0.44
1:1:676:G:H3'	1:1:677:A:OP2	2.18	0.44
1:1:873:C:H3'	1:1:874:U:H4'	2.00	0.44
1:1:1690:C:H2'	1:1:1691:U:O4'	2.17	0.44
1:1:2333:C:H2'	1:1:2334:U:O4'	2.18	0.44
1:1:2372:A:O3'	1:1:2373:A:OP2	2.36	0.44
1:1:2555:G:H5'	1:1:2555:G:C8	2.46	0.44
1:1:3095:U:H2'	1:1:3096:C:C6	2.53	0.44
3:4:15:G:C6	3:4:16:G:N1	2.86	0.44
3:4:18:U:H2'	3:4:19:C:O4'	2.18	0.44
14:L:27:ASP:O	14:L:30:GLY:N	2.50	0.44
19:Q:4:ASP:O	19:Q:5:HIS:N	2.51	0.44
20:R:123:LEU:O	20:R:126:GLU:N	2.50	0.44
21:S:73:LYS:C	21:S:74:ASN:HA	2.43	0.44
21:S:90:MET:HE1	21:S:114:HIS:CE1	2.53	0.44
35:g:56:THR:HA	35:g:57:LEU:N	2.32	0.44
36:h:35:LYS:C	36:h:36:LEU:N	2.76	0.44
38:j:19:CYS:CB	38:j:22:CYS:HG	2.29	0.44
40:l:9:ILE:O	40:l:10:LYS:C	2.61	0.44
42:n:3:ALA:C	42:n:5:TRP:N	2.76	0.44
1:1:1363:A:C2'	1:1:1364:C:O5'	2.66	0.44
1:1:1613:A:C2	1:1:1614:C:C2	3.06	0.44
1:1:1676:A:H3'	1:1:1677:G:P	2.57	0.44
1:1:1940:G:H3'	1:1:1941:C:P	2.57	0.44
3:4:38:U:O4	36:h:89:ARG:HD2	2.18	0.44
7:D:33:ARG:O	7:D:34:LYS:C	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:177:GLU:O	7:D:178:ASN:N	2.51	0.44
9:F:132:PRO:HA	9:F:229:PHE:CD1	2.53	0.44
9:F:202:LEU:O	9:F:203:TRP:N	2.50	0.44
10:G:128:LYS:O	10:G:130:TYR:N	2.51	0.44
12:I:30:LYS:N	12:I:31:ILE:N	2.65	0.44
15:M:120:VAL:C	15:M:121:MET:CA	2.91	0.44
16:N:113:LEU:HD12	16:N:136:ASP:N	2.33	0.44
24:V:11:PHE:HB2	24:V:88:ARG:CZ	2.47	0.44
37:i:58:ILE:HD13	37:i:58:ILE:N	2.32	0.44
41:m:105:PRO:C	41:m:106:ARG:CA	2.91	0.44
1:1:251:G:H4'	1:1:252:U:H5'	2.00	0.44
1:1:1167:U:H2'	1:1:1168:U:O4'	2.18	0.44
1:1:1301:A:H4'	1:1:1302:A:O5'	2.18	0.44
1:1:1390:A:C3'	1:1:1391:C:P	3.04	0.44
1:1:2140:U:O3'	1:1:2141:U:P	2.75	0.44
1:1:2443:A:C2	1:1:2444:C:C4	3.05	0.44
1:1:2571:U:O3'	1:1:2572:C:P	2.76	0.44
1:1:2785:A:H2'	1:1:2786:G:O4'	2.17	0.44
1:1:3356:G:H2'	1:1:3357:U:C6	2.53	0.44
3:4:93:U:H2'	3:4:94:C:O4'	2.17	0.44
4:A:40:TYR:HB2	4:A:94:ALA:HB2	2.00	0.44
4:A:181:LYS:O	4:A:183:GLY:N	2.51	0.44
5:B:48:GLY:CA	5:B:49:TYR:N	2.81	0.44
5:B:87:VAL:N	5:B:161:LEU:O	2.51	0.44
5:B:187:SER:O	5:B:190:GLU:N	2.50	0.44
5:B:284:ARG:HB3	5:B:323:MET:HB3	1.99	0.44
5:B:386:ASP:HB3	5:B:387:LEU:HD12	1.99	0.44
7:D:141:PRO:C	7:D:142:PHE:N	2.76	0.44
9:F:219:LYS:C	9:F:220:PHE:CA	2.91	0.44
12:I:140:THR:HG21	12:I:148:VAL:HG21	2.00	0.44
13:J:96:PHE:CE2	13:J:160:VAL:HG12	2.52	0.44
18:P:97:ASN:C	18:P:98:ALA:CA	2.91	0.44
19:Q:167:SER:C	19:Q:168:THR:HA	2.43	0.44
20:R:162:ARG:O	20:R:166:ASN:HB2	2.16	0.44
20:R:172:ARG:O	20:R:176:ARG:NE	2.50	0.44
22:T:30:TYR:C	22:T:31:LEU:CA	2.91	0.44
28:Z:97:SER:C	28:Z:98:THR:N	2.76	0.44
29:a:39:HIS:HB2	29:a:40:HIS:N	2.33	0.44
45:t:194:LEU:O	45:t:195:LYS:HB2	2.17	0.44
1:1:720:A:O3'	1:1:721:G:C5'	2.66	0.43
1:1:796:U:H1'	14:L:7:LEU:HD13	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:970:A:OP2	30:b:19:ASN:ND2	2.47	0.43
1:1:2325:G:H3'	1:1:2326:A:P	2.58	0.43
4:A:54:ARG:HD3	4:A:56:ALA:HB3	2.00	0.43
4:A:243:THR:O	4:A:244:GLY:C	2.61	0.43
5:B:48:GLY:O	5:B:49:TYR:N	2.50	0.43
14:L:47:ALA:CB	14:L:48:PRO:HD2	2.48	0.43
19:Q:89:ASP:C	19:Q:90:ASP:CA	2.91	0.43
29:a:17:ALA:C	29:a:18:GLY:CA	2.91	0.43
36:h:109:ILE:C	36:h:110:ALA:N	2.76	0.43
1:1:34:A:C3'	1:1:35:A:P	3.06	0.43
1:1:73:C:C2	14:L:59:ARG:HD3	2.52	0.43
1:1:406:G:H1'	3:4:16:G:N2	2.33	0.43
1:1:1117:G:C2	1:1:1118:C:C2	3.06	0.43
1:1:1323:G:C2'	1:1:1324:U:O5'	2.66	0.43
1:1:1591:G:O2'	1:1:1799:A:N1	2.45	0.43
1:1:2479:C:C5	1:1:2480:G:C5	3.06	0.43
1:1:2669:G:C2	1:1:2686:A:C2	3.06	0.43
1:1:3008:A:H2'	1:1:3009:G:O4'	2.18	0.43
1:1:3108:G:H3'	1:1:3109:G:OP2	2.18	0.43
4:A:77:ILE:C	4:A:78:ALA:CA	2.92	0.43
4:A:187:HIS:O	4:A:190:ARG:N	2.50	0.43
5:B:302:LYS:O	5:B:303:LYS:N	2.51	0.43
6:C:299:ILE:O	6:C:300:ARG:N	2.50	0.43
11:H:105:GLU:HG3	11:H:109:ALA:N	2.33	0.43
11:H:131:GLY:C	11:H:132:VAL:N	2.76	0.43
13:J:128:TYR:C	13:J:129:VAL:N	2.76	0.43
14:L:110:ASP:O	14:L:111:ALA:N	2.51	0.43
24:V:26:ALA:O	24:V:115:THR:N	2.51	0.43
34:f:53:TYR:C	34:f:54:ARG:CA	2.90	0.43
44:p:73:THR:HG23	44:p:75:ALA:N	2.33	0.43
44:p:87:ARG:O	44:p:88:GLU:HA	2.17	0.43
1:1:787:G:O3'	1:1:788:C:P	2.75	0.43
1:1:1003:A:O3'	1:1:1004:U:P	2.76	0.43
1:1:1122:U:C3'	1:1:1123:U:P	3.07	0.43
1:1:2144:A:H1'	1:1:2281:A:N6	2.32	0.43
1:1:2768:U:C3'	1:1:2769:A:P	3.06	0.43
1:1:3138:U:O2'	1:1:3139:A:O4'	2.36	0.43
4:A:101:VAL:HA	4:A:102:LEU:N	2.34	0.43
5:B:152:LYS:C	5:B:153:LYS:N	2.76	0.43
12:I:148:VAL:O	12:I:151:GLY:N	2.50	0.43
12:I:200:LEU:HD13	12:I:213:PHE:CD2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:38:ILE:HD11	21:S:150:PHE:CZ	2.53	0.43
19:Q:105:ARG:CA	19:Q:106:PHE:N	2.81	0.43
20:R:4:LEU:HD13	20:R:24:LEU:CD2	2.48	0.43
20:R:23:TRP:O	20:R:50:ILE:HA	2.19	0.43
20:R:90:PRO:C	20:R:91:SER:CA	2.91	0.43
21:S:32:SER:OG	21:S:36:ILE:HD13	2.17	0.43
22:T:76:ILE:HG22	22:T:77:ASN:HA	2.01	0.43
29:a:2:PRO:HG2	29:a:5:PHE:CD2	2.52	0.43
37:i:42:SER:O	37:i:43:LEU:N	2.51	0.43
38:j:5:THR:OG1	38:j:6:PRO:HD3	2.18	0.43
1:1:1600:U:H3'	1:1:1601:U:P	2.59	0.43
1:1:2297:U:O2	1:1:2920:U:H5'	2.18	0.43
1:1:2425:G:OP2	16:N:90:ASN:ND2	2.50	0.43
1:1:2865:U:H3'	1:1:2866:U:P	2.58	0.43
1:1:3023:U:O3'	1:1:3024:A:P	2.76	0.43
1:1:3042:U:O3'	1:1:3043:C:P	2.76	0.43
1:1:3298:C:C3'	1:1:3299:A:P	3.06	0.43
2:3:95:A:O3'	2:3:96:U:P	2.76	0.43
5:B:24:SER:OG	5:B:25:ILE:N	2.51	0.43
6:C:35:VAL:CB	6:C:36:HIS:N	2.80	0.43
6:C:35:VAL:HB	6:C:36:HIS:N	2.33	0.43
7:D:53:VAL:C	7:D:54:ARG:N	2.75	0.43
9:F:132:PRO:HA	9:F:229:PHE:CG	2.53	0.43
9:F:138:TYR:CD2	9:F:233:GLU:HA	2.53	0.43
9:F:144:ILE:HD13	9:F:188:ILE:HG22	2.00	0.43
28:Z:43:VAL:HA	28:Z:44:ALA:N	2.33	0.43
29:a:30:GLY:C	29:a:31:GLY:CA	2.92	0.43
29:a:71:PRO:C	29:a:72:VAL:HA	2.43	0.43
30:b:25:LYS:HD3	30:b:26:THR:N	2.34	0.43
32:d:77:ARG:O	32:d:78:LYS:N	2.51	0.43
35:g:61:GLN:HA	35:g:61:GLN:HE21	1.82	0.43
36:h:28:LEU:O	36:h:31:LEU:N	2.51	0.43
37:i:69:ALA:O	37:i:70:ARG:C	2.61	0.43
1:1:68:C:N4	1:1:314:U:O3'	2.51	0.43
1:1:728:G:H2'	1:1:729:C:O4'	2.19	0.43
1:1:2731:U:H2'	1:1:2732:G:O4'	2.19	0.43
1:1:2895:G:H3'	1:1:2896:A:P	2.59	0.43
1:1:3198:U:H3'	1:1:3199:G:C5'	2.48	0.43
4:A:15:ILE:HD11	4:A:16:PHE:CE2	2.53	0.43
4:A:15:ILE:C	4:A:16:PHE:N	2.75	0.43
4:A:113:VAL:HG22	4:A:136:ILE:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:4:ARG:N	5:B:5:LYS:N	2.67	0.43
7:D:102:GLY:O	7:D:106:ALA:N	2.52	0.43
8:E:101:PHE:CA	8:E:102:ASN:N	2.81	0.43
10:G:150:LEU:HD21	10:G:218:ILE:HD13	2.01	0.43
12:I:43:VAL:HG21	12:I:197:VAL:HG11	1.99	0.43
12:I:190:VAL:HG13	12:I:197:VAL:HG22	1.99	0.43
14:L:8:PRO:O	14:L:9:ILE:HA	2.18	0.43
14:L:85:LEU:C	14:L:86:THR:N	2.76	0.43
18:P:127:ARG:HB3	18:P:139:TYR:C	2.43	0.43
19:Q:89:ASP:C	19:Q:90:ASP:HA	2.42	0.43
22:T:96:ILE:O	22:T:97:LYS:N	2.50	0.43
37:i:47:ILE:HB	37:i:48:ALA:N	2.33	0.43
44:p:50:GLY:O	44:p:51:ALA:HB3	2.18	0.43
45:t:41:TYR:CD2	45:t:163:LEU:HD11	2.54	0.43
45:t:54:LYS:H	45:t:154:THR:CA	2.31	0.43
45:t:194:LEU:O	45:t:195:LYS:CB	2.66	0.43
1:1:321:C:H3'	1:1:322:U:P	2.58	0.43
1:1:734:C:H2'	1:1:734:C:O2	2.18	0.43
1:1:2419:A:HO3'	1:1:2420:C:P	2.40	0.43
1:1:2511:C:O2	1:1:2511:C:C2'	2.66	0.43
5:B:54:THR:C	5:B:55:THR:CA	2.90	0.43
5:B:335:ILE:HD13	5:B:335:ILE:C	2.44	0.43
6:C:353:ALA:C	6:C:354:VAL:N	2.76	0.43
7:D:17:GLN:OE1	22:T:22:HIS:N	2.51	0.43
10:G:192:GLN:C	10:G:193:LYS:CA	2.92	0.43
16:N:90:ASN:O	16:N:91:GLU:N	2.50	0.43
18:P:95:LEU:CD2	18:P:148:LEU:HD13	2.47	0.43
26:X:98:ALA:O	26:X:102:LEU:N	2.52	0.43
33:e:100:ILE:N	33:e:100:ILE:HD13	2.33	0.43
33:e:112:ALA:O	33:e:115:LEU:N	2.51	0.43
35:g:44:CYS:SG	35:g:47:CYS:SG	3.16	0.43
36:h:66:VAL:O	36:h:68:GLN:N	2.51	0.43
37:i:16:LYS:HA	37:i:17:VAL:N	2.34	0.43
40:l:11:GLN:C	40:l:14:ALA:HB3	2.44	0.43
45:t:36:VAL:HA	45:t:204:LEU:CD2	2.47	0.43
1:1:30:G:C2	1:1:31:C:C2	3.07	0.43
1:1:91:G:N7	1:1:93:C:C2	2.87	0.43
1:1:1067:U:H3'	1:1:1068:C:P	2.59	0.43
1:1:1203:A:H2'	1:1:1204:A:C8	2.53	0.43
1:1:1529:A:O3'	1:1:1530:U:P	2.77	0.43
1:1:1908:A:C3'	1:1:1909:A:P	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2137:U:C3'	1:1:2138:A:P	3.07	0.43
1:1:2270:A:C6	1:1:2271:A:C6	3.06	0.43
2:3:119:U:O3'	2:3:120:C:P	2.77	0.43
3:4:76:C:H2'	3:4:77:A:O4'	2.18	0.43
4:A:243:THR:OG1	4:A:244:GLY:N	2.50	0.43
5:B:295:ALA:O	5:B:296:THR:N	2.52	0.43
5:B:335:ILE:HG23	5:B:335:ILE:O	2.18	0.43
6:C:215:ILE:C	6:C:216:VAL:C	2.87	0.43
6:C:266:THR:C	6:C:267:VAL:N	2.77	0.43
7:D:97:ALA:O	7:D:98:ALA:C	2.61	0.43
20:R:116:ASP:OD1	20:R:119:LEU:N	2.51	0.43
21:S:99:ARG:N	21:S:100:VAL:N	2.67	0.43
21:S:99:ARG:O	21:S:100:VAL:N	2.52	0.43
26:X:76:VAL:HG22	26:X:81:ILE:O	2.19	0.43
33:e:57:TYR:C	33:e:58:GLY:CA	2.91	0.43
36:h:45:LYS:O	36:h:46:THR:N	2.51	0.43
37:i:62:ARG:C	37:i:63:ASN:HA	2.44	0.43
38:j:58:THR:C	38:j:59:THR:N	2.77	0.43
1:1:1208:U:O2	1:1:3115:C:N4	2.52	0.43
1:1:1483:G:H4'	1:1:1484:U:OP1	2.19	0.43
1:1:2792:A:C3'	1:1:2793:G:P	3.06	0.43
3:4:116:G:H3'	3:4:117:C:P	2.59	0.43
4:A:104:LEU:CD2	4:A:158:ILE:HD11	2.48	0.43
5:B:336:VAL:C	5:B:337:THR:CA	2.92	0.43
10:G:85:ASN:C	10:G:86:THR:N	2.76	0.43
18:P:120:ASN:O	18:P:122:ALA:N	2.52	0.43
24:V:74:MET:SD	24:V:102:ILE:HD13	2.59	0.43
26:X:61:LYS:O	26:X:62:VAL:C	2.61	0.43
33:e:17:PHE:C	33:e:18:LYS:CA	2.91	0.43
33:e:59:SER:C	33:e:60:ASN:N	2.77	0.43
33:e:79:VAL:HG13	33:e:111:ARG:HG2	2.00	0.43
37:i:7:ILE:HG22	37:i:9:ILE:H	1.83	0.43
37:i:30:LYS:O	37:i:31:GLY:C	2.62	0.43
39:k:8:ILE:HD12	39:k:8:ILE:H	1.83	0.43
40:l:30:ARG:O	40:l:33:ASN:N	2.52	0.43
41:m:84:ALA:O	41:m:85:LEU:C	2.62	0.43
44:p:67:GLY:O	44:p:68:ALA:N	2.50	0.43
1:1:559:A:H2'	1:1:560:G:O4'	2.19	0.43
1:1:589:A:O3'	1:1:590:G:P	2.77	0.43
1:1:615:U:H3'	1:1:616:G:P	2.59	0.43
1:1:1240:A:N6	1:1:1244:A:H5''	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1646:G:O3'	1:1:1647:A:P	2.77	0.43
1:1:1765:U:C2'	1:1:1766:G:O4'	2.67	0.43
1:1:1938:U:O3'	1:1:1939:G:P	2.77	0.43
1:1:3190:C:H3'	1:1:3191:G:P	2.59	0.43
1:1:3371:G:C6	1:1:3372:A:C6	3.06	0.43
3:4:81:U:O2	3:4:82:U:C6	2.72	0.43
5:B:162:VAL:HG21	5:B:181:ILE:HD12	1.99	0.43
6:C:235:LEU:O	6:C:238:LEU:N	2.52	0.43
6:C:307:GLN:N	6:C:307:GLN:HE21	2.17	0.43
10:G:154:ALA:O	10:G:155:ASN:C	2.61	0.43
11:H:41:ILE:O	11:H:41:ILE:HD13	2.19	0.43
12:I:12:GLN:C	12:I:13:LYS:CA	2.92	0.43
14:L:76:THR:OG1	14:L:79:GLU:N	2.48	0.43
14:L:173:ALA:HB1	37:i:10:GLY:HA3	1.99	0.43
22:T:102:ARG:O	22:T:103:GLN:C	2.61	0.43
30:b:50:THR:C	30:b:51:ALA:N	2.77	0.43
35:g:101:VAL:C	35:g:102:LYS:N	2.76	0.43
41:m:116:GLY:O	41:m:117:HIS:C	2.61	0.43
44:p:35:ALA:HB3	44:p:37:TYR:CE1	2.54	0.43
1:1:200:C:OP1	27:Y:60:ARG:NH1	2.52	0.43
1:1:633:C:H2'	1:1:634:C:O4'	2.18	0.43
1:1:891:G:C5	1:1:892:U:C5	3.07	0.43
1:1:1077:U:O2	1:1:1083:G:C2	2.72	0.43
1:1:1398:U:H5''	1:1:1399:A:P	2.59	0.43
1:1:1654:A:H2'	1:1:1655:G:H5'	2.00	0.43
1:1:2986:U:C3'	1:1:2987:A:P	3.06	0.43
4:A:132:ASN:CA	4:A:133:TYR:N	2.82	0.43
5:B:289:ASP:O	5:B:290:ASP:N	2.52	0.43
6:C:195:ARG:O	6:C:196:ASN:CG	2.62	0.43
10:G:129:PRO:C	10:G:131:ALA:N	2.77	0.43
11:H:110:LYS:O	11:H:111:PHE:HA	2.19	0.43
19:Q:5:HIS:C	19:Q:6:THR:HA	2.44	0.43
21:S:35:VAL:C	21:S:36:ILE:O	2.62	0.43
22:T:75:ILE:HD11	22:T:86:GLU:HG3	2.00	0.43
24:V:100:GLY:CA	24:V:101:VAL:N	2.81	0.43
26:X:139:ILE:N	26:X:140:GLY:N	2.67	0.43
29:a:14:HIS:O	29:a:15:VAL:N	2.52	0.43
31:c:31:VAL:O	31:c:33:SER:N	2.52	0.43
38:j:23:GLY:C	38:j:24:ARG:N	2.77	0.43
44:p:74:ALA:O	44:p:78:THR:HG23	2.19	0.43
1:1:438:A:H2'	1:1:439:C:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:517:G:H8	1:1:517:G:H5''	1.84	0.42
1:1:595:G:H1	1:1:609:G:H5''	1.84	0.42
1:1:1223:A:O3'	1:1:1224:C:P	2.76	0.42
1:1:1229:G:H8	1:1:1229:G:OP2	2.01	0.42
1:1:2896:A:O2'	41:m:122:ARG:NH2	2.51	0.42
6:C:208:VAL:HG12	6:C:209:TYR:N	2.32	0.42
7:D:34:LYS:C	7:D:35:ARG:CA	2.91	0.42
7:D:278:SER:O	7:D:279:LYS:N	2.52	0.42
10:G:60:ARG:O	10:G:62:LYS:N	2.52	0.42
15:M:14:LEU:HD13	21:S:149:LYS:CB	2.49	0.42
22:T:154:VAL:HB	22:T:155:PRO:HD2	2.01	0.42
24:V:137:VAL:HG12	25:W:22:VAL:HG21	2.00	0.42
28:Z:77:TYR:O	28:Z:80:LEU:N	2.51	0.42
30:b:8:THR:O	30:b:9:ALA:CA	2.67	0.42
42:n:19:LYS:O	42:n:22:ALA:HB3	2.19	0.42
45:t:12:HIS:NE2	45:t:206:VAL:HB	2.33	0.42
45:t:60:ARG:N	45:t:174:MET:HE1	2.34	0.42
1:1:185:C:H2'	1:1:186:U:O4'	2.19	0.42
1:1:1617:G:C2	1:1:1828:A:C2	3.07	0.42
1:1:2131:A:N1	44:p:18:TYR:N	2.67	0.42
2:3:67:G:H2'	2:3:68:C:O4'	2.19	0.42
3:4:103:G:C6	3:4:105:A:C6	3.07	0.42
4:A:57:PRO:C	4:A:58:LEU:C	2.87	0.42
5:B:86:VAL:HG13	5:B:160:VAL:HG13	2.01	0.42
5:B:138:ALA:C	5:B:139:GLN:C	2.87	0.42
6:C:288:ARG:C	6:C:289:ILE:N	2.78	0.42
6:C:309:ARG:CZ	6:C:312:VAL:HG11	2.49	0.42
9:F:144:ILE:C	9:F:145:ARG:CA	2.88	0.42
12:I:118:ALA:C	12:I:119:TRP:C	2.86	0.42
14:L:170:LEU:HD11	29:a:129:PHE:HA	2.00	0.42
14:L:180:ARG:O	14:L:181:GLY:C	2.62	0.42
16:N:75:VAL:CG2	16:N:76:PRO:N	2.79	0.42
16:N:160:GLU:C	16:N:161:ALA:HA	2.44	0.42
20:R:10:LEU:C	20:R:11:ALA:CA	2.92	0.42
20:R:107:ALA:C	20:R:108:LYS:N	2.77	0.42
21:S:123:ILE:O	21:S:124:LEU:N	2.48	0.42
43:o:17:CYS:SG	43:o:21:THR:HG21	2.59	0.42
45:t:77:ALA:CB	45:t:84:ALA:HB2	2.47	0.42
1:1:355:A:O3'	1:1:356:C:P	2.78	0.42
1:1:1063:G:N7	1:1:1097:G:H2'	2.35	0.42
1:1:1558:A:HO2'	26:X:34:LEU:HG	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1709:C:C2	1:1:1736:G:N2	2.87	0.42
1:1:2160:G:C3'	1:1:2161:G:P	3.07	0.42
1:1:2634:U:C3'	1:1:2635:A:P	3.07	0.42
1:1:3261:C:H3'	1:1:3262:U:P	2.58	0.42
1:1:3278:C:H3'	1:1:3279:A:H5''	2.02	0.42
2:3:52:G:C2'	2:3:53:U:O5'	2.67	0.42
3:4:23:U:O3'	3:4:24:G:H5'	2.19	0.42
6:C:33:ASP:O	6:C:37:THR:HG23	2.19	0.42
9:F:106:LEU:N	9:F:106:LEU:HD23	2.34	0.42
13:J:9:MET:O	13:J:11:ASP:N	2.49	0.42
14:L:76:THR:O	14:L:79:GLU:N	2.52	0.42
19:Q:184:PHE:C	19:Q:185:LYS:CA	2.93	0.42
21:S:156:VAL:C	21:S:157:GLN:HA	2.45	0.42
23:U:55:THR:HG1	23:U:66:VAL:N	2.17	0.42
29:a:12:ARG:CA	29:a:13:GLY:N	2.80	0.42
32:d:17:HIS:C	32:d:18:LYS:N	2.78	0.42
33:e:78:ASN:HA	33:e:108:ILE:HD11	2.02	0.42
34:f:53:TYR:O	34:f:65:ARG:N	2.53	0.42
43:o:14:GLY:O	43:o:16:THR:N	2.51	0.42
1:1:826:G:H3'	1:1:827:A:P	2.59	0.42
1:1:894:G:O3'	1:1:895:A:O4'	2.36	0.42
1:1:1420:C:O2'	1:1:1421:G:O4'	2.37	0.42
1:1:3382:U:O2	1:1:3382:U:C2'	2.64	0.42
3:4:143:U:OP1	16:N:38:ARG:NH2	2.52	0.42
4:A:94:ALA:C	4:A:95:SER:N	2.77	0.42
4:A:121:GLY:O	4:A:122:ASP:N	2.52	0.42
4:A:199:THR:HA	4:A:200:ARG:N	2.34	0.42
5:B:75:ALA:O	5:B:76:VAL:HA	2.19	0.42
5:B:289:ASP:C	5:B:290:ASP:N	2.77	0.42
6:C:116:ASN:O	6:C:117:GLU:N	2.52	0.42
7:D:214:ASP:O	7:D:215:ASP:HB2	2.19	0.42
10:G:65:LEU:HD13	10:G:65:LEU:C	2.43	0.42
13:J:50:ALA:HB2	13:J:65:ILE:CD1	2.49	0.42
13:J:171:VAL:HG13	13:J:172:LEU:N	2.35	0.42
16:N:134:LEU:HD12	16:N:134:LEU:N	2.35	0.42
20:R:91:SER:HA	20:R:94:VAL:HG11	2.02	0.42
24:V:68:GLU:O	24:V:69:LEU:N	2.53	0.42
26:X:97:LYS:O	26:X:100:LYS:N	2.53	0.42
33:e:50:ILE:C	33:e:51:SER:N	2.78	0.42
37:i:15:LYS:C	37:i:16:LYS:N	2.78	0.42
44:p:41:PHE:CD2	44:p:62:LYS:HD2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:45:A:O2'	1:1:95:A:N1	2.41	0.42
1:1:211:A:O4'	1:1:229:G:H1'	2.19	0.42
1:1:802:C:H2'	1:1:803:C:O5'	2.19	0.42
1:1:943:U:OP1	29:a:15:VAL:N	2.53	0.42
1:1:1558:A:C6	10:G:55:TYR:CE1	3.08	0.42
1:1:2186:U:OP2	4:A:200:ARG:HD2	2.20	0.42
1:1:2356:A:C2	1:1:2357:A:N9	2.88	0.42
4:A:19:HIS:C	4:A:20:THR:HA	2.43	0.42
7:D:251:PRO:O	7:D:253:PHE:N	2.53	0.42
7:D:282:ARG:O	7:D:286:VAL:HG23	2.20	0.42
10:G:50:VAL:HG11	26:X:27:ARG:HG3	2.00	0.42
10:G:130:TYR:C	10:G:131:ALA:N	2.77	0.42
14:L:87:ALA:C	14:L:88:ALA:N	2.77	0.42
14:L:115:ARG:NH1	14:L:145:PHE:O	2.52	0.42
20:R:71:ARG:C	20:R:72:GLU:N	2.78	0.42
21:S:98:SER:C	21:S:99:ARG:N	2.77	0.42
25:W:23:ARG:N	25:W:27:LYS:O	2.52	0.42
27:Y:112:ASP:HB2	27:Y:115:ARG:HB2	2.00	0.42
37:i:25:LYS:C	37:i:26:ILE:N	2.78	0.42
40:l:5:LYS:HE3	40:l:13:MET:HE1	2.01	0.42
1:1:829:U:O3'	1:1:830:A:P	2.77	0.42
1:1:1404:G:C2	1:1:1408:G:C2	3.08	0.42
1:1:1742:U:H2'	1:1:1743:G:O4'	2.19	0.42
1:1:1895:A:N6	1:1:2341:A:N6	2.67	0.42
1:1:2778:G:H2'	1:1:2779:A:H5'	2.01	0.42
1:1:2932:U:O2	1:1:2934:A:C8	2.68	0.42
2:3:10:C:C3'	2:3:11:A:P	3.07	0.42
5:B:205:VAL:O	5:B:208:VAL:N	2.53	0.42
6:C:72:ALA:HB3	6:C:74:ILE:HG13	2.00	0.42
7:D:118:THR:HG23	7:D:118:THR:O	2.19	0.42
8:E:37:GLY:O	8:E:91:VAL:N	2.52	0.42
8:E:101:PHE:HA	8:E:102:ASN:N	2.33	0.42
11:H:103:ILE:C	11:H:104:VAL:N	2.77	0.42
12:I:119:TRP:C	12:I:120:GLY:CA	2.91	0.42
18:P:24:VAL:HG13	18:P:29:THR:HG21	2.01	0.42
21:S:73:LYS:O	21:S:74:ASN:HA	2.18	0.42
31:c:25:LEU:HB3	31:c:87:VAL:HG21	2.02	0.42
39:k:22:THR:HG22	39:k:74:LYS:HD2	2.01	0.42
42:n:3:ALA:C	42:n:5:TRP:H	2.27	0.42
45:t:67:ILE:HG12	45:t:84:ALA:HA	2.01	0.42
1:1:87:U:O3'	1:1:88:A:P	2.78	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:406:G:N3	3:4:16:G:C2	2.88	0.42
1:1:551:A:H2'	1:1:552:G:O4'	2.20	0.42
1:1:1168:U:O4	1:1:1329:U:H2'	2.20	0.42
1:1:1535:A:O3'	1:1:1536:G:P	2.78	0.42
1:1:2641:U:O2	1:1:2641:U:H2'	2.19	0.42
2:3:95:A:C6	2:3:96:U:C4	3.08	0.42
4:A:78:ALA:O	4:A:170:ALA:N	2.52	0.42
5:B:331:ASN:C	5:B:332:ARG:CA	2.92	0.42
7:D:289:LYS:C	7:D:290:ILE:N	2.78	0.42
11:H:75:VAL:O	11:H:78:MET:N	2.52	0.42
11:H:157:ASN:HD22	11:H:157:ASN:C	2.28	0.42
12:I:125:LEU:C	12:I:126:ALA:CA	2.92	0.42
12:I:125:LEU:C	12:I:126:ALA:HB2	2.44	0.42
13:J:38:GLU:O	13:J:42:GLY:N	2.52	0.42
14:L:140:SER:O	14:L:141:ALA:N	2.53	0.42
28:Z:95:VAL:C	28:Z:96:VAL:HA	2.45	0.42
38:j:5:THR:N	38:j:6:PRO:CD	2.83	0.42
39:k:60:GLY:O	39:k:63:LYS:N	2.53	0.42
45:t:26:ARG:HG2	45:t:27:ASN:N	2.34	0.42
1:1:841:A:H2'	1:1:842:G:O4'	2.20	0.42
1:1:1316:C:O3'	1:1:1317:A:P	2.78	0.42
1:1:1354:G:C2	1:1:1357:G:O3'	2.73	0.42
1:1:1599:G:N2	1:1:1609:C:C2	2.87	0.42
1:1:1655:G:C6	1:1:1656:A:C6	3.08	0.42
1:1:1843:C:O3'	1:1:1844:C:P	2.78	0.42
1:1:2137:U:H3'	1:1:2138:A:P	2.59	0.42
1:1:2270:A:N1	1:1:2271:A:C2	2.88	0.42
1:1:2674:A:O4'	13:J:105:GLY:HA3	2.20	0.42
4:A:71:LEU:N	4:A:71:LEU:CD1	2.82	0.42
6:C:131:VAL:O	6:C:134:LEU:N	2.53	0.42
9:F:205:PHE:HA	9:F:206:LYS:N	2.35	0.42
10:G:67:ILE:C	10:G:68:ARG:CA	2.93	0.42
10:G:143:ILE:C	10:G:144:GLU:HA	2.45	0.42
10:G:195:SER:O	10:G:196:ALA:HB3	2.20	0.42
13:J:166:LYS:O	13:J:167:TYR:CB	2.67	0.42
16:N:7:LEU:O	16:N:10:LEU:N	2.52	0.42
18:P:176:ILE:O	18:P:177:ALA:C	2.62	0.42
20:R:25:ASP:N	20:R:49:THR:O	2.53	0.42
24:V:81:GLN:O	24:V:82:ALA:HB3	2.19	0.42
29:a:41:HIS:O	29:a:42:ARG:N	2.52	0.42
31:c:104:LEU:HD23	31:c:105:ALA:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:d:13:THR:HG22	32:d:72:ARG:HD3	2.02	0.42
34:f:11:GLY:O	34:f:12:LYS:N	2.48	0.42
44:p:55:TRP:C	44:p:56:THR:CA	2.92	0.42
1:1:283:G:N3	1:1:283:G:C3'	2.82	0.42
1:1:321:C:C3'	1:1:322:U:P	3.08	0.42
1:1:955:U:H2'	1:1:956:U:C6	2.55	0.42
1:1:1323:G:H2'	1:1:1324:U:O5'	2.20	0.42
1:1:1584:U:H3'	1:1:1585:C:P	2.59	0.42
1:1:1757:A:C2	1:1:1769:G:C2	3.08	0.42
1:1:1856:C:H2'	1:1:1857:C:C6	2.55	0.42
1:1:2513:U:C5	1:1:2592:G:C6	3.08	0.42
1:1:2641:U:C3'	1:1:2642:A:P	3.07	0.42
1:1:2655:U:H1'	1:1:2656:A:C2	2.55	0.42
1:1:2768:U:H3'	1:1:2769:A:P	2.60	0.42
1:1:2941:A:N7	5:B:255:TRP:CE2	2.88	0.42
2:3:79:A:H3'	2:3:80:G:P	2.59	0.42
9:F:141:TYR:CA	9:F:189:ILE:HD12	2.50	0.42
13:J:78:GLU:HB2	13:J:79:ILE:N	2.35	0.42
20:R:173:ARG:HA	20:R:176:ARG:HB2	2.01	0.42
21:S:101:ALA:C	21:S:103:VAL:N	2.78	0.42
22:T:75:ILE:C	22:T:75:ILE:HD13	2.45	0.42
24:V:31:ALA:C	24:V:32:ARG:N	2.77	0.42
24:V:69:LEU:N	24:V:69:LEU:HD22	2.35	0.42
45:t:54:LYS:CE	45:t:153:SER:N	2.73	0.42
1:1:304:G:N3	1:1:304:G:H2'	2.35	0.42
1:1:960:U:O2'	1:1:961:C:O5'	2.35	0.42
1:1:1363:A:H2'	1:1:1364:C:O5'	2.20	0.42
1:1:1433:A:N3	33:e:27:ARG:NH1	2.68	0.42
1:1:2726:C:O5'	1:1:2726:C:O2	2.37	0.42
1:1:2861:U:H2'	1:1:2862:U:O4'	2.20	0.42
1:1:3152:U:C5	1:1:3395:G:C6	3.08	0.42
6:C:346:LYS:O	6:C:347:THR:N	2.52	0.42
16:N:135:VAL:HG23	16:N:142:ILE:HG12	2.01	0.42
21:S:69:PRO:O	21:S:97:VAL:HG22	2.20	0.42
40:l:43:ASN:HA	40:l:44:TRP:N	2.35	0.42
45:t:170:GLY:O	45:t:171:ASN:HB3	2.19	0.42
1:1:80:G:O3'	1:1:81:C:P	2.78	0.41
1:1:649:A:H2'	1:1:650:C:C6	2.55	0.41
1:1:1120:A:C2	1:1:1139:G:C2	3.07	0.41
1:1:1164:G:H3'	1:1:1165:A:P	2.60	0.41
1:1:1329:U:H4'	1:1:1330:A:OP1	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1467:A:N1	1:1:1511:U:O2'	2.49	0.41
1:1:1921:A:OP2	1:1:1930:A:N6	2.46	0.41
1:1:2341:A:OP2	5:B:247:ARG:NH2	2.53	0.41
1:1:2767:U:OP1	43:o:34:SER:HB3	2.19	0.41
1:1:3345:G:C5'	1:1:3346:U:OP2	2.68	0.41
3:4:6:U:H3'	3:4:7:U:OP2	2.20	0.41
3:4:88:A:C6	3:4:89:A:C2	3.07	0.41
4:A:40:TYR:CB	4:A:94:ALA:HB2	2.49	0.41
7:D:77:ALA:CA	7:D:78:ALA:HB2	2.50	0.41
24:V:85:TRP:O	24:V:86:ARG:HA	2.20	0.41
25:W:7:SER:N	25:W:30:ARG:O	2.53	0.41
31:c:22:LYS:HD3	31:c:22:LYS:N	2.35	0.41
31:c:98:SER:O	31:c:99:ASP:N	2.52	0.41
32:d:60:TRP:CZ3	32:d:64:VAL:HG23	2.54	0.41
35:g:85:VAL:O	35:g:86:LYS:O	2.38	0.41
41:m:105:PRO:C	41:m:106:ARG:HA	2.45	0.41
44:p:55:TRP:C	44:p:56:THR:HA	2.45	0.41
45:t:17:LEU:HA	45:t:172:VAL:HG12	2.02	0.41
45:t:207:LYS:O	45:t:209:SER:N	2.53	0.41
1:1:333:G:C2	3:4:31:G:C2	3.07	0.41
1:1:372:A:N6	1:1:394:G:O3'	2.53	0.41
1:1:619:A:C3'	1:1:620:U:P	3.08	0.41
1:1:705:A:N1	1:1:714:G:O2'	2.40	0.41
1:1:787:G:C3'	1:1:788:C:P	3.07	0.41
1:1:879:U:O2'	18:P:131:ARG:NH2	2.53	0.41
1:1:962:A:N1	1:1:2814:G:O2'	2.51	0.41
1:1:1885:U:HO3'	1:1:1886:A:P	2.43	0.41
1:1:2551:U:O4	4:A:95:SER:N	2.53	0.41
1:1:2634:U:O4	1:1:2635:A:C6	2.73	0.41
1:1:2814:G:OP1	6:C:73:ARG:NH2	2.53	0.41
1:1:3367:C:C3'	1:1:3368:U:P	3.08	0.41
7:D:58:LYS:N	7:D:58:LYS:CD	2.82	0.41
10:G:99:PRO:C	10:G:100:GLU:HA	2.46	0.41
11:H:147:SER:C	11:H:148:GLY:N	2.78	0.41
12:I:100:ASN:C	12:I:101:LYS:HA	2.44	0.41
13:J:21:ILE:HG13	13:J:37:LEU:HD11	2.02	0.41
14:L:13:HIS:C	14:L:14:PHE:HB2	2.45	0.41
14:L:50:PRO:C	14:L:51:LEU:N	2.78	0.41
18:P:16:SER:O	18:P:17:ALA:HB2	2.20	0.41
18:P:157:VAL:HG12	18:P:158:ALA:HB3	2.02	0.41
22:T:17:ARG:NH1	22:T:21:LYS:O	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Z:44:ALA:HB2	28:Z:114:VAL:HG11	2.01	0.41
33:e:50:ILE:HG22	33:e:51:SER:C	2.45	0.41
45:t:89:ASP:HB3	45:t:93:LEU:HD13	2.02	0.41
1:1:1564:U:H2'	1:1:1565:G:O4'	2.20	0.41
1:1:2383:C:C3'	1:1:2384:A:P	3.02	0.41
1:1:2555:G:H2'	1:1:2556:C:O4'	2.20	0.41
3:4:45:C:C3'	3:4:46:G:P	3.07	0.41
4:A:126:LEU:HD13	4:A:150:LEU:CD2	2.51	0.41
4:A:193:ARG:O	4:A:195:SER:N	2.54	0.41
6:C:50:TYR:O	6:C:51:ALA:HB2	2.20	0.41
7:D:162:ALA:O	7:D:163:LEU:C	2.62	0.41
13:J:86:VAL:HG22	13:J:111:ASP:CB	2.49	0.41
13:J:101:ASN:OD1	13:J:131:MET:N	2.53	0.41
16:N:94:TYR:C	16:N:95:GLN:CA	2.92	0.41
19:Q:94:PHE:CZ	29:a:119:PRO:HD3	2.55	0.41
19:Q:110:ALA:C	19:Q:111:ARG:N	2.78	0.41
21:S:128:GLU:C	21:S:129:ILE:N	2.78	0.41
29:a:129:PHE:O	29:a:130:VAL:HG13	2.19	0.41
34:f:16:TYR:C	34:f:17:GLN:O	2.63	0.41
36:h:34:GLN:O	36:h:35:LYS:C	2.63	0.41
40:l:24:PRO:O	40:l:26:TRP:N	2.54	0.41
41:m:121:LEU:O	41:m:122:ARG:N	2.54	0.41
42:n:8:LYS:C	42:n:9:ARG:N	2.79	0.41
45:t:144:LEU:N	45:t:144:LEU:HD12	2.35	0.41
1:1:244:G:H2'	1:1:245:U:O4'	2.19	0.41
1:1:676:G:O3'	1:1:677:A:P	2.78	0.41
1:1:959:C:O3'	1:1:960:U:OP1	2.39	0.41
1:1:1764:U:H2'	1:1:1765:U:H4'	2.01	0.41
1:1:1781:C:H2'	1:1:1782:U:O4'	2.20	0.41
1:1:2469:G:O5'	45:t:28:PHE:CD2	2.73	0.41
2:3:67:G:C4	2:3:68:C:C6	3.08	0.41
5:B:57:VAL:HG22	5:B:73:VAL:HG12	2.03	0.41
6:C:51:ALA:HA	6:C:52:VAL:N	2.35	0.41
7:D:37:VAL:HG12	7:D:38:THR:HA	2.02	0.41
10:G:53:PRO:HD3	26:X:32:PHE:CD2	2.55	0.41
13:J:21:ILE:HG22	13:J:23:VAL:HG23	2.01	0.41
16:N:65:ARG:C	16:N:66:VAL:HB	2.46	0.41
19:Q:102:ALA:CA	19:Q:103:ALA:N	2.83	0.41
21:S:82:ASP:N	21:S:120:SER:O	2.53	0.41
22:T:119:ALA:O	22:T:124:VAL:N	2.53	0.41
31:c:30:THR:N	31:c:31:VAL:N	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:d:55:LEU:C	32:d:56:ASN:C	2.88	0.41
1:1:65:A:O3'	1:1:66:A:P	2.79	0.41
1:1:205:C:H3'	1:1:206:G:P	2.61	0.41
1:1:2864:A:H2'	1:1:2865:U:O4'	2.20	0.41
1:1:3042:U:H3'	1:1:3043:C:P	2.60	0.41
1:1:3214:U:O4	15:M:124:ARG:NH1	2.54	0.41
1:1:3236:U:H2'	1:1:3237:U:H6	1.86	0.41
1:1:3294:A:H3'	1:1:3295:A:P	2.61	0.41
3:4:72:A:O3'	3:4:73:U:P	2.77	0.41
5:B:323:MET:CA	5:B:324:VAL:N	2.83	0.41
6:C:18:ASN:N	6:C:18:ASN:HD22	2.18	0.41
6:C:55:LYS:O	6:C:58:HIS:N	2.54	0.41
6:C:233:LEU:HD22	6:C:238:LEU:HD11	2.02	0.41
7:D:19:PRO:C	7:D:20:PHE:CA	2.92	0.41
7:D:153:THR:HG23	7:D:160:PHE:CZ	2.53	0.41
7:D:155:THR:C	7:D:156:GLY:N	2.78	0.41
8:E:13:GLU:OE2	33:e:91:THR:N	2.53	0.41
10:G:129:PRO:C	10:G:130:TYR:N	2.78	0.41
10:G:203:VAL:C	10:G:204:ARG:N	2.79	0.41
11:H:55:VAL:C	11:H:56:ALA:N	2.79	0.41
12:I:177:ASP:O	12:I:178:ARG:N	2.53	0.41
15:M:66:THR:HB	15:M:67:PRO:HD2	2.02	0.41
15:M:99:TRP:C	15:M:100:ALA:CA	2.93	0.41
16:N:169:LYS:O	16:N:170:LYS:C	2.64	0.41
20:R:138:LEU:HD23	20:R:138:LEU:O	2.20	0.41
20:R:156:ASN:O	20:R:157:GLU:HB3	2.21	0.41
22:T:14:MET:C	22:T:15:PHE:HA	2.46	0.41
27:Y:12:ARG:O	27:Y:13:ARG:C	2.62	0.41
36:h:102:GLU:O	36:h:103:LYS:C	2.63	0.41
38:j:16:HIS:HB3	38:j:26:SER:C	2.46	0.41
44:p:76:ALA:HB3	44:p:77:ALA:N	2.35	0.41
1:1:55:G:H3'	1:1:56:G:P	2.61	0.41
1:1:299:G:O2'	1:1:300:G:O4'	2.32	0.41
1:1:359:U:C2	1:1:920:A:N6	2.89	0.41
1:1:1295:G:OP1	21:S:84:ARG:N	2.53	0.41
1:1:1551:C:H2'	1:1:1552:G:O4'	2.20	0.41
1:1:1553:U:H3'	1:1:1554:U:P	2.61	0.41
1:1:1902:G:C6	1:1:1903:U:C2	3.08	0.41
1:1:2184:U:H3'	1:1:2185:G:P	2.61	0.41
1:1:2195:C:H3'	1:1:2196:C:OP1	2.20	0.41
1:1:2341:A:C6	1:1:2342:U:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2923:U:O3'	1:1:2924:U:OP1	2.35	0.41
5:B:8:ALA:HB1	5:B:9:PRO:CD	2.51	0.41
5:B:159:ARG:HA	5:B:181:ILE:O	2.21	0.41
6:C:271:LYS:HB2	6:C:274:TYR:HB3	2.02	0.41
10:G:143:ILE:HD11	10:G:151:VAL:HG21	2.02	0.41
11:H:160:ASP:O	11:H:161:LEU:C	2.64	0.41
16:N:156:HIS:O	16:N:157:LYS:N	2.53	0.41
18:P:71:ALA:C	18:P:72:GLN:N	2.78	0.41
29:a:72:VAL:O	29:a:73:LEU:HA	2.20	0.41
43:o:12:CYS:SG	43:o:77:CYS:SG	3.07	0.41
1:1:45:A:P	16:N:85:THR:HG21	2.61	0.41
1:1:366:A:H2'	1:1:367:A:O4'	2.21	0.41
1:1:1111:U:C3'	1:1:1112:A:P	3.07	0.41
1:1:1468:A:N3	1:1:1468:A:H2'	2.35	0.41
1:1:1488:G:C2	1:1:1489:A:C8	3.08	0.41
1:1:1498:A:C2	1:1:1519:G:C2	3.09	0.41
1:1:1868:G:C5	1:1:1869:C:C5	3.08	0.41
1:1:2971:A:N3	1:1:2971:A:C3'	2.80	0.41
1:1:3151:U:H3'	1:1:3152:U:P	2.61	0.41
1:1:3228:C:O2'	1:1:3229:G:P	2.79	0.41
3:4:5:U:H2'	3:4:6:U:O4'	2.20	0.41
4:A:136:ILE:HG23	4:A:146:THR:CG2	2.50	0.41
5:B:382:THR:OG1	5:B:387:LEU:HD13	2.21	0.41
6:C:298:ALA:HB1	19:Q:133:LYS:HG3	2.02	0.41
10:G:73:PRO:C	10:G:74:THR:N	2.79	0.41
10:G:181:LYS:C	10:G:182:GLY:N	2.78	0.41
12:I:197:VAL:C	12:I:198:LYS:HA	2.44	0.41
15:M:113:THR:O	15:M:116:GLU:N	2.53	0.41
19:Q:163:PRO:C	19:Q:164:ARG:HA	2.46	0.41
22:T:79:MET:CA	22:T:80:VAL:N	2.83	0.41
35:g:20:ILE:HG23	35:g:32:ALA:HB1	2.03	0.41
36:h:46:THR:O	36:h:47:VAL:N	2.53	0.41
37:i:47:ILE:HG22	37:i:48:ALA:HA	2.01	0.41
39:k:52:TYR:N	39:k:52:TYR:CD1	2.88	0.41
1:1:1398:U:C3'	1:1:1399:A:P	3.08	0.41
1:1:1628:C:H5''	1:1:1629:U:H3'	2.03	0.41
1:1:2101:C:C2	1:1:2102:U:C5	3.09	0.41
1:1:2190:U:C4	1:1:2191:U:C4	3.09	0.41
1:1:2223:A:H2'	1:1:2224:A:O4'	2.20	0.41
1:1:2552:C:OP1	35:g:102:LYS:NZ	2.51	0.41
1:1:2661:G:H3'	1:1:2662:G:OP2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:3190:C:O3'	1:1:3191:G:P	2.79	0.41
1:1:3267:A:N6	8:E:71:VAL:O	2.49	0.41
1:1:3394:U:O3'	1:1:3395:G:P	2.79	0.41
7:D:76:ALA:O	7:D:77:ALA:N	2.53	0.41
7:D:105:ILE:C	7:D:106:ALA:CA	2.94	0.41
8:E:66:SER:C	8:E:67:GLY:O	2.63	0.41
8:E:165:LEU:HA	8:E:166:LYS:N	2.36	0.41
16:N:84:PRO:O	16:N:85:THR:N	2.54	0.41
16:N:113:LEU:HD12	16:N:136:ASP:CA	2.51	0.41
18:P:29:THR:C	18:P:30:ARG:CA	2.92	0.41
21:S:79:VAL:HG13	21:S:121:ILE:HG23	2.03	0.41
24:V:102:ILE:HD11	24:V:110:LYS:HE2	2.03	0.41
30:b:7:HIS:CG	30:b:8:THR:N	2.88	0.41
35:g:76:TYR:HA	35:g:77:GLY:N	2.35	0.41
36:h:63:ARG:NH2	36:h:79:ASP:O	2.52	0.41
37:i:58:ILE:HB	37:i:94:ILE:HD11	2.02	0.41
37:i:62:ARG:O	37:i:63:ASN:HA	2.20	0.41
38:j:14:LYS:HA	38:j:15:SER:N	2.35	0.41
45:t:67:ILE:HG21	45:t:82:VAL:HG21	2.02	0.41
45:t:80:CYS:SG	45:t:145:TYR:OH	2.78	0.41
1:1:29:C:C3'	1:1:30:G:P	3.08	0.41
1:1:255:A:H2'	1:1:256:G:H5'	2.03	0.41
1:1:275:U:C3'	1:1:276:U:P	3.08	0.41
1:1:290:G:HO3'	16:N:69:GLY:N	2.19	0.41
1:1:298:U:O2	1:1:298:U:C2'	2.69	0.41
1:1:1320:C:O3'	1:1:1321:G:P	2.79	0.41
1:1:1444:G:H3'	1:1:1445:U:P	2.61	0.41
1:1:1578:C:H2'	1:1:1579:C:C6	2.56	0.41
1:1:1658:G:H2'	1:1:1659:U:O4'	2.19	0.41
1:1:2632:G:H2'	1:1:2633:U:O4'	2.20	0.41
1:1:3049:A:O3'	1:1:3050:U:P	2.79	0.41
1:1:3184:A:H2'	1:1:3185:U:O5'	2.21	0.41
1:1:3209:A:O2'	1:1:3210:A:H5'	2.20	0.41
2:3:50:U:H2'	2:3:51:A:H5''	2.03	0.41
3:4:41:A:OP1	38:j:66:TYR:N	2.54	0.41
3:4:95:G:O3'	3:4:96:A:P	2.79	0.41
4:A:33:ASP:OD1	4:A:36:GLU:N	2.54	0.41
4:A:183:GLY:O	4:A:185:ALA:C	2.63	0.41
5:B:305:ILE:H	5:B:305:ILE:HD12	1.86	0.41
6:C:257:LYS:O	6:C:261:VAL:HG12	2.20	0.41
7:D:54:ARG:C	7:D:55:PHE:N	2.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:84:VAL:HG13	9:F:119:VAL:HG21	2.03	0.41
9:F:106:LEU:O	9:F:115:THR:HG21	2.21	0.41
12:I:47:PRO:HB3	12:I:171:TRP:CH2	2.56	0.41
13:J:91:LEU:C	13:J:92:ARG:N	2.79	0.41
13:J:131:MET:C	13:J:132:ASN:N	2.79	0.41
14:L:2:ALA:C	14:L:3:ILE:N	2.79	0.41
15:M:13:ARG:NH1	15:M:65:LEU:O	2.52	0.41
18:P:41:LEU:HD13	18:P:41:LEU:C	2.46	0.41
19:Q:67:ILE:O	19:Q:68:ALA:N	2.53	0.41
20:R:51:VAL:O	20:R:51:VAL:HG23	2.21	0.41
22:T:14:MET:C	22:T:15:PHE:N	2.79	0.41
22:T:33:VAL:C	22:T:34:TYR:HA	2.46	0.41
23:U:102:GLU:C	23:U:103:TYR:N	2.78	0.41
33:e:22:SER:O	33:e:23:ASP:N	2.53	0.41
33:e:26:HIS:O	33:e:27:ARG:N	2.51	0.41
33:e:55:ILE:C	33:e:56:GLY:CA	2.93	0.41
34:f:35:VAL:HG13	34:f:40:ASP:CB	2.50	0.41
36:h:38:ARG:HB2	36:h:39:PRO:HD2	2.03	0.41
36:h:41:LEU:O	36:h:44:ILE:HG22	2.20	0.41
40:l:43:ASN:O	40:l:46:ARG:N	2.50	0.41
45:t:61:PRO:HD2	45:t:152:ARG:HG3	2.03	0.41
45:t:161:LYS:C	45:t:162:VAL:N	2.79	0.41
1:1:180:C:H2'	1:1:181:U:O4'	2.21	0.41
1:1:212:G:HO3'	1:1:213:A:C5'	2.34	0.41
1:1:394:G:H3'	1:1:395:A:P	2.61	0.41
1:1:938:C:OP2	29:a:26:ARG:NH1	2.54	0.41
1:1:943:U:H2'	29:a:12:ARG:HB2	2.02	0.41
1:1:1309:U:H3'	1:1:1310:G:C5'	2.51	0.41
1:1:1746:U:H2'	1:1:1747:G:O4'	2.21	0.41
1:1:1916:U:OP1	20:R:85:ARG:N	2.54	0.41
1:1:2682:C:O3'	1:1:2683:U:P	2.79	0.41
1:1:3353:G:O2'	1:1:3354:U:OP1	2.30	0.41
3:4:88:A:N6	3:4:89:A:C2	2.89	0.41
6:C:119:ARG:C	6:C:121:ALA:N	2.79	0.41
6:C:159:ILE:HD13	6:C:165:ALA:HB2	2.02	0.41
6:C:300:ARG:HB2	6:C:301:PRO:HD2	2.02	0.41
10:G:58:VAL:O	10:G:60:ARG:N	2.54	0.41
11:H:80:THR:C	11:H:81:GLY:N	2.79	0.41
12:I:144:ASN:O	12:I:145:LYS:C	2.64	0.41
13:J:136:ALA:O	13:J:137:ARG:N	2.54	0.41
23:U:65:VAL:C	23:U:66:VAL:N	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:100:HIS:O	27:Y:101:PRO:C	2.63	0.41
45:t:11:GLU:O	45:t:12:HIS:C	2.64	0.41
45:t:55:LEU:HD13	45:t:182:GLN:HG2	2.03	0.41
1:1:357:A:H2'	1:1:358:G:O4'	2.21	0.40
1:1:1145:G:O2'	33:e:45:ARG:O	2.24	0.40
1:1:1427:U:OP2	29:a:4:ARG:NH2	2.54	0.40
1:1:1592:G:OP2	35:g:37:LYS:NZ	2.52	0.40
1:1:2446:A:O2'	1:1:2447:G:OP1	2.38	0.40
1:1:2676:A:N6	1:1:2680:A:N1	2.69	0.40
1:1:2929:C:C3'	1:1:2930:A:P	3.09	0.40
1:1:3030:G:C6	1:1:3031:G:C4	3.09	0.40
1:1:3038:U:H2'	1:1:3039:C:O4'	2.21	0.40
5:B:113:GLU:OE1	5:B:166:ILE:N	2.53	0.40
11:H:146:LEU:N	11:H:146:LEU:HD12	2.36	0.40
14:L:98:ASP:O	14:L:101:ARG:N	2.50	0.40
25:W:36:SER:O	25:W:37:ALA:N	2.54	0.40
27:Y:19:TYR:O	27:Y:20:PHE:CA	2.69	0.40
28:Z:114:VAL:O	28:Z:115:LYS:N	2.54	0.40
31:c:27:TYR:C	31:c:28:LYS:CA	2.93	0.40
34:f:40:ASP:O	34:f:41:ALA:N	2.54	0.40
35:g:8:ARG:HB2	35:g:34:HIS:CD2	2.56	0.40
38:j:34:CYS:C	38:j:35:SER:CA	2.94	0.40
45:t:61:PRO:O	45:t:63:MET:N	2.55	0.40
1:1:63:A:H5''	16:N:174:ILE:HG21	2.04	0.40
1:1:68:C:O3'	1:1:69:C:P	2.79	0.40
1:1:123:A:C6	1:1:150:A:C5	3.09	0.40
1:1:296:A:N3	1:1:299:G:O2'	2.55	0.40
1:1:589:A:C5	1:1:610:G:N3	2.89	0.40
1:1:776:U:C5	1:1:2719:U:O2	2.74	0.40
1:1:993:G:O3'	1:1:994:G:OP2	2.39	0.40
1:1:1103:A:H2'	1:1:1103:A:N3	2.36	0.40
1:1:1244:A:N6	1:1:1271:A:OP2	2.54	0.40
1:1:1334:U:H2'	1:1:1335:C:C6	2.56	0.40
1:1:1422:G:H2'	1:1:1423:C:C6	2.56	0.40
1:1:2165:G:O2'	1:1:2167:A:N7	2.54	0.40
3:4:27:U:H2'	3:4:28:C:C6	2.57	0.40
5:B:56:ILE:HG13	5:B:356:LEU:HD22	2.02	0.40
7:D:62:CYS:HA	7:D:63:GLN:N	2.36	0.40
11:H:18:VAL:HG12	11:H:27:VAL:HG22	2.02	0.40
16:N:16:SER:HB2	37:i:48:ALA:HB1	2.02	0.40
16:N:112:ASN:ND2	16:N:113:LEU:HD13	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:54:LEU:C	19:Q:55:SER:CA	2.94	0.40
21:S:9:VAL:HG22	21:S:61:ILE:HG12	2.03	0.40
26:X:68:THR:C	26:X:69:SER:HA	2.46	0.40
27:Y:45:ILE:HD13	27:Y:48:LEU:HD21	2.03	0.40
28:Z:96:VAL:HG13	28:Z:100:THR:HG21	2.03	0.40
29:a:123:VAL:C	29:a:124:ILE:CA	2.94	0.40
42:n:5:TRP:CE3	42:n:5:TRP:HA	2.57	0.40
45:t:54:LYS:CE	45:t:153:SER:H	2.27	0.40
1:1:547:G:H2'	1:1:548:G:C8	2.56	0.40
1:1:600:G:H2'	1:1:602:A:N7	2.36	0.40
1:1:694:C:O3'	1:1:695:C:P	2.80	0.40
1:1:878:G:O3'	1:1:879:U:P	2.80	0.40
1:1:992:A:H2'	1:1:993:G:O4'	2.21	0.40
1:1:1116:G:N2	1:1:2817:A:O4'	2.54	0.40
1:1:1354:G:C6	1:1:1358:C:H5'	2.57	0.40
1:1:1397:C:H2'	1:1:1398:U:O4'	2.22	0.40
7:D:145:PHE:CA	7:D:146:LEU:N	2.83	0.40
11:H:111:PHE:C	11:H:112:ILE:N	2.79	0.40
15:M:18:GLY:C	15:M:19:ARG:N	2.80	0.40
18:P:80:LYS:O	18:P:81:ALA:HA	2.21	0.40
19:Q:42:ALA:HB1	19:Q:43:PRO:HD2	2.03	0.40
20:R:95:TRP:O	20:R:96:ILE:C	2.65	0.40
27:Y:55:GLU:C	27:Y:56:VAL:HG23	2.47	0.40
37:i:7:ILE:C	37:i:8:ALA:N	2.80	0.40
1:1:275:U:O2'	1:1:276:U:O4'	2.33	0.40
1:1:913:A:O2'	1:1:2146:C:O2	2.37	0.40
1:1:922:U:O2	1:1:922:U:C2'	2.68	0.40
1:1:1017:C:HO2'	1:1:1018:G:P	2.39	0.40
1:1:1558:A:N6	10:G:55:TYR:CE1	2.89	0.40
1:1:1740:U:H4'	1:1:1741:A:H5'	2.03	0.40
1:1:2107:A:C5	1:1:2108:C:C5	3.10	0.40
1:1:2266:U:H2'	1:1:2267:C:C6	2.56	0.40
1:1:2487:U:O2'	1:1:2488:A:O5'	2.38	0.40
1:1:2988:C:O2	5:B:266:ARG:NH1	2.54	0.40
1:1:3022:G:O2'	1:1:3023:U:P	2.79	0.40
1:1:3329:U:H5''	5:B:308:MET:HE3	2.02	0.40
7:D:190:ILE:HG23	7:D:190:ILE:O	2.20	0.40
7:D:235:SER:O	7:D:236:LEU:C	2.65	0.40
10:G:145:ASN:N	10:G:145:ASN:ND2	2.69	0.40
18:P:56:ARG:C	18:P:57:ALA:CA	2.95	0.40
18:P:84:PRO:C	18:P:85:ALA:CA	2.94	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:171:LYS:C	19:Q:172:PHE:N	2.80	0.40
20:R:11:ALA:HB2	20:R:50:ILE:HG21	2.02	0.40
23:U:101:ASN:C	23:U:102:GLU:N	2.80	0.40
24:V:20:GLY:N	24:V:36:ILE:O	2.54	0.40
35:g:32:ALA:CA	35:g:33:GLN:N	2.83	0.40
35:g:56:THR:C	35:g:57:LEU:HD23	2.47	0.40
38:j:34:CYS:CA	38:j:35:SER:N	2.85	0.40
1:1:90:C:C3'	1:1:91:G:P	3.09	0.40
1:1:632:G:H2'	1:1:633:C:C6	2.55	0.40
1:1:804:C:H3'	1:1:805:G:OP2	2.21	0.40
1:1:884:A:P	38:j:5:THR:HG23	2.61	0.40
1:1:1425:U:H2'	1:1:1426:C:C6	2.57	0.40
1:1:2238:G:H3'	1:1:2239:G:P	2.62	0.40
1:1:2437:G:N3	1:1:2510:A:H2	2.12	0.40
1:1:2617:U:O2	1:1:2617:U:C2'	2.70	0.40
2:3:1:G:C2	2:3:2:G:C8	3.10	0.40
6:C:250:TRP:CZ3	6:C:258:LEU:HD21	2.57	0.40
8:E:39:VAL:HG12	8:E:40:LEU:O	2.22	0.40
9:F:72:ALA:O	9:F:73:GLY:N	2.54	0.40
9:F:239:LEU:O	9:F:241:LYS:N	2.54	0.40
12:I:46:PHE:HA	12:I:47:PRO:HD2	1.90	0.40
14:L:63:VAL:HG12	29:a:128:ARG:NH1	2.37	0.40
18:P:94:LEU:CD2	18:P:146:ILE:HG22	2.51	0.40
22:T:29:THR:C	22:T:30:TYR:N	2.80	0.40
22:T:76:ILE:HG22	22:T:77:ASN:CA	2.51	0.40
28:Z:10:VAL:HG23	28:Z:86:THR:HA	2.03	0.40
29:a:134:ALA:O	29:a:135:GLU:C	2.65	0.40
34:f:41:ALA:O	34:f:43:PHE:N	2.55	0.40
38:j:22:CYS:SG	38:j:37:CYS:SG	3.19	0.40
38:j:72:ARG:O	38:j:75:LYS:N	2.54	0.40
40:l:29:LEU:N	40:l:29:LEU:CD1	2.84	0.40
45:t:130:LYS:HD3	45:t:130:LYS:N	2.37	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM

entries.

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	
4	A	135/254 (53%)	107 (79%)	21 (16%)	7 (5%)	1	17
5	B	240/387 (62%)	198 (82%)	25 (10%)	17 (7%)	1	12
6	C	215/362 (59%)	168 (78%)	26 (12%)	21 (10%)	0	6
7	D	164/297 (55%)	128 (78%)	25 (15%)	11 (7%)	1	13
8	E	103/176 (58%)	91 (88%)	7 (7%)	5 (5%)	1	17
9	F	136/244 (56%)	121 (89%)	10 (7%)	5 (4%)	2	22
10	G	122/256 (48%)	100 (82%)	13 (11%)	9 (7%)	1	11
11	H	106/191 (56%)	84 (79%)	18 (17%)	4 (4%)	2	22
12	I	119/221 (54%)	102 (86%)	12 (10%)	5 (4%)	2	20
13	J	103/174 (59%)	85 (82%)	10 (10%)	8 (8%)	1	10
14	L	103/199 (52%)	79 (77%)	14 (14%)	10 (10%)	0	7
15	M	84/138 (61%)	68 (81%)	10 (12%)	6 (7%)	1	12
16	N	114/204 (56%)	94 (82%)	11 (10%)	9 (8%)	1	10
17	O	181/398 (46%)	69 (38%)	53 (29%)	59 (33%)	0	0
18	P	106/184 (58%)	96 (91%)	7 (7%)	3 (3%)	4	27
19	Q	100/186 (54%)	81 (81%)	13 (13%)	6 (6%)	1	15
20	R	105/189 (56%)	74 (70%)	26 (25%)	5 (5%)	2	17
21	S	87/172 (51%)	63 (72%)	17 (20%)	7 (8%)	1	9
22	T	93/160 (58%)	69 (74%)	19 (20%)	5 (5%)	1	16
23	U	58/121 (48%)	50 (86%)	5 (9%)	3 (5%)	1	17
24	V	73/137 (53%)	65 (89%)	6 (8%)	2 (3%)	4	27
25	W	33/155 (21%)	29 (88%)	4 (12%)	0	100	100
26	X	76/142 (54%)	63 (83%)	8 (10%)	5 (7%)	1	13
27	Y	71/127 (56%)	50 (70%)	17 (24%)	4 (6%)	1	16
28	Z	66/136 (48%)	48 (73%)	13 (20%)	5 (8%)	1	10
29	a	75/149 (50%)	56 (75%)	13 (17%)	6 (8%)	1	9
30	b	27/59 (46%)	19 (70%)	5 (18%)	3 (11%)	0	5
31	c	56/105 (53%)	44 (79%)	8 (14%)	4 (7%)	1	12
32	d	68/113 (60%)	59 (87%)	6 (9%)	3 (4%)	2	19

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	e	82/130 (63%)	68 (83%)	8 (10%)	6 (7%)	1	12
34	f	52/107 (49%)	42 (81%)	7 (14%)	3 (6%)	1	15
35	g	65/121 (54%)	57 (88%)	6 (9%)	2 (3%)	3	26
36	h	66/120 (55%)	52 (79%)	8 (12%)	6 (9%)	0	8
37	i	47/100 (47%)	33 (70%)	10 (21%)	4 (8%)	0	8
38	j	48/88 (54%)	35 (73%)	7 (15%)	6 (12%)	0	4
39	k	43/78 (55%)	32 (74%)	9 (21%)	2 (5%)	2	18
40	l	27/51 (53%)	20 (74%)	5 (18%)	2 (7%)	1	11
41	m	26/128 (20%)	22 (85%)	3 (12%)	1 (4%)	2	22
42	n	14/25 (56%)	9 (64%)	4 (29%)	1 (7%)	1	12
43	o	71/106 (67%)	58 (82%)	10 (14%)	3 (4%)	2	20
44	p	59/92 (64%)	53 (90%)	4 (7%)	2 (3%)	3	25
45	t	121/217 (56%)	82 (68%)	24 (20%)	15 (12%)	0	4
All	All	3740/6999 (53%)	2923 (78%)	527 (14%)	290 (8%)	1	10

All (290) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	A	33	ASP
4	A	120	PRO
5	B	61	ASP
5	B	113	GLU
5	B	146	ARG
5	B	165	GLN
5	B	188	ILE
5	B	205	VAL
5	B	256	HIS
5	B	257	PRO
5	B	292	ALA
6	C	5	GLN
6	C	140	HIS
6	C	149	PRO
6	C	175	HIS
6	C	269	SER
7	D	57	ASN
7	D	58	LYS
7	D	119	TYR

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Mol	Chain	Res	Type
7	D	215	ASP
7	D	256	THR
10	G	81	THR
10	G	219	ASP
12	I	72	ALA
12	I	79	VAL
12	I	194	GLY
13	J	10	ARG
13	J	88	GLU
14	L	47	ALA
14	L	82	ALA
14	L	131	LYS
15	M	8	LYS
15	M	9	ALA
16	N	74	PRO
16	N	79	ALA
17	O	7	VAL
17	O	12	LYS
17	O	15	LEU
17	O	21	SER
17	O	22	VAL
17	O	27	LEU
17	O	28	LEU
17	O	37	ARG
17	O	39	GLU
17	O	41	LEU
17	O	42	ASN
17	O	50	ASN
17	O	57	PHE
17	O	66	LYS
17	O	68	ARG
17	O	77	SER
17	O	78	ARG
17	O	81	TYR
17	O	82	LYS
17	O	86	GLY
17	O	97	ALA
17	O	104	VAL
17	O	109	PRO
17	O	110	PRO
17	O	111	PRO
17	O	121	PRO

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Mol	Chain	Res	Type
17	O	122	GLN
17	O	137	THR
17	O	138	LEU
17	O	148	LYS
17	O	159	LYS
17	O	160	ARG
17	O	161	LYS
17	O	165	ALA
17	O	169	ALA
17	O	187	GLU
17	O	188	SER
19	Q	162	ALA
20	R	157	GLU
21	S	37	ALA
21	S	53	LYS
22	T	118	GLU
22	T	124	VAL
23	U	38	ILE
23	U	91	ASP
26	X	53	HIS
27	Y	87	LYS
27	Y	101	PRO
28	Z	129	TRP
29	a	117	ARG
30	b	21	ILE
31	c	10	ILE
31	c	81	VAL
33	e	7	PRO
33	e	127	ALA
34	f	42	GLN
34	f	104	PRO
35	g	59	PRO
37	i	13	LYS
37	i	70	ARG
38	j	39	TYR
38	j	40	PRO
38	j	85	LYS
39	k	50	SER
39	k	75	VAL
40	l	28	ARG
40	l	50	ASN
43	o	30	ALA

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Mol	Chain	Res	Type
43	o	60	LYS
44	p	25	GLN
45	t	90	LEU
45	t	105	LYS
45	t	160	LYS
45	t	170	GLY
45	t	193	LEU
45	t	194	LEU
45	t	195	LYS
45	t	213	ALA
4	A	144	ASN
4	A	217	GLN
4	A	251	LYS
5	B	17	LEU
5	B	187	SER
5	B	368	GLY
6	C	4	PRO
6	C	146	PRO
6	C	182	LEU
6	C	233	LEU
6	C	273	GLY
6	C	296	GLN
6	C	348	GLY
7	D	276	LYS
8	E	69	PHE
9	F	24	GLU
9	F	163	LEU
9	F	178	ILE
9	F	222	HIS
10	G	25	PRO
10	G	121	SER
11	H	27	VAL
13	J	8	PRO
13	J	94	ARG
13	J	113	GLY
14	L	71	ALA
14	L	166	ALA
15	M	136	ALA
16	N	55	ALA
16	N	87	GLN
17	O	55	HIS
17	O	76	PRO

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Mol	Chain	Res	Type
17	O	83	ALA
17	O	175	THR
20	R	121	HIS
24	V	82	ALA
26	X	50	ALA
26	X	62	VAL
29	a	24	LYS
29	a	145	VAL
31	c	78	GLY
31	c	100	ILE
33	e	86	THR
38	j	48	ASN
42	n	4	LYS
45	t	79	SER
45	t	108	ASN
45	t	155	ILE
5	B	63	PRO
5	B	155	ALA
6	C	232	SER
6	C	291	ASN
7	D	7	ALA
7	D	40	HIS
8	E	5	LYS
8	E	34	LEU
13	J	64	LYS
14	L	108	ILE
15	M	133	LYS
16	N	76	PRO
17	O	20	ALA
17	O	128	ARG
17	O	141	LEU
17	O	178	VAL
18	P	160	ALA
19	Q	13	SER
19	Q	33	TYR
19	Q	147	ARG
20	R	106	LEU
27	Y	64	LYS
29	a	115	LYS
30	b	11	ASN
32	d	61	LYS
33	e	12	LYS

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Mol	Chain	Res	Type
33	e	21	HIS
34	f	103	TYR
36	h	87	ALA
36	h	119	LYS
38	j	53	ALA
38	j	84	SER
44	p	60	CYS
4	A	26	ALA
5	B	60	LEU
5	B	304	THR
6	C	218	ALA
6	C	317	PRO
6	C	334	PHE
6	C	361	HIS
7	D	277	LEU
10	G	36	ILE
10	G	65	LEU
10	G	157	VAL
11	H	50	ASN
14	L	133	PRO
14	L	134	GLU
15	M	29	ALA
16	N	75	VAL
17	O	75	ALA
17	O	101	ARG
17	O	145	VAL
17	O	177	LYS
17	O	195	ALA
18	P	156	ALA
20	R	100	ARG
21	S	13	ARG
21	S	146	LYS
21	S	167	ARG
26	X	70	GLU
26	X	96	LYS
28	Z	102	GLU
33	e	5	PRO
35	g	46	ASP
36	h	71	LYS
36	h	95	PHE
37	i	3	VAL
41	m	79	GLU

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Mol	Chain	Res	Type
43	o	100	LYS
4	A	222	ALA
6	C	131	VAL
6	C	148	ILE
7	D	125	VAL
7	D	292	ALA
8	E	98	VAL
10	G	75	ILE
10	G	78	PHE
13	J	9	MET
13	J	117	ASP
14	L	61	PRO
14	L	171	ARG
15	M	6	ILE
16	N	158	HIS
17	O	32	LYS
17	O	53	LYS
17	O	56	ASP
17	O	140	LYS
18	P	182	ILE
19	Q	166	LEU
20	R	73	GLY
22	T	123	GLY
22	T	146	ASN
23	U	11	ILE
28	Z	78	ASN
29	a	77	LYS
32	d	83	GLU
37	i	45	ARG
45	t	112	ALA
45	t	212	PRO
6	C	14	GLU
9	F	216	VAL
11	H	59	ASN
17	O	5	PRO
17	O	16	VAL
19	Q	97	PRO
21	S	61	ILE
21	S	69	PRO
27	Y	8	VAL
28	Z	103	GLN
29	a	148	ILE

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Mol	Chain	Res	Type
32	d	9	THR
36	h	91	ALA
45	t	61	PRO
5	B	329	PRO
8	E	6	ALA
12	I	122	PRO
17	O	34	VAL
22	T	148	PRO
28	Z	70	PRO
36	h	111	PHE
11	H	30	PRO
16	N	89	VAL
16	N	186	GLY
17	O	36	VAL
24	V	129	VAL
17	O	146	GLY
30	b	29	TYR
45	t	191	VAL
12	I	46	PHE

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	
4	A	193/196 (98%)	168 (87%)	25 (13%)	4	20
5	B	320/323 (99%)	273 (85%)	47 (15%)	3	17
6	C	288/289 (100%)	261 (91%)	27 (9%)	8	32
7	D	244/245 (100%)	213 (87%)	31 (13%)	4	21
8	E	134/153 (88%)	122 (91%)	12 (9%)	9	33
9	F	186/205 (91%)	168 (90%)	18 (10%)	8	31
10	G	187/208 (90%)	171 (91%)	16 (9%)	10	34
11	H	171/171 (100%)	155 (91%)	16 (9%)	8	32
12	I	177/187 (95%)	158 (89%)	19 (11%)	6	27

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	J	147/150 (98%)	123 (84%)	24 (16%)	2	14
14	L	154/159 (97%)	138 (90%)	16 (10%)	7	28
15	M	107/109 (98%)	93 (87%)	14 (13%)	4	20
16	N	175/176 (99%)	159 (91%)	16 (9%)	9	33
17	O	160/324 (49%)	129 (81%)	31 (19%)	1	9
18	P	140/146 (96%)	115 (82%)	25 (18%)	2	12
19	Q	150/151 (99%)	129 (86%)	21 (14%)	3	18
20	R	153/154 (99%)	133 (87%)	20 (13%)	4	20
21	S	156/156 (100%)	143 (92%)	13 (8%)	10	35
22	T	136/137 (99%)	117 (86%)	19 (14%)	3	18
23	U	87/107 (81%)	81 (93%)	6 (7%)	14	41
24	V	104/105 (99%)	93 (89%)	11 (11%)	6	27
25	W	53/129 (41%)	47 (89%)	6 (11%)	5	25
26	X	104/118 (88%)	88 (85%)	16 (15%)	2	16
27	Y	109/110 (99%)	97 (89%)	12 (11%)	6	26
28	Z	115/116 (99%)	101 (88%)	14 (12%)	5	22
29	a	118/119 (99%)	106 (90%)	12 (10%)	7	29
30	b	46/47 (98%)	39 (85%)	7 (15%)	3	16
31	c	81/88 (92%)	70 (86%)	11 (14%)	3	19
32	d	92/97 (95%)	79 (86%)	13 (14%)	3	18
33	e	109/111 (98%)	97 (89%)	12 (11%)	6	26
34	f	90/91 (99%)	77 (86%)	13 (14%)	3	18
35	g	95/103 (92%)	83 (87%)	12 (13%)	4	21
36	h	104/105 (99%)	86 (83%)	18 (17%)	2	12
37	i	81/82 (99%)	68 (84%)	13 (16%)	2	15
38	j	70/71 (99%)	62 (89%)	8 (11%)	5	24
39	k	68/69 (99%)	51 (75%)	17 (25%)	0	4
40	l	45/46 (98%)	37 (82%)	8 (18%)	2	12
41	m	47/116 (40%)	41 (87%)	6 (13%)	4	21
42	n	23/23 (100%)	18 (78%)	5 (22%)	1	7
43	o	90/91 (99%)	76 (84%)	14 (16%)	2	15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
44	p	71/72 (99%)	61 (86%)	10 (14%)	3	18
45	t	198/198 (100%)	164 (83%)	34 (17%)	2	13
All	All	5378/5853 (92%)	4690 (87%)	688 (13%)	6	21

All (688) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	A	9	ARG
4	A	15	ILE
4	A	28	LYS
4	A	44	ILE
4	A	48	ILE
4	A	71	LEU
4	A	72	ARG
4	A	74	GLU
4	A	77	ILE
4	A	98	VAL
4	A	116	VAL
4	A	128	ARG
4	A	142	ASP
4	A	143	GLU
4	A	157	VAL
4	A	180	LEU
4	A	196	TRP
4	A	199	THR
4	A	202	VAL
4	A	204	MET
4	A	208	ASP
4	A	230	VAL
4	A	242	ARG
4	A	246	LEU
4	A	249	SER
5	B	3	HIS
5	B	4	ARG
5	B	25	ILE
5	B	45	SER
5	B	53	MET
5	B	56	ILE
5	B	73	VAL
5	B	77	THR
5	B	85	VAL

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Mol	Chain	Res	Type
5	B	93	VAL
5	B	101	SER
5	B	102	LEU
5	B	103	THR
5	B	104	THR
5	B	113	GLU
5	B	114	VAL
5	B	137	TYR
5	B	140	ASP
5	B	146	ARG
5	B	148	LEU
5	B	157	VAL
5	B	166	ILE
5	B	167	ARG
5	B	169	THR
5	B	183	LEU
5	B	188	ILE
5	B	192	VAL
5	B	205	VAL
5	B	206	ASP
5	B	215	ILE
5	B	221	THR
5	B	237	LYS
5	B	238	LEU
5	B	246	LEU
5	B	264	VAL
5	B	275	ARG
5	B	279	ASN
5	B	285	VAL
5	B	298	PHE
5	B	305	ILE
5	B	319	ASN
5	B	324	VAL
5	B	335	ILE
5	B	361	THR
5	B	370	PHE
5	B	379	PHE
5	B	387	LEU
6	C	11	LEU
6	C	18	ASN
6	C	93	MET
6	C	99	MET

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Mol	Chain	Res	Type
6	C	126	ILE
6	C	144	LYS
6	C	150	LEU
6	C	152	VAL
6	C	172	VAL
6	C	188	ARG
6	C	193	LYS
6	C	206	LEU
6	C	222	VAL
6	C	227	THR
6	C	258	LEU
6	C	261	VAL
6	C	280	ILE
6	C	283	THR
6	C	297	SER
6	C	307	GLN
6	C	313	LEU
6	C	327	LEU
6	C	333	VAL
6	C	343	LYS
6	C	345	GLU
6	C	349	THR
6	C	354	VAL
7	D	4	GLN
7	D	15	ARG
7	D	22	ARG
7	D	23	ARG
7	D	41	LYS
7	D	52	VAL
7	D	53	VAL
7	D	69	ILE
7	D	89	THR
7	D	105	ILE
7	D	115	LEU
7	D	117	GLU
7	D	125	VAL
7	D	128	GLU
7	D	131	LEU
7	D	145	PHE
7	D	151	GLN
7	D	152	ARG
7	D	158	ARG

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Mol	Chain	Res	Type
7	D	159	VAL
7	D	163	LEU
7	D	187	THR
7	D	194	LEU
7	D	222	LEU
7	D	254	LYS
7	D	257	GLU
7	D	260	PHE
7	D	273	ARG
7	D	277	LEU
7	D	281	GLU
7	D	282	ARG
8	E	5	LYS
8	E	15	VAL
8	E	23	LYS
8	E	34	LEU
8	E	52	VAL
8	E	65	ILE
8	E	74	VAL
8	E	76	LEU
8	E	79	VAL
8	E	84	VAL
8	E	93	VAL
8	E	129	GLU
9	F	25	GLN
9	F	46	GLU
9	F	56	GLU
9	F	77	VAL
9	F	83	LEU
9	F	88	ARG
9	F	92	ILE
9	F	93	ASN
9	F	106	LEU
9	F	109	THR
9	F	110	ARG
9	F	157	ASN
9	F	158	LYS
9	F	175	LYS
9	F	179	LEU
9	F	181	ILE
9	F	216	VAL
9	F	239	LEU

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Mol	Chain	Res	Type
10	G	26	LEU
10	G	27	THR
10	G	63	LYS
10	G	69	LEU
10	G	74	THR
10	G	84	ARG
10	G	95	ASN
10	G	112	GLU
10	G	132	VAL
10	G	136	LEU
10	G	150	LEU
10	G	155	ASN
10	G	156	ASP
10	G	163	VAL
10	G	190	VAL
10	G	237	ILE
11	H	5	GLN
11	H	20	ILE
11	H	41	ILE
11	H	52	LEU
11	H	68	LEU
11	H	70	THR
11	H	82	VAL
11	H	132	VAL
11	H	139	ASN
11	H	140	VAL
11	H	157	ASN
11	H	164	ILE
11	H	166	ARG
11	H	170	LYS
11	H	172	ILE
11	H	173	ARG
12	I	4	ARG
12	I	26	VAL
12	I	30	LYS
12	I	33	ILE
12	I	39	LYS
12	I	48	LEU
12	I	60	LEU
12	I	79	VAL
12	I	87	LEU
12	I	90	ARG

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Mol	Chain	Res	Type
12	I	140	THR
12	I	163	GLN
12	I	165	ILE
12	I	170	LYS
12	I	174	THR
12	I	177	ASP
12	I	202	LYS
12	I	203	LYS
12	I	207	GLU
13	J	9	MET
13	J	10	ARG
13	J	12	LEU
13	J	13	LYS
13	J	22	SER
13	J	30	LEU
13	J	35	LYS
13	J	56	THR
13	J	62	ASN
13	J	80	LEU
13	J	84	LEU
13	J	86	VAL
13	J	94	ARG
13	J	106	ILE
13	J	112	LEU
13	J	115	LYS
13	J	137	ARG
13	J	140	ARG
13	J	142	LYS
13	J	147	THR
13	J	148	VAL
13	J	159	THR
13	J	163	PHE
13	J	166	LYS
14	L	3	ILE
14	L	10	LEU
14	L	23	LYS
14	L	36	ARG
14	L	53	LEU
14	L	54	LEU
14	L	58	VAL
14	L	67	ARG
14	L	79	GLU

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Mol	Chain	Res	Type
14	L	100	ARG
14	L	107	GLU
14	L	124	ILE
14	L	131	LYS
14	L	136	GLU
14	L	154	VAL
14	L	190	LYS
15	M	8	LYS
15	M	15	VAL
15	M	20	VAL
15	M	25	LYS
15	M	53	VAL
15	M	55	ARG
15	M	58	ILE
15	M	63	VAL
15	M	72	LEU
15	M	90	VAL
15	M	91	CYS
15	M	92	GLU
15	M	113	THR
15	M	122	VAL
16	N	10	LEU
16	N	22	LEU
16	N	59	PHE
16	N	64	VAL
16	N	83	LYS
16	N	92	LEU
16	N	98	LEU
16	N	104	GLU
16	N	113	LEU
16	N	116	LEU
16	N	133	ILE
16	N	135	VAL
16	N	151	ILE
16	N	155	VAL
16	N	164	LEU
16	N	188	ARG
17	O	15	LEU
17	O	25	LYS
17	O	27	LEU
17	O	31	GLN
17	O	40	GLU

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Mol	Chain	Res	Type
17	O	41	LEU
17	O	42	ASN
17	O	47	PHE
17	O	52	LEU
17	O	58	LEU
17	O	59	ARG
17	O	65	ASN
17	O	78	ARG
17	O	82	LYS
17	O	84	LEU
17	O	85	ARG
17	O	91	LYS
17	O	99	LEU
17	O	106	GLU
17	O	124	LEU
17	O	127	LEU
17	O	133	ARG
17	O	134	LYS
17	O	138	LEU
17	O	141	LEU
17	O	151	ASP
17	O	160	ARG
17	O	170	LYS
17	O	182	ASN
17	O	187	GLU
17	O	190	VAL
18	P	3	ARG
18	P	26	PHE
18	P	30	ARG
18	P	42	THR
18	P	46	LYS
18	P	52	LEU
18	P	54	HIS
18	P	69	ARG
18	P	94	LEU
18	P	101	ASN
18	P	111	LYS
18	P	114	VAL
18	P	120	ASN
18	P	127	ARG
18	P	129	THR
18	P	130	TYR

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Mol	Chain	Res	Type
18	P	138	LYS
18	P	141	SER
18	P	146	ILE
18	P	148	LEU
18	P	150	VAL
18	P	157	VAL
18	P	169	THR
18	P	172	GLN
18	P	180	LYS
19	Q	3	ILE
19	Q	11	LYS
19	Q	22	ASP
19	Q	24	VAL
19	Q	26	LEU
19	Q	36	LEU
19	Q	49	LEU
19	Q	55	SER
19	Q	57	ILE
19	Q	81	VAL
19	Q	84	VAL
19	Q	111	ARG
19	Q	123	THR
19	Q	127	LEU
19	Q	135	GLN
19	Q	138	LEU
19	Q	141	ARG
19	Q	148	GLU
19	Q	150	VAL
19	Q	164	ARG
19	Q	185	LYS
20	R	7	GLN
20	R	10	LEU
20	R	14	VAL
20	R	17	VAL
20	R	34	GLN
20	R	41	ILE
20	R	52	LYS
20	R	56	THR
20	R	74	ARG
20	R	84	THR
20	R	96	ILE
20	R	103	ARG

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Mol	Chain	Res	Type
20	R	106	LEU
20	R	108	LYS
20	R	158	GLU
20	R	164	LEU
20	R	166	ASN
20	R	170	ARG
20	R	175	GLN
20	R	176	ARG
21	S	13	ARG
21	S	32	SER
21	S	36	ILE
21	S	48	LEU
21	S	61	ILE
21	S	70	THR
21	S	80	ARG
21	S	92	LYS
21	S	134	ASP
21	S	152	LEU
21	S	155	ARG
21	S	165	TYR
21	S	172	TYR
22	T	18	ASP
22	T	32	LYS
22	T	55	LYS
22	T	71	SER
22	T	75	ILE
22	T	80	VAL
22	T	83	ARG
22	T	91	LEU
22	T	98	HIS
22	T	102	ARG
22	T	104	GLU
22	T	106	LEU
22	T	124	VAL
22	T	126	VAL
22	T	128	LEU
22	T	138	SER
22	T	139	ARG
22	T	141	VAL
22	T	147	VAL
23	U	10	LYS
23	U	38	ILE

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Mol	Chain	Res	Type
23	U	49	ASN
23	U	64	THR
23	U	66	VAL
23	U	100	THR
24	V	23	MET
24	V	33	ASN
24	V	64	LYS
24	V	69	LEU
24	V	72	LYS
24	V	79	VAL
24	V	83	LYS
24	V	93	LEU
24	V	96	GLU
24	V	102	ILE
24	V	128	ARG
25	W	1	MET
25	W	5	ILE
25	W	33	ASN
25	W	43	ARG
25	W	57	LYS
25	W	58	HIS
26	X	27	ARG
26	X	33	ARG
26	X	34	LEU
26	X	36	LYS
26	X	39	LYS
26	X	40	LEU
26	X	45	LYS
26	X	63	ILE
26	X	65	GLN
26	X	68	THR
26	X	82	LEU
26	X	92	LYS
26	X	93	TYR
26	X	115	ARG
26	X	135	ILE
26	X	142	ILE
27	Y	8	VAL
27	Y	37	LYS
27	Y	50	ILE
27	Y	57	LEU
27	Y	59	VAL

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Mol	Chain	Res	Type
27	Y	80	VAL
27	Y	97	ILE
27	Y	99	LEU
27	Y	111	LEU
27	Y	113	LYS
27	Y	122	LYS
27	Y	126	LEU
28	Z	3	LYS
28	Z	14	VAL
28	Z	24	VAL
28	Z	34	LYS
28	Z	46	ILE
28	Z	51	LEU
28	Z	54	THR
28	Z	55	LYS
28	Z	56	LYS
28	Z	86	THR
28	Z	99	GLU
28	Z	121	ARG
28	Z	126	LYS
28	Z	134	LEU
29	a	7	LYS
29	a	24	LYS
29	a	43	ILE
29	a	56	VAL
29	a	78	LEU
29	a	96	LYS
29	a	98	THR
29	a	105	LEU
29	a	115	LYS
29	a	130	VAL
29	a	133	LEU
29	a	144	VAL
30	b	12	GLN
30	b	21	ILE
30	b	25	LYS
30	b	33	LYS
30	b	40	ARG
30	b	45	HIS
30	b	59	LYS
31	c	16	LEU
31	c	18	ILE

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Mol	Chain	Res	Type
31	c	22	LYS
31	c	41	LEU
31	c	62	LEU
31	c	87	VAL
31	c	90	VAL
31	c	100	ILE
31	c	101	LEU
31	c	102	THR
31	c	104	LEU
32	d	14	ILE
32	d	26	LYS
32	d	35	GLU
32	d	51	LEU
32	d	55	LEU
32	d	61	LYS
32	d	68	GLU
32	d	74	ARG
32	d	79	ARG
32	d	82	GLU
32	d	86	LYS
32	d	89	LEU
32	d	110	GLU
33	e	8	LYS
33	e	18	LYS
33	e	19	ARG
33	e	25	TYR
33	e	27	ARG
33	e	46	PHE
33	e	50	ILE
33	e	81	ASP
33	e	82	LEU
33	e	107	VAL
33	e	109	LEU
33	e	128	LEU
34	f	10	LYS
34	f	15	SER
34	f	19	SER
34	f	20	LYS
34	f	31	LYS
34	f	60	ARG
34	f	70	LYS
34	f	77	ASN

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Mol	Chain	Res	Type
34	f	78	SER
34	f	92	LYS
34	f	98	VAL
34	f	103	TYR
34	f	106	ASN
35	g	25	THR
35	g	29	ILE
35	g	33	GLN
35	g	58	ARG
35	g	61	GLN
35	g	76	TYR
35	g	80	ARG
35	g	81	CYS
35	g	86	LYS
35	g	100	ILE
35	g	102	LYS
35	g	103	LYS
36	h	15	GLU
36	h	20	GLN
36	h	21	LEU
36	h	27	GLU
36	h	28	LEU
36	h	36	LEU
36	h	44	ILE
36	h	47	VAL
36	h	64	GLU
36	h	67	ARG
36	h	68	GLN
36	h	71	LYS
36	h	85	THR
36	h	96	GLU
36	h	105	ARG
36	h	107	LYS
36	h	115	LYS
36	h	119	LYS
37	i	7	ILE
37	i	9	ILE
37	i	25	LYS
37	i	27	SER
37	i	36	ARG
37	i	38	LYS
37	i	43	LEU

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Mol	Chain	Res	Type
37	i	44	VAL
37	i	57	LEU
37	i	58	ILE
37	i	76	ARG
37	i	77	LEU
37	i	99	ARG
38	j	14	LYS
38	j	17	THR
38	j	25	ARG
38	j	27	PHE
38	j	46	SER
38	j	57	HIS
38	j	65	ARG
38	j	80	THR
39	k	3	ARG
39	k	5	ILE
39	k	9	LYS
39	k	24	THR
39	k	25	VAL
39	k	26	LYS
39	k	28	ASN
39	k	29	LYS
39	k	32	ASN
39	k	41	THR
39	k	45	VAL
39	k	54	LEU
39	k	55	VAL
39	k	65	LEU
39	k	69	LEU
39	k	75	VAL
39	k	77	ARG
40	l	5	LYS
40	l	21	ARG
40	l	23	LEU
40	l	29	LEU
40	l	33	ASN
40	l	36	ARG
40	l	48	LYS
40	l	51	ILE
41	m	77	ILE
41	m	83	LYS
41	m	85	LEU

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Mol	Chain	Res	Type
41	m	91	CYS
41	m	106	ARG
41	m	114	LYS
42	n	1	MET
42	n	5	TRP
42	n	8	LYS
42	n	9	ARG
42	n	13	LEU
43	o	8	ARG
43	o	29	LYS
43	o	47	GLN
43	o	60	LYS
43	o	61	LYS
43	o	65	THR
43	o	66	LYS
43	o	71	ARG
43	o	75	VAL
43	o	78	LYS
43	o	83	LEU
43	o	85	LEU
43	o	93	LEU
43	o	100	LYS
44	p	11	THR
44	p	22	LEU
44	p	42	CYS
44	p	45	LYS
44	p	46	THR
44	p	56	THR
44	p	70	THR
44	p	84	ARG
44	p	90	VAL
44	p	91	GLU
45	t	1	MET
45	t	3	LYS
45	t	5	THR
45	t	41	TYR
45	t	53	LEU
45	t	54	LYS
45	t	67	ILE
45	t	83	ASP
45	t	92	LYS
45	t	94	ASN

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Mol	Chain	Res	Type
45	t	97	LYS
45	t	101	LYS
45	t	105	LYS
45	t	110	PHE
45	t	116	LEU
45	t	122	ARG
45	t	128	LEU
45	t	129	SER
45	t	130	LYS
45	t	138	VAL
45	t	151	VAL
45	t	152	ARG
45	t	155	ILE
45	t	156	LYS
45	t	182	GLN
45	t	190	PHE
45	t	192	SER
45	t	194	LEU
45	t	198	TRP
45	t	203	SER
45	t	205	VAL
45	t	206	VAL
45	t	207	LYS
45	t	214	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (104) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	24	GLN
4	A	140	ASN
4	A	209	HIS
4	A	216	HIS
4	A	250	GLN
5	B	3	HIS
5	B	182	GLN
5	B	184	ASN
5	B	279	ASN
5	B	319	ASN
6	C	18	ASN
6	C	36	HIS
6	C	58	HIS
6	C	114	ASN

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Mol	Chain	Res	Type
6	C	196	ASN
6	C	221	ASN
6	C	296	GLN
6	C	307	GLN
6	C	322	GLN
7	D	32	GLN
7	D	39	GLN
7	D	40	HIS
7	D	63	GLN
8	E	57	HIS
8	E	72	ASN
8	E	167	ASN
9	F	64	GLN
9	F	157	ASN
9	F	231	ASN
11	H	5	GLN
11	H	37	ASN
11	H	49	ASN
11	H	125	ASN
11	H	163	GLN
11	H	183	HIS
12	I	12	GLN
12	I	14	ASN
12	I	123	HIS
12	I	163	GLN
13	J	39	GLN
13	J	47	GLN
13	J	101	ASN
13	J	132	ASN
13	J	150	ASN
14	L	112	ASN
14	L	137	GLN
15	M	126	GLN
16	N	15	GLN
16	N	139	HIS
16	N	175	ASN
16	N	182	ASN
17	O	31	GLN
17	O	42	ASN
17	O	55	HIS
17	O	72	HIS
18	P	55	GLN

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Mol	Chain	Res	Type
18	P	96	GLN
20	R	3	ASN
20	R	68	GLN
20	R	166	ASN
20	R	175	GLN
21	S	63	GLN
21	S	88	HIS
21	S	138	GLN
22	T	98	HIS
22	T	131	GLN
22	T	146	ASN
23	U	52	ASN
24	V	132	ASN
25	W	42	GLN
26	X	53	HIS
27	Y	4	GLN
27	Y	81	GLN
27	Y	98	ASN
28	Z	122	HIS
29	a	11	HIS
29	a	62	HIS
30	b	6	ASN
31	c	36	GLN
33	e	20	HIS
33	e	49	ASN
33	e	78	ASN
33	e	88	HIS
33	e	98	HIS
33	e	104	ASN
34	f	23	ASN
34	f	42	GLN
35	g	52	GLN
35	g	61	GLN
36	h	62	GLN
36	h	76	GLN
38	j	13	ASN
38	j	79	GLN
39	k	32	ASN
39	k	40	GLN
40	l	32	ASN
40	l	50	ASN
43	o	82	GLN

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Mol	Chain	Res	Type
44	p	25	GLN
44	p	32	GLN
45	t	27	ASN
45	t	94	ASN
45	t	188	ASN
45	t	200	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	3129/3397 (92%)	1408 (44%)	379 (12%)
2	3	119/121 (98%)	44 (36%)	10 (8%)
3	4	156/158 (98%)	60 (38%)	14 (8%)
All	All	3404/3676 (92%)	1512 (44%)	403 (11%)

All (1512) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	6	A
1	1	9	U
1	1	10	C
1	1	11	A
1	1	12	A
1	1	14	U
1	1	15	C
1	1	18	G
1	1	25	U
1	1	26	A
1	1	30	G
1	1	31	C
1	1	32	U
1	1	35	A
1	1	40	A
1	1	41	G
1	1	43	A
1	1	48	A
1	1	49	A
1	1	59	G
1	1	60	A
1	1	66	A
1	1	67	A

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Mol	Chain	Res	Type
1	1	73	C
1	1	74	G
1	1	75	G
1	1	77	A
1	1	83	U
1	1	84	U
1	1	85	A
1	1	86	G
1	1	89	A
1	1	91	G
1	1	92	G
1	1	96	G
1	1	105	C
1	1	109	A
1	1	110	G
1	1	111	C
1	1	115	A
1	1	116	A
1	1	119	U
1	1	120	G
1	1	122	A
1	1	127	G
1	1	128	G
1	1	132	C
1	1	133	U
1	1	134	U
1	1	135	C
1	1	136	G
1	1	141	C
1	1	142	C
1	1	146	U
1	1	154	U
1	1	155	G
1	1	156	G
1	1	160	G
1	1	161	G
1	1	165	A
1	1	166	C
1	1	167	U
1	1	168	U
1	1	169	U
1	1	170	G

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Mol	Chain	Res	Type
1	1	172	G
1	1	173	G
1	1	175	C
1	1	177	U
1	1	181	U
1	1	183	G
1	1	187	A
1	1	189	G
1	1	190	U
1	1	191	U
1	1	192	C
1	1	197	G
1	1	198	A
1	1	199	A
1	1	200	C
1	1	201	A
1	1	205	C
1	1	206	G
1	1	210	U
1	1	211	A
1	1	213	A
1	1	218	G
1	1	219	A
1	1	220	G
1	1	222	A
1	1	223	U
1	1	225	C
1	1	226	C
1	1	231	G
1	1	234	G
1	1	237	G
1	1	238	A
1	1	239	G
1	1	240	U
1	1	242	C
1	1	243	G
1	1	244	G
1	1	245	U
1	1	249	U
1	1	250	U
1	1	251	G
1	1	252	U

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Mol	Chain	Res	Type
1	1	255	A
1	1	256	G
1	1	257	U
1	1	259	C
1	1	260	C
1	1	263	C
1	1	266	A
1	1	269	G
1	1	273	A
1	1	274	G
1	1	276	U
1	1	277	G
1	1	278	U
1	1	282	G
1	1	283	G
1	1	284	A
1	1	285	A
1	1	286	U
1	1	294	U
1	1	295	A
1	1	297	G
1	1	298	U
1	1	301	G
1	1	302	U
1	1	303	G
1	1	304	G
1	1	305	U
1	1	306	A
1	1	307	A
1	1	313	A
1	1	315	C
1	1	316	U
1	1	320	G
1	1	321	C
1	1	323	A
1	1	324	A
1	1	329	U
1	1	331	G
1	1	332	C
1	1	334	A
1	1	335	G
1	1	336	A

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Mol	Chain	Res	Type
1	1	338	A
1	1	339	C
1	1	342	A
1	1	345	G
1	1	346	C
1	1	347	G
1	1	355	A
1	1	362	U
1	1	365	A
1	1	368	G
1	1	369	A
1	1	370	U
1	1	373	A
1	1	374	A
1	1	376	G
1	1	385	A
1	1	387	A
1	1	388	G
1	1	394	G
1	1	395	A
1	1	396	A
1	1	397	A
1	1	398	A
1	1	399	A
1	1	401	U
1	1	402	A
1	1	403	C
1	1	404	G
1	1	407	A
1	1	411	U
1	1	412	G
1	1	413	U
1	1	419	G
1	1	420	G
1	1	421	G
1	1	422	A
1	1	424	G
1	1	425	G
1	1	427	C
1	1	428	A
1	1	429	U
1	1	439	C

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Mol	Chain	Res	Type
1	1	498	A
1	1	499	G
1	1	503	C
1	1	507	U
1	1	510	G
1	1	511	G
1	1	517	G
1	1	518	G
1	1	520	U
1	1	521	A
1	1	523	A
1	1	525	C
1	1	529	A
1	1	530	G
1	1	531	G
1	1	532	A
1	1	534	U
1	1	535	G
1	1	536	U
1	1	538	G
1	1	539	C
1	1	541	U
1	1	542	G
1	1	543	C
1	1	544	C
1	1	545	U
1	1	546	C
1	1	547	G
1	1	549	U
1	1	550	A
1	1	551	A
1	1	552	G
1	1	555	U
1	1	556	U
1	1	557	A
1	1	558	U
1	1	559	A
1	1	561	C
1	1	564	G
1	1	569	A
1	1	570	A
1	1	572	A

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Mol	Chain	Res	Type
1	1	573	C
1	1	574	U
1	1	579	G
1	1	583	G
1	1	587	U
1	1	588	G
1	1	589	A
1	1	592	A
1	1	594	U
1	1	595	G
1	1	597	G
1	1	598	A
1	1	599	C
1	1	600	G
1	1	604	G
1	1	607	A
1	1	608	A
1	1	609	G
1	1	611	A
1	1	612	U
1	1	615	U
1	1	620	U
1	1	621	A
1	1	622	A
1	1	625	G
1	1	626	U
1	1	632	G
1	1	633	C
1	1	634	C
1	1	635	G
1	1	636	C
1	1	637	C
1	1	638	C
1	1	643	U
1	1	644	G
1	1	648	C
1	1	649	A
1	1	651	G
1	1	657	A
1	1	658	G
1	1	660	A
1	1	662	U

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Mol	Chain	Res	Type
1	1	664	U
1	1	669	U
1	1	672	A
1	1	673	U
1	1	674	G
1	1	675	C
1	1	676	G
1	1	677	A
1	1	681	U
1	1	682	U
1	1	683	U
1	1	684	G
1	1	690	A
1	1	691	A
1	1	700	C
1	1	702	C
1	1	703	G
1	1	705	A
1	1	708	G
1	1	712	G
1	1	715	A
1	1	716	A
1	1	718	G
1	1	719	U
1	1	720	A
1	1	721	G
1	1	722	G
1	1	723	U
1	1	725	G
1	1	726	G
1	1	727	G
1	1	734	C
1	1	735	A
1	1	739	G
1	1	740	G
1	1	742	G
1	1	750	G
1	1	752	C
1	1	761	A
1	1	763	G
1	1	764	U
1	1	765	C

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Mol	Chain	Res	Type
1	1	766	U
1	1	767	U
1	1	774	G
1	1	776	U
1	1	777	U
1	1	778	U
1	1	780	A
1	1	781	G
1	1	784	A
1	1	785	G
1	1	786	A
1	1	787	G
1	1	801	A
1	1	802	C
1	1	803	C
1	1	806	A
1	1	807	A
1	1	808	A
1	1	812	G
1	1	813	G
1	1	816	A
1	1	817	A
1	1	826	G
1	1	829	U
1	1	830	A
1	1	831	G
1	1	832	G
1	1	833	G
1	1	835	G
1	1	836	A
1	1	837	A
1	1	843	A
1	1	844	G
1	1	845	G
1	1	846	A
1	1	847	A
1	1	848	A
1	1	849	C
1	1	857	G
1	1	858	A
1	1	860	G
1	1	861	C

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Mol	Chain	Res	Type
1	1	862	U
1	1	863	C
1	1	869	G
1	1	871	U
1	1	873	C
1	1	874	U
1	1	875	G
1	1	879	U
1	1	883	A
1	1	884	A
1	1	885	U
1	1	890	C
1	1	894	G
1	1	895	A
1	1	896	A
1	1	897	U
1	1	902	G
1	1	903	U
1	1	907	G
1	1	908	G
1	1	910	G
1	1	914	A
1	1	915	A
1	1	916	G
1	1	917	A
1	1	918	C
1	1	920	A
1	1	921	A
1	1	922	U
1	1	923	C
1	1	924	G
1	1	925	A
1	1	926	A
1	1	931	C
1	1	932	U
1	1	933	A
1	1	936	A
1	1	937	G
1	1	938	C
1	1	939	U
1	1	940	G
1	1	941	G

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Mol	Chain	Res	Type
1	1	944	C
1	1	953	G
1	1	959	C
1	1	960	U
1	1	961	C
1	1	962	A
1	1	978	G
1	1	979	U
1	1	980	A
1	1	981	U
1	1	982	C
1	1	984	G
1	1	991	G
1	1	994	G
1	1	996	A
1	1	997	A
1	1	1001	G
1	1	1002	A
1	1	1003	A
1	1	1004	U
1	1	1005	G
1	1	1010	G
1	1	1013	G
1	1	1014	U
1	1	1015	U
1	1	1017	C
1	1	1018	G
1	1	1020	G
1	1	1023	C
1	1	1024	G
1	1	1025	A
1	1	1026	A
1	1	1032	C
1	1	1036	A
1	1	1041	U
1	1	1043	C
1	1	1044	U
1	1	1047	A
1	1	1049	C
1	1	1050	U
1	1	1056	U
1	1	1057	A

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Mol	Chain	Res	Type
1	1	1058	U
1	1	1064	A
1	1	1066	G
1	1	1067	U
1	1	1071	U
1	1	1079	A
1	1	1081	U
1	1	1082	U
1	1	1084	A
1	1	1086	C
1	1	1087	G
1	1	1093	A
1	1	1094	U
1	1	1095	U
1	1	1096	U
1	1	1098	A
1	1	1100	U
1	1	1103	A
1	1	1104	G
1	1	1107	C
1	1	1110	U
1	1	1111	U
1	1	1115	G
1	1	1116	G
1	1	1117	G
1	1	1118	C
1	1	1122	U
1	1	1126	G
1	1	1128	U
1	1	1131	G
1	1	1143	A
1	1	1144	U
1	1	1145	G
1	1	1149	G
1	1	1150	A
1	1	1151	U
1	1	1153	A
1	1	1154	A
1	1	1155	C
1	1	1156	C
1	1	1157	G
1	1	1159	A

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Mol	Chain	Res	Type
1	1	1160	C
1	1	1163	A
1	1	1164	G
1	1	1165	A
1	1	1168	U
1	1	1171	G
1	1	1172	G
1	1	1174	G
1	1	1176	C
1	1	1177	G
1	1	1178	G
1	1	1179	A
1	1	1180	A
1	1	1181	U
1	1	1184	A
1	1	1185	C
1	1	1189	C
1	1	1190	A
1	1	1191	U
1	1	1192	C
1	1	1196	C
1	1	1201	C
1	1	1203	A
1	1	1204	A
1	1	1206	G
1	1	1208	U
1	1	1209	G
1	1	1212	A
1	1	1213	G
1	1	1219	C
1	1	1220	U
1	1	1221	A
1	1	1222	G
1	1	1223	A
1	1	1224	C
1	1	1225	A
1	1	1227	C
1	1	1230	G
1	1	1232	C
1	1	1233	G
1	1	1236	G
1	1	1237	G

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Mol	Chain	Res	Type
1	1	1240	A
1	1	1241	U
1	1	1242	G
1	1	1243	G
1	1	1244	A
1	1	1245	A
1	1	1246	G
1	1	1247	U
1	1	1248	C
1	1	1249	G
1	1	1256	G
1	1	1257	C
1	1	1258	U
1	1	1262	G
1	1	1263	A
1	1	1264	G
1	1	1265	U
1	1	1266	G
1	1	1267	U
1	1	1269	U
1	1	1271	A
1	1	1272	C
1	1	1274	A
1	1	1277	C
1	1	1278	A
1	1	1279	C
1	1	1281	G
1	1	1282	G
1	1	1283	C
1	1	1285	G
1	1	1287	A
1	1	1288	U
1	1	1289	G
1	1	1290	A
1	1	1295	G
1	1	1298	C
1	1	1303	A
1	1	1304	A
1	1	1305	U
1	1	1307	G
1	1	1308	A
1	1	1309	U

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Mol	Chain	Res	Type
1	1	1310	G
1	1	1313	G
1	1	1316	C
1	1	1317	A
1	1	1318	A
1	1	1319	G
1	1	1323	G
1	1	1324	U
1	1	1325	U
1	1	1329	U
1	1	1330	A
1	1	1340	G
1	1	1344	G
1	1	1345	G
1	1	1346	G
1	1	1347	U
1	1	1348	U
1	1	1349	G
1	1	1350	A
1	1	1351	U
1	1	1352	A
1	1	1353	U
1	1	1354	G
1	1	1357	G
1	1	1359	C
1	1	1363	A
1	1	1364	C
1	1	1367	G
1	1	1368	U
1	1	1370	G
1	1	1372	C
1	1	1374	G
1	1	1375	G
1	1	1380	G
1	1	1381	A
1	1	1386	A
1	1	1390	A
1	1	1391	C
1	1	1398	U
1	1	1399	A
1	1	1400	G
1	1	1419	A

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Mol	Chain	Res	Type
1	1	1422	G
1	1	1425	U
1	1	1426	C
1	1	1428	A
1	1	1429	G
1	1	1430	U
1	1	1431	G
1	1	1434	G
1	1	1437	C
1	1	1441	G
1	1	1443	G
1	1	1446	A
1	1	1447	G
1	1	1448	U
1	1	1449	A
1	1	1450	G
1	1	1451	C
1	1	1452	A
1	1	1455	U
1	1	1456	A
1	1	1459	C
1	1	1460	A
1	1	1462	A
1	1	1463	U
1	1	1464	G
1	1	1465	A
1	1	1466	G
1	1	1470	U
1	1	1471	U
1	1	1481	A
1	1	1483	G
1	1	1484	U
1	1	1485	G
1	1	1486	G
1	1	1488	G
1	1	1489	A
1	1	1494	U
1	1	1503	A
1	1	1508	C
1	1	1511	U
1	1	1514	G
1	1	1524	A

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Mol	Chain	Res	Type
1	1	1525	G
1	1	1526	U
1	1	1527	C
1	1	1531	C
1	1	1532	C
1	1	1535	A
1	1	1536	G
1	1	1544	G
1	1	1547	G
1	1	1554	U
1	1	1555	U
1	1	1556	C
1	1	1557	A
1	1	1558	A
1	1	1560	G
1	1	1561	G
1	1	1562	C
1	1	1563	C
1	1	1564	U
1	1	1565	G
1	1	1566	A
1	1	1567	U
1	1	1568	U
1	1	1569	U
1	1	1570	U
1	1	1571	A
1	1	1572	U
1	1	1573	G
1	1	1574	C
1	1	1576	G
1	1	1579	C
1	1	1582	C
1	1	1583	A
1	1	1587	A
1	1	1589	A
1	1	1590	G
1	1	1591	G
1	1	1593	A
1	1	1595	U
1	1	1596	C
1	1	1597	C
1	1	1599	G

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Mol	Chain	Res	Type
1	1	1600	U
1	1	1602	A
1	1	1603	A
1	1	1604	G
1	1	1605	A
1	1	1607	U
1	1	1608	C
1	1	1609	C
1	1	1611	G
1	1	1618	G
1	1	1619	A
1	1	1620	U
1	1	1623	G
1	1	1624	G
1	1	1626	U
1	1	1628	C
1	1	1630	U
1	1	1632	A
1	1	1640	G
1	1	1643	A
1	1	1644	C
1	1	1645	U
1	1	1649	U
1	1	1657	C
1	1	1658	G
1	1	1662	G
1	1	1673	G
1	1	1674	G
1	1	1675	G
1	1	1678	G
1	1	1683	A
1	1	1686	U
1	1	1687	U
1	1	1689	U
1	1	1691	U
1	1	1692	U
1	1	1696	A
1	1	1698	C
1	1	1699	A
1	1	1700	G
1	1	1705	U
1	1	1715	A

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Mol	Chain	Res	Type
1	1	1716	U
1	1	1717	U
1	1	1719	G
1	1	1724	U
1	1	1725	C
1	1	1728	G
1	1	1736	G
1	1	1741	A
1	1	1743	G
1	1	1747	G
1	1	1750	A
1	1	1751	G
1	1	1753	G
1	1	1756	C
1	1	1760	A
1	1	1761	C
1	1	1762	C
1	1	1764	U
1	1	1765	U
1	1	1766	G
1	1	1769	G
1	1	1770	G
1	1	1772	U
1	1	1773	C
1	1	1774	C
1	1	1780	G
1	1	1784	G
1	1	1785	U
1	1	1786	G
1	1	1795	U
1	1	1796	G
1	1	1797	A
1	1	1799	A
1	1	1800	A
1	1	1806	A
1	1	1807	G
1	1	1808	G
1	1	1809	A
1	1	1812	G
1	1	1814	A
1	1	1815	U
1	1	1816	A

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Mol	Chain	Res	Type
1	1	1817	G
1	1	1819	U
1	1	1820	U
1	1	1821	U
1	1	1822	C
1	1	1825	G
1	1	1826	C
1	1	1830	G
1	1	1831	U
1	1	1835	A
1	1	1838	G
1	1	1839	A
1	1	1840	U
1	1	1841	A
1	1	1842	A
1	1	1843	C
1	1	1844	C
1	1	1846	C
1	1	1850	A
1	1	1855	U
1	1	1859	A
1	1	1860	G
1	1	1864	A
1	1	1868	G
1	1	1871	U
1	1	1872	C
1	1	1874	A
1	1	1876	U
1	1	1878	G
1	1	1879	A
1	1	1880	U
1	1	1881	A
1	1	1882	G
1	1	1883	A
1	1	1885	U
1	1	1886	A
1	1	1887	A
1	1	1888	U
1	1	1889	G
1	1	1890	U
1	1	1892	G
1	1	1893	A

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Mol	Chain	Res	Type
1	1	1896	A
1	1	1897	G
1	1	1905	G
1	1	1906	G
1	1	1907	C
1	1	1909	A
1	1	1918	C
1	1	1919	G
1	1	1920	U
1	1	1927	G
1	1	1929	G
1	1	1930	A
1	1	1932	A
1	1	1935	G
1	1	1938	U
1	1	1943	C
1	1	1944	U
1	1	1945	A
1	1	1952	G
1	1	1953	G
1	1	1954	G
1	1	2094	C
1	1	2095	G
1	1	2098	C
1	1	2101	C
1	1	2102	U
1	1	2103	U
1	1	2111	G
1	1	2112	U
1	1	2113	A
1	1	2114	C
1	1	2115	G
1	1	2116	G
1	1	2119	A
1	1	2121	G
1	1	2122	G
1	1	2126	A
1	1	2127	U
1	1	2130	G
1	1	2131	A
1	1	2140	U
1	1	2144	A

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Mol	Chain	Res	Type
1	1	2152	A
1	1	2153	U
1	1	2156	C
1	1	2157	G
1	1	2158	A
1	1	2159	U
1	1	2160	G
1	1	2164	A
1	1	2165	G
1	1	2169	G
1	1	2171	G
1	1	2173	U
1	1	2174	G
1	1	2176	U
1	1	2178	A
1	1	2182	A
1	1	2185	G
1	1	2187	G
1	1	2188	A
1	1	2192	C
1	1	2198	A
1	1	2205	U
1	1	2206	G
1	1	2207	A
1	1	2208	A
1	1	2209	U
1	1	2210	G
1	1	2213	A
1	1	2215	A
1	1	2220	A
1	1	2221	G
1	1	2225	U
1	1	2232	A
1	1	2239	G
1	1	2240	G
1	1	2241	U
1	1	2244	A
1	1	2249	G
1	1	2250	G
1	1	2252	A
1	1	2255	A
1	1	2256	A

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Mol	Chain	Res	Type
1	1	2257	C
1	1	2259	A
1	1	2261	G
1	1	2263	C
1	1	2272	G
1	1	2273	G
1	1	2274	U
1	1	2278	C
1	1	2279	A
1	1	2280	A
1	1	2281	A
1	1	2282	U
1	1	2283	G
1	1	2288	G
1	1	2289	U
1	1	2291	A
1	1	2295	A
1	1	2298	U
1	1	2303	A
1	1	2304	C
1	1	2305	G
1	1	2306	C
1	1	2307	G
1	1	2310	U
1	1	2311	G
1	1	2312	A
1	1	2313	A
1	1	2314	U
1	1	2315	G
1	1	2320	A
1	1	2321	A
1	1	2329	C
1	1	2330	C
1	1	2331	C
1	1	2332	A
1	1	2334	U
1	1	2335	G
1	1	2336	U
1	1	2342	U
1	1	2343	C
1	1	2365	C
1	1	2368	A

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Mol	Chain	Res	Type
1	1	2369	G
1	1	2372	A
1	1	2373	A
1	1	2374	C
1	1	2375	G
1	1	2383	C
1	1	2385	G
1	1	2386	A
1	1	2387	A
1	1	2388	U
1	1	2392	C
1	1	2393	G
1	1	2394	G
1	1	2397	A
1	1	2398	A
1	1	2399	A
1	1	2402	A
1	1	2403	G
1	1	2404	A
1	1	2405	C
1	1	2406	C
1	1	2407	C
1	1	2411	U
1	1	2412	G
1	1	2415	C
1	1	2417	U
1	1	2418	G
1	1	2429	G
1	1	2434	U
1	1	2435	G
1	1	2437	G
1	1	2439	A
1	1	2440	G
1	1	2443	A
1	1	2444	C
1	1	2445	A
1	1	2446	A
1	1	2447	G
1	1	2449	G
1	1	2452	G
1	1	2453	C
1	1	2454	G

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Mol	Chain	Res	Type
1	1	2456	A
1	1	2457	G
1	1	2458	G
1	1	2459	A
1	1	2460	U
1	1	2461	A
1	1	2464	U
1	1	2465	G
1	1	2466	G
1	1	2470	C
1	1	2473	A
1	1	2485	A
1	1	2487	U
1	1	2488	A
1	1	2489	C
1	1	2492	C
1	1	2493	C
1	1	2495	U
1	1	2499	C
1	1	2500	A
1	1	2501	U
1	1	2502	G
1	1	2503	U
1	1	2504	U
1	1	2506	C
1	1	2507	U
1	1	2508	U
1	1	2509	U
1	1	2510	A
1	1	2511	C
1	1	2513	U
1	1	2514	U
1	1	2515	A
1	1	2523	A
1	1	2525	G
1	1	2526	C
1	1	2529	A
1	1	2531	C
1	1	2532	U
1	1	2533	G
1	1	2536	A
1	1	2537	U

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Mol	Chain	Res	Type
1	1	2538	U
1	1	2540	A
1	1	2541	U
1	1	2542	U
1	1	2543	U
1	1	2544	U
1	1	2546	C
1	1	2547	A
1	1	2549	G
1	1	2550	U
1	1	2552	C
1	1	2553	U
1	1	2554	A
1	1	2555	G
1	1	2556	C
1	1	2561	A
1	1	2568	C
1	1	2569	A
1	1	2570	U
1	1	2572	C
1	1	2574	G
1	1	2575	G
1	1	2582	C
1	1	2585	G
1	1	2586	G
1	1	2594	C
1	1	2596	U
1	1	2597	U
1	1	2600	C
1	1	2603	G
1	1	2604	U
1	1	2606	G
1	1	2607	G
1	1	2608	G
1	1	2611	U
1	1	2612	U
1	1	2613	U
1	1	2614	G
1	1	2618	G
1	1	2620	G
1	1	2622	C
1	1	2625	C

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Mol	Chain	Res	Type
1	1	2626	A
1	1	2628	A
1	1	2629	U
1	1	2630	C
1	1	2635	A
1	1	2636	A
1	1	2641	U
1	1	2642	A
1	1	2643	A
1	1	2644	C
1	1	2649	A
1	1	2651	G
1	1	2652	U
1	1	2653	C
1	1	2655	U
1	1	2656	A
1	1	2657	A
1	1	2658	G
1	1	2659	G
1	1	2660	G
1	1	2661	G
1	1	2664	C
1	1	2667	A
1	1	2668	U
1	1	2673	A
1	1	2674	A
1	1	2677	G
1	1	2681	U
1	1	2686	A
1	1	2687	G
1	1	2688	U
1	1	2690	G
1	1	2691	A
1	1	2692	A
1	1	2694	A
1	1	2700	G
1	1	2703	A
1	1	2704	A
1	1	2705	A
1	1	2718	U
1	1	2719	U
1	1	2720	G

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Mol	Chain	Res	Type
1	1	2728	G
1	1	2729	U
1	1	2731	U
1	1	2732	G
1	1	2734	A
1	1	2735	U
1	1	2737	C
1	1	2740	A
1	1	2749	G
1	1	2752	U
1	1	2753	G
1	1	2756	C
1	1	2758	A
1	1	2765	C
1	1	2766	U
1	1	2771	U
1	1	2772	C
1	1	2776	C
1	1	2777	G
1	1	2778	G
1	1	2779	A
1	1	2784	G
1	1	2785	A
1	1	2787	G
1	1	2788	C
1	1	2791	G
1	1	2792	A
1	1	2796	G
1	1	2799	A
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2803	A
1	1	2804	A
1	1	2808	A
1	1	2810	C
1	1	2812	C
1	1	2814	G
1	1	2816	G
1	1	2817	A
1	1	2818	U
1	1	2819	A

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Mol	Chain	Res	Type
1	1	2821	C
1	1	2822	U
1	1	2833	A
1	1	2834	G
1	1	2836	C
1	1	2837	A
1	1	2838	A
1	1	2842	U
1	1	2843	U
1	1	2844	C
1	1	2845	A
1	1	2853	A
1	1	2855	U
1	1	2860	U
1	1	2861	U
1	1	2867	C
1	1	2871	G
1	1	2872	A
1	1	2873	U
1	1	2875	U
1	1	2887	A
1	1	2889	C
1	1	2895	G
1	1	2896	A
1	1	2898	G
1	1	2899	C
1	1	2901	G
1	1	2905	U
1	1	2906	C
1	1	2907	G
1	1	2912	G
1	1	2921	U
1	1	2922	G
1	1	2923	U
1	1	2928	C
1	1	2931	C
1	1	2935	U
1	1	2936	A
1	1	2938	G
1	1	2939	G
1	1	2940	A
1	1	2942	C

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Mol	Chain	Res	Type
1	1	2943	G
1	1	2945	G
1	1	2947	G
1	1	2948	C
1	1	2949	U
1	1	2950	G
1	1	2951	G
1	1	2955	U
1	1	2960	C
1	1	2961	G
1	1	2965	U
1	1	2966	G
1	1	2971	A
1	1	2973	G
1	1	2981	U
1	1	2983	C
1	1	2987	A
1	1	2988	C
1	1	2990	G
1	1	2995	A
1	1	2996	U
1	1	2997	G
1	1	3002	C
1	1	3003	G
1	1	3012	A
1	1	3015	G
1	1	3016	A
1	1	3020	U
1	1	3021	A
1	1	3027	A
1	1	3030	G
1	1	3032	A
1	1	3037	U
1	1	3038	U
1	1	3039	C
1	1	3040	A
1	1	3049	A
1	1	3050	U
1	1	3051	U
1	1	3055	U
1	1	3056	U
1	1	3057	U

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Mol	Chain	Res	Type
1	1	3058	U
1	1	3059	G
1	1	3061	G
1	1	3062	G
1	1	3071	U
1	1	3072	C
1	1	3075	G
1	1	3076	C
1	1	3078	U
1	1	3079	U
1	1	3080	G
1	1	3086	A
1	1	3092	C
1	1	3093	C
1	1	3094	A
1	1	3100	U
1	1	3101	G
1	1	3104	U
1	1	3105	U
1	1	3106	A
1	1	3107	U
1	1	3108	G
1	1	3114	A
1	1	3118	C
1	1	3119	U
1	1	3120	C
1	1	3122	A
1	1	3123	A
1	1	3129	A
1	1	3130	A
1	1	3131	U
1	1	3134	A
1	1	3136	G
1	1	3138	U
1	1	3140	G
1	1	3141	A
1	1	3142	A
1	1	3143	C
1	1	3146	G
1	1	3150	A
1	1	3151	U
1	1	3152	U

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Mol	Chain	Res	Type
1	1	3153	U
1	1	3154	C
1	1	3155	U
1	1	3156	U
1	1	3162	C
1	1	3163	A
1	1	3164	C
1	1	3165	A
1	1	3166	C
1	1	3168	A
1	1	3169	U
1	1	3170	A
1	1	3173	G
1	1	3174	A
1	1	3175	U
1	1	3176	G
1	1	3179	U
1	1	3180	A
1	1	3181	C
1	1	3184	A
1	1	3185	U
1	1	3187	A
1	1	3194	C
1	1	3195	U
1	1	3196	U
1	1	3197	G
1	1	3198	U
1	1	3199	G
1	1	3200	G
1	1	3201	C
1	1	3205	G
1	1	3206	C
1	1	3207	U
1	1	3208	G
1	1	3209	A
1	1	3210	A
1	1	3215	A
1	1	3216	G
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3220	G

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Mol	Chain	Res	Type
1	1	3221	C
1	1	3222	U
1	1	3224	G
1	1	3229	G
1	1	3234	A
1	1	3239	G
1	1	3240	C
1	1	3241	G
1	1	3242	G
1	1	3243	A
1	1	3244	A
1	1	3245	A
1	1	3246	G
1	1	3247	G
1	1	3259	U
1	1	3260	G
1	1	3263	G
1	1	3265	C
1	1	3266	G
1	1	3267	A
1	1	3268	A
1	1	3269	U
1	1	3270	U
1	1	3272	C
1	1	3273	A
1	1	3276	G
1	1	3278	C
1	1	3279	A
1	1	3285	C
1	1	3286	G
1	1	3287	U
1	1	3291	G
1	1	3292	A
1	1	3293	U
1	1	3294	A
1	1	3295	A
1	1	3296	A
1	1	3304	U
1	1	3305	A
1	1	3310	A
1	1	3313	U
1	1	3314	A

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Mol	Chain	Res	Type
1	1	3316	A
1	1	3318	G
1	1	3319	U
1	1	3320	A
1	1	3323	A
1	1	3324	C
1	1	3325	G
1	1	3326	G
1	1	3330	A
1	1	3333	G
1	1	3334	U
1	1	3335	A
1	1	3336	A
1	1	3341	U
1	1	3345	G
1	1	3346	U
1	1	3349	C
1	1	3350	C
1	1	3351	U
1	1	3352	U
1	1	3354	U
1	1	3355	U
1	1	3356	G
1	1	3359	A
1	1	3361	G
1	1	3362	A
1	1	3363	U
1	1	3366	G
1	1	3368	U
1	1	3369	G
1	1	3370	A
1	1	3375	A
1	1	3378	C
1	1	3382	U
1	1	3383	G
1	1	3386	G
1	1	3388	C
1	1	3389	U
1	1	3390	G
1	1	3391	A
1	1	3396	U
2	3	2	G

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Mol	Chain	Res	Type
2	3	4	U
2	3	5	G
2	3	11	A
2	3	13	A
2	3	18	C
2	3	19	C
2	3	21	G
2	3	22	A
2	3	34	C
2	3	35	C
2	3	38	U
2	3	41	G
2	3	42	A
2	3	44	C
2	3	45	A
2	3	49	G
2	3	50	U
2	3	51	A
2	3	53	U
2	3	54	U
2	3	55	A
2	3	56	A
2	3	57	G
2	3	61	G
2	3	65	G
2	3	69	C
2	3	73	C
2	3	74	C
2	3	76	A
2	3	91	G
2	3	93	C
2	3	94	C
2	3	95	A
2	3	102	A
2	3	104	A
2	3	106	U
2	3	107	C
2	3	111	U
2	3	112	G
2	3	114	U
2	3	115	G
2	3	116	C

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Mol	Chain	Res	Type
2	3	121	U
3	4	2	A
3	4	10	A
3	4	11	C
3	4	13	A
3	4	17	A
3	4	20	U
3	4	23	U
3	4	27	U
3	4	34	U
3	4	35	C
3	4	39	G
3	4	45	C
3	4	48	A
3	4	49	G
3	4	50	C
3	4	51	G
3	4	53	A
3	4	54	A
3	4	57	C
3	4	59	A
3	4	62	C
3	4	63	G
3	4	75	G
3	4	77	A
3	4	80	A
3	4	81	U
3	4	82	U
3	4	84	C
3	4	86	U
3	4	87	G
3	4	89	A
3	4	90	U
3	4	91	C
3	4	95	G
3	4	97	A
3	4	98	U
3	4	99	C
3	4	102	U
3	4	104	A
3	4	105	A
3	4	106	C

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Mol	Chain	Res	Type
3	4	111	A
3	4	112	U
3	4	113	U
3	4	114	G
3	4	115	C
3	4	116	G
3	4	120	C
3	4	121	U
3	4	125	U
3	4	126	A
3	4	135	G
3	4	136	G
3	4	138	A
3	4	140	G
3	4	147	U
3	4	148	G
3	4	151	C
3	4	152	G
3	4	158	U

All (403) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	9	U
1	1	25	U
1	1	28	C
1	1	31	C
1	1	32	U
1	1	40	A
1	1	66	A
1	1	91	G
1	1	109	A
1	1	115	A
1	1	127	G
1	1	133	U
1	1	134	U
1	1	147	U
1	1	155	G
1	1	167	U
1	1	189	G
1	1	219	A
1	1	220	G

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Mol	Chain	Res	Type
1	1	225	C
1	1	239	G
1	1	244	G
1	1	251	G
1	1	273	A
1	1	276	U
1	1	282	G
1	1	283	G
1	1	285	A
1	1	301	G
1	1	303	G
1	1	311	C
1	1	320	G
1	1	323	A
1	1	331	G
1	1	335	G
1	1	345	G
1	1	368	G
1	1	373	A
1	1	387	A
1	1	402	A
1	1	406	G
1	1	411	U
1	1	419	G
1	1	420	G
1	1	424	G
1	1	427	C
1	1	498	A
1	1	517	G
1	1	530	G
1	1	538	G
1	1	541	U
1	1	542	G
1	1	551	A
1	1	552	G
1	1	573	C
1	1	594	U
1	1	598	A
1	1	625	G
1	1	635	G
1	1	637	C
1	1	643	U

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Mol	Chain	Res	Type
1	1	672	A
1	1	673	U
1	1	702	C
1	1	718	G
1	1	722	G
1	1	726	G
1	1	739	G
1	1	741	U
1	1	763	G
1	1	764	U
1	1	765	C
1	1	766	U
1	1	806	A
1	1	816	A
1	1	831	G
1	1	832	G
1	1	835	G
1	1	844	G
1	1	862	U
1	1	873	C
1	1	884	A
1	1	894	G
1	1	902	G
1	1	914	A
1	1	916	G
1	1	917	A
1	1	923	C
1	1	925	A
1	1	936	A
1	1	938	C
1	1	960	U
1	1	961	C
1	1	972	A
1	1	978	G
1	1	979	U
1	1	981	U
1	1	996	A
1	1	1007	U
1	1	1013	G
1	1	1017	C
1	1	1023	C
1	1	1024	G

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Mol	Chain	Res	Type
1	1	1031	C
1	1	1043	C
1	1	1056	U
1	1	1081	U
1	1	1084	A
1	1	1086	C
1	1	1094	U
1	1	1097	G
1	1	1103	A
1	1	1110	U
1	1	1116	G
1	1	1117	G
1	1	1144	U
1	1	1149	G
1	1	1154	A
1	1	1156	C
1	1	1177	G
1	1	1184	A
1	1	1189	C
1	1	1191	U
1	1	1196	C
1	1	1203	A
1	1	1208	U
1	1	1212	A
1	1	1220	U
1	1	1222	G
1	1	1224	C
1	1	1235	U
1	1	1240	A
1	1	1241	U
1	1	1247	U
1	1	1257	C
1	1	1262	G
1	1	1264	G
1	1	1270	A
1	1	1273	A
1	1	1277	C
1	1	1282	G
1	1	1289	G
1	1	1301	A
1	1	1303	A
1	1	1305	U

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Mol	Chain	Res	Type
1	1	1317	A
1	1	1323	G
1	1	1324	U
1	1	1329	U
1	1	1348	U
1	1	1349	G
1	1	1351	U
1	1	1352	A
1	1	1363	A
1	1	1367	G
1	1	1382	G
1	1	1393	A
1	1	1425	U
1	1	1447	G
1	1	1451	C
1	1	1455	U
1	1	1459	C
1	1	1462	A
1	1	1463	U
1	1	1464	G
1	1	1483	G
1	1	1488	G
1	1	1493	G
1	1	1502	C
1	1	1524	A
1	1	1531	C
1	1	1539	A
1	1	1556	C
1	1	1560	G
1	1	1562	C
1	1	1568	U
1	1	1570	U
1	1	1572	U
1	1	1582	C
1	1	1588	A
1	1	1589	A
1	1	1596	C
1	1	1605	A
1	1	1620	U
1	1	1623	G
1	1	1673	G
1	1	1686	U

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Mol	Chain	Res	Type
1	1	1691	U
1	1	1698	C
1	1	1716	U
1	1	1724	U
1	1	1761	C
1	1	1763	U
1	1	1773	C
1	1	1795	U
1	1	1799	A
1	1	1806	A
1	1	1814	A
1	1	1815	U
1	1	1816	A
1	1	1820	U
1	1	1821	U
1	1	1825	G
1	1	1838	G
1	1	1839	A
1	1	1841	A
1	1	1846	C
1	1	1853	U
1	1	1858	A
1	1	1859	A
1	1	1878	G
1	1	1879	A
1	1	1882	G
1	1	1888	U
1	1	1905	G
1	1	1906	G
1	1	1944	U
1	1	2101	C
1	1	2103	U
1	1	2110	G
1	1	2111	G
1	1	2130	G
1	1	2139	A
1	1	2144	A
1	1	2152	A
1	1	2156	C
1	1	2157	G
1	1	2158	A
1	1	2159	U

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Mol	Chain	Res	Type
1	1	2173	U
1	1	2182	A
1	1	2206	G
1	1	2207	A
1	1	2208	A
1	1	2209	U
1	1	2220	A
1	1	2240	G
1	1	2256	A
1	1	2267	C
1	1	2279	A
1	1	2281	A
1	1	2288	G
1	1	2303	A
1	1	2304	C
1	1	2311	G
1	1	2313	A
1	1	2320	A
1	1	2329	C
1	1	2331	C
1	1	2342	U
1	1	2362	C
1	1	2368	A
1	1	2385	G
1	1	2387	A
1	1	2393	G
1	1	2403	G
1	1	2406	C
1	1	2428	U
1	1	2448	G
1	1	2453	C
1	1	2458	G
1	1	2460	U
1	1	2465	G
1	1	2469	G
1	1	2486	A
1	1	2487	U
1	1	2499	C
1	1	2500	A
1	1	2501	U
1	1	2505	U
1	1	2507	U

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Mol	Chain	Res	Type
1	1	2510	A
1	1	2514	U
1	1	2537	U
1	1	2539	C
1	1	2541	U
1	1	2549	G
1	1	2554	A
1	1	2568	C
1	1	2585	G
1	1	2593	A
1	1	2596	U
1	1	2604	U
1	1	2606	G
1	1	2607	G
1	1	2612	U
1	1	2622	C
1	1	2625	C
1	1	2643	A
1	1	2652	U
1	1	2655	U
1	1	2659	G
1	1	2667	A
1	1	2686	A
1	1	2689	A
1	1	2704	A
1	1	2718	U
1	1	2728	G
1	1	2731	U
1	1	2734	A
1	1	2765	C
1	1	2771	U
1	1	2784	G
1	1	2787	G
1	1	2791	G
1	1	2802	A
1	1	2803	A
1	1	2816	G
1	1	2836	C
1	1	2842	U
1	1	2898	G
1	1	2906	C
1	1	2909	U

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Mol	Chain	Res	Type
1	1	2921	U
1	1	2939	G
1	1	2950	G
1	1	2960	C
1	1	2968	G
1	1	2987	A
1	1	3020	U
1	1	3037	U
1	1	3048	A
1	1	3050	U
1	1	3054	U
1	1	3055	U
1	1	3056	U
1	1	3057	U
1	1	3061	G
1	1	3071	U
1	1	3075	G
1	1	3078	U
1	1	3093	C
1	1	3094	A
1	1	3099	C
1	1	3104	U
1	1	3106	A
1	1	3107	U
1	1	3118	C
1	1	3119	U
1	1	3122	A
1	1	3143	C
1	1	3152	U
1	1	3163	A
1	1	3164	C
1	1	3165	A
1	1	3184	A
1	1	3185	U
1	1	3195	U
1	1	3196	U
1	1	3200	G
1	1	3205	G
1	1	3216	G
1	1	3218	A
1	1	3221	C
1	1	3226	A

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Mol	Chain	Res	Type
1	1	3228	C
1	1	3232	G
1	1	3242	G
1	1	3243	A
1	1	3244	A
1	1	3266	G
1	1	3267	A
1	1	3269	U
1	1	3278	C
1	1	3285	C
1	1	3290	G
1	1	3291	G
1	1	3292	A
1	1	3295	A
1	1	3303	G
1	1	3304	U
1	1	3313	U
1	1	3323	A
1	1	3334	U
1	1	3349	C
1	1	3350	C
1	1	3353	G
1	1	3368	U
1	1	3390	G
2	3	4	U
2	3	34	C
2	3	37	G
2	3	52	G
2	3	53	U
2	3	57	G
2	3	106	U
2	3	111	U
2	3	114	U
2	3	115	G
3	4	10	A
3	4	48	A
3	4	50	C
3	4	53	A
3	4	75	G
3	4	80	A
3	4	81	U
3	4	82	U

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Mol	Chain	Res	Type
3	4	98	U
3	4	105	A
3	4	112	U
3	4	114	G
3	4	120	C
3	4	125	U

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	1	614
5	B	82
6	C	79
7	D	72
4	A	67
10	G	65
45	t	53
12	I	52
14	L	51
16	N	51

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Mol	Chain	Number of breaks
19	Q	48
9	F	48
20	R	46
11	H	46
21	S	46
18	P	43
29	a	41
28	Z	38
13	J	35
24	V	34
22	T	34
34	f	31
37	i	30
27	Y	30
36	h	30
15	M	28
8	E	27
35	g	27
33	e	26
2	3	26
3	4	26
17	O	25
23	U	24
31	c	24
32	d	23
38	j	22
26	X	22
39	k	20
43	o	17
30	b	17
44	p	17
25	W	16
41	m	14
40	l	12
42	n	6

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R	171:ASP	C	172:ARG	N	8.98
1	t	52:SER	C	53:LEU	N	8.07
1	1	2511:C	O3'	2512:C	P	7.92
1	R	170:ARG	C	171:ASP	N	7.88

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2468:A	O3'	2469:G	P	6.79
1	1	2454:G	O3'	2455:U	P	6.22
1	e	2:ALA	C	3:SER	N	6.18
1	1	1234:G	O3'	1235:U	P	6.14
1	t	80:CYS	C	81:GLY	N	6.07
1	1	1230:G	O3'	1231:A	P	5.83
1	1	1269:U	O3'	1270:A	P	5.78
1	o	102:GLN	C	103:ALA	N	5.77
1	1	2461:A	O3'	2462:G	P	5.70
1	t	69:GLY	C	70:ASP	N	5.70
1	t	198:TRP	C	199:GLN	N	5.68
1	1	1628:C	O3'	1629:U	P	5.42
1	1	2570:U	O3'	2571:U	P	5.35
1	1	3287:U	O3'	3288:G	P	5.33
1	1	2440:G	O3'	2441:A	P	5.27
1	1	2441:A	O3'	2442:G	P	5.27
1	D	295:GLY	C	296:GLN	N	5.27
1	t	201:VAL	C	202:GLY	N	5.25
1	t	93:LEU	C	94:ASN	N	5.24
1	G	249:ARG	C	250:ALA	N	5.20
1	R	163:ARG	C	164:LEU	N	5.19
1	R	186:LYS	C	187:GLU	N	5.19
1	1	1237:G	O3'	1238:C	P	5.14
1	1	1228:C	O3'	1229:G	P	5.09
1	1	1272:C	O3'	1273:A	P	5.02
1	t	22:GLU	C	23:THR	N	5.00
1	1	1032:C	O3'	1033:U	P	4.93
1	1	1770:G	O3'	1771:C	P	4.92
1	V	3:GLY	C	4:ASN	N	4.91
1	B	35:ASP	C	36:ASP	N	4.82
1	1	1238:C	O3'	1239:C	P	4.81
1	1	1227:C	O3'	1228:C	P	4.80
1	t	28:PHE	C	29:LEU	N	4.80
1	1	1817:G	O3'	1818:U	P	4.76
1	1	1233:G	O3'	1234:G	P	4.70
1	1	1100:U	O3'	1101:G	P	4.68
1	o	103:ALA	C	104:LEU	N	4.66
1	1	1812:G	O3'	1813:A	P	4.63
1	b	57:ALA	C	58:LYS	N	4.61
1	A	252:THR	C	253:GLN	N	4.59
1	P	162:GLU	C	163:LYS	N	4.59
1	i	18:THR	C	19:SER	N	4.54

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	613:G	O3'	614:C	P	4.53
1	J	23:VAL	C	24:GLY	N	4.52
1	d	84:ASP	C	85:ALA	N	4.52
1	J	6:GLN	C	7:ASN	N	4.50
1	t	197:ASN	C	198:TRP	N	4.50
1	t	208:SER	C	209:SER	N	4.45
1	t	214:PHE	C	215:ARG	N	4.44
1	1	2485:A	O3'	2486:A	P	4.43
1	1	3288:G	O3'	3289:G	P	4.41
1	b	41:ARG	C	42:ASN	N	4.41
1	C	2:SER	C	3:ARG	N	4.38
1	t	124:LEU	C	125:GLY	N	4.38
1	1	547:G	O3'	548:G	P	4.37
1	1	2538:U	O3'	2539:C	P	4.33
1	t	57:ASN	C	58:CYS	N	4.33
1	1	2257:C	O3'	2258:U	P	4.32
1	1	1267:U	O3'	1268:G	P	4.29
1	A	248:GLY	C	249:SER	N	4.29
1	p	90:VAL	C	91:GLU	N	4.28
1	1	1762:C	O3'	1763:U	P	4.26
1	t	40:ASN	C	41:TYR	N	4.26
1	t	62:ASN	C	63:MET	N	4.25
1	1	181:U	O3'	182:U	P	4.24
1	E	12:SER	C	13:GLU	N	4.22
1	P	183:ALA	C	184:ALA	N	4.22
1	P	161:ALA	C	162:GLU	N	4.20
1	1	1954:G	O3'	1955:U	P	4.19
1	L	135:ALA	C	136:GLU	N	4.19
1	R	187:GLU	C	188:ASP	N	4.18
1	1	612:U	O3'	613:G	P	4.17
1	1	1107:C	O3'	1108:U	P	4.16
1	1	2547:A	O3'	2548:C	P	4.16
1	1	3252:G	O3'	3253:G	P	4.16
1	G	220:ALA	C	221:ASN	N	4.16
1	t	122:ARG	C	123:LEU	N	4.15
1	C	21:PRO	C	22:LEU	N	4.13
1	1	245:U	O3'	246:U	P	4.12
1	U	59:ASP	C	60:GLY	N	4.12
1	1	3280:U	O3'	3281:U	P	4.11
1	G	155:ASN	C	156:ASP	N	4.10
1	J	27:GLY	C	28:ASP	N	4.10
1	B	38:SER	C	39:LYS	N	4.09

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	89:LYS	C	90:PHE	N	4.09
1	D	132:THR	C	133:GLU	N	4.08
1	D	293:LEU	C	294:ALA	N	4.08
1	R	173:ARG	C	174:ALA	N	4.08
1	l	2480:G	O3'	2481:G	P	4.06
1	d	109:VAL	C	110:GLU	N	4.06
1	l	2572:C	O3'	2573:G	P	4.04
1	b	25:LYS	C	26:THR	N	4.04
1	l	3289:G	O3'	3290:G	P	4.03
1	J	48:SER	C	49:LYS	N	4.03
1	t	199:GLN	C	200:ASN	N	4.03
1	Y	88:GLU	C	89:LYS	N	4.01
1	G	247:ASP	C	248:LYS	N	3.99
1	l	1355:A	O3'	1356:U	P	3.98
1	l	2450:A	O3'	2451:U	P	3.95
1	l	511:G	O3'	512:U	P	3.94
1	l	536:U	O3'	537:A	P	3.94
1	l	2096:A	O3'	2097:U	P	3.93
1	l	2521:U	O3'	2522:G	P	3.93
1	C	172:VAL	C	173:GLY	N	3.93
1	t	6:SER	C	7:SER	N	3.93
1	l	1253:U	O3'	1254:C	P	3.92
1	e	123:LYS	C	124:GLY	N	3.92
1	R	166:ASN	C	167:ARG	N	3.91
1	V	2:SER	C	3:GLY	N	3.91
1	R	4:LEU	C	5:ARG	N	3.90
1	n	1:MET	C	2:ARG	N	3.89
1	P	157:VAL	C	158:ALA	N	3.85
1	l	439:C	O3'	440:A	P	3.84
1	l	583:G	O3'	584:G	P	3.83
1	l	2493:C	O3'	2494:C	P	3.83
1	l	3357:U	O3'	3358:U	P	3.83
1	C	271:LYS	C	272:VAL	N	3.83
1	l	1274:A	O3'	1275:C	P	3.82
1	M	27:GLN	C	28:SER	N	3.82
1	R	104:ARG	C	105:LEU	N	3.82
1	l	1285:G	O3'	1286:A	P	3.81
1	l	3027:A	O3'	3028:G	P	3.80
1	O	48:PHE	C	49:ARG	N	3.80
1	Q	5:HIS	C	6:THR	N	3.80
1	R	185:LEU	C	186:LYS	N	3.80
1	d	4:LEU	C	5:LYS	N	3.79

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	V	43:GLY	C	44:SER	N	3.78
1	3	2:G	O3'	3:U	P	3.77
1	d	58:ALA	C	59:ILE	N	3.77
1	f	39:GLN	C	40:ASP	N	3.77
1	t	3:LYS	C	4:ILE	N	3.77
1	1	2495:U	O3'	2496:U	P	3.76
1	1	700:C	O3'	701:G	P	3.75
1	1	3:U	O3'	4:U	P	3.74
1	E	172:HIS	C	173:MET	N	3.73
1	R	183:ALA	C	184:LEU	N	3.73
1	t	106:LYS	C	107:TYR	N	3.73
1	1	1096:U	O3'	1097:G	P	3.72
1	E	71:VAL	C	72:ASN	N	3.72
1	E	2:SER	C	3:ALA	N	3.71
1	H	149:ASN	C	150:SER	N	3.71
1	1	3326:G	O3'	3327:G	P	3.70
1	1	2955:U	O3'	2956:A	P	3.69
1	4	116:G	O3'	117:C	P	3.69
1	1	1028:U	O3'	1029:G	P	3.68
1	D	129:TYR	C	130:GLU	N	3.68
1	D	131:LEU	C	132:THR	N	3.68
1	i	16:LYS	C	17:VAL	N	3.68
1	1	532:A	O3'	533:A	P	3.67
1	P	52:LEU	C	53:ASP	N	3.67
1	g	74:ARG	C	75:ALA	N	3.67
1	1	736:A	O3'	737:G	P	3.66
1	t	168:ALA	C	169:VAL	N	3.66
1	1	2418:G	O3'	2419:A	P	3.65
1	1	4:U	O3'	5:G	P	3.64
1	1	2479:C	O3'	2480:G	P	3.64
1	C	225:VAL	C	226:GLU	N	3.64
1	B	111:SER	C	112:ASP	N	3.63
1	1	1283:C	O3'	1284:C	P	3.61
1	1	2504:U	O3'	2505:U	P	3.61
1	1	850:U	O3'	851:C	P	3.60
1	3	36:C	O3'	37:G	P	3.60
1	J	102:PHE	C	103:GLY	N	3.60
1	t	1:MET	C	2:SER	N	3.59
1	t	100:ILE	C	101:LYS	N	3.59
1	G	79:GLN	C	80:TYR	N	3.58
1	J	163:PHE	C	164:LYS	N	3.58
1	M	25:LYS	C	26:GLY	N	3.58

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	16:ALA	C	17:ALA	N	3.57
1	S	3:HIS	C	4:PHE	N	3.57
1	1	1037:C	O3'	1038:C	P	3.56
1	1	3156:U	O3'	3157:U	P	3.56
1	1	3157:U	O3'	3158:G	P	3.56
1	B	138:ALA	C	139:GLN	N	3.56
1	G	100:GLU	C	101:THR	N	3.56
1	1	731:U	O3'	732:C	P	3.55
1	D	181:PRO	C	182:GLY	N	3.55
1	G	246:MET	C	247:ASP	N	3.55
1	I	100:ASN	C	101:LYS	N	3.55
1	Q	163:PRO	C	164:ARG	N	3.55
1	b	55:ALA	C	56:ALA	N	3.55
1	1	1030:A	O3'	1031:C	P	3.54
1	1	1600:U	O3'	1601:U	P	3.54
1	1	2839:G	O3'	2840:C	P	3.54
1	H	90:MET	C	91:ARG	N	3.54
1	1	163:C	O3'	164:A	P	3.53
1	1	2263:C	O3'	2264:U	P	3.53
1	1	2447:G	O3'	2448:G	P	3.53
1	I	35:ASP	C	36:LEU	N	3.53
1	a	140:ALA	C	141:ALA	N	3.53
1	t	206:VAL	C	207:LYS	N	3.53
1	1	1574:C	O3'	1575:A	P	3.52
1	C	17:ALA	C	18:ASN	N	3.52
1	G	59:GLN	C	60:ARG	N	3.52
1	G	104:GLU	C	105:LYS	N	3.52
1	1	1501:U	O3'	1502:C	P	3.51
1	1	3346:U	O3'	3347:A	P	3.51
1	A	142:ASP	C	143:GLU	N	3.51
1	R	177:VAL	C	178:ALA	N	3.51
1	a	55:LYS	C	56:VAL	N	3.51
1	t	196:LYS	C	197:ASN	N	3.50
1	1	632:G	O3'	633:C	P	3.49
1	3	41:G	O3'	42:A	P	3.48
1	C	12:THR	C	13:GLY	N	3.48
1	D	88:ILE	C	89:THR	N	3.48
1	Q	41:ASP	C	42:ALA	N	3.48
1	1	535:G	O3'	536:U	P	3.47
1	1	2661:G	O3'	2662:G	P	3.47
1	U	58:GLU	C	59:ASP	N	3.47
1	1	2165:G	O3'	2166:A	P	3.46

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Q	98:LYS	C	99:THR	N	3.46
1	b	12:GLN	C	13:THR	N	3.46
1	t	109:ALA	C	110:PHE	N	3.46
1	L	8:PRO	C	9:ILE	N	3.45
1	B	288:GLY	C	289:ASP	N	3.44
1	N	66:VAL	C	67:ARG	N	3.44
1	k	63:LYS	C	64:LYS	N	3.44
1	I	219:ALA	C	220:GLN	N	3.43
1	1	1226:G	O3'	1227:C	P	3.41
1	1	2832:C	O3'	2833:A	P	3.41
1	L	76:THR	C	77:LEU	N	3.41
1	1	242:C	O3'	243:G	P	3.40
1	B	135:ALA	C	136:LYS	N	3.40
1	N	92:LEU	C	93:LYS	N	3.40
1	1	843:A	O3'	844:G	P	3.39
1	M	26:GLY	C	27:GLN	N	3.39
1	d	102:LYS	C	103:GLY	N	3.39
1	j	79:GLN	C	80:THR	N	3.39
1	1	438:A	O3'	439:C	P	3.38
1	1	1216:C	O3'	1217:A	P	3.38
1	1	2195:C	O3'	2196:C	P	3.38
1	T	49:GLN	C	50:LYS	N	3.38
1	1	548:G	O3'	549:U	P	3.37
1	1	753:C	O3'	754:G	P	3.37
1	1	1626:U	O3'	1627:U	P	3.37
1	1	2535:A	O3'	2536:A	P	3.37
1	1	3134:A	O3'	3135:U	P	3.37
1	3	19:C	O3'	20:A	P	3.37
1	1	255:A	O3'	256:G	P	3.36
1	D	137:ASP	C	138:GLY	N	3.36
1	1	324:A	O3'	325:A	P	3.35
1	1	2508:U	O3'	2509:U	P	3.35
1	1	2533:G	O3'	2534:G	P	3.35
1	4	135:G	O3'	136:G	P	3.35
1	T	70:SER	C	71:SER	N	3.35
1	U	47:VAL	C	48:GLY	N	3.35
1	c	76:GLU	C	77:LEU	N	3.35
1	g	51:LEU	C	52:GLN	N	3.35
1	m	107:ALA	C	108:THR	N	3.35
1	1	2438:A	O3'	2439:A	P	3.34
1	B	315:GLY	C	316:GLU	N	3.34
1	I	197:VAL	C	198:LYS	N	3.34

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	J	172:LEU	C	173:ASP	N	3.34
1	t	131:ALA	C	132:GLY	N	3.34
1	4	79:A	O3'	80:A	P	3.33
1	C	194:TYR	C	195:ARG	N	3.33
1	T	99:SER	C	100:LYS	N	3.33
1	V	87:ARG	C	88:ARG	N	3.33
1	t	98:LYS	C	99:LEU	N	3.33
1	1	690:A	O3'	691:A	P	3.32
1	J	130:VAL	C	131:MET	N	3.32
1	S	143:PHE	C	144:LEU	N	3.32
1	i	78:GLY	C	79:SER	N	3.32
1	o	96:GLU	C	97:LYS	N	3.32
1	1	132:C	O3'	133:U	P	3.31
1	1	794:U	O3'	795:G	P	3.31
1	1	2258:U	O3'	2259:A	P	3.31
1	S	168:PRO	C	169:SER	N	3.31
1	a	97:GLU	C	98:THR	N	3.31
1	1	182:U	O3'	183:G	P	3.30
1	1	195:U	O3'	196:G	P	3.30
1	1	1307:G	O3'	1308:A	P	3.30
1	1	1422:G	O3'	1423:C	P	3.30
1	3	109:G	O3'	110:G	P	3.30
1	E	93:VAL	C	94:GLU	N	3.30
1	N	46:ASP	C	47:LYS	N	3.30
1	a	42:ARG	C	43:ILE	N	3.30
1	f	33:GLU	C	34:GLY	N	3.30
1	1	257:U	O3'	258:G	P	3.29
1	D	193:GLU	C	194:LEU	N	3.29
1	E	131:LYS	C	132:ALA	N	3.29
1	H	159:ALA	C	160:ASP	N	3.29
1	J	173:ASP	C	174:LYS	N	3.29
1	Y	68:GLY	C	69:LYS	N	3.29
1	i	22:PRO	C	23:ALA	N	3.29
1	E	151:LYS	C	152:THR	N	3.28
1	G	27:THR	C	28:HIS	N	3.28
1	N	166:ALA	C	167:THR	N	3.28
1	S	144:LEU	C	145:THR	N	3.28
1	T	76:ILE	C	77:ASN	N	3.28
1	n	17:ARG	C	18:ARG	N	3.28
1	o	98:LYS	C	99:GLN	N	3.28
1	1	1112:A	O3'	1113:G	P	3.27
1	F	54:GLU	C	55:TYR	N	3.27

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R	52:LYS	C	53:LYS	N	3.27
1	1	396:A	O3'	397:A	P	3.26
1	1	2482:U	O3'	2483:G	P	3.26
1	L	193:ALA	C	194:GLU	N	3.26
1	Q	34:THR	C	35:PHE	N	3.26
1	Z	47:GLU	C	48:ARG	N	3.26
1	t	5:THR	C	6:SER	N	3.26
1	t	174:MET	C	175:GLU	N	3.26
1	1	142:C	O3'	143:G	P	3.25
1	1	775:A	O3'	776:U	P	3.25
1	1	1618:G	O3'	1619:A	P	3.25
1	1	1785:U	O3'	1786:G	P	3.25
1	1	3359:A	O3'	3360:C	P	3.25
1	D	68:THR	C	69:ILE	N	3.25
1	D	133:GLU	C	134:ALA	N	3.25
1	F	42:ALA	C	43:ILE	N	3.25
1	F	157:ASN	C	158:LYS	N	3.25
1	t	97:LYS	C	98:LYS	N	3.25
1	1	1244:A	O3'	1245:A	P	3.24
1	1	2095:G	O3'	2096:A	P	3.24
1	1	3175:U	O3'	3176:G	P	3.24
1	B	327:CYS	C	328:ILE	N	3.24
1	B	349:LYS	C	350:ALA	N	3.24
1	C	297:SER	C	298:ALA	N	3.24
1	H	122:LYS	C	123:ILE	N	3.24
1	L	9:ILE	C	10:LEU	N	3.24
1	P	154:GLU	C	155:GLU	N	3.24
1	X	139:ILE	C	140:GLY	N	3.24
1	c	41:LEU	C	42:ILE	N	3.24
1	i	60:LEU	C	61:ILE	N	3.24
1	o	95:GLY	C	96:GLU	N	3.24
1	t	85:MET	C	86:SER	N	3.24
1	1	11:A	O3'	12:A	P	3.23
1	1	166:C	O3'	167:U	P	3.23
1	1	849:C	O3'	850:U	P	3.23
1	1	2252:A	O3'	2253:G	P	3.23
1	1	2478:C	O3'	2479:C	P	3.23
1	B	85:VAL	C	86:VAL	N	3.23
1	B	302:LYS	C	303:LYS	N	3.23
1	E	153:PRO	C	154:LEU	N	3.23
1	E	173:MET	C	174:LEU	N	3.23
1	t	48:ARG	C	49:PHE	N	3.23

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	560:G	O3'	561:C	P	3.22
1	1	3254:G	O3'	3255:U	P	3.22
1	F	43:ILE	C	44:ILE	N	3.22
1	G	113:ALA	C	114:ALA	N	3.22
1	a	93:SER	C	94:ALA	N	3.22
1	t	183:ILE	C	184:LEU	N	3.22
1	1	243:G	O3'	244:G	P	3.21
1	1	1918:C	O3'	1919:G	P	3.21
1	G	115:ALA	C	116:VAL	N	3.21
1	G	250:ALA	C	251:LYS	N	3.21
1	I	114:GLY	C	115:MET	N	3.21
1	J	49:LYS	C	50:ALA	N	3.21
1	J	136:ALA	C	137:ARG	N	3.21
1	L	110:ASP	C	111:ALA	N	3.21
1	Q	84:VAL	C	85:GLY	N	3.21
1	U	26:GLY	C	27:VAL	N	3.21
1	i	62:ARG	C	63:ASN	N	3.21
1	j	77:GLY	C	78:PHE	N	3.21
1	k	34:ALA	C	35:GLY	N	3.21
1	t	18:LYS	C	19:TYR	N	3.21
1	1	1526:U	O3'	1527:C	P	3.20
1	1	1607:U	O3'	1608:C	P	3.20
1	1	3261:C	O3'	3262:U	P	3.20
1	B	139:GLN	C	140:ASP	N	3.20
1	D	126:GLU	C	127:GLY	N	3.20
1	D	187:THR	C	188:GLU	N	3.20
1	G	99:PRO	C	100:GLU	N	3.20
1	d	7:VAL	C	8:VAL	N	3.20
1	m	127:LEU	C	128:LYS	N	3.20
1	1	193:C	O3'	194:U	P	3.19
1	1	2302:G	O3'	2303:A	P	3.19
1	1	2995:A	O3'	2996:U	P	3.19
1	D	228:ALA	C	229:ASP	N	3.19
1	F	29:GLU	C	30:ARG	N	3.19
1	V	30:GLY	C	31:ALA	N	3.19
1	h	114:ARG	C	115:LYS	N	3.19
1	k	5:ILE	C	6:THR	N	3.19
1	k	68:SER	C	69:LEU	N	3.19
1	p	91:GLU	C	92:ALA	N	3.19
1	1	1322:U	O3'	1323:G	P	3.18
1	B	352:GLU	C	353:GLU	N	3.18
1	F	61:ASN	C	62:ILE	N	3.18

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	168:ALA	C	169:LEU	N	3.18
1	V	134:GLY	C	135:VAL	N	3.18
1	X	42:ARG	C	43:ALA	N	3.18
1	Z	2:ALA	C	3:LYS	N	3.18
1	i	29:LYS	C	30:LYS	N	3.18
1	i	32:ALA	C	33:ALA	N	3.18
1	k	29:LYS	C	30:LYS	N	3.18
1	k	30:LYS	C	31:LEU	N	3.18
1	k	72:THR	C	73:LEU	N	3.18
1	p	58:SER	C	59:CYS	N	3.18
1	l	92:G	O3'	93:C	P	3.17
1	l	647:A	O3'	648:C	P	3.17
1	l	1260:A	O3'	1261:G	P	3.17
1	l	2290:C	O3'	2291:A	P	3.17
1	l	2340:U	O3'	2341:A	P	3.17
1	l	3046:A	O3'	3047:U	P	3.17
1	D	278:SER	C	279:LYS	N	3.17
1	N	91:GLU	C	92:LEU	N	3.17
1	N	184:LYS	C	185:ALA	N	3.17
1	R	182:ASP	C	183:ALA	N	3.17
1	S	156:VAL	C	157:GLN	N	3.17
1	b	2:ALA	C	3:LYS	N	3.17
1	h	29:ALA	C	30:GLU	N	3.17
1	t	182:GLN	C	183:ILE	N	3.17
1	l	55:G	O3'	56:G	P	3.16
1	l	776:U	O3'	777:U	P	3.16
1	l	778:U	O3'	779:G	P	3.16
1	l	1225:A	O3'	1226:G	P	3.16
1	l	2725:U	O3'	2726:C	P	3.16
1	l	2895:G	O3'	2896:A	P	3.16
1	l	3121:U	O3'	3122:A	P	3.16
1	l	3162:C	O3'	3163:A	P	3.16
1	l	3237:U	O3'	3238:G	P	3.16
1	B	41:VAL	C	42:ALA	N	3.16
1	E	96:VAL	C	97:ASN	N	3.16
1	J	104:PHE	C	105:GLY	N	3.16
1	L	102:GLN	C	103:ASN	N	3.16
1	M	10:SER	C	11:ASN	N	3.16
1	m	85:LEU	C	86:ALA	N	3.16
1	t	143:ASP	C	144:LEU	N	3.16
1	l	205:C	O3'	206:G	P	3.15
1	l	711:A	O3'	712:G	P	3.15

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1409:G	O3'	1410:U	P	3.15
1	1	1516:C	O3'	1517:G	P	3.15
1	1	1652:G	O3'	1653:G	P	3.15
1	1	2773:C	O3'	2774:C	P	3.15
1	3	22:A	O3'	23:A	P	3.15
1	B	6:TYR	C	7:GLU	N	3.15
1	D	143:LYS	C	144:VAL	N	3.15
1	H	151:VAL	C	152:GLU	N	3.15
1	S	99:ARG	C	100:VAL	N	3.15
1	T	159:PHE	C	160:ILE	N	3.15
1	b	54:LEU	C	55:ALA	N	3.15
1	m	83:LYS	C	84:ALA	N	3.15
1	1	403:C	O3'	404:G	P	3.14
1	1	2545:C	O3'	2546:C	P	3.14
1	1	2671:A	O3'	2672:G	P	3.14
1	1	3168:A	O3'	3169:U	P	3.14
1	C	267:VAL	C	268:ALA	N	3.14
1	D	287:ALA	C	288:ALA	N	3.14
1	P	111:LYS	C	112:LEU	N	3.14
1	Q	180:ARG	C	181:SER	N	3.14
1	Z	7:ALA	C	8:GLY	N	3.14
1	Z	105:SER	C	106:GLN	N	3.14
1	c	32:LYS	C	33:SER	N	3.14
1	h	3:GLY	C	4:VAL	N	3.14
1	h	28:LEU	C	29:ALA	N	3.14
1	k	67:GLN	C	68:SER	N	3.14
1	t	70:ASP	C	71:ALA	N	3.14
1	1	389:A	O3'	390:G	P	3.13
1	1	626:U	O3'	627:U	P	3.13
1	1	1083:G	O3'	1084:A	P	3.13
1	1	3281:U	O3'	3282:U	P	3.13
1	B	382:THR	C	383:LEU	N	3.13
1	G	96:LYS	C	97:TYR	N	3.13
1	J	90:GLN	C	91:LEU	N	3.13
1	O	163:SER	C	164:SER	N	3.13
1	P	53:ASP	C	54:HIS	N	3.13
1	S	163:PHE	C	164:SER	N	3.13
1	j	65:ARG	C	66:TYR	N	3.13
1	p	29:LEU	C	30:GLU	N	3.13
1	1	588:G	O3'	589:A	P	3.12
1	1	723:U	O3'	724:U	P	3.12
1	1	1779:C	O3'	1780:G	P	3.12

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1836:C	O3'	1837:U	P	3.12
1	1	3388:C	O3'	3389:U	P	3.12
1	A	8:GLN	C	9:ARG	N	3.12
1	B	385:LYS	C	386:ASP	N	3.12
1	C	311:HIS	C	312:VAL	N	3.12
1	E	60:ASP	C	61:ASN	N	3.12
1	F	26:VAL	C	27:ALA	N	3.12
1	G	101:THR	C	102:ALA	N	3.12
1	G	144:GLU	C	145:ASN	N	3.12
1	H	132:VAL	C	133:THR	N	3.12
1	Q	4:ASP	C	5:HIS	N	3.12
1	S	127:ALA	C	128:GLU	N	3.12
1	U	46:ALA	C	47:VAL	N	3.12
1	a	98:THR	C	99:ALA	N	3.12
1	c	39:SER	C	40:LYS	N	3.12
1	j	86:ALA	C	87:SER	N	3.12
1	k	31:LEU	C	32:ASN	N	3.12
1	1	557:A	O3'	558:U	P	3.11
1	1	2299:A	O3'	2300:G	P	3.11
1	3	49:G	O3'	50:U	P	3.11
1	B	298:PHE	C	299:ASP	N	3.11
1	D	266:ALA	C	267:ALA	N	3.11
1	G	131:ALA	C	132:VAL	N	3.11
1	T	44:ALA	C	45:ASN	N	3.11
1	U	83:TYR	C	84:LEU	N	3.11
1	Z	117:ALA	C	118:PHE	N	3.11
1	a	37:GLY	C	38:GLN	N	3.11
1	c	97:ASP	C	98:SER	N	3.11
1	f	91:ALA	C	92:LYS	N	3.11
1	1	2531:C	O3'	2532:U	P	3.10
1	C	164:GLU	C	165:ALA	N	3.10
1	D	188:GLU	C	189:GLU	N	3.10
1	E	8:LYS	C	9:TRP	N	3.10
1	E	21:THR	C	22:ARG	N	3.10
1	E	72:ASN	C	73:GLY	N	3.10
1	E	147:ALA	C	148:GLU	N	3.10
1	F	121:LYS	C	122:ALA	N	3.10
1	G	248:LYS	C	249:ARG	N	3.10
1	H	14:GLU	C	15:GLY	N	3.10
1	L	188:ARG	C	189:GLU	N	3.10
1	S	54:ALA	C	55:SER	N	3.10
1	V	94:TYR	C	95:PHE	N	3.10

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Z	17:ARG	C	18:TYR	N	3.10
1	b	34:GLY	C	35:VAL	N	3.10
1	g	29:ILE	C	30:LEU	N	3.10
1	h	27:GLU	C	28:LEU	N	3.10
1	t	21:ASN	C	22:GLU	N	3.10
1	l	13:A	O3'	14:U	P	3.09
1	l	3171:U	O3'	3172:A	P	3.09
1	C	104:LYS	C	105:THR	N	3.09
1	C	346:LYS	C	347:THR	N	3.09
1	G	106:LYS	C	107:GLU	N	3.09
1	H	13:PRO	C	14:GLU	N	3.09
1	I	217:PHE	C	218:ALA	N	3.09
1	V	70:ARG	C	71:LYS	N	3.09
1	X	38:LEU	C	39:LYS	N	3.09
1	X	105:VAL	C	106:ASP	N	3.09
1	a	95:SER	C	96:LYS	N	3.09
1	i	31:GLY	C	32:ALA	N	3.09
1	t	76:ARG	C	77:ALA	N	3.09
1	l	1288:U	O3'	1289:G	P	3.08
1	l	1430:U	O3'	1431:G	P	3.08
1	l	1581:C	O3'	1582:C	P	3.08
1	l	2164:A	O3'	2165:G	P	3.08
1	l	2808:A	O3'	2809:C	P	3.08
1	B	307:PRO	C	308:MET	N	3.08
1	C	341:SER	C	342:LYS	N	3.08
1	E	107:ALA	C	108:LYS	N	3.08
1	F	65:ALA	C	66:LYS	N	3.08
1	F	91:GLY	C	92:ILE	N	3.08
1	N	197:LEU	C	198:SER	N	3.08
1	Q	108:ALA	C	109:GLY	N	3.08
1	e	114:ALA	C	115:LEU	N	3.08
1	l	24:PRO	C	25:GLN	N	3.08
1	t	17:LEU	C	18:LYS	N	3.08
1	l	1648:A	O3'	1649:U	P	3.07
1	D	55:PHE	C	56:THR	N	3.07
1	D	249:ALA	C	250:ASP	N	3.07
1	I	31:ILE	C	32:ARG	N	3.07
1	I	166:ILE	C	167:LEU	N	3.07
1	U	56:VAL	C	57:THR	N	3.07
1	W	59:HIS	C	60:LYS	N	3.07
1	l	561:C	O3'	562:C	P	3.06
1	l	842:G	O3'	843:A	P	3.06

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1617:G	O3'	1618:G	P	3.06
1	1	2662:G	O3'	2663:G	P	3.06
1	1	2822:U	O3'	2823:G	P	3.06
1	3	56:A	O3'	57:G	P	3.06
1	B	182:GLN	C	183:LEU	N	3.06
1	H	71:VAL	C	72:LYS	N	3.06
1	I	99:ILE	C	100:ASN	N	3.06
1	U	106:ALA	C	107:PHE	N	3.06
1	c	102:THR	C	103:THR	N	3.06
1	h	100:VAL	C	101:THR	N	3.06
1	l	29:LEU	C	30:ARG	N	3.06
1	m	120:GLN	C	121:LEU	N	3.06
1	t	31:THR	C	32:VAL	N	3.06
1	t	202:GLY	C	203:SER	N	3.06
1	1	1165:A	O3'	1166:G	P	3.05
1	A	152:SER	C	153:GLY	N	3.05
1	C	153:SER	C	154:THR	N	3.05
1	I	207:GLU	C	208:ASN	N	3.05
1	X	24:LEU	C	25:LYS	N	3.05
1	t	34:LEU	C	35:GLN	N	3.05
1	1	1291:A	O3'	1292:C	P	3.04
1	1	1461:A	O3'	1462:A	P	3.04
1	1	2254:U	O3'	2255:A	P	3.04
1	1	3250:U	O3'	3251:U	P	3.04
1	B	7:GLU	C	8:ALA	N	3.04
1	B	314:TYR	C	315:GLY	N	3.04
1	B	386:ASP	C	387:LEU	N	3.04
1	D	48:LYS	C	49:TYR	N	3.04
1	D	62:CYS	C	63:GLN	N	3.04
1	D	274:GLN	C	275:THR	N	3.04
1	I	25:ALA	C	26:VAL	N	3.04
1	J	30:LEU	C	31:THR	N	3.04
1	U	80:THR	C	81:LYS	N	3.04
1	Z	110:ALA	C	111:LYS	N	3.04
1	a	135:GLU	C	136:GLU	N	3.04
1	b	31:SER	C	32:LEU	N	3.04
1	d	85:ALA	C	86:LYS	N	3.04
1	p	74:ALA	C	75:ALA	N	3.04
1	1	615:U	O3'	616:G	P	3.03
1	1	1547:G	O3'	1548:C	P	3.03
1	1	2398:A	O3'	2399:A	P	3.03
1	1	3014:U	O3'	3015:G	P	3.03

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	154:ALA	C	155:LYS	N	3.03
1	A	195:SER	C	196:TRP	N	3.03
1	B	369:ARG	C	370:PHE	N	3.03
1	I	162:GLN	C	163:GLN	N	3.03
1	I	186:GLU	C	187:ALA	N	3.03
1	J	61:ARG	C	62:ASN	N	3.03
1	M	54:PRO	C	55:ARG	N	3.03
1	T	33:VAL	C	34:TYR	N	3.03
1	e	115:LEU	C	116:GLY	N	3.03
1	l	19:GLN	C	20:ASN	N	3.03
1	o	46:LYS	C	47:GLN	N	3.03
1	t	33:GLU	C	34:LEU	N	3.03
1	t	185:MET	C	186:SER	N	3.03
1	1	1683:A	O3'	1684:U	P	3.02
1	1	2230:C	O3'	2231:C	P	3.02
1	1	3084:C	O3'	3085:G	P	3.02
1	D	77:ALA	C	78:ALA	N	3.02
1	D	145:PHE	C	146:LEU	N	3.02
1	D	161:GLY	C	162:ALA	N	3.02
1	D	213:ASP	C	214:ASP	N	3.02
1	F	30:ARG	C	31:ALA	N	3.02
1	G	76:ALA	C	77:GLN	N	3.02
1	H	134:ILE	C	135:GLU	N	3.02
1	S	119:ARG	C	120:SER	N	3.02
1	U	105:LEU	C	106:ALA	N	3.02
1	Y	67:GLU	C	68:GLY	N	3.02
1	a	146:GLU	C	147:LEU	N	3.02
1	1	1048:A	O3'	1049:C	P	3.01
1	1	1073:U	O3'	1074:U	P	3.01
1	1	2729:U	O3'	2730:G	P	3.01
1	1	3351:U	O3'	3352:U	P	3.01
1	3	17:A	O3'	18:C	P	3.01
1	3	58:C	O3'	59:U	P	3.01
1	C	188:ARG	C	189:ALA	N	3.01
1	D	66:SER	C	67:SER	N	3.01
1	R	60:LYS	C	61:SER	N	3.01
1	R	128:LYS	C	129:GLY	N	3.01
1	V	119:GLY	C	120:LYS	N	3.01
1	W	57:LYS	C	58:HIS	N	3.01
1	g	39:ALA	C	40:THR	N	3.01
1	i	37:THR	C	38:LYS	N	3.01
1	i	52:PRO	C	53:TYR	N	3.01

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	i	83:ALA	C	84:LYS	N	3.01
1	1	186:U	O3'	187:A	P	3.00
1	1	692:A	O3'	693:A	P	3.00
1	1	1357:G	O3'	1358:C	P	3.00
1	1	2413:A	O3'	2414:G	P	3.00
1	1	2527:G	O3'	2528:G	P	3.00
1	3	105:C	O3'	106:U	P	3.00
1	E	88:SER	C	89:THR	N	3.00
1	G	109:LEU	C	110:THR	N	3.00
1	L	189:GLU	C	190:LYS	N	3.00
1	Q	36:LEU	C	37:ALA	N	3.00
1	g	38:LEU	C	39:ALA	N	3.00
1	1	1164:G	O3'	1165:A	P	2.99
1	1	2234:G	O3'	2235:C	P	2.99
1	1	3016:A	O3'	3017:A	P	2.99
1	1	3085:G	O3'	3086:A	P	2.99
1	4	73:U	O3'	74:U	P	2.99
1	D	259:LYS	C	260:PHE	N	2.99
1	F	72:ALA	C	73:GLY	N	2.99
1	G	117:ALA	C	118:GLU	N	2.99
1	J	78:GLU	C	79:ILE	N	2.99
1	L	186:ARG	C	187:ALA	N	2.99
1	M	70:PHE	C	71:ALA	N	2.99
1	S	169:SER	C	170:THR	N	2.99
1	Y	83:ASP	C	84:LYS	N	2.99
1	a	119:PRO	C	120:ASN	N	2.99
1	d	101:ALA	C	102:LYS	N	2.99
1	e	46:PHE	C	47:ARG	N	2.99
1	j	14:LYS	C	15:SER	N	2.99
1	j	49:TRP	C	50:GLY	N	2.99
1	k	19:ASP	C	20:VAL	N	2.99
1	o	31:GLY	C	32:LYS	N	2.99
1	1	316:U	O3'	317:A	P	2.98
1	1	1345:G	O3'	1346:G	P	2.98
1	1	1470:U	O3'	1471:U	P	2.98
1	1	2542:U	O3'	2543:U	P	2.98
1	A	70:ARG	C	71:LEU	N	2.98
1	A	139:HIS	C	140:ASN	N	2.98
1	A	184:ARG	C	185:ALA	N	2.98
1	A	194:ASN	C	195:SER	N	2.98
1	B	297:SER	C	298:PHE	N	2.98
1	B	379:PHE	C	380:MET	N	2.98

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D	26:GLY	C	27:LYS	N	2.98
1	F	205:PHE	C	206:LYS	N	2.98
1	R	24:LEU	C	25:ASP	N	2.98
1	T	23:GLY	C	24:ALA	N	2.98
1	X	35:PRO	C	36:LYS	N	2.98
1	Z	113:VAL	C	114:VAL	N	2.98
1	c	98:SER	C	99:ASP	N	2.98
1	d	103:GLY	C	104:LEU	N	2.98
1	p	87:ARG	C	88:GLU	N	2.98
1	t	114:GLU	C	115:VAL	N	2.98
1	1	290:G	O3'	291:C	P	2.97
1	1	312:C	O3'	313:A	P	2.97
1	1	1640:G	O3'	1641:U	P	2.97
1	1	2137:U	O3'	2138:A	P	2.97
1	1	3117:C	O3'	3118:C	P	2.97
1	4	154:C	O3'	155:A	P	2.97
1	A	182:ALA	C	183:GLY	N	2.97
1	F	196:LYS	C	197:GLN	N	2.97
1	H	69:ARG	C	70:THR	N	2.97
1	M	67:PRO	C	68:LEU	N	2.97
1	Q	116:LYS	C	117:ALA	N	2.97
1	Q	151:ARG	C	152:HIS	N	2.97
1	R	56:THR	C	57:VAL	N	2.97
1	W	7:SER	C	8:PHE	N	2.97
1	Z	93:LYS	C	94:SER	N	2.97
1	j	44:THR	C	45:ARG	N	2.97
1	j	87:SER	C	88:ALA	N	2.97
1	l	32:ASN	C	33:ASN	N	2.97
1	1	564:G	O3'	565:U	P	2.96
1	1	1067:U	O3'	1068:C	P	2.96
1	C	11:LEU	C	12:THR	N	2.96
1	C	133:SER	C	134:LEU	N	2.96
1	E	150:LYS	C	151:LYS	N	2.96
1	G	210:ALA	C	211:LEU	N	2.96
1	I	215:GLU	C	216:TYR	N	2.96
1	L	99:HIS	C	100:ARG	N	2.96
1	L	112:ASN	C	113:VAL	N	2.96
1	N	198:SER	C	199:LEU	N	2.96
1	Q	62:VAL	C	63:SER	N	2.96
1	S	85:SER	C	86:GLY	N	2.96
1	T	5:HIS	C	6:GLY	N	2.96
1	T	139:ARG	C	140:ILE	N	2.96

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Y	71:SER	C	72:SER	N	2.96
1	Y	92:GLY	C	93:ALA	N	2.96
1	Z	82:PRO	C	83:THR	N	2.96
1	Z	83:THR	C	84:ARG	N	2.96
1	e	28:VAL	C	29:ALA	N	2.96
1	g	76:TYR	C	77:GLY	N	2.96
1	g	102:LYS	C	103:LYS	N	2.96
1	l	25:GLN	C	26:TRP	N	2.96
1	1	196:G	O3'	197:G	P	2.95
1	1	275:U	O3'	276:U	P	2.95
1	1	1415:U	O3'	1416:C	P	2.95
1	1	1902:G	O3'	1903:U	P	2.95
1	1	2112:U	O3'	2113:A	P	2.95
1	1	2181:C	O3'	2182:A	P	2.95
1	1	2315:G	O3'	2316:G	P	2.95
1	1	2386:A	O3'	2387:A	P	2.95
1	1	3110:C	O3'	3111:U	P	2.95
1	3	44:C	O3'	45:A	P	2.95
1	4	14:C	O3'	15:G	P	2.95
1	A	35:ALA	C	36:GLU	N	2.95
1	Q	101:VAL	C	102:ALA	N	2.95
1	R	96:ILE	C	97:ARG	N	2.95
1	S	160:THR	C	161:LYS	N	2.95
1	a	85:ASP	C	86:LYS	N	2.95
1	1	1597:C	O3'	1598:G	P	2.94
1	1	1933:A	O3'	1934:G	P	2.94
1	1	2565:U	O3'	2566:C	P	2.94
1	1	3386:G	O3'	3387:U	P	2.94
1	3	24:A	O3'	25:G	P	2.94
1	B	144:ILE	C	145:GLU	N	2.94
1	J	37:LEU	C	38:GLU	N	2.94
1	N	109:ARG	C	110:ALA	N	2.94
1	P	68:GLY	C	69:ARG	N	2.94
1	V	28:ASN	C	29:SER	N	2.94
1	V	133:SER	C	134:GLY	N	2.94
1	Z	67:LYS	C	68:ILE	N	2.94
1	b	14:ARG	C	15:LYS	N	2.94
1	b	26:THR	C	27:TYR	N	2.94
1	1	518:G	O3'	519:A	P	2.93
1	1	563:U	O3'	564:G	P	2.93
1	1	1045:C	O3'	1046:A	P	2.93
1	1	1884:A	O3'	1885:U	P	2.93

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1889:G	O3'	1890:U	P	2.93
1	1	2786:G	O3'	2787:G	P	2.93
1	1	2948:C	O3'	2949:U	P	2.93
1	3	88:G	O3'	89:G	P	2.93
1	3	112:G	O3'	113:C	P	2.93
1	B	313:HIS	C	314:TYR	N	2.93
1	D	47:PRO	C	48:LYS	N	2.93
1	D	263:GLU	C	264:GLN	N	2.93
1	F	28:ALA	C	29:GLU	N	2.93
1	G	245:LYS	C	246:MET	N	2.93
1	I	204:GLY	C	205:SER	N	2.93
1	P	16:SER	C	17:ALA	N	2.93
1	P	103:GLU	C	104:ALA	N	2.93
1	R	150:GLN	C	151:ARG	N	2.93
1	S	70:THR	C	71:LYS	N	2.93
1	U	42:LYS	C	43:VAL	N	2.93
1	h	63:ARG	C	64:GLU	N	2.93
1	i	77:LEU	C	78:GLY	N	2.93
1	1	194:U	O3'	195:U	P	2.92
1	1	300:G	O3'	301:G	P	2.92
1	1	2261:G	O3'	2262:A	P	2.92
1	1	2383:C	O3'	2384:A	P	2.92
1	1	2649:A	O3'	2650:U	P	2.92
1	1	2749:G	O3'	2750:U	P	2.92
1	A	69:TYR	C	70:ARG	N	2.92
1	C	289:ILE	C	290:ILE	N	2.92
1	C	315:LYS	C	316:ASN	N	2.92
1	G	182:GLY	C	183:LYS	N	2.92
1	H	28:VAL	C	29:GLY	N	2.92
1	I	13:LYS	C	14:ASN	N	2.92
1	I	171:TRP	C	172:GLY	N	2.92
1	L	152:THR	C	153:ASP	N	2.92
1	Q	68:ALA	C	69:ARG	N	2.92
1	T	116:ARG	C	117:ALA	N	2.92
1	Y	5:SER	C	6:LEU	N	2.92
1	Z	3:LYS	C	4:PHE	N	2.92
1	f	59:VAL	C	60:ARG	N	2.92
1	h	106:LYS	C	107:LYS	N	2.92
1	n	2:ARG	C	3:ALA	N	2.92
1	1	169:U	O3'	170:G	P	2.91
1	1	679:U	O3'	680:G	P	2.91
1	1	742:G	O3'	743:C	P	2.91

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1412:G	O3'	1413:G	P	2.91
1	1	2231:C	O3'	2232:A	P	2.91
1	1	2235:C	O3'	2236:G	P	2.91
1	1	2513:U	O3'	2514:U	P	2.91
1	1	2645:G	O3'	2646:C	P	2.91
1	3	30:G	O3'	31:U	P	2.91
1	B	18:PRO	C	19:ARG	N	2.91
1	D	207:TYR	C	208:MET	N	2.91
1	F	40:LYS	C	41:ARG	N	2.91
1	F	112:ASN	C	113:SER	N	2.91
1	H	91:ARG	C	92:TYR	N	2.91
1	H	119:GLY	C	120:ASP	N	2.91
1	I	38:LYS	C	39:LYS	N	2.91
1	Q	99:THR	C	100:THR	N	2.91
1	U	13:LYS	C	14:THR	N	2.91
1	U	44:GLU	C	45:GLY	N	2.91
1	U	66:VAL	C	67:SER	N	2.91
1	W	58:HIS	C	59:HIS	N	2.91
1	b	42:ASN	C	43:HIS	N	2.91
1	k	62:ALA	C	63:LYS	N	2.91
1	t	129:SER	C	130:LYS	N	2.91
1	1	101:G	O3'	102:C	P	2.90
1	1	277:G	O3'	278:U	P	2.90
1	1	1361:U	O3'	1362:G	P	2.90
1	1	2131:A	O3'	2132:C	P	2.90
1	1	2273:G	O3'	2274:U	P	2.90
1	1	2929:C	O3'	2930:A	P	2.90
1	1	3260:G	O3'	3261:C	P	2.90
1	4	39:G	O3'	40:A	P	2.90
1	4	148:G	O3'	149:A	P	2.90
1	A	17:THR	C	18:SER	N	2.90
1	A	132:ASN	C	133:TYR	N	2.90
1	A	230:VAL	C	231:SER	N	2.90
1	C	102:PRO	C	103:THR	N	2.90
1	C	167:ALA	C	168:ALA	N	2.90
1	I	185:ARG	C	186:GLU	N	2.90
1	R	80:LYS	C	81:ARG	N	2.90
1	R	125:LYS	C	126:GLU	N	2.90
1	Z	55:LYS	C	56:LYS	N	2.90
1	a	143:GLY	C	144:VAL	N	2.90
1	j	75:LYS	C	76:ASN	N	2.90
1	1	413:U	O3'	414:U	P	2.89

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	724:U	O3'	725:G	P	2.89
1	1	1153:A	O3'	1154:A	P	2.89
1	1	1481:A	O3'	1482:A	P	2.89
1	1	1661:G	O3'	1662:G	P	2.89
1	1	1712:G	O3'	1713:G	P	2.89
1	1	2211:U	O3'	2212:C	P	2.89
1	1	2611:U	O3'	2612:U	P	2.89
1	1	2924:U	O3'	2925:C	P	2.89
1	1	3032:A	O3'	3033:A	P	2.89
1	1	3100:U	O3'	3101:G	P	2.89
1	1	3335:A	O3'	3336:A	P	2.89
1	B	22:ALA	C	23:ALA	N	2.89
1	B	310:GLY	C	311:PHE	N	2.89
1	F	120:THR	C	121:LYS	N	2.89
1	G	84:ARG	C	85:ASN	N	2.89
1	I	24:ARG	C	25:ALA	N	2.89
1	I	29:SER	C	30:LYS	N	2.89
1	I	54:SER	C	55:ASN	N	2.89
1	L	106:GLN	C	107:GLU	N	2.89
1	L	155:GLU	C	156:ALA	N	2.89
1	L	163:GLY	C	164:GLU	N	2.89
1	M	36:VAL	C	37:GLU	N	2.89
1	N	160:GLU	C	161:ALA	N	2.89
1	Q	85:GLY	C	86:THR	N	2.89
1	R	111:ASP	C	112:ALA	N	2.89
1	T	141:VAL	C	142:SER	N	2.89
1	V	15:LEU	C	16:GLY	N	2.89
1	d	95:PRO	C	96:VAL	N	2.89
1	h	16:GLN	C	17:LEU	N	2.89
1	n	12:ARG	C	13:LEU	N	2.89
1	1	504:A	O3'	505:G	P	2.88
1	1	1398:U	O3'	1399:A	P	2.88
1	1	1649:U	O3'	1650:G	P	2.88
1	1	2272:G	O3'	2273:G	P	2.88
1	3	102:A	O3'	103:A	P	2.88
1	A	199:THR	C	200:ARG	N	2.88
1	A	228:GLY	C	229:ALA	N	2.88
1	D	31:TYR	C	32:GLN	N	2.88
1	H	152:GLU	C	153:ASP	N	2.88
1	I	140:THR	C	141:LYS	N	2.88
1	J	21:ILE	C	22:SER	N	2.88
1	L	3:ILE	C	4:SER	N	2.88

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	104:ARG	C	105:ASN	N	2.88
1	P	54:HIS	C	55:GLN	N	2.88
1	Q	6:THR	C	7:SER	N	2.88
1	S	148:LEU	C	149:LYS	N	2.88
1	V	85:TRP	C	86:ARG	N	2.88
1	Z	95:VAL	C	96:VAL	N	2.88
1	f	63:LYS	C	64:ILE	N	2.88
1	h	83:LYS	C	84:LYS	N	2.88
1	i	57:LEU	C	58:ILE	N	2.88
1	m	88:LYS	C	89:TYR	N	2.88
1	t	14:LYS	C	15:GLU	N	2.88
1	t	210:MET	C	211:GLY	N	2.88
1	1	328:U	O3'	329:U	P	2.87
1	1	685:G	O3'	686:G	P	2.87
1	1	1137:C	O3'	1138:U	P	2.87
1	1	1657:C	O3'	1658:G	P	2.87
1	1	1704:A	O3'	1705:U	P	2.87
1	1	1866:C	O3'	1867:A	P	2.87
1	1	1907:C	O3'	1908:A	P	2.87
1	1	3031:G	O3'	3032:A	P	2.87
1	3	101:G	O3'	102:A	P	2.87
1	B	157:VAL	C	158:VAL	N	2.87
1	B	208:VAL	C	209:PHE	N	2.87
1	D	44:TYR	C	45:ASN	N	2.87
1	D	69:ILE	C	70:THR	N	2.87
1	D	201:GLY	C	202:GLY	N	2.87
1	J	85:LYS	C	86:VAL	N	2.87
1	P	137:ASN	C	138:LYS	N	2.87
1	Q	81:VAL	C	82:VAL	N	2.87
1	Q	153:PHE	C	154:GLY	N	2.87
1	T	111:ALA	C	112:ASN	N	2.87
1	V	25:CYS	C	26:ALA	N	2.87
1	Y	30:LEU	C	31:LEU	N	2.87
1	Z	19:ALA	C	20:GLY	N	2.87
1	f	43:PHE	C	44:TYR	N	2.87
1	h	6:ALA	C	7:TYR	N	2.87
1	h	30:GLU	C	31:LEU	N	2.87
1	n	7:LYS	C	8:LYS	N	2.87
1	1	44:U	O3'	45:A	P	2.86
1	1	750:G	O3'	751:A	P	2.86
1	1	1608:C	O3'	1609:C	P	2.86
1	1	1741:A	O3'	1742:U	P	2.86

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2369:G	O3'	2370:G	P	2.86
1	1	2392:C	O3'	2393:G	P	2.86
1	1	2835:U	O3'	2836:C	P	2.86
1	1	2846:U	O3'	2847:A	P	2.86
1	4	19:C	O3'	20:U	P	2.86
1	A	54:ARG	C	55:GLY	N	2.86
1	B	2:SER	C	3:HIS	N	2.86
1	B	109:HIS	C	110:LEU	N	2.86
1	C	48:GLN	C	49:ALA	N	2.86
1	C	125:ALA	C	126:ILE	N	2.86
1	H	77:ASN	C	78:MET	N	2.86
1	I	30:LYS	C	31:ILE	N	2.86
1	J	41:SER	C	42:GLY	N	2.86
1	L	140:SER	C	141:ALA	N	2.86
1	P	74:LYS	C	75:GLU	N	2.86
1	R	7:GLN	C	8:LYS	N	2.86
1	a	123:VAL	C	124:ILE	N	2.86
1	e	66:LEU	C	67:SER	N	2.86
1	j	51:ALA	C	52:LYS	N	2.86
1	p	55:TRP	C	56:THR	N	2.86
1	1	506:U	O3'	507:U	P	2.85
1	1	605:U	O3'	606:C	P	2.85
1	1	804:C	O3'	805:G	P	2.85
1	1	1427:U	O3'	1428:A	P	2.85
1	1	2522:G	O3'	2523:A	P	2.85
1	4	44:A	O3'	45:C	P	2.85
1	G	216:SER	C	217:THR	N	2.85
1	H	108:GLY	C	109:ALA	N	2.85
1	H	140:VAL	C	141:LYS	N	2.85
1	I	36:LEU	C	37:GLY	N	2.85
1	J	35:LYS	C	36:VAL	N	2.85
1	J	114:ILE	C	115:LYS	N	2.85
1	L	95:ILE	C	96:ALA	N	2.85
1	L	167:PHE	C	168:ARG	N	2.85
1	N	38:ARG	C	39:ALA	N	2.85
1	Z	99:GLU	C	100:THR	N	2.85
1	a	67:HIS	C	68:PHE	N	2.85
1	a	126:LYS	C	127:ALA	N	2.85
1	c	42:ILE	C	43:ILE	N	2.85
1	g	91:ARG	C	92:ALA	N	2.85
1	h	31:LEU	C	32:LYS	N	2.85
1	o	61:LYS	C	62:ALA	N	2.85

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	120:G	O3'	121:A	P	2.84
1	1	682:U	O3'	683:U	P	2.84
1	1	758:C	O3'	759:U	P	2.84
1	1	2900:A	O3'	2901:G	P	2.84
1	1	3108:G	O3'	3109:G	P	2.84
1	1	3364:C	O3'	3365:U	P	2.84
1	I	34:TYR	C	35:ASP	N	2.84
1	L	10:LEU	C	11:LYS	N	2.84
1	Q	173:GLU	C	174:ARG	N	2.84
1	S	73:LYS	C	74:ASN	N	2.84
1	U	41:ILE	C	42:LYS	N	2.84
1	Z	125:GLY	C	126:LYS	N	2.84
1	a	92:LYS	C	93:SER	N	2.84
1	c	30:THR	C	31:VAL	N	2.84
1	e	29:ALA	C	30:GLU	N	2.84
1	e	47:ARG	C	48:GLY	N	2.84
1	f	75:HIS	C	76:GLY	N	2.84
1	k	73:LEU	C	74:LYS	N	2.84
1	m	113:ARG	C	114:LYS	N	2.84
1	o	50:PHE	C	51:GLY	N	2.84
1	o	89:LYS	C	90:HIS	N	2.84
1	1	1486:G	O3'	1487:G	P	2.83
1	1	2444:C	O3'	2445:A	P	2.83
1	1	2912:G	O3'	2913:C	P	2.83
1	1	3073:A	O3'	3074:G	P	2.83
1	1	3140:G	O3'	3141:A	P	2.83
1	1	3206:C	O3'	3207:U	P	2.83
1	A	101:VAL	C	102:LEU	N	2.83
1	A	145:LYS	C	146:THR	N	2.83
1	C	223:PRO	C	224:GLY	N	2.83
1	C	318:LEU	C	319:LYS	N	2.83
1	I	42:THR	C	43:VAL	N	2.83
1	I	84:ALA	C	85:PHE	N	2.83
1	S	100:VAL	C	101:ALA	N	2.83
1	S	133:ALA	C	134:ASP	N	2.83
1	X	138:ARG	C	139:ILE	N	2.83
1	Y	120:GLN	C	121:ARG	N	2.83
1	Z	75:VAL	C	76:ASN	N	2.83
1	a	84:GLU	C	85:ASP	N	2.83
1	f	68:TRP	C	69:GLY	N	2.83
1	g	6:THR	C	7:PHE	N	2.83
1	i	68:ARG	C	69:ALA	N	2.83

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	o	76:LYS	C	77:CYS	N	2.83
1	1	200:C	O3'	201:A	P	2.82
1	1	1896:A	O3'	1897:G	P	2.82
1	1	3322:A	O3'	3323:A	P	2.82
1	4	6:U	O3'	7:U	P	2.82
1	A	178:PRO	C	179:LEU	N	2.82
1	C	59:GLN	C	60:THR	N	2.82
1	C	159:ILE	C	160:GLN	N	2.82
1	D	16:PHE	C	17:GLN	N	2.82
1	D	206:GLN	C	207:TYR	N	2.82
1	G	252:ASN	C	253:SER	N	2.82
1	H	2:LYS	C	3:TYR	N	2.82
1	L	51:LEU	C	52:ASP	N	2.82
1	L	137:GLN	C	138:VAL	N	2.82
1	M	85:TRP	C	86:ALA	N	2.82
1	N	53:TYR	C	54:LYS	N	2.82
1	Q	89:ASP	C	90:ASP	N	2.82
1	U	18:ASP	C	19:VAL	N	2.82
1	V	19:VAL	C	20:GLY	N	2.82
1	X	28:THR	C	29:SER	N	2.82
1	Y	117:ALA	C	118:LEU	N	2.82
1	Z	85:TYR	C	86:THR	N	2.82
1	c	21:GLY	C	22:LYS	N	2.82
1	g	79:SER	C	80:ARG	N	2.82
1	h	105:ARG	C	106:LYS	N	2.82
1	i	6:GLY	C	7:ILE	N	2.82
1	p	49:ARG	C	50:GLY	N	2.82
1	1	1190:A	O3'	1191:U	P	2.81
1	1	1603:A	O3'	1604:G	P	2.81
1	1	2245:C	O3'	2246:G	P	2.81
1	1	2658:G	O3'	2659:G	P	2.81
1	1	3245:A	O3'	3246:G	P	2.81
1	1	3367:C	O3'	3368:U	P	2.81
1	A	226:SER	C	227:ARG	N	2.81
1	B	278:ILE	C	279:ASN	N	2.81
1	B	347:SER	C	348:ARG	N	2.81
1	G	214:LEU	C	215:VAL	N	2.81
1	I	148:VAL	C	149:VAL	N	2.81
1	I	177:ASP	C	178:ARG	N	2.81
1	L	109:PHE	C	110:ASP	N	2.81
1	M	99:TRP	C	100:ALA	N	2.81
1	N	107:GLY	C	108:ARG	N	2.81

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	73:GLY	C	74:LYS	N	2.81
1	R	172:ARG	C	173:ARG	N	2.81
1	W	22:VAL	C	23:ARG	N	2.81
1	W	23:ARG	C	24:GLY	N	2.81
1	X	68:THR	C	69:SER	N	2.81
1	Y	2:ALA	C	3:LYS	N	2.81
1	Y	19:TYR	C	20:PHE	N	2.81
1	Z	66:THR	C	67:LYS	N	2.81
1	c	35:ARG	C	36:GLN	N	2.81
1	e	44:ARG	C	45:ARG	N	2.81
1	f	7:LEU	C	8:TYR	N	2.81
1	g	26:PRO	C	27:GLY	N	2.81
1	p	66:GLY	C	67:GLY	N	2.81
1	l	694:C	O3'	695:C	P	2.80
1	l	878:G	O3'	879:U	P	2.80
1	l	2588:U	O3'	2589:G	P	2.80
1	B	273:HIS	C	274:SER	N	2.80
1	C	80:GLY	C	81:GLY	N	2.80
1	D	22:ARG	C	23:ARG	N	2.80
1	D	72:ASP	C	73:VAL	N	2.80
1	E	48:ARG	C	49:GLY	N	2.80
1	G	97:TYR	C	98:ARG	N	2.80
1	H	32:GLY	C	33:THR	N	2.80
1	H	110:LYS	C	111:PHE	N	2.80
1	J	108:GLU	C	109:HIS	N	2.80
1	M	18:GLY	C	19:ARG	N	2.80
1	Q	167:SER	C	168:THR	N	2.80
1	Q	171:LYS	C	172:PHE	N	2.80
1	S	35:VAL	C	36:ILE	N	2.80
1	T	29:THR	C	30:TYR	N	2.80
1	U	101:ASN	C	102:GLU	N	2.80
1	X	71:THR	C	72:ALA	N	2.80
1	Z	43:VAL	C	44:ALA	N	2.80
1	i	7:ILE	C	8:ALA	N	2.80
1	o	81:ALA	C	82:GLN	N	2.80
1	l	65:A	O3'	66:A	P	2.79
1	l	68:C	O3'	69:C	P	2.79
1	l	1320:C	O3'	1321:G	P	2.79
1	l	2682:C	O3'	2683:U	P	2.79
1	l	3049:A	O3'	3050:U	P	2.79
1	l	3190:C	O3'	3191:G	P	2.79
1	l	3394:U	O3'	3395:G	P	2.79

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	3	80:G	O3'	81:U	P	2.79
1	4	95:G	O3'	96:A	P	2.79
1	G	73:PRO	C	74:THR	N	2.79
1	G	203:VAL	C	204:ARG	N	2.79
1	H	55:VAL	C	56:ALA	N	2.79
1	H	80:THR	C	81:GLY	N	2.79
1	H	111:PHE	C	112:ILE	N	2.79
1	J	91:LEU	C	92:ARG	N	2.79
1	J	131:MET	C	132:ASN	N	2.79
1	L	2:ALA	C	3:ILE	N	2.79
1	T	14:MET	C	15:PHE	N	2.79
1	U	65:VAL	C	66:VAL	N	2.79
1	Y	24:SER	C	25:SER	N	2.79
1	n	8:LYS	C	9:ARG	N	2.79
1	t	161:LYS	C	162:VAL	N	2.79
1	1	80:G	O3'	81:C	P	2.78
1	1	87:U	O3'	88:A	P	2.78
1	1	355:A	O3'	356:C	P	2.78
1	1	676:G	O3'	677:A	P	2.78
1	1	1316:C	O3'	1317:A	P	2.78
1	1	1535:A	O3'	1536:G	P	2.78
1	1	1843:C	O3'	1844:C	P	2.78
1	C	288:ARG	C	289:ILE	N	2.78
1	D	54:ARG	C	55:PHE	N	2.78
1	D	155:THR	C	156:GLY	N	2.78
1	D	289:LYS	C	290:ILE	N	2.78
1	G	129:PRO	C	130:TYR	N	2.78
1	G	181:LYS	C	182:GLY	N	2.78
1	H	147:SER	C	148:GLY	N	2.78
1	L	50:PRO	C	51:LEU	N	2.78
1	P	71:ALA	C	72:GLN	N	2.78
1	Q	110:ALA	C	111:ARG	N	2.78
1	R	71:ARG	C	72:GLU	N	2.78
1	S	128:GLU	C	129:ILE	N	2.78
1	U	102:GLU	C	103:TYR	N	2.78
1	d	17:HIS	C	18:LYS	N	2.78
1	e	50:ILE	C	51:SER	N	2.78
1	i	15:LYS	C	16:LYS	N	2.78
1	i	25:LYS	C	26:ILE	N	2.78
1	1	589:A	O3'	590:G	P	2.77
1	1	829:U	O3'	830:A	P	2.77
1	1	1529:A	O3'	1530:U	P	2.77

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1646:G	O3'	1647:A	P	2.77
1	1	1938:U	O3'	1939:G	P	2.77
1	3	119:U	O3'	120:C	P	2.77
1	4	72:A	O3'	73:U	P	2.77
1	A	94:ALA	C	95:SER	N	2.77
1	B	289:ASP	C	290:ASP	N	2.77
1	C	266:THR	C	267:VAL	N	2.77
1	G	130:TYR	C	131:ALA	N	2.77
1	H	103:ILE	C	104:VAL	N	2.77
1	L	87:ALA	C	88:ALA	N	2.77
1	R	107:ALA	C	108:LYS	N	2.77
1	S	98:SER	C	99:ARG	N	2.77
1	V	31:ALA	C	32:ARG	N	2.77
1	b	50:THR	C	51:ALA	N	2.77
1	e	59:SER	C	60:ASN	N	2.77
1	j	23:GLY	C	24:ARG	N	2.77
1	j	58:THR	C	59:THR	N	2.77
1	1	1003:A	O3'	1004:U	P	2.76
1	1	1223:A	O3'	1224:C	P	2.76
1	1	2571:U	O3'	2572:C	P	2.76
1	1	3023:U	O3'	3024:A	P	2.76
1	1	3042:U	O3'	3043:C	P	2.76
1	3	95:A	O3'	96:U	P	2.76
1	B	9:PRO	C	10:ARG	N	2.76
1	B	152:LYS	C	153:LYS	N	2.76
1	C	353:ALA	C	354:VAL	N	2.76
1	D	141:PRO	C	142:PHE	N	2.76
1	F	158:LYS	C	159:GLN	N	2.76
1	G	85:ASN	C	86:THR	N	2.76
1	H	131:GLY	C	132:VAL	N	2.76
1	J	128:TYR	C	129:VAL	N	2.76
1	J	167:TYR	C	168:ASP	N	2.76
1	L	85:LEU	C	86:THR	N	2.76
1	N	68:ARG	C	69:GLY	N	2.76
1	Z	97:SER	C	98:THR	N	2.76
1	g	101:VAL	C	102:LYS	N	2.76
1	h	35:LYS	C	36:LEU	N	2.76
1	h	109:ILE	C	110:ALA	N	2.76
1	t	87:VAL	C	88:ASP	N	2.76
1	1	787:G	O3'	788:C	P	2.75
1	1	802:C	O3'	803:C	P	2.75
1	1	819:U	O3'	820:A	P	2.75

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2140:U	O3'	2141:U	P	2.75
1	1	2620:G	O3'	2621:G	P	2.75
1	1	2770:G	O3'	2771:U	P	2.75
1	1	2821:C	O3'	2822:U	P	2.75
1	4	85:G	O3'	86:U	P	2.75
1	A	15:ILE	C	16:PHE	N	2.75
1	B	323:MET	C	324:VAL	N	2.75
1	D	53:VAL	C	54:ARG	N	2.75
1	G	213:LYS	C	214:LEU	N	2.75
1	H	120:ASP	C	121:LYS	N	2.75
1	I	12:GLN	C	13:LYS	N	2.75
1	M	125:LYS	C	126:GLN	N	2.75
1	P	72:GLN	C	73:GLY	N	2.75
1	P	106:GLY	C	107:LEU	N	2.75
1	Y	111:LEU	C	112:ASP	N	2.75
1	Z	132:SER	C	133:LYS	N	2.75
1	a	12:ARG	C	13:GLY	N	2.75
1	1	119:U	O3'	120:G	P	2.74
1	1	534:U	O3'	535:G	P	2.74
1	1	587:U	O3'	588:G	P	2.74
1	1	1616:U	O3'	1617:G	P	2.74
1	1	2118:C	O3'	2119:A	P	2.74
1	1	2219:A	O3'	2220:A	P	2.74
1	1	2321:A	O3'	2322:C	P	2.74
1	1	2633:U	O3'	2634:U	P	2.74
1	B	201:LYS	C	202:THR	N	2.74
1	B	295:ALA	C	296:THR	N	2.74
1	C	240:PRO	C	241:GLY	N	2.74
1	D	169:GLY	C	170:GLY	N	2.74
1	G	29:SER	C	30:THR	N	2.74
1	G	178:ALA	C	179:ILE	N	2.74
1	H	114:VAL	C	115:ARG	N	2.74
1	J	159:THR	C	160:VAL	N	2.74
1	M	68:LEU	C	69:THR	N	2.74
1	N	113:LEU	C	114:ARG	N	2.74
1	S	81:TYR	C	82:ASP	N	2.74
1	V	122:CYS	C	123:ALA	N	2.74
1	W	36:SER	C	37:ALA	N	2.74
1	a	66:ALA	C	67:HIS	N	2.74
1	d	55:LEU	C	56:ASN	N	2.74
1	k	14:LEU	C	15:THR	N	2.74
1	1	2176:U	O3'	2177:G	P	2.73

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2653:C	O3'	2654:C	P	2.73
1	1	2861:U	O3'	2862:U	P	2.73
1	1	3379:C	O3'	3380:U	P	2.73
1	A	31:THR	C	32:LEU	N	2.73
1	D	109:THR	C	110:LEU	N	2.73
1	D	171:LEU	C	172:TYR	N	2.73
1	F	56:GLU	C	57:THR	N	2.73
1	I	198:LYS	C	199:PHE	N	2.73
1	L	142:ALA	C	143:ALA	N	2.73
1	P	75:GLU	C	76:PHE	N	2.73
1	P	177:ALA	C	178:ALA	N	2.73
1	Q	52:LEU	C	53:PHE	N	2.73
1	Q	102:ALA	C	103:ALA	N	2.73
1	V	120:LYS	C	121:GLU	N	2.73
1	W	6:ASP	C	7:SER	N	2.73
1	a	20:GLY	C	21:ARG	N	2.73
1	c	23:TYR	C	24:THR	N	2.73
1	g	93:PHE	C	94:LEU	N	2.73
1	1	197:G	O3'	198:A	P	2.72
1	1	404:G	O3'	405:U	P	2.72
1	1	619:A	O3'	620:U	P	2.72
1	1	2634:U	O3'	2635:A	P	2.72
1	1	2792:A	O3'	2793:G	P	2.72
1	1	2793:G	O3'	2794:G	P	2.72
1	1	3301:U	O3'	3302:U	P	2.72
1	A	19:HIS	C	20:THR	N	2.72
1	B	3:HIS	C	4:ARG	N	2.72
1	B	217:ALA	C	218:ILE	N	2.72
1	C	45:ASN	C	46:LYS	N	2.72
1	C	190:GLY	C	191:LYS	N	2.72
1	C	219:LEU	C	220:ARG	N	2.72
1	F	202:LEU	C	203:TRP	N	2.72
1	G	107:GLU	C	108:ARG	N	2.72
1	I	82:ARG	C	83:ASP	N	2.72
1	J	43:GLN	C	44:THR	N	2.72
1	L	53:LEU	C	54:LEU	N	2.72
1	L	89:TYR	C	90:ALA	N	2.72
1	N	7:LEU	C	8:GLU	N	2.72
1	N	39:ALA	C	40:ALA	N	2.72
1	P	70:THR	C	71:ALA	N	2.72
1	R	44:LEU	C	45:VAL	N	2.72
1	S	67:ALA	C	68:HIS	N	2.72

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	V	68:GLU	C	69:LEU	N	2.72
1	Z	8:GLY	C	9:LYS	N	2.72
1	a	14:HIS	C	15:VAL	N	2.72
1	f	16:TYR	C	17:GLN	N	2.72
1	k	13:GLU	C	14:LEU	N	2.72
1	m	89:TYR	C	90:ASN	N	2.72
1	1	634:C	O3'	635:G	P	2.71
1	1	1122:U	O3'	1123:U	P	2.71
1	1	1204:A	O3'	1205:A	P	2.71
1	1	1745:C	O3'	1746:U	P	2.71
1	1	1881:A	O3'	1882:G	P	2.71
1	1	2709:C	O3'	2710:C	P	2.71
1	1	2935:U	O3'	2936:A	P	2.71
1	1	2970:C	O3'	2971:A	P	2.71
1	4	27:U	O3'	28:C	P	2.71
1	A	34:TYR	C	35:ALA	N	2.71
1	A	47:GLN	C	48:ILE	N	2.71
1	B	244:ARG	C	245:GLY	N	2.71
1	C	119:ARG	C	120:TYR	N	2.71
1	C	256:THR	C	257:LYS	N	2.71
1	D	76:ALA	C	77:ALA	N	2.71
1	M	107:GLU	C	108:ARG	N	2.71
1	N	67:ARG	C	68:ARG	N	2.71
1	N	181:ASN	C	182:ASN	N	2.71
1	S	111:ALA	C	112:ALA	N	2.71
1	T	114:ALA	C	115:LYS	N	2.71
1	Y	11:ASP	C	12:ARG	N	2.71
1	Y	50:ILE	C	51:ARG	N	2.71
1	Z	116:LYS	C	117:ALA	N	2.71
1	a	54:GLY	C	55:LYS	N	2.71
1	f	64:ILE	C	65:ARG	N	2.71
1	i	59:ASP	C	60:LEU	N	2.71
1	p	76:ALA	C	77:ALA	N	2.71
1	1	321:C	O3'	322:U	P	2.70
1	1	768:C	O3'	769:G	P	2.70
1	1	836:A	O3'	837:A	P	2.70
1	1	1051:U	O3'	1052:U	P	2.70
1	1	1072:G	O3'	1073:U	P	2.70
1	1	1426:C	O3'	1427:U	P	2.70
1	4	33:A	O3'	34:U	P	2.70
1	A	211:HIS	C	212:GLY	N	2.70
1	A	218:HIS	C	219:ILE	N	2.70

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	274:TYR	C	275:THR	N	2.70
1	E	140:VAL	C	141:VAL	N	2.70
1	E	165:LEU	C	166:LYS	N	2.70
1	F	190:THR	C	191:VAL	N	2.70
1	J	52:TYR	C	53:THR	N	2.70
1	J	165:GLN	C	166:LYS	N	2.70
1	S	10:ILE	C	11:GLY	N	2.70
1	S	16:THR	C	17:GLU	N	2.70
1	Y	18:ALA	C	19:TYR	N	2.70
1	a	63:LYS	C	64:GLN	N	2.70
1	c	24:THR	C	25:LEU	N	2.70
1	c	73:GLY	C	74:ASN	N	2.70
1	h	74:LYS	C	75:TYR	N	2.70
1	p	23:ARG	C	24:ARG	N	2.70
1	1	826:G	O3'	827:A	P	2.69
1	1	1159:A	O3'	1160:C	P	2.69
1	4	91:C	O3'	92:A	P	2.69
1	A	13:GLY	C	14:SER	N	2.69
1	D	34:LYS	C	35:ARG	N	2.69
1	D	236:LEU	C	237:GLU	N	2.69
1	J	110:ILE	C	111:ASP	N	2.69
1	R	76:SER	C	77:GLY	N	2.69
1	R	84:THR	C	85:ARG	N	2.69
1	S	75:PHE	C	76:GLY	N	2.69
1	S	102:ALA	C	103:VAL	N	2.69
1	V	125:LEU	C	126:TRP	N	2.69
1	Z	45:GLY	C	46:ILE	N	2.69
1	Z	68:ILE	C	69:LYS	N	2.69
1	a	45:MET	C	46:ASP	N	2.69
1	i	55:ARG	C	56:ARG	N	2.69
1	p	64:VAL	C	65:ALA	N	2.69
1	1	36:C	O3'	37:U	P	2.68
1	1	2184:U	O3'	2185:G	P	2.68
1	1	2372:A	O3'	2373:A	P	2.68
1	1	2419:A	O3'	2420:C	P	2.68
1	1	2609:A	O3'	2610:G	P	2.68
1	1	2676:A	O3'	2677:G	P	2.68
1	1	2853:A	O3'	2854:U	P	2.68
1	1	3314:A	O3'	3315:G	P	2.68
1	A	37:ARG	C	38:HIS	N	2.68
1	A	197:PRO	C	198:LYS	N	2.68
1	B	4:ARG	C	5:LYS	N	2.68

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	178:LEU	C	179:ALA	N	2.68
1	B	206:ASP	C	207:SER	N	2.68
1	C	166:VAL	C	167:ALA	N	2.68
1	F	186:HIS	C	187:GLU	N	2.68
1	I	64:ALA	C	65:LEU	N	2.68
1	I	65:LEU	C	66:GLU	N	2.68
1	N	170:LYS	C	171:SER	N	2.68
1	R	51:VAL	C	52:LYS	N	2.68
1	S	62:ASN	C	63:GLN	N	2.68
1	S	65:ASN	C	66:GLU	N	2.68
1	T	156:TYR	C	157:GLU	N	2.68
1	V	36:ILE	C	37:ILE	N	2.68
1	V	51:ALA	C	52:ALA	N	2.68
1	X	99:VAL	C	100:LYS	N	2.68
1	b	3:LYS	C	4:SER	N	2.68
1	c	31:VAL	C	32:LYS	N	2.68
1	f	82:ARG	C	83:ALA	N	2.68
1	1	280:U	O3'	281:G	P	2.67
1	1	318:A	O3'	319:A	P	2.67
1	1	974:G	O3'	975:C	P	2.67
1	1	982:C	O3'	983:A	P	2.67
1	1	1197:A	O3'	1198:C	P	2.67
1	1	1804:A	O3'	1805:C	P	2.67
1	1	3274:A	O3'	3275:U	P	2.67
1	B	207:SER	C	208:VAL	N	2.67
1	C	196:ASN	C	197:ARG	N	2.67
1	C	237:GLN	C	238:LEU	N	2.67
1	D	244:HIS	C	245:GLU	N	2.67
1	F	113:SER	C	114:GLY	N	2.67
1	G	187:GLY	C	188:THR	N	2.67
1	I	19:LYS	C	20:SER	N	2.67
1	I	125:LEU	C	126:ALA	N	2.67
1	L	4:SER	C	5:LYS	N	2.67
1	M	83:LYS	C	84:LYS	N	2.67
1	T	109:VAL	C	110:LYS	N	2.67
1	g	53:GLY	C	54:ILE	N	2.67
1	h	46:THR	C	47:VAL	N	2.67
1	t	12:HIS	C	13:VAL	N	2.67
1	1	1629:U	O3'	1630:U	P	2.66
1	1	2952:G	O3'	2953:U	P	2.66
1	1	3327:G	O3'	3328:G	P	2.66
1	G	225:LYS	C	226:TYR	N	2.66

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	113:VAL	C	114:GLN	N	2.66
1	M	120:VAL	C	121:MET	N	2.66
1	N	63:ARG	C	64:VAL	N	2.66
1	P	102:ALA	C	103:GLU	N	2.66
1	T	39:ILE	C	40:VAL	N	2.66
1	V	72:LYS	C	73:VAL	N	2.66
1	b	8:THR	C	9:ALA	N	2.66
1	f	83:ALA	C	84:THR	N	2.66
1	i	19:SER	C	20:MET	N	2.66
1	o	5:PRO	C	6:LYS	N	2.66
1	1	34:A	O3'	35:A	P	2.65
1	1	326:U	O3'	327:A	P	2.65
1	1	394:G	O3'	395:A	P	2.65
1	1	1484:U	O3'	1485:G	P	2.65
1	1	1743:G	O3'	1744:G	P	2.65
1	1	1935:G	O3'	1936:A	P	2.65
1	1	2397:A	O3'	2398:A	P	2.65
1	1	2524:A	O3'	2525:G	P	2.65
1	1	2684:C	O3'	2685:C	P	2.65
1	1	3051:U	O3'	3052:G	P	2.65
1	1	3307:A	O3'	3308:C	P	2.65
1	A	20:THR	C	21:ARG	N	2.65
1	A	77:ILE	C	78:ALA	N	2.65
1	D	25:GLU	C	26:GLY	N	2.65
1	D	36:LEU	C	37:VAL	N	2.65
1	F	232:ARG	C	233:GLU	N	2.65
1	G	88:ALA	C	89:GLU	N	2.65
1	H	23:ARG	C	24:ILE	N	2.65
1	L	181:GLY	C	182:ILE	N	2.65
1	M	60:LEU	C	61:GLY	N	2.65
1	N	94:TYR	C	95:GLN	N	2.65
1	P	56:ARG	C	57:ALA	N	2.65
1	R	115:ILE	C	116:ASP	N	2.65
1	Y	60:ARG	C	61:GLY	N	2.65
1	d	27:LYS	C	28:ARG	N	2.65
1	f	51:TYR	C	52:VAL	N	2.65
1	h	14:LYS	C	15:GLU	N	2.65
1	m	80:PRO	C	81:SER	N	2.65
1	1	199:A	O3'	200:C	P	2.64
1	1	1598:G	O3'	1599:G	P	2.64
1	1	2923:U	O3'	2924:U	P	2.64
1	A	36:GLU	C	37:ARG	N	2.64

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	244:GLY	C	245:LEU	N	2.64
1	C	63:GLU	C	64:SER	N	2.64
1	D	177:GLU	C	178:ASN	N	2.64
1	E	163:PHE	C	164:SER	N	2.64
1	H	174:LYS	C	175:PHE	N	2.64
1	L	22:VAL	C	23:LYS	N	2.64
1	Q	23:ASN	C	24:VAL	N	2.64
1	S	30:PHE	C	31:ALA	N	2.64
1	U	33:TYR	C	34:ALA	N	2.64
1	c	34:LEU	C	35:ARG	N	2.64
1	g	86:LYS	C	87:GLU	N	2.64
1	i	47:ILE	C	48:ALA	N	2.64
1	m	82:LEU	C	83:LYS	N	2.64
1	1	607:A	O3'	608:A	P	2.63
1	1	932:U	O3'	933:A	P	2.63
1	1	1297:C	O3'	1298:C	P	2.63
1	1	1687:U	O3'	1688:U	P	2.63
1	1	1871:U	O3'	1872:C	P	2.63
1	1	1930:A	O3'	1931:U	P	2.63
1	1	2238:G	O3'	2239:G	P	2.63
1	1	2430:A	O3'	2431:C	P	2.63
1	1	2991:A	O3'	2992:U	P	2.63
1	3	94:C	O3'	95:A	P	2.63
1	A	95:SER	C	96:LEU	N	2.63
1	F	230:GLY	C	231:ASN	N	2.63
1	G	192:GLN	C	193:LYS	N	2.63
1	P	141:SER	C	142:SER	N	2.63
1	Q	106:PHE	C	107:THR	N	2.63
1	S	40:ARG	C	41:TYR	N	2.63
1	V	10:LYS	C	11:PHE	N	2.63
1	X	45:LYS	C	46:TYR	N	2.63
1	X	135:ILE	C	136:ALA	N	2.63
1	f	88:ASN	C	89:LEU	N	2.63
1	g	31:ARG	C	32:ALA	N	2.63
1	g	56:THR	C	57:LEU	N	2.63
1	k	55:VAL	C	56:ILE	N	2.63
1	1	2840:C	O3'	2841:G	P	2.62
1	1	3181:C	O3'	3182:G	P	2.62
1	B	282:ILE	C	283:TYR	N	2.62
1	G	60:ARG	C	61:GLN	N	2.62
1	I	33:ILE	C	34:TYR	N	2.62
1	N	85:THR	C	86:ASN	N	2.62

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	P	21:TYR	C	22:LEU	N	2.62
1	P	84:PRO	C	85:ALA	N	2.62
1	P	174:GLY	C	175:ARG	N	2.62
1	Q	184:PHE	C	185:LYS	N	2.62
1	T	96:ILE	C	97:LYS	N	2.62
1	U	79:LEU	C	80:THR	N	2.62
1	Z	114:VAL	C	115:LYS	N	2.62
1	b	19:ASN	C	20:GLY	N	2.62
1	k	40:GLN	C	41:THR	N	2.62
1	l	96:G	O3'	97:U	P	2.61
1	l	516:A	O3'	517:G	P	2.61
1	l	1049:C	O3'	1050:U	P	2.61
1	l	1492:G	O3'	1493:G	P	2.61
1	l	1644:C	O3'	1645:U	P	2.61
1	l	2224:A	O3'	2225:U	P	2.61
1	B	209:PHE	C	210:GLU	N	2.61
1	E	61:ASN	C	62:THR	N	2.61
1	E	90:LYS	C	91:VAL	N	2.61
1	G	32:LYS	C	33:ASN	N	2.61
1	L	93:ILE	C	94:GLY	N	2.61
1	M	130:THR	C	131:VAL	N	2.61
1	P	97:ASN	C	98:ALA	N	2.61
1	R	61:SER	C	62:ARG	N	2.61
1	T	129:LYS	C	130:ARG	N	2.61
1	X	31:THR	C	32:PHE	N	2.61
1	d	76:SER	C	77:ARG	N	2.61
1	f	6:ARG	C	7:LEU	N	2.61
1	k	42:LYS	C	43:PHE	N	2.61
1	l	770:G	O3'	771:A	P	2.60
1	l	2109:U	O3'	2110:G	P	2.60
1	B	75:ALA	C	76:VAL	N	2.60
1	C	51:ALA	C	52:VAL	N	2.60
1	C	163:LYS	C	164:GLU	N	2.60
1	D	260:PHE	C	261:THR	N	2.60
1	G	143:ILE	C	144:GLU	N	2.60
1	I	48:LEU	C	49:CYS	N	2.60
1	L	78:ALA	C	79:GLU	N	2.60
1	S	56:GLY	C	57:GLU	N	2.60
1	Y	21:THR	C	22:ALA	N	2.60
1	Y	103:LYS	C	104:LEU	N	2.60
1	a	32:ARG	C	33:GLY	N	2.60
1	f	40:ASP	C	41:ALA	N	2.60

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	f	99:ARG	C	100:ILE	N	2.60
1	g	48:GLY	C	49:SER	N	2.60
1	g	72:VAL	C	73:SER	N	2.60
1	g	103:LYS	C	104:VAL	N	2.60
1	l	4:GLN	C	5:LYS	N	2.60
1	1	664:U	O3'	665:A	P	2.59
1	1	2166:A	O3'	2167:A	P	2.59
1	1	2175:U	O3'	2176:U	P	2.59
1	3	54:U	O3'	55:A	P	2.59
1	A	45:VAL	C	46:LYS	N	2.59
1	D	78:ALA	C	79:TYR	N	2.59
1	H	85:GLY	C	86:TYR	N	2.59
1	I	66:GLU	C	67:ALA	N	2.59
1	M	75:GLY	C	76:ALA	N	2.59
1	M	94:TRP	C	95:ALA	N	2.59
1	N	84:PRO	C	85:THR	N	2.59
1	P	18:ARG	C	19:GLY	N	2.59
1	R	8:LYS	C	9:ARG	N	2.59
1	T	153:PRO	C	154:VAL	N	2.59
1	Y	37:LYS	C	38:GLU	N	2.59
1	e	68:PRO	C	69:SER	N	2.59
1	g	50:ALA	C	51:LEU	N	2.59
1	i	61:ILE	C	62:ARG	N	2.59
1	1	110:G	O3'	111:C	P	2.58
1	1	948:C	O3'	949:C	P	2.58
1	1	985:U	O3'	986:U	P	2.58
1	1	1054:A	O3'	1055:A	P	2.58
1	1	1347:U	O3'	1348:U	P	2.58
1	1	1710:C	O3'	1711:C	P	2.58
1	1	1868:G	O3'	1869:C	P	2.58
1	1	2817:A	O3'	2818:U	P	2.58
1	1	2947:G	O3'	2948:C	P	2.58
1	1	3240:C	O3'	3241:G	P	2.58
1	3	79:A	O3'	80:G	P	2.58
1	A	24:GLN	C	25:GLY	N	2.58
1	A	57:PRO	C	58:LEU	N	2.58
1	F	219:LYS	C	220:PHE	N	2.58
1	F	227:GLY	C	228:SER	N	2.58
1	H	18:VAL	C	19:SER	N	2.58
1	H	89:LYS	C	90:MET	N	2.58
1	M	55:ARG	C	56:GLN	N	2.58
1	M	78:THR	C	79:ALA	N	2.58

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	N	35:VAL	C	36:ILE	N	2.58
1	N	71:ARG	C	72:LYS	N	2.58
1	P	80:LYS	C	81:ALA	N	2.58
1	Q	3:ILE	C	4:ASP	N	2.58
1	T	93:VAL	C	94:GLU	N	2.58
1	X	60:TYR	C	61:LYS	N	2.58
1	e	57:TYR	C	58:GLY	N	2.58
1	j	46:SER	C	47:TYR	N	2.58
1	1	372:A	O3'	373:A	P	2.57
1	1	1057:A	O3'	1058:U	P	2.57
1	1	1424:C	O3'	1425:U	P	2.57
1	1	1444:G	O3'	1445:U	P	2.57
1	1	1468:A	O3'	1469:C	P	2.57
1	1	2365:C	O3'	2366:C	P	2.57
1	1	2902:A	O3'	2903:A	P	2.57
1	A	46:LYS	C	47:GLN	N	2.57
1	B	254:ALA	C	255:TRP	N	2.57
1	D	272:TYR	C	273:ARG	N	2.57
1	H	68:LEU	C	69:ARG	N	2.57
1	I	118:ALA	C	119:TRP	N	2.57
1	J	140:ARG	C	141:ARG	N	2.57
1	L	169:THR	C	170:LEU	N	2.57
1	M	24:LYS	C	25:LYS	N	2.57
1	Q	14:GLY	C	15:HIS	N	2.57
1	R	38:ARG	C	39:ASN	N	2.57
1	Y	31:LEU	C	32:SER	N	2.57
1	f	50:ALA	C	51:TYR	N	2.57
1	h	66:VAL	C	67:ARG	N	2.57
1	h	85:THR	C	86:ARG	N	2.57
1	1	356:C	O3'	357:A	P	2.56
1	1	1157:G	O3'	1158:A	P	2.56
1	1	1601:U	O3'	1602:A	P	2.56
1	1	1885:U	O3'	1886:A	P	2.56
1	1	2982:A	O3'	2983:C	P	2.56
1	1	3098:G	O3'	3099:C	P	2.56
1	A	137:ILE	C	138:GLY	N	2.56
1	B	98:GLY	C	99:LEU	N	2.56
1	C	57:GLY	C	58:HIS	N	2.56
1	C	184:SER	C	185:LYS	N	2.56
1	D	8:LYS	C	9:SER	N	2.56
1	H	154:VAL	C	155:SER	N	2.56
1	L	13:HIS	C	14:PHE	N	2.56

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	N	96:ARG	C	97:SER	N	2.56
1	Q	35:PHE	C	36:LEU	N	2.56
1	S	18:SER	C	19:VAL	N	2.56
1	S	105:THR	C	106:LEU	N	2.56
1	V	33:ASN	C	34:LEU	N	2.56
1	Z	12:VAL	C	13:VAL	N	2.56
1	e	100:ILE	C	101:SER	N	2.56
1	f	29:LEU	C	30:ILE	N	2.56
1	h	45:LYS	C	46:THR	N	2.56
1	l	124:U	O3'	125:C	P	2.55
1	l	706:A	O3'	707:U	P	2.55
1	l	790:U	O3'	791:A	P	2.55
1	l	859:G	O3'	860:G	P	2.55
1	l	1614:C	O3'	1615:C	P	2.55
1	l	2768:U	O3'	2769:A	P	2.55
1	A	169:ILE	C	170:ALA	N	2.55
1	B	196:ARG	C	197:GLU	N	2.55
1	C	33:ASP	C	34:ILE	N	2.55
1	C	105:THR	C	106:TRP	N	2.55
1	D	284:ALA	C	285:ARG	N	2.55
1	F	104:GLN	C	105:LEU	N	2.55
1	M	32:LEU	C	33:ALA	N	2.55
1	P	139:TYR	C	140:GLU	N	2.55
1	R	41:ILE	C	42:ARG	N	2.55
1	R	78:TYR	C	79:GLY	N	2.55
1	R	90:PRO	C	91:SER	N	2.55
1	T	63:VAL	C	64:VAL	N	2.55
1	T	119:ALA	C	120:LYS	N	2.55
1	Y	51:ARG	C	52:ARG	N	2.55
1	p	53:GLY	C	54:ILE	N	2.55
1	l	212:G	O3'	213:A	P	2.54
1	l	395:A	O3'	396:A	P	2.54
1	l	901:G	O3'	902:G	P	2.54
1	l	946:U	O3'	947:G	P	2.54
1	l	1554:U	O3'	1555:U	P	2.54
1	l	1870:C	O3'	1871:U	P	2.54
1	4	88:A	O3'	89:A	P	2.54
1	4	139:U	O3'	140:G	P	2.54
1	A	18:SER	C	19:HIS	N	2.54
1	A	64:ARG	C	65:ASP	N	2.54
1	B	331:ASN	C	332:ARG	N	2.54
1	D	252:ALA	C	253:PHE	N	2.54

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	167:PRO	C	168:ALA	N	2.54
1	I	119:TRP	C	120:GLY	N	2.54
1	L	184:GLU	C	185:LYS	N	2.54
1	N	28:TRP	C	29:GLU	N	2.54
1	Y	34:PRO	C	35:LEU	N	2.54
1	e	17:PHE	C	18:LYS	N	2.54
1	l	1125:U	O3'	1126:G	P	2.53
1	l	2949:U	O3'	2950:G	P	2.53
1	C	86:GLY	C	87:GLN	N	2.53
1	D	247:ILE	C	248:ARG	N	2.53
1	I	40:LYS	C	41:ALA	N	2.53
1	Q	10:HIS	C	11:LYS	N	2.53
1	Q	82:VAL	C	83:VAL	N	2.53
1	T	46:GLY	C	47:SER	N	2.53
1	T	69:LYS	C	70:SER	N	2.53
1	W	49:ILE	C	50:ALA	N	2.53
1	Y	77:LYS	C	78:PHE	N	2.53
1	a	72:VAL	C	73:LEU	N	2.53
1	c	40:LYS	C	41:LEU	N	2.53
1	g	60:ARG	C	61:GLN	N	2.53
1	g	84:CYS	C	85:VAL	N	2.53
1	l	79:U	O3'	80:G	P	2.52
1	l	621:A	O3'	622:A	P	2.52
1	B	19:ARG	C	20:LYS	N	2.52
1	B	21:ARG	C	22:ALA	N	2.52
1	C	54:GLU	C	55:LYS	N	2.52
1	D	105:ILE	C	106:ALA	N	2.52
1	N	146:ALA	C	147:ARG	N	2.52
1	Q	179:ARG	C	180:ARG	N	2.52
1	S	83:SER	C	84:ARG	N	2.52
1	U	95:PHE	C	96:VAL	N	2.52
1	X	114:VAL	C	115:ARG	N	2.52
1	f	90:PRO	C	91:ALA	N	2.52
1	l	2389:C	O3'	2390:A	P	2.51
1	l	2651:G	O3'	2652:U	P	2.51
1	C	144:LYS	C	145:ILE	N	2.51
1	D	96:ALA	C	97:ALA	N	2.51
1	E	38:THR	C	39:VAL	N	2.51
1	G	92:LYS	C	93:LEU	N	2.51
1	G	138:HIS	C	139:VAL	N	2.51
1	H	78:MET	C	79:ILE	N	2.51
1	I	189:GLU	C	190:VAL	N	2.51

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	117:LYS	C	118:GLU	N	2.51
1	N	140:LYS	C	141:ALA	N	2.51
1	N	156:HIS	C	157:LYS	N	2.51
1	P	113:TYR	C	114:VAL	N	2.51
1	a	100:PRO	C	101:VAL	N	2.51
1	e	48:GLY	C	49:ASN	N	2.51
1	f	72:THR	C	73:ARG	N	2.51
1	h	79:ASP	C	80:LEU	N	2.51
1	i	49:GLY	C	50:LEU	N	2.51
1	l	2764:C	O3'	2765:C	P	2.50
1	l	2918:G	O3'	2919:A	P	2.50
1	A	44:ILE	C	45:VAL	N	2.50
1	A	58:LEU	C	59:ALA	N	2.50
1	A	121:GLY	C	122:ASP	N	2.50
1	C	215:ILE	C	216:VAL	N	2.50
1	D	63:GLN	C	64:ILE	N	2.50
1	G	171:LYS	C	172:LYS	N	2.50
1	L	97:VAL	C	98:ASP	N	2.50
1	N	159:ARG	C	160:GLU	N	2.50
1	e	43:ARG	C	44:ARG	N	2.50
1	e	99:ASN	C	100:ILE	N	2.50
1	f	79:GLY	C	80:VAL	N	2.50
1	g	10:ARG	C	11:ASN	N	2.50
1	i	76:ARG	C	77:LEU	N	2.50
1	o	70:LEU	C	71:ARG	N	2.50
1	l	350:C	O3'	351:A	P	2.49
1	l	364:G	O3'	365:A	P	2.49
1	l	883:A	O3'	884:A	P	2.49
1	l	1098:A	O3'	1099:A	P	2.49
1	l	1146:C	O3'	1147:G	P	2.49
1	l	1205:A	O3'	1206:G	P	2.49
1	l	1371:G	O3'	1372:C	P	2.49
1	l	1718:G	O3'	1719:G	P	2.49
1	l	1937:U	O3'	1938:U	P	2.49
1	B	13:HIS	C	14:LEU	N	2.49
1	B	130:PHE	C	131:THR	N	2.49
1	B	362:ALA	C	363:SER	N	2.49
1	Q	105:ARG	C	106:PHE	N	2.49
1	T	106:LEU	C	107:GLU	N	2.49
1	Y	55:GLU	C	56:VAL	N	2.49
1	a	39:HIS	C	40:HIS	N	2.49
1	e	45:ARG	C	46:PHE	N	2.49

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	f	69:GLY	C	70:LYS	N	2.49
1	j	26:SER	C	27:PHE	N	2.49
1	j	74:PHE	C	75:LYS	N	2.49
1	1	347:G	O3'	348:A	P	2.48
1	1	1449:A	O3'	1450:G	P	2.48
1	1	3270:U	O3'	3271:G	P	2.48
1	B	250:ALA	C	251:CYS	N	2.48
1	B	370:PHE	C	371:GLN	N	2.48
1	C	338:LYS	C	339:LEU	N	2.48
1	F	179:LEU	C	180:SER	N	2.48
1	H	51:GLN	C	52:LEU	N	2.48
1	I	174:THR	C	175:ASN	N	2.48
1	J	161:SER	C	162:TRP	N	2.48
1	M	106:ARG	C	107:GLU	N	2.48
1	N	187:ARG	C	188:ARG	N	2.48
1	P	20:SER	C	21:TYR	N	2.48
1	P	123:PRO	C	124:LYS	N	2.48
1	V	23:MET	C	24:ASN	N	2.48
1	W	41:LYS	C	42:GLN	N	2.48
1	d	77:ARG	C	78:LYS	N	2.48
1	p	26:VAL	C	27:LYS	N	2.48
1	1	265:A	O3'	266:A	P	2.47
1	1	1585:C	O3'	1586:G	P	2.47
1	1	2123:G	O3'	2124:G	P	2.47
1	1	2160:G	O3'	2161:G	P	2.47
1	1	2872:A	O3'	2873:U	P	2.47
1	1	3009:G	O3'	3010:U	P	2.47
1	1	3294:A	O3'	3295:A	P	2.47
1	B	223:GLY	C	224:HIS	N	2.47
1	B	280:HIS	C	281:LYS	N	2.47
1	C	82:THR	C	83:GLY	N	2.47
1	C	124:SER	C	125:ALA	N	2.47
1	C	299:ILE	C	300:ARG	N	2.47
1	F	210:PRO	C	211:SER	N	2.47
1	H	83:THR	C	84:LYS	N	2.47
1	H	142:ASP	C	143:GLU	N	2.47
1	O	197:LEU	C	198:GLY	N	2.47
1	P	99:ALA	C	100:ALA	N	2.47
1	S	9:VAL	C	10:ILE	N	2.47
1	W	35:LYS	C	36:SER	N	2.47
1	i	42:SER	C	43:LEU	N	2.47
1	1	1419:A	O3'	1420:C	P	2.46

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	2556:C	O3'	2557:A	P	2.46
1	1	2869:U	O3'	2870:C	P	2.46
1	G	139:VAL	C	140:VAL	N	2.46
1	I	132:GLY	C	133:GLN	N	2.46
1	U	32:SER	C	33:TYR	N	2.46
1	Y	35:LEU	C	36:SER	N	2.46
1	k	45:VAL	C	46:ARG	N	2.46
1	1	90:C	O3'	91:G	P	2.45
1	1	315:C	O3'	316:U	P	2.45
1	1	691:A	O3'	692:A	P	2.45
1	1	1312:C	O3'	1313:G	P	2.45
1	C	71:VAL	C	72:ALA	N	2.45
1	C	151:VAL	C	152:VAL	N	2.45
1	D	84:PRO	C	85:ARG	N	2.45
1	E	101:PHE	C	102:ASN	N	2.45
1	F	180:SER	C	181:ILE	N	2.45
1	L	174:ARG	C	175:SER	N	2.45
1	N	90:ASN	C	91:GLU	N	2.45
1	P	66:SER	C	67:ILE	N	2.45
1	Q	25:TYR	C	26:LEU	N	2.45
1	T	4:SER	C	5:HIS	N	2.45
1	T	11:THR	C	12:ARG	N	2.45
1	W	56:ARG	C	57:LYS	N	2.45
1	X	56:ARG	C	57:LEU	N	2.45
1	c	91:SER	C	92:ILE	N	2.45
1	d	30:PRO	C	31:ARG	N	2.45
1	m	105:PRO	C	106:ARG	N	2.45
1	m	115:CYS	C	116:GLY	N	2.45
1	m	121:LEU	C	122:ARG	N	2.45
1	1	818:C	O3'	819:U	P	2.44
1	1	2713:U	O3'	2714:G	P	2.44
1	1	2824:G	O3'	2825:C	P	2.44
1	1	3144:G	O3'	3145:C	P	2.44
1	4	23:U	O3'	24:G	P	2.44
1	B	317:ILE	C	318:LYS	N	2.44
1	L	172:LEU	C	173:ALA	N	2.44
1	P	91:VAL	C	92:GLN	N	2.44
1	Q	22:ASP	C	23:ASN	N	2.44
1	Z	25:ILE	C	26:VAL	N	2.44
1	a	131:SER	C	132:LYS	N	2.44
1	f	44:TYR	C	45:LEU	N	2.44
1	h	93:THR	C	94:LYS	N	2.44

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	399:A	O3'	400:G	P	2.43
1	1	595:G	O3'	596:C	P	2.43
1	1	3187:A	O3'	3188:G	P	2.43
1	3	48:U	O3'	49:G	P	2.43
1	B	267:ALA	C	268:GLY	N	2.43
1	C	120:TYR	C	121:ALA	N	2.43
1	C	286:VAL	C	287:THR	N	2.43
1	I	146:ASP	C	147:VAL	N	2.43
1	N	112:ASN	C	113:LEU	N	2.43
1	N	118:SER	C	119:TYR	N	2.43
1	R	40:ALA	C	41:ILE	N	2.43
1	R	93:VAL	C	94:VAL	N	2.43
1	a	122:PRO	C	123:VAL	N	2.43
1	e	22:SER	C	23:ASP	N	2.43
1	e	55:ILE	C	56:GLY	N	2.43
1	g	52:GLN	C	53:GLY	N	2.43
1	l	8:ARG	C	9:ILE	N	2.43
1	p	17:ARG	C	18:TYR	N	2.43
1	1	2162:U	O3'	2163:C	P	2.42
1	1	2336:U	O3'	2337:C	P	2.42
1	A	231:SER	C	232:GLY	N	2.42
1	C	116:ASN	C	117:GLU	N	2.42
1	C	359:LEU	C	360:LYS	N	2.42
1	F	93:ASN	C	94:LYS	N	2.42
1	F	184:LEU	C	185:ILE	N	2.42
1	T	79:MET	C	80:VAL	N	2.42
1	V	106:LYS	C	107:GLY	N	2.42
1	i	79:SER	C	80:PHE	N	2.42
1	1	156:G	O3'	157:A	P	2.41
1	1	729:C	O3'	730:C	P	2.41
1	1	2298:U	O3'	2299:A	P	2.41
1	1	3392:U	O3'	3393:U	P	2.41
1	A	181:LYS	C	182:ALA	N	2.41
1	J	151:SER	C	152:HIS	N	2.41
1	N	65:ARG	C	66:VAL	N	2.41
1	R	117:LYS	C	118:HIS	N	2.41
1	T	30:TYR	C	31:LEU	N	2.41
1	a	30:GLY	C	31:GLY	N	2.41
1	i	88:GLU	C	89:GLU	N	2.41
1	1	1676:A	O3'	1677:G	P	2.40
1	1	2757:U	O3'	2758:A	P	2.40
1	D	216:GLU	C	217:GLU	N	2.40

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	F	134:VAL	C	135:ALA	N	2.40
1	G	152:LEU	C	153:ILE	N	2.40
1	I	135:ILE	C	136:PHE	N	2.40
1	I	196:PHE	C	197:VAL	N	2.40
1	L	69:VAL	C	70:ARG	N	2.40
1	L	72:GLY	C	73:ARG	N	2.40
1	Q	43:PRO	C	44:PHE	N	2.40
1	a	17:ALA	C	18:GLY	N	2.40
1	d	23:VAL	C	24:SER	N	2.40
1	d	74:ARG	C	75:ILE	N	2.40
1	l	11:GLN	C	12:LYS	N	2.40
1	p	67:GLY	C	68:ALA	N	2.40
1	1	720:A	O3'	721:G	P	2.39
1	1	993:G	O3'	994:G	P	2.39
1	1	1584:U	O3'	1585:C	P	2.39
1	1	2376:G	O3'	2377:G	P	2.39
1	F	62:ILE	C	63:ILE	N	2.39
1	H	45:PHE	C	46:THR	N	2.39
1	b	17:HIS	C	18:ARG	N	2.39
1	1	30:G	O3'	31:C	P	2.38
1	1	344:A	O3'	345:G	P	2.38
1	1	959:C	O3'	960:U	P	2.38
1	1	1313:G	O3'	1314:C	P	2.38
1	A	225:ILE	C	226:SER	N	2.38
1	C	330:TYR	C	331:ALA	N	2.38
1	F	85:PHE	C	86:VAL	N	2.38
1	G	160:ILE	C	161:GLU	N	2.38
1	L	123:ILE	C	124:ILE	N	2.38
1	N	31:ARG	C	32:GLN	N	2.38
1	N	127:TYR	C	128:LYS	N	2.38
1	N	182:ASN	C	183:THR	N	2.38
1	O	162:VAL	C	163:SER	N	2.38
1	Q	54:LEU	C	55:SER	N	2.38
1	Q	124:LEU	C	125:ASP	N	2.38
1	S	5:LYS	C	6:GLU	N	2.38
1	h	69:LEU	C	70:TYR	N	2.38
1	j	66:TYR	C	67:LEU	N	2.38
1	p	28:LYS	C	29:LEU	N	2.38
1	1	1437:C	O3'	1438:U	P	2.37
1	1	3136:G	O3'	3137:C	P	2.37
1	B	102:LEU	C	103:THR	N	2.37
1	B	212:ASN	C	213:GLU	N	2.37

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	G	67:ILE	C	68:ARG	N	2.37
1	I	90:ARG	C	91:VAL	N	2.37
1	P	120:ASN	C	121:GLN	N	2.37
1	R	10:LEU	C	11:ALA	N	2.37
1	S	80:ARG	C	81:TYR	N	2.37
1	W	13:ILE	C	14:TYR	N	2.37
1	W	52:THR	C	53:VAL	N	2.37
1	Z	79:HIS	C	80:LEU	N	2.37
1	a	9:ARG	C	10:LYS	N	2.37
1	a	40:HIS	C	41:HIS	N	2.37
1	g	32:ALA	C	33:GLN	N	2.37
1	l	41:ARG	C	42:ARG	N	2.37
1	l	606:C	O3'	607:A	P	2.36
1	l	3129:A	O3'	3130:A	P	2.36
1	4	45:C	O3'	46:G	P	2.36
1	B	333:LYS	C	334:ARG	N	2.36
1	C	44:LYS	C	45:ASN	N	2.36
1	D	37:VAL	C	38:THR	N	2.36
1	F	89:ILE	C	90:LYS	N	2.36
1	N	135:VAL	C	136:ASP	N	2.36
1	S	77:VAL	C	78:TRP	N	2.36
1	Y	70:ILE	C	71:SER	N	2.36
1	Z	127:ASN	C	128:GLN	N	2.36
1	a	78:LEU	C	79:TRP	N	2.36
1	d	28:ARG	C	29:ALA	N	2.36
1	e	26:HIS	C	27:ARG	N	2.36
1	h	44:ILE	C	45:LYS	N	2.36
1	m	94:SER	C	95:VAL	N	2.36
1	l	210:U	O3'	211:A	P	2.35
1	l	2641:U	O3'	2642:A	P	2.35
1	A	97:ASN	C	98:VAL	N	2.35
1	C	30:ILE	C	31:ARG	N	2.35
1	G	58:VAL	C	59:GLN	N	2.35
1	G	169:LEU	C	170:CYS	N	2.35
1	H	65:VAL	C	66:ALA	N	2.35
1	N	174:ILE	C	175:ASN	N	2.35
1	Q	67:ILE	C	68:ALA	N	2.35
1	R	81:ARG	C	82:LYS	N	2.35
1	T	87:LYS	C	88:ARG	N	2.35
1	W	38:SER	C	39:LEU	N	2.35
1	Z	37:PRO	C	38:PHE	N	2.35
1	a	104:THR	C	105:LEU	N	2.35

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	j	34:CYS	C	35:SER	N	2.35
1	o	54:THR	C	55:LYS	N	2.35
1	l	341:G	O3'	342:A	P	2.34
1	l	1111:U	O3'	1112:A	P	2.34
1	l	1913:A	O3'	1914:G	P	2.34
1	l	2325:G	O3'	2326:A	P	2.34
1	C	127:ALA	C	128:ALA	N	2.34
1	F	153:PHE	C	154:GLY	N	2.34
1	G	38:GLN	C	39:ALA	N	2.34
1	H	39:LYS	C	40:HIS	N	2.34
1	N	196:THR	C	197:LEU	N	2.34
1	Q	93:ILE	C	94:PHE	N	2.34
1	S	34:GLU	C	35:VAL	N	2.34
1	c	60:ALA	C	61:MET	N	2.34
1	d	21:HIS	C	22:GLY	N	2.34
1	d	57:GLN	C	58:ALA	N	2.34
1	e	108:ILE	C	109:LEU	N	2.34
1	i	73:ALA	C	74:LYS	N	2.34
1	l	1553:U	O3'	1554:U	P	2.33
1	l	1908:A	O3'	1909:A	P	2.33
1	l	2169:G	O3'	2170:U	P	2.33
1	l	2174:G	O3'	2175:U	P	2.33
1	l	2656:A	O3'	2657:A	P	2.33
1	C	121:ALA	C	122:THR	N	2.33
1	D	94:ASN	C	95:TRP	N	2.33
1	N	201:ARG	C	202:TYR	N	2.33
1	V	64:LYS	C	65:GLY	N	2.33
1	V	92:PHE	C	93:LEU	N	2.33
1	X	54:TYR	C	55:ASN	N	2.33
1	a	41:HIS	C	42:ARG	N	2.33
1	h	96:GLU	C	97:ALA	N	2.33
1	l	407:A	O3'	408:A	P	2.32
1	l	860:G	O3'	861:C	P	2.32
1	l	1747:G	O3'	1748:G	P	2.32
1	C	162:THR	C	163:LYS	N	2.32
1	H	163:GLN	C	164:ILE	N	2.32
1	P	49:GLU	C	50:GLN	N	2.32
1	X	64:GLU	C	65:GLN	N	2.32
1	d	32:ALA	C	33:VAL	N	2.32
1	d	70:ARG	C	71:LEU	N	2.32
1	f	31:LYS	C	32:ILE	N	2.32
1	f	85:PHE	C	86:ARG	N	2.32

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	89:ALA	C	90:PHE	N	2.31
1	N	114:ARG	C	115:VAL	N	2.31
1	P	59:PRO	C	60:PHE	N	2.31
1	Q	175:ALA	C	176:ARG	N	2.31
1	U	77:LYS	C	78:TYR	N	2.31
1	Z	130:PHE	C	131:PHE	N	2.31
1	1	29:C	O3'	30:G	P	2.30
1	1	934:G	O3'	935:U	P	2.30
1	1	3151:U	O3'	3152:U	P	2.30
1	B	86:VAL	C	87:VAL	N	2.30
1	C	49:ALA	C	50:TYR	N	2.30
1	G	165:PHE	C	166:LEU	N	2.30
1	M	45:LEU	C	46:ILE	N	2.30
1	V	53:SER	C	54:LEU	N	2.30
1	c	27:TYR	C	28:LYS	N	2.30
1	l	30:ARG	C	31:THR	N	2.30
1	4	37:A	O3'	38:U	P	2.29
1	4	60:U	O3'	61:A	P	2.29
1	A	215:ASN	C	216:HIS	N	2.29
1	F	135:ALA	C	136:TYR	N	2.29
1	g	85:VAL	C	86:LYS	N	2.29
1	j	64:MET	C	65:ARG	N	2.29
1	1	145:G	O3'	146:U	P	2.28
1	1	397:A	O3'	398:A	P	2.28
1	1	608:A	O3'	609:G	P	2.28
1	1	963:G	O3'	964:G	P	2.28
1	B	48:GLY	C	49:TYR	N	2.28
1	N	6:TYR	C	7:LEU	N	2.28
1	a	128:ARG	C	129:PHE	N	2.28
1	e	79:VAL	C	80:LYS	N	2.28
1	f	17:GLN	C	18:ARG	N	2.28
1	f	53:TYR	C	54:ARG	N	2.28
1	1	863:C	O3'	864:G	P	2.27
1	A	146:THR	C	147:ARG	N	2.27
1	A	180:LEU	C	181:LYS	N	2.27
1	B	89:VAL	C	90:VAL	N	2.27
1	F	133:TYR	C	134:VAL	N	2.27
1	G	42:PRO	C	43:LYS	N	2.27
1	G	54:GLU	C	55:TYR	N	2.27
1	O	3:VAL	C	4:GLU	N	2.27
1	S	141:LYS	C	142:GLN	N	2.27
1	V	46:LEU	C	47:ASN	N	2.27

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	e	32:TRP	C	33:ARG	N	2.27
1	h	115:LYS	C	116:TYR	N	2.27
1	j	22:CYS	C	23:GLY	N	2.27
1	1	1428:A	O3'	1429:G	P	2.26
1	1	3147:G	O3'	3148:U	P	2.26
1	A	60:LYS	C	61:VAL	N	2.26
1	C	113:VAL	C	114:ASN	N	2.26
1	Q	132:PRO	C	133:LYS	N	2.26
1	c	29:SER	C	30:THR	N	2.26
1	c	58:TYR	C	59:TYR	N	2.26
1	h	51:ILE	C	52:ALA	N	2.26
1	1	1796:G	O3'	1797:A	P	2.25
1	1	2717:U	O3'	2718:U	P	2.25
1	A	51:ASP	C	52:SER	N	2.25
1	A	99:GLY	C	100:ASN	N	2.25
1	B	191:LYS	C	192:VAL	N	2.25
1	B	336:VAL	C	337:THR	N	2.25
1	F	201:PHE	C	202:LEU	N	2.25
1	H	93:VAL	C	94:TYR	N	2.25
1	L	5:LYS	C	6:ASN	N	2.25
1	N	48:ALA	C	49:ARG	N	2.25
1	N	154:PRO	C	155:VAL	N	2.25
1	S	23:LYS	C	24:LEU	N	2.25
1	X	73:MET	C	74:LYS	N	2.25
1	X	101:GLU	C	102:LEU	N	2.25
1	1	85:A	O3'	86:G	P	2.24
1	1	376:G	O3'	377:A	P	2.24
1	1	2865:U	O3'	2866:U	P	2.24
1	1	3298:C	O3'	3299:A	P	2.24
1	B	77:THR	C	78:VAL	N	2.24
1	Z	74:VAL	C	75:VAL	N	2.24
1	1	12:A	O3'	13:A	P	2.23
1	1	362:U	O3'	363:G	P	2.23
1	1	1793:C	O3'	1794:G	P	2.23
1	1	2785:A	O3'	2786:G	P	2.23
1	1	2986:U	O3'	2987:A	P	2.23
1	A	189:TYR	C	190:ARG	N	2.23
1	C	235:LEU	C	236:LEU	N	2.23
1	C	254:ALA	C	255:PHE	N	2.23
1	F	208:SER	C	209:ASN	N	2.23
1	F	239:LEU	C	240:VAL	N	2.23
1	R	145:ALA	C	146:LYS	N	2.23

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	872:U	O3'	873:C	P	2.22
1	1	1376:C	O3'	1377:G	P	2.22
1	G	132:VAL	C	133:LYS	N	2.22
1	a	71:PRO	C	72:VAL	N	2.22
1	c	47:ASN	C	48:THR	N	2.22
1	o	42:ARG	C	43:TYR	N	2.22
1	1	217:U	O3'	218:G	P	2.21
1	1	1940:G	O3'	1941:C	P	2.21
1	3	10:C	O3'	11:A	P	2.21
1	F	204:PRO	C	205:PHE	N	2.21
1	W	46:PRO	C	47:ARG	N	2.21
1	a	43:ILE	C	44:ASN	N	2.21
1	f	71:VAL	C	72:THR	N	2.21
1	1	41:G	O3'	42:C	P	2.20
1	1	784:A	O3'	785:G	P	2.20
1	1	1469:C	O3'	1470:U	P	2.20
1	1	1708:C	O3'	1709:C	P	2.20
1	1	2361:A	O3'	2362:C	P	2.20
1	A	207:VAL	C	208:ASP	N	2.20
1	M	127:LYS	C	128:ARG	N	2.20
1	Q	47:VAL	C	48:VAL	N	2.20
1	Z	119:GLU	C	120:GLU	N	2.20
1	c	84:LEU	C	85:PHE	N	2.20
1	1	554:A	O3'	555:U	P	2.19
1	1	968:G	O3'	969:C	P	2.19
1	A	187:HIS	C	188:LYS	N	2.19
1	C	35:VAL	C	36:HIS	N	2.19
1	F	125:GLU	C	126:LEU	N	2.19
1	G	197:VAL	C	198:ALA	N	2.19
1	H	25:VAL	C	26:LYS	N	2.19
1	h	104:GLN	C	105:ARG	N	2.19
1	k	23:ALA	C	24:THR	N	2.19
1	1	1445:U	O3'	1446:A	P	2.18
1	C	208:VAL	C	209:TYR	N	2.18
1	Y	27:ARG	C	28:ARG	N	2.18
1	Y	58:VAL	C	59:VAL	N	2.18
1	l	7:PHE	C	8:ARG	N	2.18
1	1	920:A	O3'	921:A	P	2.17
1	1	2812:C	O3'	2813:A	P	2.17
1	4	137:C	O3'	138:A	P	2.17
1	V	100:GLY	C	101:VAL	N	2.17
1	1	1637:A	O3'	1638:A	P	2.16

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	L	21:ARG	C	22:VAL	N	2.16
1	N	37:HIS	C	38:ARG	N	2.16
1	N	132:VAL	C	133:ILE	N	2.16
1	P	146:ILE	C	147:GLU	N	2.16
1	Z	14:VAL	C	15:ARG	N	2.16
1	1	1162:U	O3'	1163:A	P	2.15
1	1	1390:A	O3'	1391:C	P	2.15
1	1	1403:C	O3'	1404:G	P	2.15
1	O	25:LYS	C	26:GLN	N	2.15
1	P	29:THR	C	30:ARG	N	2.15
1	V	14:SER	C	15:LEU	N	2.15
1	V	34:LEU	C	35:TYR	N	2.15
1	f	11:GLY	C	12:LYS	N	2.15
1	l	43:ASN	C	44:TRP	N	2.15
1	1	71:A	O3'	72:C	P	2.14
1	1	268:A	O3'	269:G	P	2.14
1	1	952:A	O3'	953:G	P	2.14
1	1	2282:U	O3'	2283:G	P	2.14
1	4	36:G	O3'	37:A	P	2.14
1	N	9:GLU	C	10:LEU	N	2.14
1	S	135:VAL	C	136:LYS	N	2.14
1	1	1101:G	O3'	1102:A	P	2.13
1	M	21:VAL	C	22:LEU	N	2.13
1	Q	140:LEU	C	141:ARG	N	2.13
1	R	98:ARG	C	99:LEU	N	2.13
1	S	123:ILE	C	124:LEU	N	2.13
1	T	84:TYR	C	85:LEU	N	2.13
1	j	8:PHE	C	9:GLY	N	2.13
1	A	10:LYS	C	11:GLY	N	2.12
1	C	112:LYS	C	113:VAL	N	2.12
1	C	261:VAL	C	262:TRP	N	2.12
1	D	19:PRO	C	20:PHE	N	2.12
1	1	1557:A	O3'	1558:A	P	2.11
1	B	84:VAL	C	85:VAL	N	2.11
1	B	249:VAL	C	250:ALA	N	2.11
1	B	275:ARG	C	276:THR	N	2.11
1	I	87:LEU	C	88:ARG	N	2.11
1	1	913:A	O3'	914:A	P	2.10
1	B	54:THR	C	55:THR	N	2.10
1	F	146:GLN	C	147:LEU	N	2.10
1	O	63:ALA	C	64:PHE	N	2.10
1	1	17:G	O3'	18:G	P	2.09

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	858:A	O3'	859:G	P	2.09
1	1	2965:U	O3'	2966:G	P	2.09
1	O	114:LYS	C	115:LYS	N	2.09
1	4	41:A	O3'	42:G	P	2.08
1	A	88:ILE	C	89:TYR	N	2.08
1	j	59:THR	C	60:GLY	N	2.08
1	o	40:LYS	C	41:ARG	N	2.07
1	1	1931:U	O3'	1932:A	P	2.06
1	1	2116:G	O3'	2117:A	P	2.05
1	j	54:LYS	C	55:ARG	N	2.05
1	F	144:ILE	C	145:ARG	N	2.04
1	1	47:C	O3'	48:A	P	2.03
1	A	40:TYR	C	41:ILE	N	2.03
1	R	132:PHE	C	133:LYS	N	2.03
1	S	64:ILE	C	65:ASN	N	2.03
1	X	94:GLN	C	95:ILE	N	2.03
1	1	2178:A	O3'	2179:C	P	2.00
1	L	57:VAL	C	58:VAL	N	2.00
1	k	51:LEU	C	52:TYR	N	2.00
1	I	95:HIS	C	96:VAL	N	1.97
1	1	2881:C	O3'	2882:U	P	1.95
1	O	171:LYS	C	172:ARG	N	1.94
1	1	2355:G	O3'	2356:A	P	1.87
1	O	189:ASP	C	190:VAL	N	1.84
1	O	80:PHE	C	81:TYR	N	1.82
1	O	167:TYR	C	168:TYR	N	1.79
1	O	128:ARG	C	129:LEU	N	1.71
1	O	190:VAL	C	191:ALA	N	1.67
1	O	90:HIS	C	91:LYS	N	1.65
1	O	115:LYS	C	116:LYS	N	1.64
1	O	72:HIS	C	73:PHE	N	1.63
1	O	49:ARG	C	50:ASN	N	1.61
1	O	177:LYS	C	178:VAL	N	1.18
1	O	16:VAL	C	17:GLY	N	1.00
1	O	193:GLN	C	194:LEU	N	0.98
1	O	153:VAL	C	154:ALA	N	0.89
1	O	74:ARG	C	75:ALA	N	0.80
1	O	67:THR	C	68:ARG	N	0.74
1	O	143:THR	C	144:SER	N	0.46

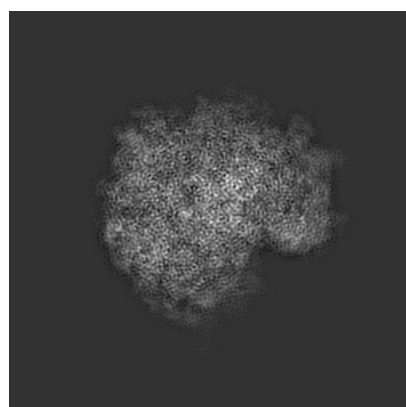
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-2599. These allow visual inspection of the internal detail of the map and identification of artifacts.

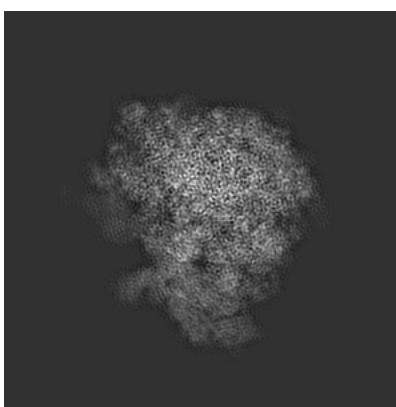
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

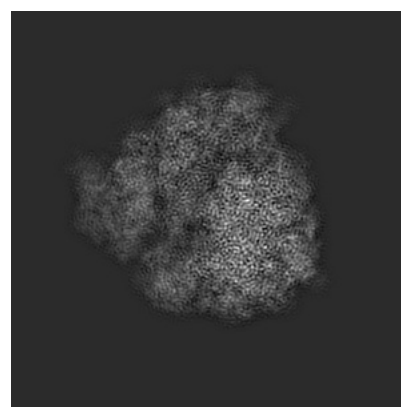
6.1.1 Primary map



X



Y

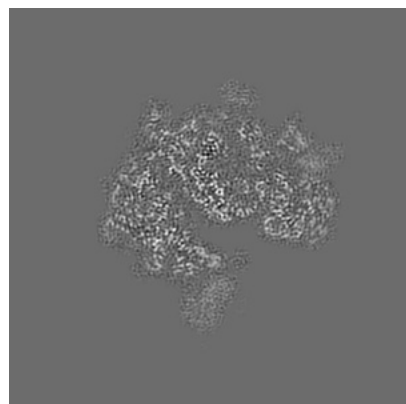


Z

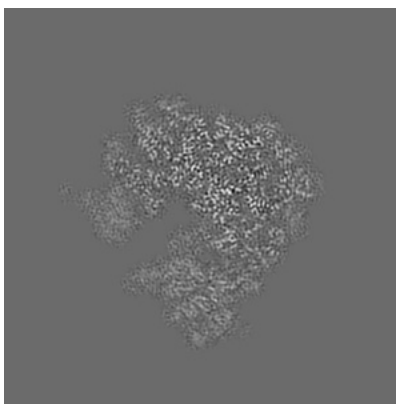
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

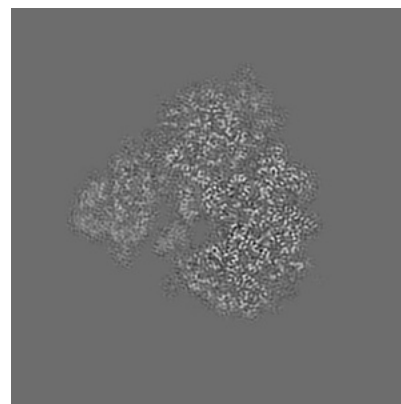
6.2.1 Primary map



X Index: 160



Y Index: 160

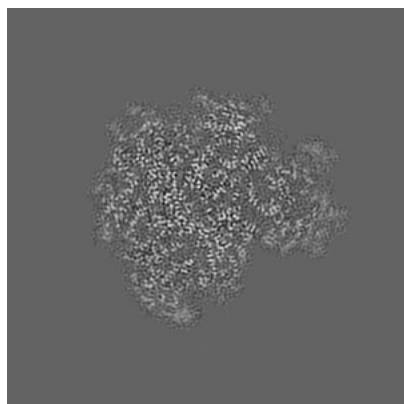


Z Index: 160

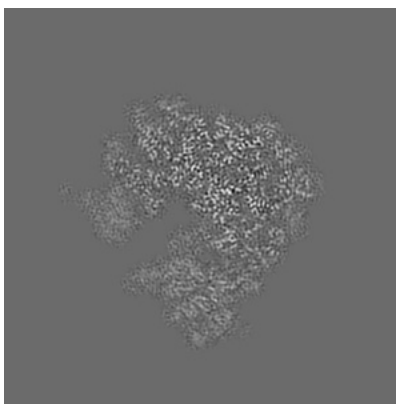
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

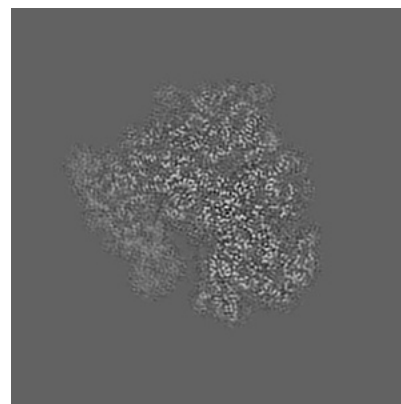
6.3.1 Primary map



X Index: 184



Y Index: 160

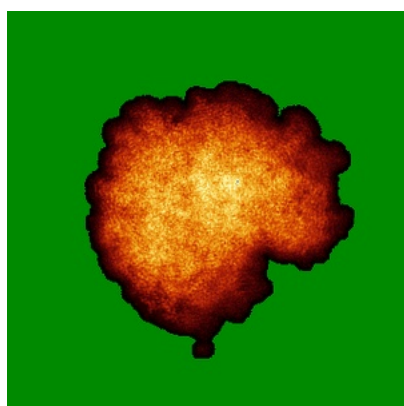


Z Index: 180

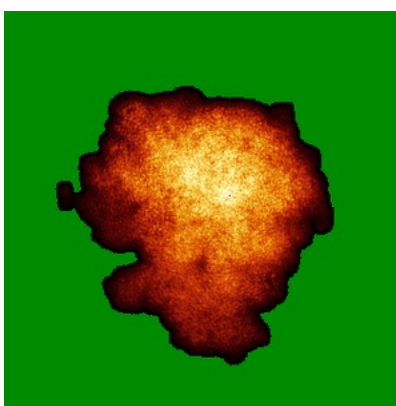
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

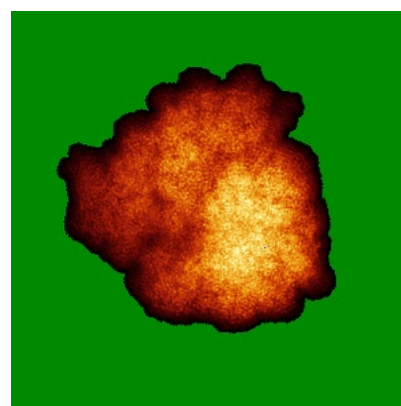
6.4.1 Primary map



X



Y

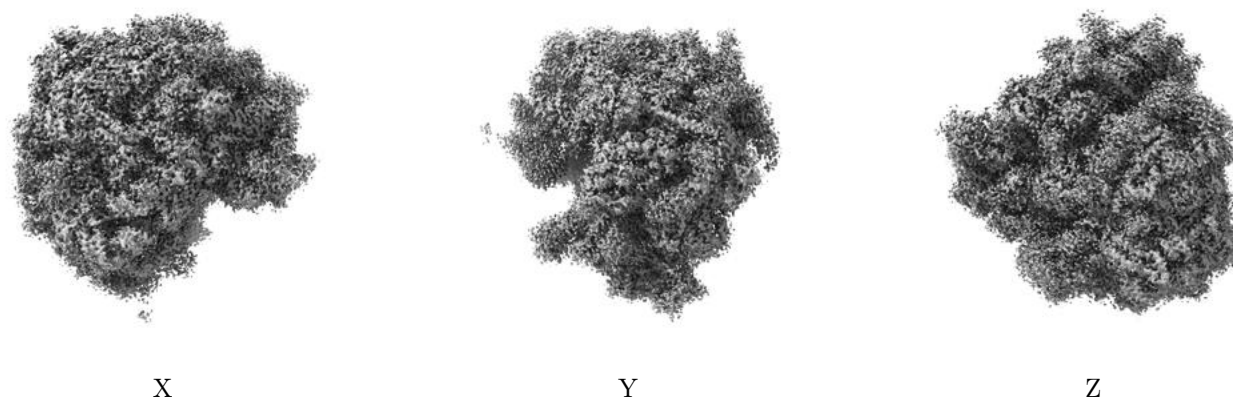


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.12. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

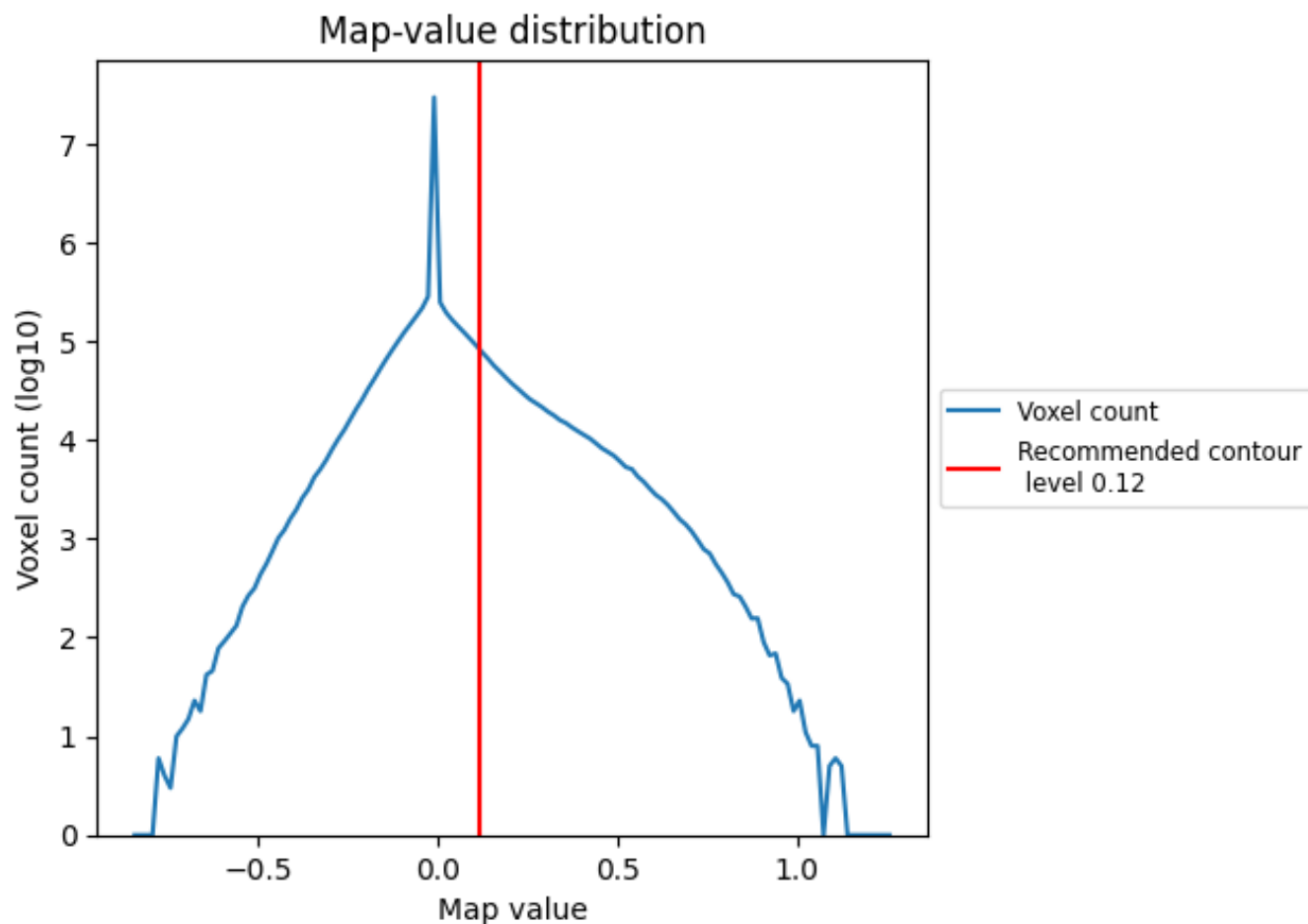
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

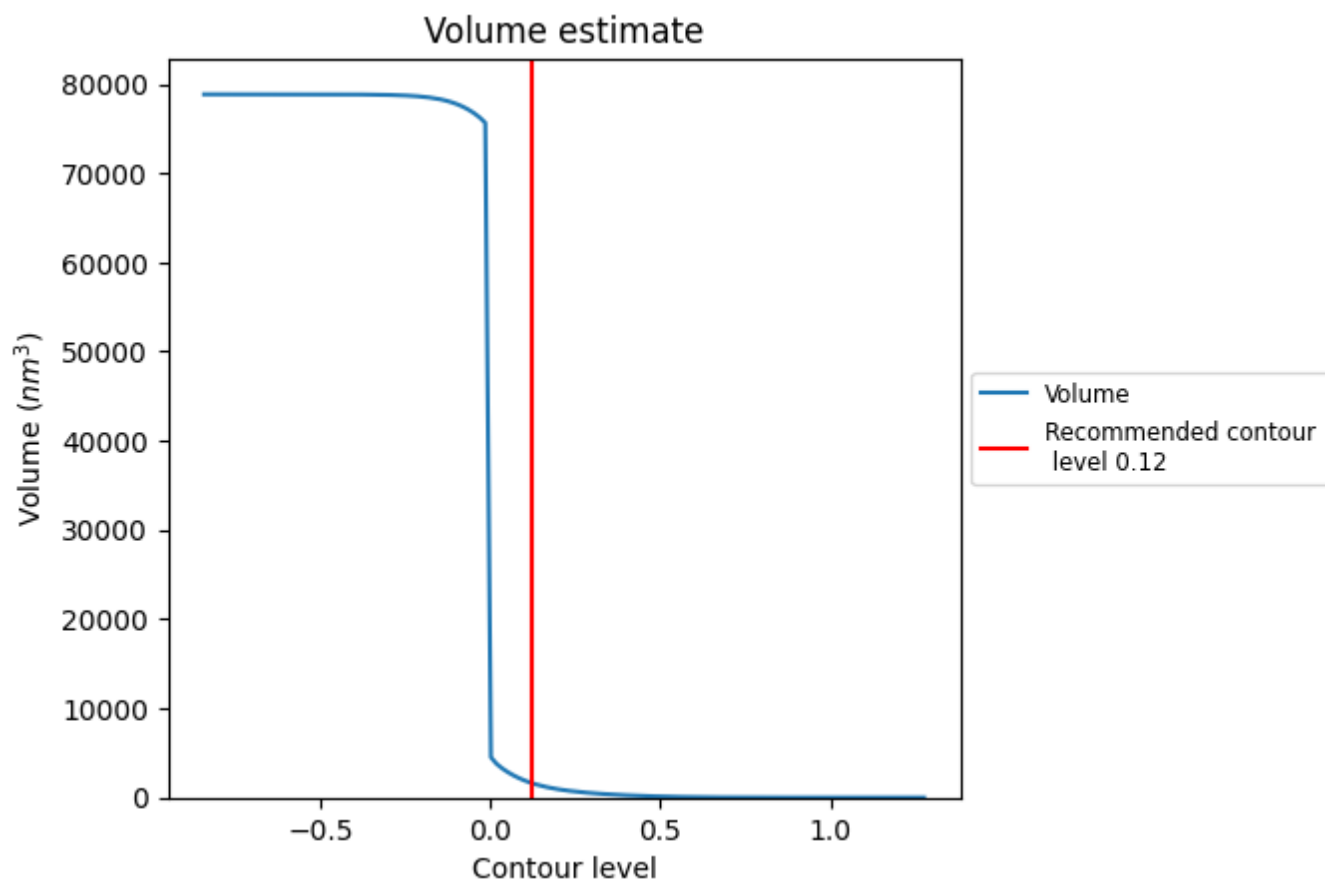
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

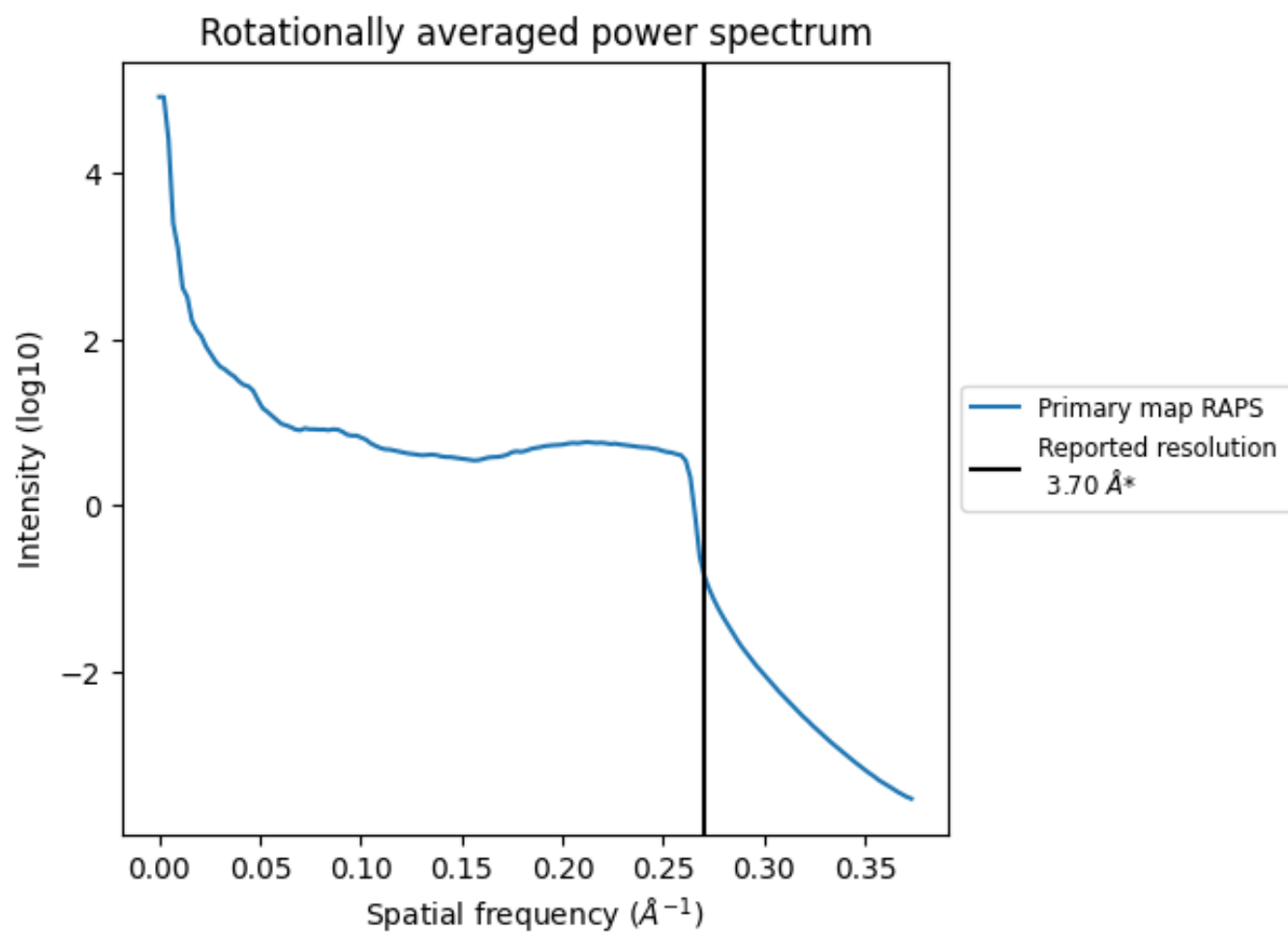
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1648 nm^3 ; this corresponds to an approximate mass of 1489 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

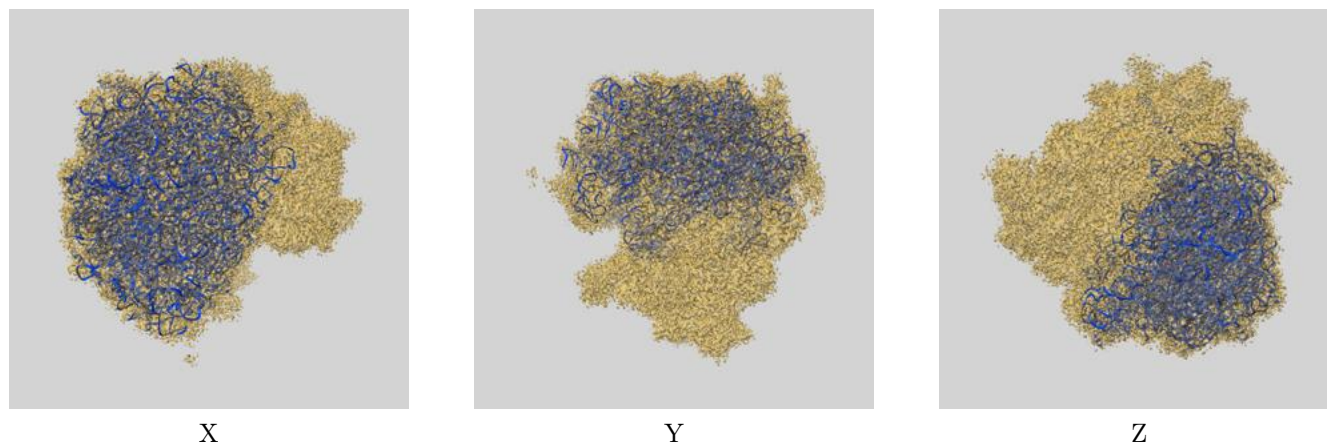
8 Fourier-Shell correlation ⓘ

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

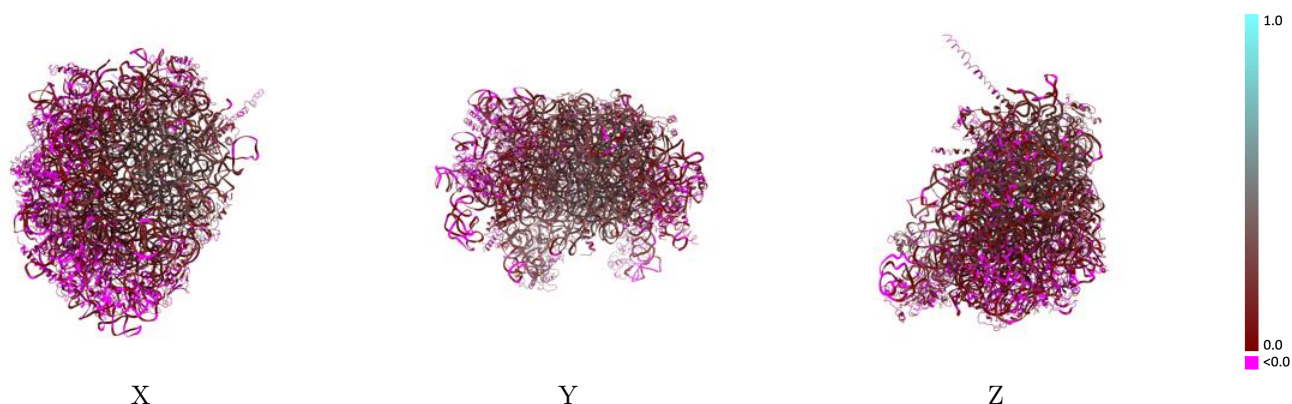
This section contains information regarding the fit between EMDB map EMD-2599 and PDB model 4V91. Per-residue inclusion information can be found in [section 3](#) on [page 12](#).

9.1 Map-model overlay [i](#)



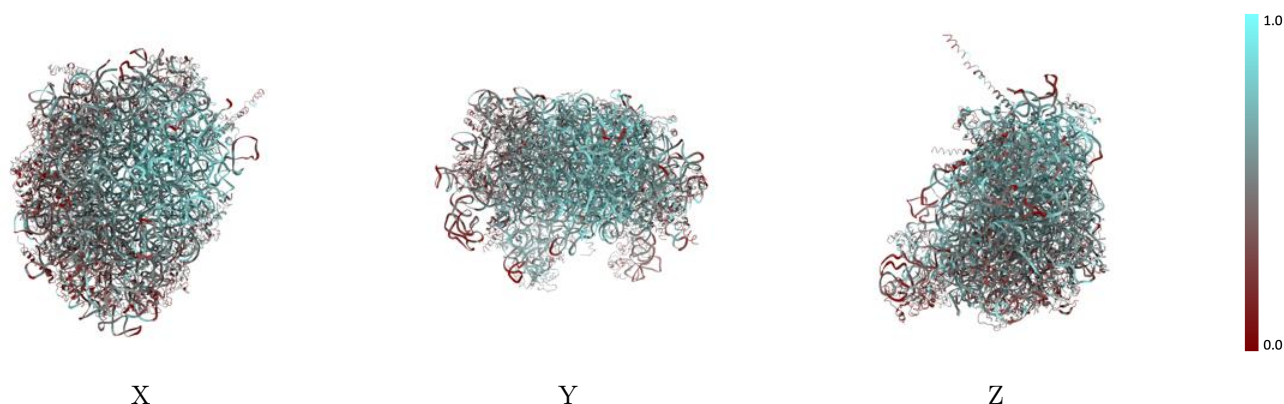
The images above show the 3D surface view of the map at the recommended contour level 0.12 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



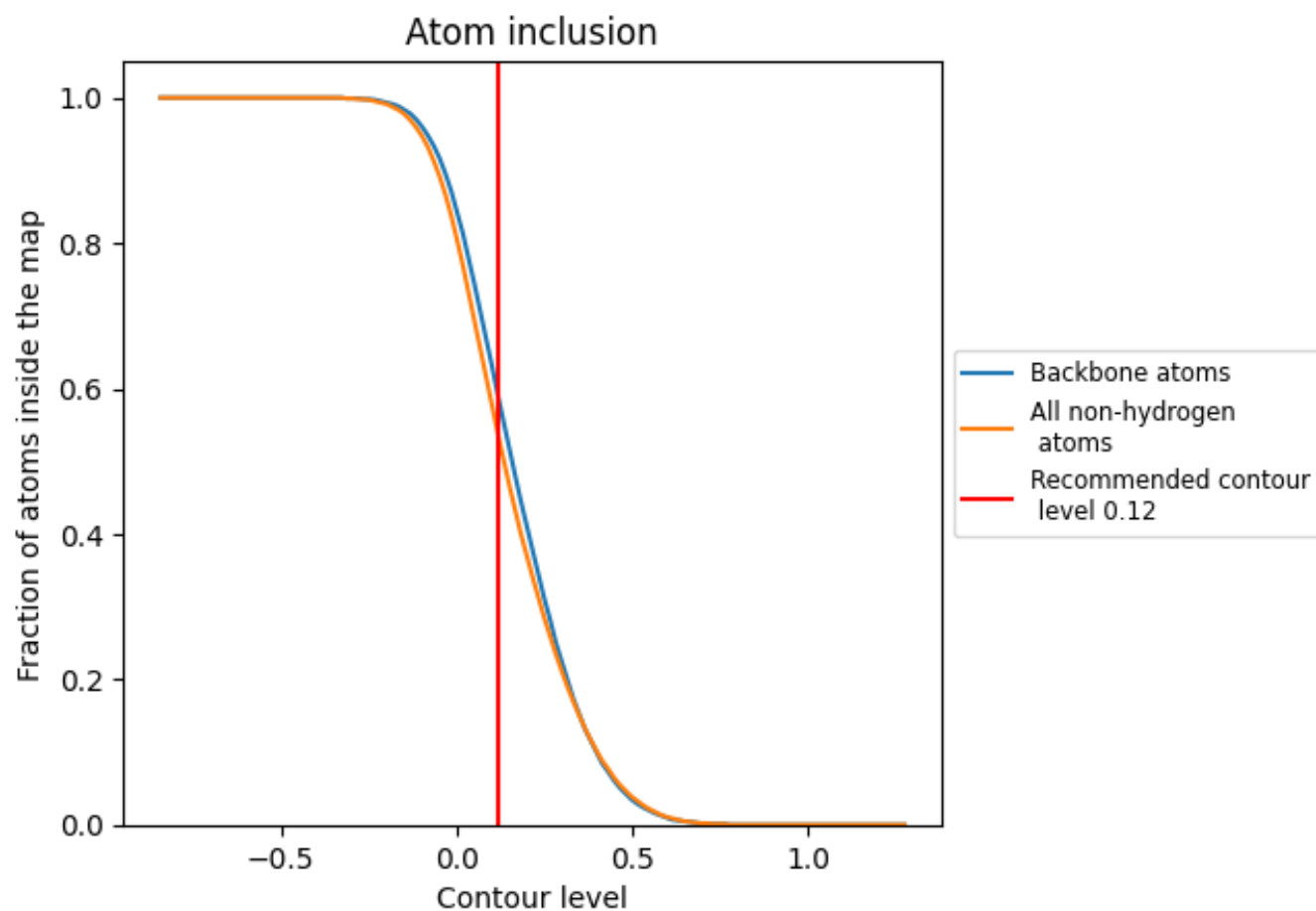
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.12).

9.4 Atom inclusion [i](#)



At the recommended contour level, 59% of all backbone atoms, 53% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.12) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5340	 0.1340
1	 0.5930	 0.1600
3	 0.5980	 0.1370
4	 0.5950	 0.1370
A	 0.5940	 0.2230
B	 0.5260	 0.1570
C	 0.3670	 0.0180
D	 0.4590	 0.1080
E	 0.2870	 -0.0390
F	 0.3600	 0.0040
G	 0.3870	 0.0320
H	 0.3660	 0.0180
I	 0.4840	 0.1280
J	 0.5120	 0.1870
L	 0.3730	 0.0280
M	 0.3110	 -0.0470
N	 0.4640	 0.1000
O	 0.4380	 0.0820
P	 0.5650	 0.1900
Q	 0.3860	 0.0350
R	 0.5890	 0.2100
S	 0.3270	 -0.0130
T	 0.4310	 0.0910
U	 0.5750	 0.2370
V	 0.5590	 0.2220
W	 0.5250	 0.1610
X	 0.5050	 0.1530
Y	 0.4080	 0.0450
Z	 0.4000	 0.0490
a	 0.4050	 0.0640
b	 0.4380	 0.1040
c	 0.4500	 0.1090
d	 0.6470	 0.2700
e	 0.3700	 0.0600
f	 0.3650	 0.0310



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Chain	Atom inclusion	Q-score
g	 0.5450	 0.1720
h	 0.4380	 0.0830
i	 0.3850	 0.0410
j	 0.5880	 0.2040
k	 0.5010	 0.1560
l	 0.5400	 0.2220
m	 0.4370	 0.0880
n	 0.4620	 0.1890
o	 0.5280	 0.1710
p	 0.5800	 0.2120
t	 0.2020	 0.0280